

**Dansk Data Elektronik A/S**

**Technical TPP  
Field Change Notes**


**Updated 27th December 1994**

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**SECTION 1.0**

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TPP Field Change Notice no. 80

Service Bulletin

Product ..... : DDE800 Wyse-370

Date ..... : 93/01/21

Number of pages : 3

**0337**

# FIELD ENGINEERING BULLETIN

## WY-370 CHARACTER DISPLAY DISTORTION/SETUP LOSS FIX

### DESCRIPTION

This procedure corrects the character display distortion and setup loss caused by the 63.97056 MHz crystal oscillator at location Y2 in combination with the ferrite bead at location L1 on the Logic Board Assembly. These problems are resolved by removing L1 and replacing Y2 with a 64 MHz crystal oscillator.

### SYMPTOMS

One or all of the following symptoms may occur: 1) fading colors, 2) trailing characters, 3) setup loss, 4) snow, 5) no video display when first powering on, but the display will return after powering the unit off and back on.

### PRODUCTS AFFECTED

WY-370

### REVISION LEVEL

990220-01 Rev. A to Rev. A2 PCBA, WY-370, Logic  
 960220-01 Rev. A to Rev. A2 Schematic, WY-370, Logic

Note: This FEB does not qualify as a valid claim. For product that is under warranty or service contract, this FEB must be performed by a Wyse Service Center. For service in the USA, contact the WYSE Customer Service Center at 800-800-WYSE. Customers in all other countries are to contact their local WYSE Service Center.

### RECOMMENDED PARTS

392000-31	Crystal Oscillator	64 MHz. (Y2)	Qty: 1
620006-03	Wire	15.5 mm	Qty: 2

### RECOMMENDED TOOLS

- Insulated Phillips Screwdriver
- Insulated Flatblade Screwdriver
- Needlenose Pliers
- 7 mm Nut Driver or Adjustable Wrench
- Pligitor Clips
- Soldering Iron

ICT	SOURCE	AUTH/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
WY-370	ECN-3840 ECN-5489	T/RD	FINAL	MAY 8, 1991	0337	REQUIRED: X OPTIONAL: SPECIAL GEN: ADVISORY	1 OF 3

# FIELD ENGINEERING BULLETIN

## INSTRUCTIONS

- NOTE:**
- a. Handle the circuit boards by their edges.
  - b. Follow acceptable ESD precautions when handling circuit boards and components.
  - c. Be careful not to lift any traces when working on the board.
  - d. Remove all flux residue.

1. Remove the Logic PCB from the unit. Refer to the WY-370 Maintenance Manual Page 2-8 for the removal procedure.
2. Replace the 63.97056 MHz crystal oscillator (P/N 392000-30) at location Y2 on the Logic PCB with the new 64 MHz crystal oscillator (P/N 392000-31). Refer to Diagram 1 for location.
3. Remove ferrite bead L1. Refer to Diagram 1 for location.
4. Install the two jumpers to replace the ferrite bead. Refer to Diagram 2 for correct positioning.
5. Mark the PCB to reflect the change.
6. Re-assemble the unit.
7. Update the schematic and the parts list to reflect the change.

DUCT	SOURCE	AUTH/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
WY-370	ECN-3840 ECN-5489	T/RB	FINAL	MAY 8, 1991	0337	REQUIRED: X OPTIONAL: SPECIAL/OEM: ADVISORY:	2 OF 3

NYSE

MAY 20 '92 06:11AM

P.4/5

0337

# FIELD ENGINEERING BULLETIN

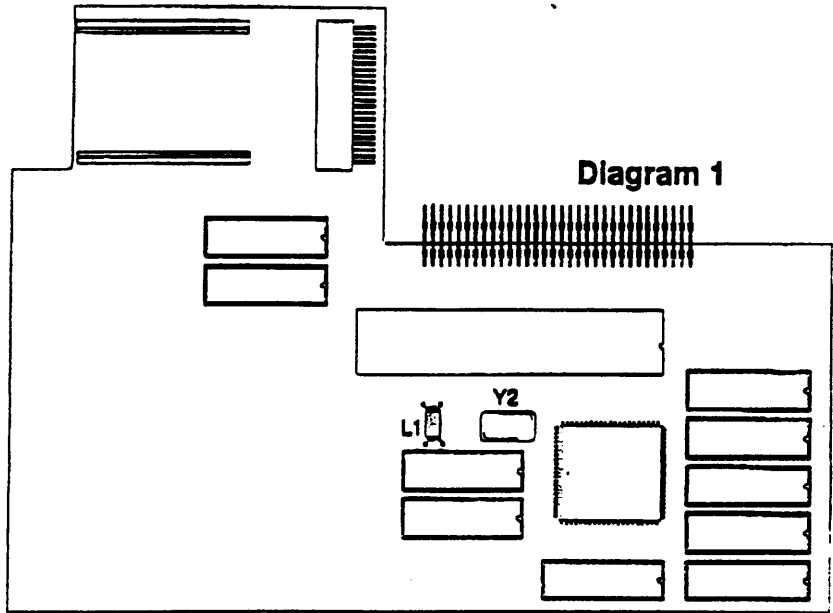


Diagram 2

UCT	SOURCE	AUTH/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
WY-370	ECN-3840 ECN-5489	TT/RB	FINAL	MAY 8, 1991	0337	REQUIRED: X OPTIONAL: SPECIAL/GEN: ADVISORY:	3 OF 3



TPP Field Change Notice No. 75

**DATE:** 02.10.92

**MODULE:** DDE 460/Wyse WY-185

**CATEGORY:**

production change : check new shipments.  
In the field: When ordered by sales personel.

**CORRECTS THE ERROR:** Difference in DDE setup and Wyse factory default.

**TOOLS NEEDED:** Screwdriver, IC-extractor.

**DESCRIPTIONS:** Replace the PROM with the one from the kit.

When the terminal is set to factory default from now on, it will be DDEs default setup, not the previous Wyse factory default. That is the only change in this firmware.

**SERVICE KIT:** Stock No. 95140750 contains:

A 27512 PROM with the label:

WY 185 STD 07-08-92
---------------------------

**ESTIMATED REPAIR TIME:** 15 min.

**NOTE:**

lea/BNA

TPP Field Change Notice No. 73

(final)

**DATE:** 16.09.92

**MODULE:** DDE 450/ Wyse WY-95

**CATEGORY:**

In the field: When problem occurs

**CORRECTS THE ERROR:** Mild to severe display character jitter.

**TOOLS NEEDED:**

Needlenose Pliers  
Phillips Screwdriver  
Solder Station  
Solder

**DESCRIPTIONS:** Replace the resistor R111 on the PCBA with the new from the service kit.

**SERVICE KIT:** Stock No. 95140730 contains:

1 Resistor, 1/4W, 15 Ohm (Wyse P/N 370034-29)

**ESTIMATED REPAIR TIME:** 30 min.

**NOTE:** Wyse FEB 0355 attached.

lea/BNA

**0355****WYSE****FIELD ENGINEERING BULLETIN****FIX WY-95 SCREEN JITTER****DESCRIPTION**

This FEB describes the procedure to fix the screen jitter for the WY-95.

**SYMPTOMS**

Mild to severe display character jitter.

**PRODUCTS AFFECTED**

WY-95

**REVISION LEVEL**

990101-01 Rev. B3 to Rev. B4 WY-95 MPS PCB  
 990101-05 Rev. B3 to Rev. B4 WY-95 MPS PCB, ICL

**Note:** This FEB does not qualify as a valid claim. For product that is under warranty or service contract, this FEB must be performed by a Wyse Service Center. For service in the USA, contact the WYSE Customer Service Center at 800-800-WYSE. Customers in all other countries are to contact their local WYSE Service Center.

**RECOMMENDED PARTS**

370034-29 Restor. 1/4 W, 15 ohm Qty: 1

**RECOMMENDED TOOLS**

Needlenose Pliers  
 Phillips Screwdriver  
 Solder Station  
 Solder

**INSTRUCTIONS**

- NOTE:** a. Handle the circuit boards by their edges.  
 b. Follow acceptable ESD precautions when handling circuit boards and components.  
 c. Be careful not to lift any traces when working on the board.

1. Remove the PCBA. Refer to the WY-95 Maintenance Manual "Removal and Replacement Procedure."
2. Replace resistor R111 with the 1/4 W, 15 ohm resistor (P/N370034-29).

PRODUCT	SOURCE	AUTH/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
WY-95	ECN 6926	<i>[Signature]</i>	FINAL	June 11, 1992	0355	REQUIRED: OPTIONAL: X SPECIAL/OEM: ADVISORY:	1 OF 1

TPP Field Change Notice No. 66

DATE: 23.06.92

MODULE: Wyse WY530 Maintenance Manual (TMN-307)

CATEGORY:

In the field: Upgrade manual

CORRECTS THE ERROR: Missing diagram, Fig. 7-1

TOOLS NEEDED: none

DESCRIPTIONS: Diagram of Monitor/Power supply is missing.  
Add the attached diagram to chapter 7 in the TMN-307 manual.

SERVICE KIT: none

ESTIMATED REPAIR TIME: 5 minutes

NOTE: Thanks to ~~HHJ~~<sup>HHJ</sup> for detecting the problem, and getting  
the diagram.

lee/BNA

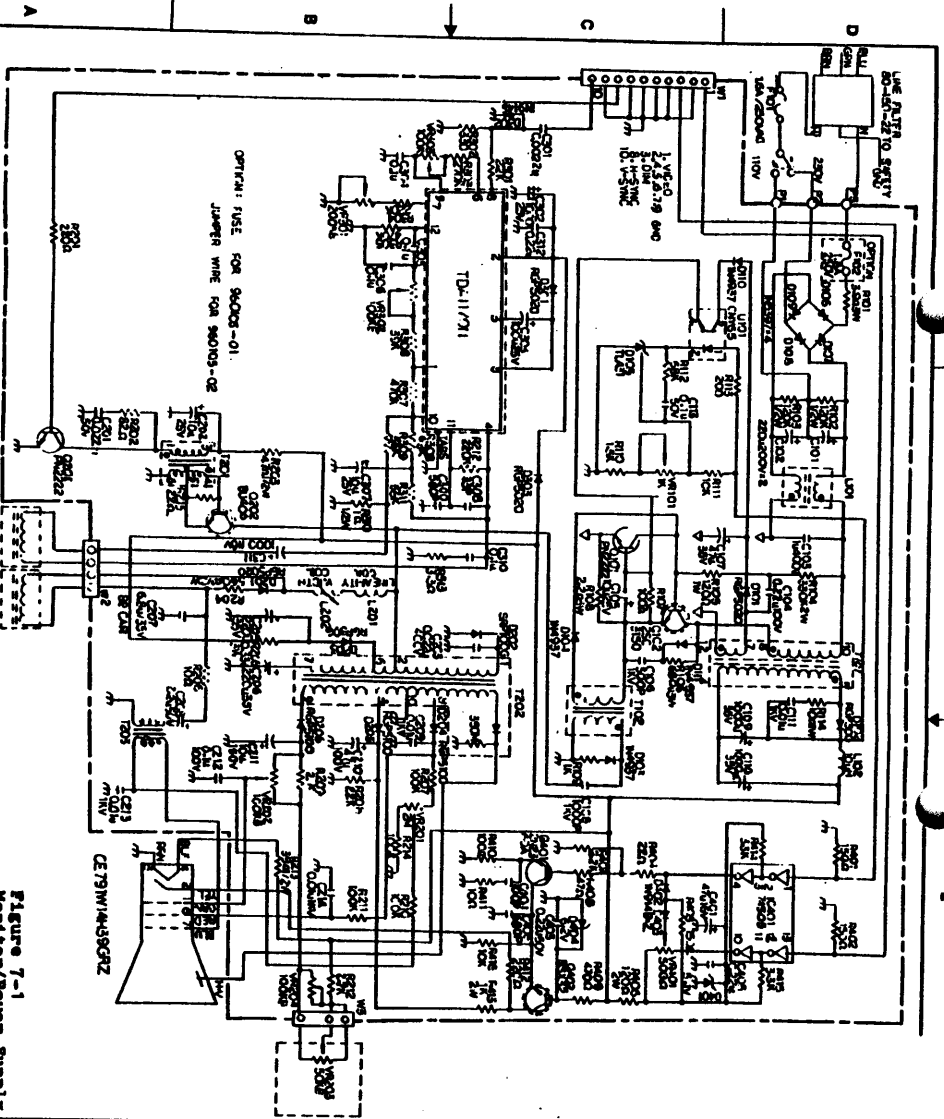


Figure 7-1  
 Motor/Power Supply  
 PCB Schematic  
 (960105-01 Rev. A)

TPP Field Change Notice No. 7

**DATE:** 210889

**MODULE:** DDE Display Terminal 450 (Wyse WY-95/99)

**CATEGORY:**

Change to be made when problem occurs.

This note refers to WYSE Field Engineering Bulletin 252. It should be attached.

**CORRECTS THE ERROR:**

Improves width tolerances, i.e. display changes 5 to 10 mm during warmup.

**TOOLS NEEDED:**

Refer to attached WYSE Field Engineering Bulletins 252

**DESCRIPTIONS:**

Replace Horizontal width coil, P/N 413512-01.

**Circuits involved:**

See bulletins

**Danish Version:** None.

Leif Andersen/MUDV



0252

# FIELD ENGINEERING BULLETIN

## DISPLAY WIDTH TOLERANCE IMPROVEMENT

### DESCRIPTION

This procedure improves the display width tolerance on the WY-30, WY-50, WY-60, WY-95, and WY-120 Terminals by changing the horizontal width coil.

### SYMPTOMS

While the unit is warming up, the display width changes 5 to 10 mm.

### PRODUCTS AFFECTED

WY-30, WY-50, WY-60, WY-95, WY-120

### REVISION LEVEL

- |                            |                                     |
|----------------------------|-------------------------------------|
| 413500-01 Rev. A to Rev. B | Coil, WY-30/WY-60, Horizontal Width |
| 413518-01 Rev. A to Rev. B | Coil, WY-120, Horizontal Width      |
| 413505-01 Rev. A to Rev. B | Coil, WY-50, Horizontal Width       |
| 413512-01 Rev. A to Rev. B | Coil, WY-95, Horizontal Width       |

Note: This FEB does not qualify as a valid claim. For product that is under warranty or service contract, this FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE MA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

### RECOMMENDED PARTS

- FOR WY-30/WY-60 Terminal PCBA:  
413500-01 Coil Horizontal Width Qty: 1
- FOR WY-50 Terminal PCBA:  
413505-01 Coil Horizontal Width Qty: 1
- FOR WY-95 Terminal PCBA:  
413512-01 Coil Horizontal Width Qty: 1
- FOR WY-120 Terminal PCBA:  
413518-01 Coil Horizontal Width Qty: 1

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-4403A	J.G. 12	FINAL	JULY 27 1990	0252	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/>	

# FIELD ENGINEERING BULLETIN

TABLE 1 - Stock and Service Disposition

PART NUMBER	LOCATION	
	SPARES	SERVICE
413500-01 Rev. A	Use NTE (8/91)	Use NTE (8/91)
413505-01 Rev. A	Use NTE (8/91)	Use NTE (8/91)
413512-01 Rev. A	Use NTE (8/91)	Use NTE (8/91)
413518-01 Rev. A	Use NTE (8/91)	Use NTE (8/91)
413500-01 Rev. B	Stock	Use NTE (8/91)
413505-01 Rev. B	Stock	Stock
413512-01 Rev. B	Stock	Stock
413518-01 Rev. B	Stock	Stock

LEGEND			
■ STOCK - Continue or start to stock this part.	■ REWORK - R - Required rework.	■ N/A - Not applicable.	
■ PURGE - Purge all stock of this part.	■ REWORK - O - Optional rework.	■ USE NTE (DATE) - Use remaining stock but do not keep past the specific date.	

## COMMENDED TOOLS

- Phillips Screwdriver
- Soldering Station
- Flat Blade Screwdriver
- Alligator Clips

## INSTRUCTIONS

- NOTE:
- a. Handle circuit boards by their edges.
  - b. Follow acceptable ESD precautions when handling circuit boards and components.
  - c. Be careful not to lift any traces when working on the board.
  - d. Remove all flux residue.
1. Remove the Terminal PCB from the unit. Refer to the "Removal and Replacement" section of the appropriate Maintenance Manual for removal procedures.
  2. FOR WY-30/WY-60 TERMINAL PCB (P/N 990066-XX/990100-XX) ONLY:  
Replace the coil (413500-01 Rev. A) at location L202 with the new coil (413500-01 Rev. B).
  3. FOR WY-50 TERMINAL PCB (P/N 990019-XX) ONLY:  
Replace the coil (413505-01 Rev. A) at location L201 with the new coil (413505-01 Rev. B).

ACT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
TI.	ECN-4403A	J.G.	FINAL	JULY 27 1990	0000	REQUIRED <input type="checkbox"/> OPTIONAL <input checked="" type="checkbox"/>	



FIELD ENGINEERING BULLETIN

4. FOR WY-95 TERMINAL PCB (P/N 990101-XX) ONLY:  
Replace the coil (413512-01 Rev. A) at location L201 with the new coil (413512-01 Rev. B).
5. FOR WY-120 TERMINAL PCB (P/N 990211-XX) ONLY:  
Replace the coil (413518-01 Rev. A) at location L201 with the new coil (413518-01 Rev. B).
6. Re-assemble the unit.
7. Update the schematics and parts list to reflect the change.

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-4403A	J.G. <i>BJM</i>	FINAL	JULY 27, 1989	0252	REQUIRED <input type="checkbox"/> OPTIONAL <input checked="" type="checkbox"/> SPECIAL/OEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	3 of 3

TPP Field Change Notice No. 6

**DATE:** 210889

**MODULE:** DDE Display Terminal 420 (Wyse WY-60/65)

**CATEGORY:**

Change to be made when improvements are needed. This note refers to WYSE Field Engineering Bulletin 237 and 252, and Technical Tip 0051.

**CORRECTS THE ERROR:**

Improved tolerances on horizontal width coil (252), another SRAM substitute (237) and potential problems with old boards and TPP-FCN nr. 1 (TT 51).

**TOOLS NEEDED:**

Refer to attached WYSE Field Engineering Bulletins 237 and 252 and Technical Tip 0051

**DESCRIPTIONS:**

FEB 0237 : New replacement type for SRAM at U15 and U16.  
FEB 0252 : Replace Hor. Width Coil if too much drift.  
TT 0051 : Replace transformer T201, if wraparound on screen.  
(usually in center) after TPP-FCN nr. 1.

**Circuits involved:**

See bulletins

**Danish Version:** None

Leif Andersen/MUDV

**256 X 8 SRAM IMPROVEMENT**

DESCRIPTION

This procedure announces a new acceptable substitute for the SRAM on the WY-60 Logic/Monitor Power Supply board.

NOTE: The 2k x 8 SRAM (P/N 192001-01) is still an acceptable component and can be used when available.

SYMPTOMS

None applicable.

PRODUCTS AFFECTED

WY-60

REVISION LEVEL

990100-01 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-02 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-03 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-04 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-08 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-11 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-12 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-14 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-15 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-16 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-17 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-18 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-19 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-20 Rev. D to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
990100-23 Rev. C to Rev. C1	PCBA, WY-60, Logic/Monitor Power Supply (MPS)
960100-01 Rev. C to Rev. D1	PCBA, WY-60, Logic/Monitor Power Supply (MPS) Schematic, WY-60, Logic/Monitor Power Supply

Note: This FEB does not qualify as a valid claim. For product that is under warranty or service contract, this FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE RMA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

PRODUCT	SOURCE	AUTHOR / VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
WY-60	ECN-4257R	J.G.	FINAL	MAY 9 1990	0007	REQUIRED	1

# WYSE FIELD ENGINEERING BULLETIN

0237

## RECOMMENDED PARTS

192017-02

I.C.

SRAM, 256 X 8

Qty: 2

## STOCK DISPOSITION

TABLE 1 - Stock and Service Disposition

PART NUMBER	LOCATION	
	SPARES	SERVICE
990100-01/02/03/04 /08/11/12/14 /15/16/18 /19/20/23	Rework-O	Rework-O
192017-02	Stock	Stock
192001-01	Stock	Stock

LEGEND:		
• STOCK - Continue or start to stock this part.	• REWORK - R - Required rework.	• N/A - Not applicable.
• PURGE - Purge all stock of this part.	• REWORK - O - Optional rework.	• USE NTE (DATE) - Use remaining stock but do not keep past the specified date.

## RECOMMENDED TOOLS

Phillips Screwdriver  
Flat Blade Screwdriver  
Alligator Clips  
Solder Station

## INSTRUCTIONS

### NOTE:

- Handle circuit boards by their edges.
- Follow acceptable ESD precautions when handling circuit boards and components.
- Be careful not to lift any traces when working on the board.
- Remove all flux residue.

- Remove the Logic/MPS (Terminal) board from the unit. Refer to the WY-60 Maintenance Manual Page 2-11 for removal procedure.
- Replace the I.C.'s at locations U15 and U16 on the Logic/MPS board with the new I.C. (P/N 192017-02).

CT	SOURCE	AUTHOR /VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
0	ECN-4257R	J.G. <i>[Signature]</i>	FINAL	MAY 9, 1989	0237	REQUIRED: <input type="checkbox"/> OPTIONAL: <input type="checkbox"/> SPECIAL/OEM: <input type="checkbox"/> ADVISORY: <input type="checkbox"/>	2 of 3

3. Mark the PCB to reflect the revision change as indicated:

- 990100-01 Rev. D to Rev. D1
- 990100-02 Rev. D to Rev. D1
- 990100-03 Rev. D to Rev. D1
- 990100-04 Rev. D to Rev. D1
- 990100-08 Rev. D to Rev. D1
- 990100-11 Rev. D to Rev. D1
- 990100-12 Rev. D to Rev. D1
- 990100-14 Rev. D to Rev. D1
- 990100-15 Rev. D to Rev. D1
- 990100-16 Rev. D to Rev. D1
- 990100-17 Rev. D to Rev. D1
- 990100-18 Rev. D to Rev. D1
- 990100-19 Rev. D to Rev. D1
- 990100-20 Rev. D to Rev. D1
- 990100-23 Rev. C to Rev. C1

4. Re-assemble the unit.

5. Update the schematics and parts list to reflect the change.

JUCT	SOURCE	AUTHOR /VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
Y-60	ECN-4257R	J.G. <i>[Signature]</i>	FINAL	MAY 9, 1989	0237	REQUIRED: <input type="checkbox"/> OPTIONAL: <input type="checkbox"/> SPECIAL/OEM <input type="checkbox"/> ADVISORY: <input checked="" type="checkbox"/>	3 of 3



0252

# FIELD ENGINEERING BULLETIN

## DISPLAY WIDTH TOLERANCE IMPROVEMENT

### DESCRIPTION

This procedure improves the display width tolerance on the WY-30, WY-50, WY-60, WY-95, and WY-120 Terminals by changing the horizontal width coil.

### SYMPTOMS

While the unit is warming up, the display width changes 5 to 10 mm.

### PRODUCTS AFFECTED

WY-30, WY-50, WY-60, WY-95, WY-120

### REVISION LEVEL

- 413500-01 Rev. A to Rev. B      Coil, WY-30/WY-60, Horizontal Width
- 413518-01 Rev. A to Rev. B      Coil, WY-120, Horizontal Width
- 413505-01 Rev. A to Rev. B      Coil, WY-50, Horizontal Width
- 413512-01 Rev. A to Rev. B      Coil, WY-95, Horizontal Width

Note: This FEB does not qualify as a valid claim. For product that is under warranty or service contract, this FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE RMA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

### RECOMMENDED PARTS

- FOR WY-30/WY-60 Terminal PCBA:
  - 413500-01    Coil                      Horizontal Width                      Qty: 1
- FOR WY-50 Terminal PCBA:
  - 413505-01    Coil                      Horizontal Width                      Qty: 1
- FOR WY-95 Terminal PCBA:
  - 413512-01    Coil                      Horizontal Width                      Qty: 1
- OR WY-120 Terminal PCBA:
  - 413518-01    Coil                      Horizontal Width                      Qty: 1

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-4403A	J.G.	FINAL	MAY 27 1989	0252	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/>	

# FIELD ENGINEERING BULLETIN

TABLE 1 - Stock and Service Disposition

PART NUMBER	LOCATION	
	SPARES	SERVICE
413500-01 Rev. A	Use NTE (8/91)	
413505-01 Rev. A	Use NTE (8/91)	Use NTE (8/91)
413512-01 Rev. A	Use NTE (8/91)	Use NTE (8/91)
413518-01 Rev. A	Use NTE (8/91)	Use NTE (8/91)
413500-01 Rev. B	Stock	Use NTE (8/91)
413505-01 Rev. B	Stock	Stock
413512-01 Rev. B	Stock	Stock
413518-01 Rev. B	Stock	Stock

LEGEND		
■ STOCK - Continue or start to stock this part.	■ REWORK - R - Required rework.	■ N/A - Not applicable.
■ PURGE - Purge of stock of this part.	■ REWORK - O - Optional rework.	■ USE NTE (DATE) - Use remaining stock but do not keep past the specific date.

### RECOMMENDED TOOLS

- Phillips Screwdriver
- Soldering Station
- Flat Blade Screwdriver
- Alligator Clips

### INSTRUCTIONS

- NOTE:
- a. Handle circuit boards by their edges.
  - b. Follow acceptable ESD precautions when handling circuit boards and components.
  - c. Be careful not to lift any traces when working on the board.
  - d. Remove all flux residue.
1. Remove the Terminal PCB from the unit. Refer to the "Removal and Replacement" section of the appropriate Maintenance Manual for removal procedures.
  2. FOR WY-30/WY-60 TERMINAL PCB (P/N 990066-XX/990100-XX) ONLY:  
Replace the coil (413500-01 Rev. A) at location L202 with the new coil (413500-01 Rev. B).
  3. FOR WY-50 TERMINAL PCB (P/N 990019-XX) ONLY:  
Replace the coil (413505-01 Rev. A) at location L201 with the new coil (413505-01 Rev. B).

OBJECT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
FI.	ECN-4403A	J.G.	FINAL			REQUIRED <input type="checkbox"/> OPTIONAL <input type="checkbox"/>	

# FIELD ENGINEERING BULLETIN

4. FOR WY-95 TERMINAL PCB (P/N 990101-XX) ONLY:  
Replace the coil (413512-01 Rev. A) at location L201 with the new coil (413512-01 Rev. B).
5. FOR WY-120 TERMINAL PCB (P/N 990211-XX) ONLY:  
Replace the coil (413518-01 Rev. A) at location L201 with the new coil (413518-01 Rev. B).
6. Re-assemble the unit.
7. Update the schematics and parts list to reflect the change.

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-4403A	J.G. <i>Bjm</i>	FINAL	JULY 27, 1989	0252	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/> SPECIAL/OEM: <input type="checkbox"/> ADVISORY: <input type="checkbox"/>	3 of 3



**WY60 SCREEN IMPROVEMENT**

DESCRIPTION

When FEB's #0185 and #0187 are implemented on an early revision Terminal board, improper operation may occur.

SYMPTOMS

The symptom exhibits itself as a wraparound effect on the screen, usually in the center.

NOTE: The problem occurs mostly on "Rev. A" Terminal boards.

PRODUCTS AFFECTED

WY-60

RECOMMENDED PARTS

423019-01      Transformer      T201      Qty: 1

(Note: Use component only if symptom occurs.)

RECOMMENDED TOOLS

- Phillips Screwdriver
- Soldering Station
- Diagonal Cutters

INSTRUCTIONS

1. If the symptom appears after implementing FEB's #0185 and #0187, replace transformer at location T201 on the Terminal board with the new transformer (P/N 423019-01).

PRODUCT	AUTHOR / VERIFY	TT REVISION DATE	TT NUMBER	PAGE
WY-60	J.G. <i>P/S</i>	JUNE 20, 1989	0051	1 of 1

TPP Field Change Notice No. 2

**DATE:** 060289

**MODULE:** DDE Display Terminal 450 (Wyse WY-95/99)

**CATEGORY:**

Change to be made when convenient, if not already performed. This note refers to WYSE Field Engineering Bulletin 185. It should be attached.

**CORRECTS THE ERROR:**

Failures in flyback circuits, destroying diode D203.

**TOOLS NEEDED:**

Refer to attached WYSE Field Engineering Bulletins 185.

**DESCRIPTIONS:**

Change of D203, see bulletin 185

**Circuits involved:**

See bulletins

**Danish Version:** TTP Teknisk Note nr. 4, LEA/890206

Leif Andersen/MUDV

WYSE

## FIELD ENGINEERING BULLETIN

## IMPROVE DISPLAY TERMINAL RELIABILITY

DESCRIPTION

The General Instrument RGP5100 diode, which supports G2 (screen voltage), is being replaced by a UF4007 diode on WY-30, WY-50, WY-60, WY-85, and WY-95/99GT Monitor Power Supply/Main Logic Board assemblies to improve product reliability. The UF4007 diode operates at a higher voltage level than the RGP5100 diode.

SYMPTOMS

- 1) The indicated diode has failed. (Please refer to the chart on Page 3.)
- 2) The flyback transformer (WY60) has failed.

PRODUCTS AFFECTED

WY-30, WY-50, WY-60, WY-85, WY-95/99GT

REVISION LEVEL

840315-01 Rev. B	PCBA, WY-60, Main Board Assembly
840315-02 Rev. B	PCBA, WY-60, Main Board Assembly
840315-03 Rev. B1	PCBA, WY-60, Main Board Assembly
840315-04 Rev. B	PCBA, WY-60, Main Board Assembly
840315-08 Rev. B	PCBA, WY-60, Main Board Assembly
840315-11 Rev. B	PCBA, WY-60, Main Board Assembly
840315-12 Rev. B	PCBA, WY-60, Main Board Assembly
840315-14 Rev. B1	PCBA, WY-60, Main Board Assembly
840315-15 Rev. B	PCBA, WY-60, Main Board Assembly
840315-16 Rev. B	PCBA, WY-60, Main Board Assembly
840315-17 Rev. B1	PCBA, WY-60, Main Board Assembly
840315-18 Rev. B2	PCBA, WY-60, Main Board Assembly
840315-19 Rev. B	PCBA, WY-60, Main Board Assembly
840315-20 Rev. B	PCBA, WY-60, Main Board Assembly
990066-01 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-02 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-03 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-04 Rev. D1	PCBA, WY-30, Main Board Assembly

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION REQUIRED	PAGE
MULTI.	ECN-3815R	J.G. K.S. 11/1	FINAL	OCT. 24, 1988	0185	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/> SPECIAL <input type="checkbox"/> ADVISORY <input type="checkbox"/>	1 of 1



# WYSE FIELD ENGINEERING BULLETIN

990066-05 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-08 Rev. D1	PCBA, WY-30, Main Board Assembly
990101-01 Rev. B	PCBA, WY-95, Monitor Power Supply (MPS)
990101-02 Rev. A8	PCBA, WY-95, Monitor Power Supply (MPS)
990101-03 Rev. A3	PCBA, WY-95, Monitor Power Supply (MPS)
990101-05 Rev. B	PCBA, WY-95, Monitor Power Supply (MPS)
990019-01 Rev. IN	PCBA, WY-50, Monitor Power Supply (MPS)
990019-02 Rev. OB	PCBA, WY-50, Monitor Power Supply (MPS)
990019-03 Rev. L1	PCBA, WY-50, Monitor Power Supply (MPS)
990019-04 Rev. L1	PCBA, WY-50, Monitor Power Supply (MPS)
990019-05 Rev. A	PCBA, WY-50, Monitor Power Supply (MPS)
990061-01 Rev. IN	PCBA, WY-85, Monitor Power Supply (MPS)
990061-02 Rev. IN	PCBA, WY-85, Monitor Power Supply (MPS)
990061-03 Rev. E2	PCBA, WY-85, Monitor Power Supply (MPS)

Note: This FEB qualifies as a valid claim. This FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE RMA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

## RECOMMENDED PARTS

283730-01 Diode UF4007 ONLY. Qty: 1

## RECOMMENDED TOOLS

Soldering Station  
Phillips Screwdriver  
Needlenose Pliers  
Diagonal Cutters  
Alligator Clips  
Insulated Flat Blade Screwdriver - 12 in.

## INSTRUCTIONS

- Refer to Table 1 for the location of instructions for the removal of the cover and the PCB for products specified under PRODUCTS AFFECTED section.

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI	CON 20160	J.G. <i>J.G.</i>	FINAL	OCT. 04, 1989	0185	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/> SPECIAL/DEV <input type="checkbox"/> ADVISORY <input type="checkbox"/>	2 of 2



# FIELD ENGINEERING BULLETIN

TABLE 1

Maintenance Manual	Removal of Cover (page)	Removal of PCB (page)
WY-30	2-6	2-8
WY-50	2-8	2-8
WY-60	2-9	2-11
WY-85	2-6	2-6
WY-95/99GT	2-4	2-6

- Replace the RGP5100 diode (P/N 283703-01) with a UF4007 diode (P/N 283730-01). Refer to Table 2.

TABLE 2

Product	Diode Location
WY-30	D203
WY-50	D203
WY-60	D203
WY-85	D203
WY-95/99GT	D204

- Re-assemble the unit.
- Update the schematics and parts list to reflect the change.

PRODUCT	SOURCE	AUTHOR / VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAC
MULTI.	ECN-3815R	J.G. <i>[Signature]</i>	FINAL	OCT. 24, 1988	0185	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/> SPECIAL/DEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	30'

TPP Field Change Notice No. 1

**DATE:** 060289

**MODULE:** DDE Display Terminal 420 (Wyse WY-60/65)

**CATEGORY:**

Change to be made when convenient, if not already performed. This note refers to WYSE Field Engineering Bulletin 185 and 187. They should be attached.

**CORRECTS THE ERROR:**

Failures in flyback circuits: destroying either diode D203, transistor Q202 or the flyback transformer.

**TOOLS NEEDED:**

Refer to attached WYSE Field Engineering Bulletins 185 and 187.

**DESCRIPTIONS:**

Change of D203, see bulletin 185  
Change of Q202, see bulletin 187

**Circuits involved:**

See bulletins

**Danish Version:** TTP Teknisk Note nr. 3, LEA/890206

Leif Andersen/MUDV



# FIELD ENGINEERING BULLETIN

## IMPROVE DISPLAY TERMINAL RELIABILITY

### DESCRIPTION

The General Instrument RGP5100 diode, which supports G2 (screen voltage), is being replaced by a UF4007 diode on WY-30, WY-50, WY-60, WY-85, and WY-95/99GT Monitor Power Supply/Main Logic assemblies to improve product reliability. The UF4007 diode operates at a higher voltage level than the RGP5100 diode.

### SYMPTOMS

- 1) The indicated diode has failed. (Please refer to the chart on Page 3.)
- 2) The flyback transformer (WY60) has failed.

### PRODUCTS AFFECTED

WY-30, WY-50, WY-60, WY-85, WY-95/99GT

### REVISION LEVEL

840315-01 Rev. B	PCBA, WY-60, Main Board Assembly
840315-02 Rev. B	PCBA, WY-60, Main Board Assembly
840315-03 Rev. B1	PCBA, WY-60, Main Board Assembly
840315-04 Rev. B	PCBA, WY-60, Main Board Assembly
840315-08 Rev. B	PCBA, WY-60, Main Board Assembly
840315-11 Rev. B	PCBA, WY-60, Main Board Assembly
840315-12 Rev. B	PCBA, WY-60, Main Board Assembly
840315-14 Rev. B1	PCBA, WY-60, Main Board Assembly
840315-15 Rev. B	PCBA, WY-60, Main Board Assembly
840315-16 Rev. B	PCBA, WY-60, Main Board Assembly
840315-17 Rev. B1	PCBA, WY-60, Main Board Assembly
840315-18 Rev. B2	PCBA, WY-60, Main Board Assembly
840315-19 Rev. B	PCBA, WY-60, Main Board Assembly
840315-20 Rev. B	PCBA, WY-60, Main Board Assembly
990066-01 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-02 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-03 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-04 Rev. D1	PCBA, WY-30, Main Board Assembly

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FES REVISION DATE	FES NUMBER	ACTION PRIORITY	FEE#
MULTI.	ECN-3815R	JG K. MIA	FINAL	OCT. 24, 1988	0185	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/> SPECIAL/CRM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	1 of 1



# WYSE FIELD ENGINEERING BULLETIN

990066-05 Rev. D1	PCBA, WY-30, Main Board Assembly
990066-08 Rev. D1	PCBA, WY-30, Main Board Assembly
990101-01 Rev. B	PCBA, WY-95, Monitor Power Supply (MPS)
990101-02 Rev. A8	PCBA, WY-95, Monitor Power Supply (MPS)
990101-03 Rev. A3	PCBA, WY-95, Monitor Power Supply (MPS)
990101-05 Rev. B	PCBA, WY-95, Monitor Power Supply (MPS)
990019-01 Rev. IN	PCBA, WY-50, Monitor Power Supply (MPS)
990019-02 Rev. OB	PCBA, WY-50, Monitor Power Supply (MPS)
990019-03 Rev. L1	PCBA, WY-50, Monitor Power Supply (MPS)
990019-04 Rev. L1	PCBA, WY-50, Monitor Power Supply (MPS)
990019-05 Rev. A	PCBA, WY-50, Monitor Power Supply (MPS)
990061-01 Rev. IN	PCBA, WY-85, Monitor Power Supply (MPS)
990061-02 Rev. IN	PCBA, WY-85, Monitor Power Supply (MPS)
990061-03 Rev. E2	PCBA, WY-85, Monitor Power Supply (MPS)

Note: This FEB qualifies as a valid claim. This FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE RMA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

## RECOMMENDED PARTS

283730-01 Diode UF4007 ONLY. Qty: 1

## RECOMMENDED TOOLS

Soldering Station  
Phillips Screwdriver  
Needlenose Pliers  
Diagonal Cutters  
Alligator Clips  
Insulated Flat Blade Screwdriver - 12 in.

## INSTRUCTIONS

1. Refer to Table 1 for the location of instructions for the removal of the cover and the PCB for products specified under PRODUCTS AFFECTED section.

PRODUCT	SOURCE	AUTHOR / VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI	ECN 20168	J.G. <i>[Signature]</i>	FINAL	OCT. 24, 1988	01R5	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/> SPECIAL DEV. <input type="checkbox"/> ADVISORY <input type="checkbox"/>	2 of 2



WYSE

## FIELD ENGINEERING BULLETIN

TABLE 1

Maintenance Manual	Removal of Cover (page)	Removal of PCB (page)
WY-30	2-6	2-8
WY-50	2-8	2-8
WY-60	2-9	2-11
WY-85	2-6	2-6
WY-95/99GT	2-4	2-6

2. Replace the RG<sup>2</sup>5100 diode (P/N 283703-01) with a UF4007 diode (P/N 283730-01). Refer to Table 2.

TABLE 2

Product	Diode Location
WY-30	D203
WY-50	D203
WY-60	D203
WY-85	D203
WY-95/99GT	D204

3. Re-assemble the unit.
4. Update the schematics and parts list to reflect the change.

PRODUCT	SOURCE	AUTHOR / VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI	ECN-3815R	J.G.	FINAL	OCT. 24, 1988	0185	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/> SPECIAL CASE <input type="checkbox"/> ADVISORY <input type="checkbox"/>	3 of



# FIELD ENGINEERING BULLETIN

**0187**

## TERMINAL PCB RELIABILITY IMPROVEMENT

### DESCRIPTION

This procedure improves the reliability of the Terminal PCB by changing the BU406 transistor at location Q to a 2SC2898 transistor.

### SYMPTOMS

The BU406 transistor has a high failure rate.

### PRODUCTS AFFECTED

WY-60

### REVISION LEVEL

840315-01 Rev. B	PCBA, WY-60, Terminal
840315-02 Rev. B	PCBA, WY-60, Terminal
840315-03 Rev. B1	PCBA, WY-60, Terminal
840315-04 Rev. B	PCBA, WY-60, Terminal
840315-08 Rev. B	PCBA, WY-60, Terminal
840315-11 Rev. B	PCBA, WY-60, Terminal
840315-12 Rev. B	PCBA, WY-60, Terminal
840315-14 Rev. B1	PCBA, WY-60, Terminal
840315-15 Rev. B	PCBA, WY-60, Terminal
840315-16 Rev. B	PCBA, WY-60, Terminal
840315-17 Rev. B1	PCBA, WY-60, Terminal
840315-18 Rev. B2	PCBA, WY-60, Terminal
840315-19 Rev. B	PCBA, WY-60, Terminal
840315-20 Rev. B	PCBA, WY-60, Terminal

Note: This FEB qualifies as a valid claim. This FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE RMA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

OBJECT	SOURCE	AUTHOR / VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
WY-60	ECN-3845	JG LH	FINAL	NOV. 7, 1988	0187	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/>	1 of 2

**WYSE FIELD ENGINEERING BULLETIN**RECOMMENDED PARTS

272032-01 Transistor 2SC2898 Qty: 1

RECOMMENDED TOOLSSoldering Station  
Phillips Screwdriver  
Diagonal CuttersINSTRUCTIONS

1. Remove the Terminal PCB from the WY-60. Refer to WY-60 Maintenance Manual Page 2-11 for removal procedure.
2. Replace the transistor (P/N 272000-01) at location Q202 with the new transistor (P/N 272032-01).
3. Re-assemble the unit.
4. Update the schematics and parts list to reflect the change.

PRODUCT	SOURCE	AUTHOR / VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
Y-60	ECN-3845	J.G. <i>[Signature]</i>	FINAL	NOV. 7, 1988	0187	REQUIRED <input checked="" type="checkbox"/> OPTIONAL <input type="checkbox"/> SPECIAL/DEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	2 of 2

TPP Field Change Notice No. 74

(final)

**DATE:** 16.09.92

**MODULE:** DDE 710/Facit A/G3400

**CATEGORY:**

production change : Modify all in stock.  
In the field: At first service opportunity.

**CORRECTS THE ERROR:** Screen saver IC problems

**TOOLS NEEDED:**

Unsoldering tool or  
Cutting tool

**DESCRIPTIONS:** In some applications, with separate protective ground system between terminal and host, voltage differences can through diode V19 destroy the screen saver IC D51.

To avoid this please cut the track from V19 to X2 connector pin 6 or remove the surface mounted diode V19 by unsoldering. This diode is located in the right corner of the main logic board.

This should be fixed from serial no. A/G3400 9212 0001, G3400R 9205 0001 and A3400 "Customs" 9212 0001, and for all spare boards in [Facit] stock.

[The text above is taken directly from FACIT Service Bulletin 434, march 1992, received on a bad fax-copy]

This fix does not apply to DDE 700 series version of A/G3400.

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** 15 min.

lea/BNA

TPP Field Change Notice No. 39

**DATE:** 31.05.91

**MODULE:** DDE 7x0/Facit A/G3400

**CATEGORY:** Information only.

**CORRECTS THE ERROR:** Illustrations in TMN 331 has been switched.

**TOOLS NEEDED:** Pen

**DESCRIPTIONS:**

The illustrations on page 13 and 14 in the Spare Parts List (DDE Technical Manual 331) has been switched. Make a note in your copy of the manual.

**SERVICE KIT:** None

**ESTIMATED REPAIR TIME:** 5 minutes

**NOTE:** Facit Service Bulletin No.: 392, is attached to this note.

lea/MJDV

# **FACIT**

## **Service Bulletin**

Product: A/G3400  
Video terminal

Date: April 1991

SB No.: 392

Info No.: 9

Sheet No.: 1 (1)

Handled by: Stig Ahlström

### WRONG PICTURES IN THE SPARE PARTS LIST FOR A/G3400

The pictures on pages 13 and 14 have been mixed up and shall change place with each other.

Please make a note of this in your Spare Parts List,  
Publ. No. 1160 9037-02.

### **Facit AB**

<i>Postadress Mail</i>	<i>Kontor Office</i>	<i>Telefon Telephone</i>	<i>Telefax</i>	<i>Telex</i>
S-597 80 Ätvidaberg Sweden	Ätvidaberg	Nat 0120 810 00 Int +46 120 810 00	0120 140 95 +46 120 140 95	5574 FACITAA S

TPP Field Change Notice No. 33

DATE: 13.05.91

MODULE: DDE 7x0/Facit A3400 production updates.

CATEGORY:

production change : Info only  
In the field: Info only

CORRECTS THE ERROR: Improved production

TOOLS NEEDED: none

DESCRIPTIONS:

A collection of Facit Service Bulletins:

SB 224 : New picture tube and mainboard.

SB 329 : Problem with high frequency noise.

SB 331 : RS-232 DTR low current, Shadows on screen.

Note SB 329 confirms fix SA-department have figured out already.

SERVICE KIT: none

ESTIMATED REPAIR TIME: none

lea/MUDV

# FACIT

## Service Bulletin

Computer Peripherals

Product: A3400

Date: Dec., 1988

SB No.: 244

Info No.: 3

Sheet No.: 1(1)

Handled by: FTS-TU, Bo Thydell

### New picture-tube and new version of monitorboard

#### General:

A new type of picture-tube is introduced which will replace the older versions with anti-static laquer.

Made by Toshiba, this tube is prepared with an anti-static coating, much harder than and not "cracking-sensitive" as the old, laquered, one. The coating is also non-visible to the eye and therefore gives a clear, sharp picture.

Early 1989 there will also be a new release of the monitorboard which a.o will include a potentiometer instead of resistor R25. This potentiometer is introduced to cope with the different cut-off-voltages in the Toshiba-tubes, (problems with brightness-settings).

Thanks to this potentiometer, the new board is also able to run the older versions of picture-tubes, so you will not have to stock several types of monitorboards.

In case you have to replace an old type of picture-tube you can consequently add this potentiometer to the old board-type as well, but you will of course not get the benefits of the new board. Please note that resistor R27 must be 2.2 Mohm if you are using a potentiometer and the old (greyish) tube.

#### Parts affected:

Description	Old version	New version
Terminal unit, compl.	SXK 103 0078/1	SXK 103 0078/2
Monitorboard	ROA 119 6620/1	ROA 119 6620/2
Potentiometer 1Mohm	n/a	61500807

#### Introduction:

The new picture-tube is introduced at factory in all VDT A3400, revision level R1E, including special versions, starting with serial-numbers 8843-xxxx and onwards.

The new monitorboard will be introduced in production starting week 8902.

### Facit Computer Peripherals AB

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5550 facitoe s



# FACIT Service Bulletin

Product: A/G3400

Date: June 1990

SB No.: 329

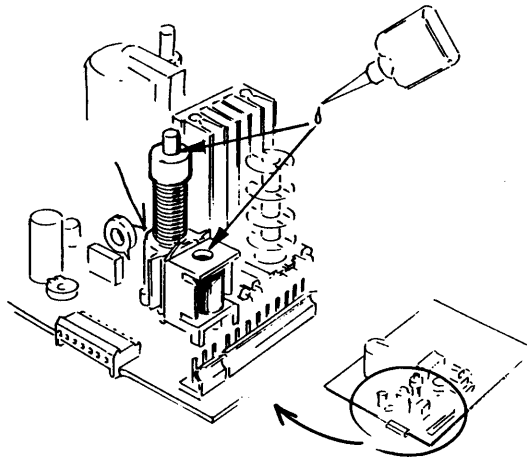
Info No.: 4

Sheet No.: 1 (1)

Handled by: Stig Ahlström

## PROBLEM WITH HIGH FREQUENCY NOISE FROM COIL L1 ON MONITOR BOARD

If that kind of noise appears, put a drop of varnish to secure the coil (see the picture below).



This is implemented from serial No. 9014 0001 on A/G3400 and from 9013 0034 on DG-terminals.

Usable varnish is "Beckers industrifärg" FG-001-0246 or Loctite 414.

## Facit AB

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5574 FACITAA S

# **FACIT**

## **Service Bulletin**

Product: A/G3400

Date: Aug 1990

SB No.: 331

Info No.: 6

Sheet No.: 1 (1)

Handled by: Stig Ahlström

### **TERMINAL A/G3400**

#### PROBLEM WITH TOO LOW CURRENT OUTPUT FROM DTR PIN 20

Resistors R18-19 have been changed to 470 ohm.

Implemented from serial number 8940 0039.

#### PROBLEM WITH LIGHT SHADOW AFTER BLACK AREAS IN THE SCREEN

To correct that problem the resistor R35 on interface board has been changed from 5.6 to 2.7 ohm.

Implemented from serial number 8933 0049.

The part number for the R35 2.7 ohm is 1061 1100-11.

### **Facit AB**

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TPP Field Change Notice No. 21

**DATE:** 21.08.90

**MODULE:** DDE 480(g), Facit A/G2400

**CATEGORY:**

For information only.

**CORRECTS THE ERROR:**

Fly back transformer failures.

**TOOLS NEEDED:** Not defined.

**DESCRIPTIONS:**

A fly back transformer T402 of improved quality is now available from FACIT.

The partnumber is unchanged 5550 04 17-00.

When exchanging the Fly back transformer also switch transistor Q402, part number 5550 04 76-00 should be replaced, since the old transformer may have affected the transistor.

The new transformer is implemented from serial No. 8920 0100.

(The above text is copied from FACIT SB 326 unchanged)

**SERVICE KIT:** None

**Circuits involved:** Facit A/G2400 Monitor Board.

regards,

lea/MUDV

TPP Field Change Notice No. 20

**DATE:** 290690

**MODULE:** DDE Display Terminal 480(g) (Facit A/G2400)

**CATEGORY:**

Change to be made when problem is met. Check for green label on back as in TPP FCN no. 13.

This note is a corrected issue of TPP FCN no. 17. Please remove no. 17 from your files!

**CORRECTS THE ERROR:**

Increases the safety margin when doing TPP FCN 13 (Facit SB 290) fixes.

**TOOLS NEEDED:**

Refer to TPP FCN 13 attachment (Facit SB 290) and current attachment (Facit SB 308)

**DESCRIPTIONS:** (summary of SB 290 & 308)

Do not change R4, change R5 (100kohm/2W to 10kohm/3W), R6 (to 0.82 ohm/2W) and change R8 (2.7 kohm) to diode D15 (1N4148). Check Q1, Q2, Diodes D1 to D5. Add new diode D13, replace IC4, add capacitor to SCR. Add also new diode D14 across C7, move C8 from Q1 to R6. Add ground wire. Please read both SB 290 and SB308 carefully before starting. Estimated time to repair: 45 min.

**Circuits involved:**

See TPP FCN 13 and attached SB 308 (4 pages)

Leif Andersen/MJDV

# FACIT

## Service Bulletin

Product: A/G2400

Date: March 1990

SB No.: 308

Info No.: 6

Sheet No.: 1 (4)

Handled by: Stig Ahlström

### Updating power supply in video terminals A/G2400

This SB is a new complement to SB 290. In SB 290 is a general note that there will be more changes made later in the power supply. Now we have received these changes.

**Description of problem:** See information in earlier SB 290.

SB 290 is still valid but to receive more safety function the following changes will be made.

**Action:** Referring to picture #1 and #2 carry out the following:

R4 is changed to value 50 ohm 2W.

R6 is changed to 0.82 ohm 2W.

R8 is changed from a resistor 2.7 kohm to a diode D15 1N4148.

C27 capacitor 10uF across gate cathode SCR placed on solder side, see picture #2 and SB 290.

New diode D14 added across C7, RGP10D placed on the solder side.

C8 moved from cathode Q1 (ground point) to bottom R6 (ground point) placed on solder side. Use the new one C8 which is included in the new modification kit (the old have too short pin, use teflon tubes on the new C8 pins).

Ground wire shall be added from R17 to cathode SCR, placed on solder side.

**Note:** On power supply produced after March 1989, D13 will already be presented in the modified board layout (check on component side, close to IC4). On the old boards, D13 is added on solder side (SB 290).

**Priority:** Power supply which is upgraded according to the old SB 290 is not necessary to modify further. But a non modified power supply shall of course be upgraded to above level.

### Facit AB

Postadress Mail	Kontor Office	Telefon Telephone	Telefax	Telex
S-597 00 Ätvidaberg	Ätvidaberg	Nat 0120 810 00	0120 140 95	

2 (4)

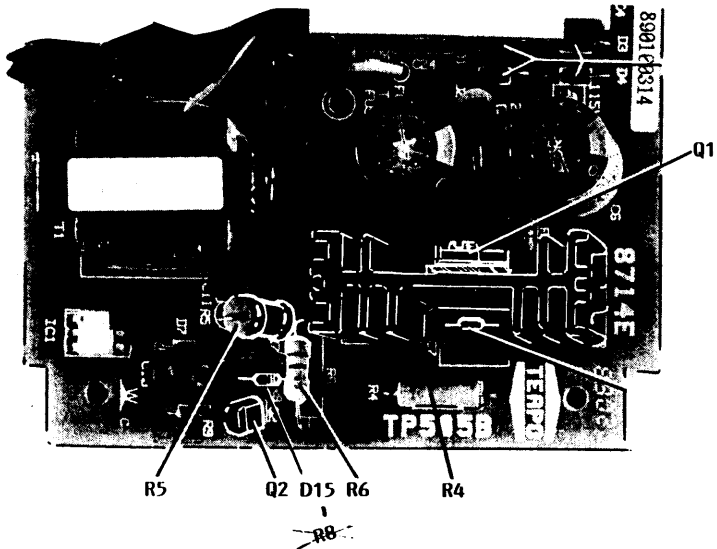
Spare parts: The new modification kit 5550 02 37-00.

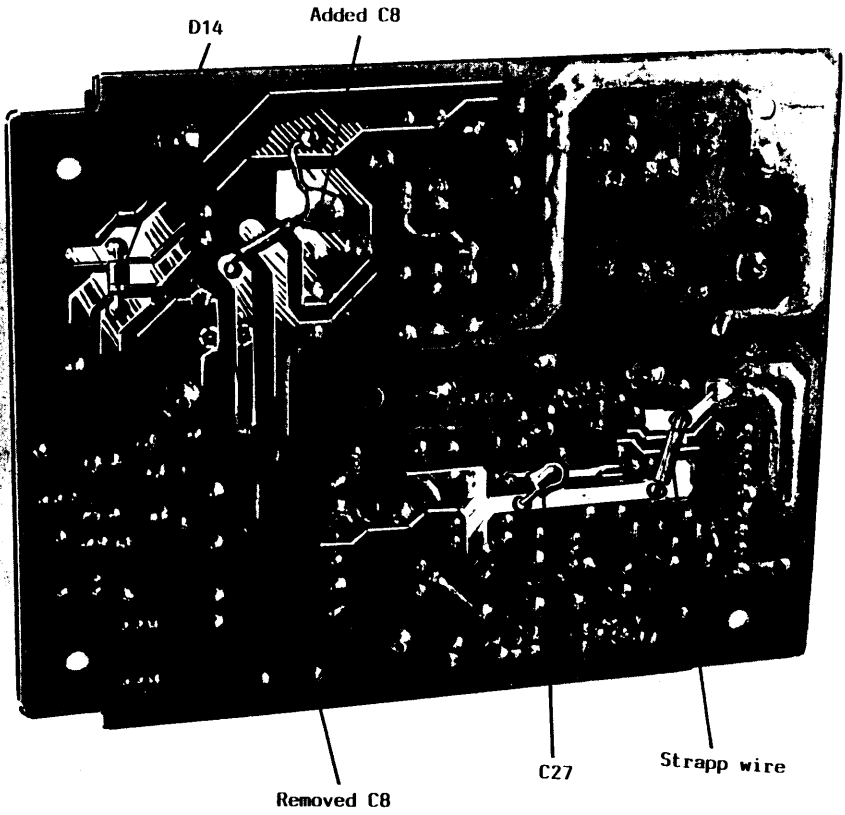
Each kit contains:

Transistor	Q1	2SC3153
	Q2	2SC1384
	R4	50 ohm 2W
	R5	10 kohm 3W
	R6	0.82 ohm 2W
	D13	1N4002
	C27	10uF 35V
	D14	RGP10D
	D15	1N4148
	C8	561K 1kV
		Strapp wire

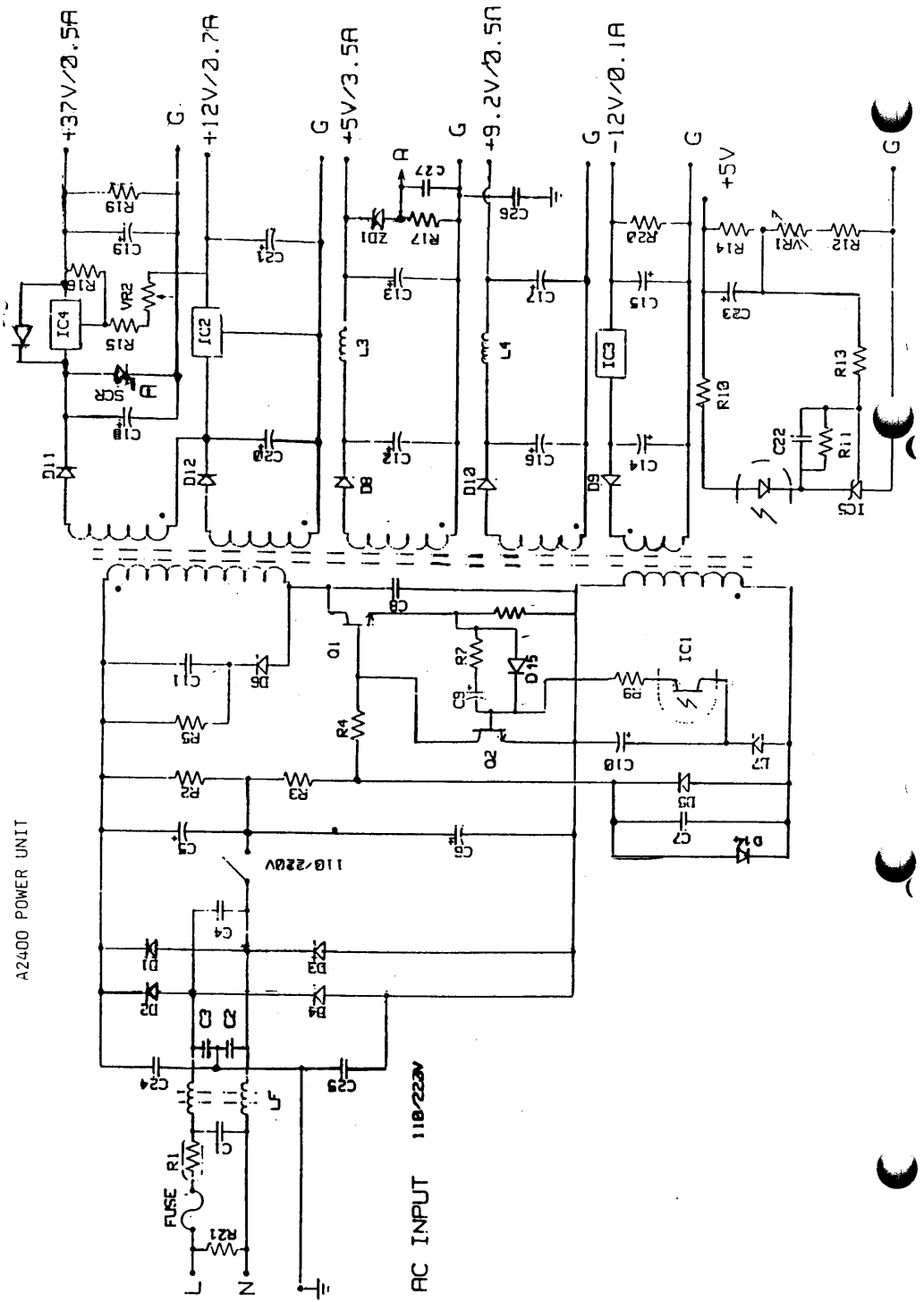
This kit can be ordered from Spare Parts Department, free of charge.

Picture #1:





A2400 POWER UNIT



AC INPUT 110/220V



TPP Field Change Notice No. 17

**DATE:** 090490

**MODULE:** DDE Display Terminal 480(g) (Facit A/G2400)

**CATEGORY:**

Change to be made when problem is met. Check for green label on back as in TPP FCN nr. 13.

**CORRECTS THE ERROR:**

Increases the safety margin when doing TPP FCN 13 (Facit SB 290) fixes.

**TOOLS NEEDED:**

Refer to TPP FCN 13 attachment (Facit SB 290) and current attachment (Facit SB 308 - Sorry for the poor quality).

**DESCRIPTIONS:** (summary of SB 290 & 308)

Do not change R4, change R5 (100kohm/2W to 10kohm/3W), R6 (to 0.82 ohm/2W) and change R8 (2.7 kohm) to diode D15 (1N4148). Check Q1, Q2, Diodes D1 to D5. Add new diode D13, replace IC4, add capacitor to SCR. Add also new diode D14 across C17, move C8 from Q1 to R6. Add ground wire. Please read both SB 290 and SB308 carefully before starting. Estimated time to repair: 45 min.

**Circuits involved:**

See TPP FCN 13 and attached SB 308

Leif Andersen/MUDV

**FACTIT** Date 22/3 No. of pages 11  
To ALAN K. VONDERHEW  
From Stig Ahlström

A/G2400

March 1990

308

6

1 (3)

Stig Ahlström

## Updating power supply in video terminals A/G2400

This SB is a new complement to SB 290. In SB 290 is a general note that there will be more changes made later in the power supply. Now we have received these changes.

**Description of problem:** See information in earlier SB 290.

SB 290 is still valid but to receive more safety function the following changes will be made.

**Action:** Referring to picture #1 and #2 carry out the following:

R4 is changed to value 50 ohm 2W.

R6 is changed to 0.82 ohm 2W.

R8 is changed from a resistor 2.7 kohm to a diode D15 1N4148.

C27 capacitor 10uF across gate cathode SCR placed on solder side, see picture #2 and SB 290.

New diode D14 added across C7, RGP10D placed on the solder side.

C8 moved from cathode Q1 (ground point) to bottom R6 (ground point) placed on solder side. Use the new one C8 which is included in the new modification kit (the old have too short pin, use teflon tubes on the new C8 pins).

Ground wire shall be added from R17 to cathode SCR, placed on solder side.

**Priority:** Power supply which is upgraded according to the old SB 290 is not necessary to modify further. But a non modified power supply shall of course be upgraded to above level.

2 (3)

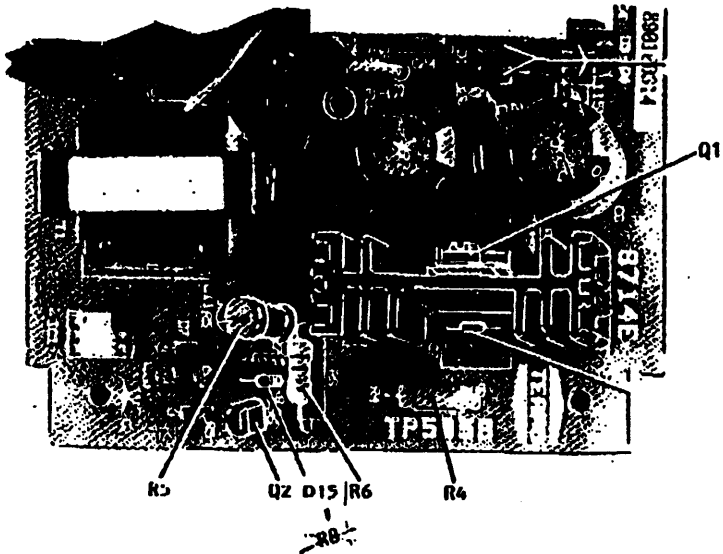
Spare parts: The new modification kit 5550 02 37-00.

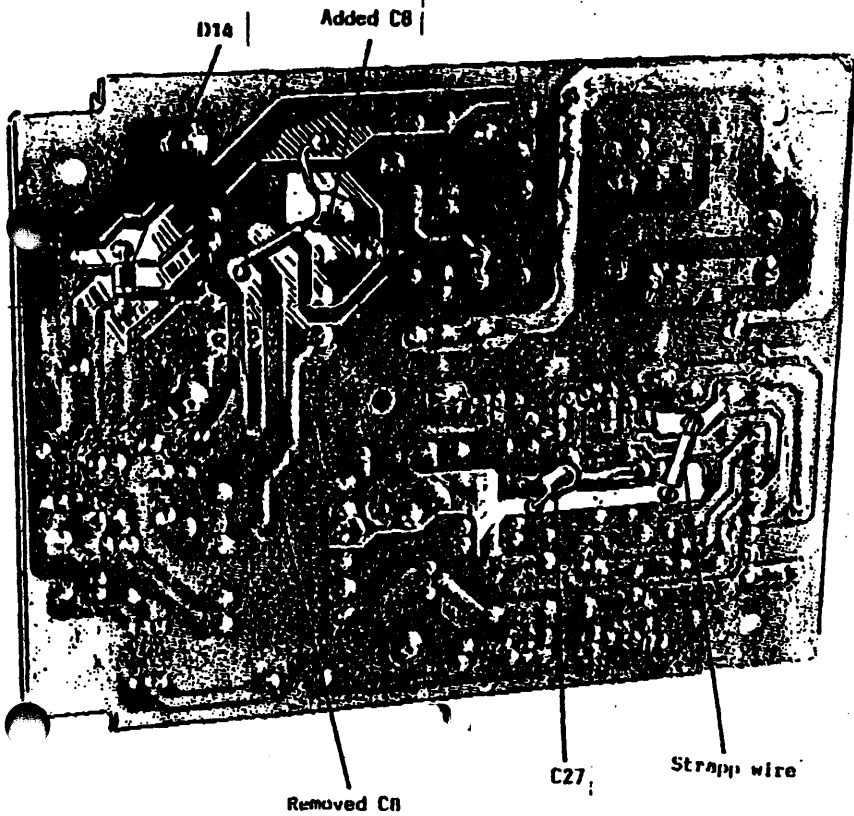
Each kit contains:

Transistor	Q1	28C3153
	Q2	28C1384
	R4	50 ohm 2W
	R5	10 kohm 3W
	R6	0.82 ohm 2W
	D13	1N4002
	C27	10uF 35V
	D14	KCP100
	D15	1N4148
	C8	561K 1kV
		Strapp wire

This kit can be ordered from Spare Parts Department, free of charge.

Picture #1:





TPP Field Change Notice No. 13

**DATE:** 180190

**MODULE:** DDE Display Terminal 480(g) (Facit G/A2400)

**CATEGORY:**

Change to be made when problem is met. Check for green label on back.

**CORRECTS THE ERROR:**

Problems with Power-supply in Display Terminals 480 and 480G.

**TOOLS NEEDED:**

Refer to attached Facit Service Bulletin no. 290.

**DESCRIPTIONS: (summary)**

Change resistors R4 (50ohm to 82ohm/2W) and R5 (100kohm/2W to 10kohm/3W). Check R6, Q1, Q2, Diodes D1 to D5. Add new diode D13, replace IC4, add capacitor to SCR. Estimated time to repair: 30 min.

**Circuits involved:**

See bulletin.

**NOTE:** This note refers to Facit Service Bulletin no. 290, which describes the complete fix for the problem. It replaces TPP-FCN 003 and 004 (Facit SB 245 and SB 250).

Leif Andersen/MUDV

# FACIT

## Service Bulletin

Computer Peripherals

Product: A/G2400

Date: Dec. 1989

SB No.: 290

Info No.: 5

Sheet No.: 1 (4)

Handled by: Bo Thydell

### Updating power supply in video terminals A/G2400

(This SB supersedes SB No. 250, March 15, 1989)

- Description of problem:
1. Too high voltage is produced across switching transistor Q1 due to design of Power Supply Unit, Facit P/N KDY 199 0538. This will eventually make a short-circuit in the transistor and cause a major malfunction of the PSU.
  2. When switching the mains on and off, the voltage regulator, IC4 (LM317), sometimes will be reverse biased, which can destroy the regulator.
  3. In some cases the 37 VDC output is too low and thereby the picture width can't be properly adjusted.
  4. Static or transient voltages can cause misfiring of the thyristor, SCR, in the +37V-line, which in turn may blow the switching transistor, Q1.

- Solution:
1. Changing the operational parameters of transistor Q1, to make the transistor work in a safe operating area.
  2. Connecting a protecting diode (D13) across the terminals of the regulator IC4.
  3. Replace the regulator IC4 (if necessary).
  4. Connecting a capacitor across the gate of thyristor SCR to prevent the thyristor from misfiring.

Note: There will be more changes made later in the power supply delivered from the manufacturer to further improve the reliability, but unless they are of major importance, no extra modifications in the field ought to be necessary.

- Action:
1. Referring to picture #1, carry out the following:

Change the following resistors:

R4 from 50 ohm to 82 ohm, 2W

R5 from 100 kohm 2W to 10 kohm, 3W

### Facit Computer Peripherals AB

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2 (4)

Note 1: On some units the resistor R6 has been changed to 1.3 ohms. In such cases, also change resistor R6 back to its origin a value 1.0 ohm/2W.

Note 2: If the terminal has been operative, change transistors Q1 and Q2 as well.

Note 3: In case you are repairing a broken power supply board, check the four bridge rectifier diodes D1-4, and change if necessary any faulty diode. (D1, D3 type 1N5397 and D2, D4 type 1N4005). Also check diode D5 (type 1N4148) and exchange it if necessary.

Note 4: Make sure that the resistors do not get in touch with any part of the chassis when the PSU is assembled.

2. Connect diode D13, 1N4002, across the input/output-connections of regulator IC4. The diode is to be mounted on the soldering side of the board with the cathode of the diode connected to diode D11/capacitor C18. (See picture #2.)

Note: On power supply produced after March 1989, D13 will already be present in the modified board layout (check on component side, close to IC4).

3. After exchanging the IC4, adjust the 37 VDC output with potentiometer VR2.

Note: This potentiometer is only present on boards with revision level 8714C or later.

4. Connect the 10uF capacitor between gate and cathode of SCR as shown in picture #3.

Note: Observe polarity (+ to SCR gate).

Priority: At first service occasion.

Estimated time: Approximately 30 minutes for repair and updating the PSU board.

Introduction: All A/G2400 terminals delivered from factory from week 8946 includes all modifications mentioned above. These are identified by an extra label with green markers on the outside of the packaging. When we have checked and updated all units in stock, there will be an information regarding the serial numbers affected.

Spare parts: Modification kit PSU (A2400): Facit P/N 5550 02 37-00.

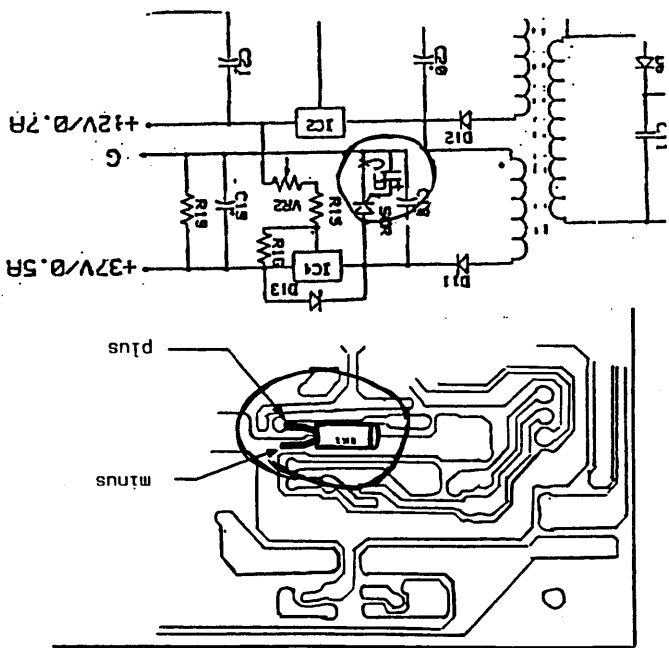
Note: These kits are, until further notice, available upon request from our spare parts department at no charge. Each kit contains:

1x transistor Q1, 2SC3153  
1x transistor Q2, 2SC1384  
1x diode D13, 1N4002  
1x resistor R4, 82 ohm/2W  
1x resistor R5, 10 kohm/3W  
1x resistor R6, 1 ohm/2W  
1x capacitor, 10 uF/35V





Picture #3:



TPP Field Change Notice No. 4

**DATE:** 070489

**MODULE:** DDE Display Terminal 480 (Facit A2400)

**CATEGORY:**

Change to be made at first occasion. This note refers to Facit Service Bulletin nr. 250, which describes the complete fix for the problem, previously send out as TPP-FCN no. 3/Facit SB 245.

**CORRECTS THE ERROR:**

Problems with Power-supply in Display Terminals 480 and 480G.

**TOOLS NEEDED:**

Refer to attached Facit Service Bulletin 250.

**DESCRIPTIONS:** (summary)

Change resitors R4 (50ohm to 82ohm/2W) and R5 (100kohm/2W to 10kohm/3W). Check R6, Q1, Q2, Diodes D1 to D5. Add new diode D13, replace IC4. Estimated time to repair: 30 min.

**Circuits involved:**

See bulletin.

**Danish Version:** No danish version

**NOTE:** This FCN is for information only, as Facit A/S is making the required changes on alle terminals delivered to DDE.

Leif Andersen/MUDV

# Facit Service Bulletin

Computer Peripherals

Product: A/G2400

Date: March 15., 1989

SB No.: 250

Info No.: 4

Sheet No.: 1 (2)

Handled by: FTS-TU, Bo Thydell

## Problems with power-supply in videoterminals A/G2400.

- Description of problem:**
1. Due to design of Power Supply Unit, Facit P/N KDY 1990538, too high voltage is produced across switching transistor Q1. This will eventually make a short-circuit in the transistor and cause a major malfunction of the PSU.
  2. When switching the mains on and off, the voltage regulator, IC4 (LM317), sometimes will be reverse biased, which can destroy the regulator.
  3. In some cases the 37 VDC output is too low and thereby the picture-width can't be properly adjusted.

- Solution:**
1. By changing the operational parameters of transistor Q1, the transistor will work in a safe operating area.
  2. A protecting diode is connected across the terminals of the regulator IC.
  3. Change the regulator IC4.

- Action:**
1. Referring to picture #1, carry out the following:

Change the following resistors:

R4 from 50 ohm to 82 ohm, 2W

R5 from 100 kohm 2W to 10 kohm, 3W

Note 1: On some units the resistor R6 has been changed to 1.3 ohms. In such cases, also change resistor R6 back to its origin 1.0 ohm/2W value.

Note 2: If the terminal has been operative, change transistors Q1 and Q2 as well.

Note 3: In case you are repairing a broken power-supply-board, check the four bridge-rectifier diodes D1-4 and change if necessary any faulty diode. (D1, D3 type 1N5397 and D2, D4 type 1N4005). Also check diode D5 (type 1N4148) and exchange it if necessary.

Note 4: Make sure that the resistors do not get in touch with any part of the chassis when the PSU is assembled.

2. Connect diode D13, 1N4002, across the input/output-connections of regulator IC4. The diode is to be mounted on the soldering-side of the board with the cathode of the diode connected to diode D1/capacitor C18. (See picture #2)
3. After exchanging the IC4, adjust the 37 VDC-output with potentiometer VR2.

Note: This potentiometer is only present on boards with revision-level 8714C or later.

**Priority:** At first service-occasion.

**Estimated time:** Approximately 30 minutes for repair of board.

## Facit Computer Peripherals AB

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Ävidaberg

0120 810 00

0120 151 50

**Introduction:**

On all power-supply boards delivered from March 15th 1989. There will be a separate bulletin regarding the introduction in the terminals delivered.

**Spare parts:**

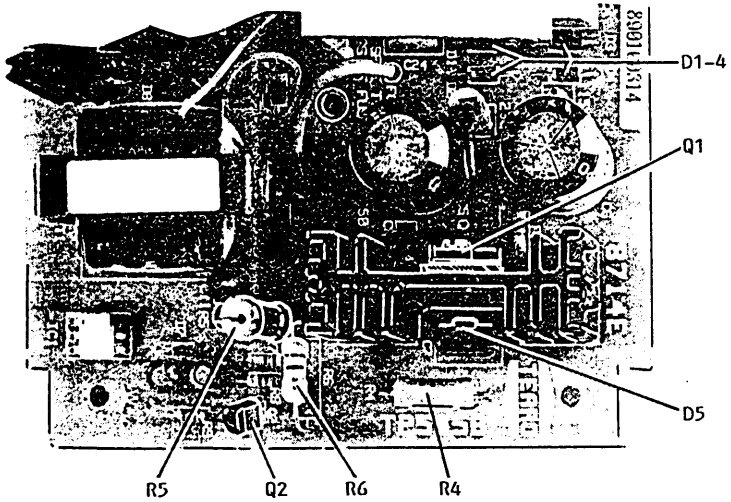
Modification-kit PSU (A2400):

Facit P/N 5550 02 37-00

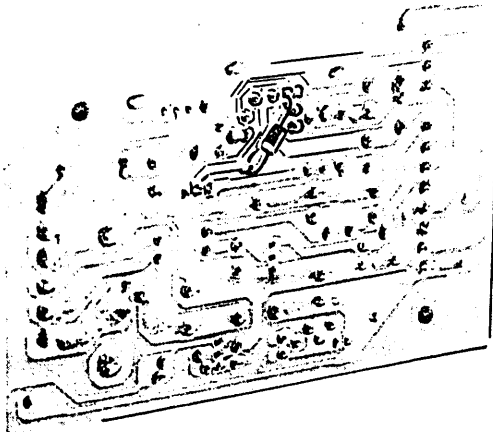
Note: These kits are until further notice available upon request from our spare-parts-department at no charge. Each kit contains:

- 1x transistor Q1, 2SC3153
- 1x transistor Q2, 2SC1384
- 1x diode D13, 1N4002
- 1x resistor R4, 82 ohm/2W
- 1x resistor R5, 10 kohm/3W
- 1x resistor R6, 1 ohm/2W

**Picture #1:**



**Picture #2:**



TPP Field Change Notice No. 3

**DATE:** 130289

**MODULE:** DDE Display Terminal 480 (Facit A2400)

**CATEGORY:**

Change to be made when convenient, if not already performed. This note refers to Facit Service Bulletin nr. 245. It is attached this note.

**CORRECTS THE ERROR:**

Breakdown of swithing transistor Q1 in the Power Supply.

**TOOLS NEEDED:**

Refer to attached Facit Service Bulletin 245.

**DESCRIPTIONS:**

Change resitors R4 (50ohm to 82ohm/2W) and R5 (100kohm/2W to 10kohm/3W)

**Circuits involved:**

See bulletins

**Danish Version:** No danish version

Leif Andersen/MJDV

# **FACIT**

## **Service Bulletin**

Computer Peripherals

Product: A/G2400

Date: Dec., 1988

SB No.: 245

Info No.: 3

Sheet No.: 1(1)

Handled by: FTS-TU, Bo Thydell

### **Problems with power-supply. Preliminary solution.**

**Problem:** Due to design of Power Supply Unit, Facit P/N KDY 199 0538, too high voltage is produced across switching transistor Q1. This will eventually make a shortcircuit in the transistor and cause a major malfunction of the PSU.

Preliminary investigations shows that changing the operating parameters of transistor Q1 decreases the Vc-c to a safer level.

**Preliminary action:** Change the following resistors:

R4 from 50 ohm to 82 ohm, 2W

R5 from 100 kohm 2W to 10 kohm, 3W

**Note:** Make sure that the resistors do not get in touch with any part of the chassis when the PSU is assembled.

**Priority:** At first possible occasion.

You will be informed about the exact procedures as soon as we get the details worked out with the manufacturer.

## **Facit Computer Peripherals AB**

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S-597 00 Åtvidaberg Sweden	Åtvidaberg Örsätter	0120 810 00 Int +46 120 810 00	0120 151 50 Int +46 120 151 50	5550 facitoe s

TPP Field Change Notice No. 005

DATE: 17. august 1989

MODULE: DDE Display 490/ RCI RC45

CATEGORY

Correct on failure.

CORRECTS THE ERROR:

<u>RCI FCO no.</u>	<u>Descriptions</u>
22-124	Black, vertical lines on left-hand side of screen.
22-123	Tilting characters appear on screen (white)
22-122	Tilting characters appear on screen (amber)
22-121	Temporary changes in PS, week 8838 to 8845.
22-112	New F/W version (3.1) - DO NOT IMPLEMENT.
22-111	Same. - DO NOT IMPLEMENT.
22-098	R423 must have value 2.7 ohm/2.5W (white)
22-097	R423 must have value 2.7 ohm/2.5W (amber)

TOOLS NEEDED:

See each FCO

DESCRIPTIONS:

See each FCO

COMMENTS:

Do not try to implement F/W change 22-112 and 22-111. The changes will not be compatible with DDE's standard driver "int/dde490.t". Because no DDE detected problems exists in the old firmware, it has been decided to stay with known, good versions.

RCI claims, that this is the complete list of FCO's for the RC 45 series dated between week 29, 87 and today. I have published only those relevant for our configurations, and kept the rest on file in TPP.

**FIELD CHANGE ORDER**

**NO:** 22-124

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure	Topic <b>B4-487</b>
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code <b>A, B, C, D</b>

Product RC743 RC45 RC900	Sales no. RC743 RC45 RC900	Equipment Affected <b>SAMPO Monitor Board S/N: N/A</b>
Note		

**Reason for change**

Black vertical lines appear in the left-hand side of the screen due to a too high Q in the horizontal deflection circuitry.

**Description of change**

If black vertical lines appear:

1. Place a resistor of 2K4ohm/5W in parallel with the coil L401 on the solder side of the PCB.
2. Code FCO-label 22-124.

**Additional Comments**

The FCO-kit includes:			Documentation enclosed
QTY	Description	RC P/N	
1	Resistor 2K4ohm/5W	1111009	N/A
The FCO-kit can be ordered at the ITS Dept.			Estimated installations time 0.25 hour
KIT free of charge <input type="checkbox"/> Yes <input type="checkbox"/> No			

PN: 99200299

Issue week: 8920	Sign: Jens B. Kjaergaard	Page 1 of 1
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**FIELD CHANGE ORDER**

**NO:** 22-123

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure	Topic	B4-486
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code	A, B, C, D

Product RC45	Sales no. RC4502 RC4502-L All paperwhite monitors	Equipment Affected SAMPO Video Board S/N: N/A
Note		

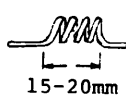
**Reason for change**

Tilting characters appear on the screen.

**Description of change**

If tilting characters appear on the screen:

1. Cut PCB track connecting cathode of D505 to the base of Q505.
2. Mount a 0.4uH coil across the disconnection.  
The coil is made by winding 8 turns of 0.5mm isolated copperwire around a 6mm punch.  
Remove the isolation from both ends of the coil.
3. Code FCO-label 22-123.



**Additional Comments**

The FCO-kit includes:		Documentation enclosed
QTY	Description	RC P/N
	N/A	N/A

The FCO-kit can be ordered at the ITS Dept.

KIT free of charge  Yes  No

Estimated installations time 0.5 hour

PN: 99200299

Issue week: 8920      Sign: Jens B. Kjaergaard *[Signature]*      Page 1 of 1

**FIELD CHANGE ORDER**

**NO:** 22-122

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure	Topic B4-485
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code A, B, C, D

Product  RC45	Sales no.  RC4501 RC4501-L All amber monitors	Equipment Affected  SAMPO Video Board S/N: N/A
---------------------	---	--

Note

Reason for change

Tilting characters appear on the screen.

Description of change

If tilting characters appear on the screen:

1. Cut PCB track connecting cathode of D505 to the base of Q505.
2. Code FCO-label 22-122.

Additional Comments

The FCO-kit includes:		Documentation enclosed
QTY	Description	RC P/N
N/A		N/A

The FCO-kit can be ordered at the ITS Dept.

KIT free of charge  Yes  No

Estimated installations time 0.25 hour

PN: 99200299

# RC Computer a-s

**NO:** 22-121

<input type="checkbox"/> Mandatory	<input type="checkbox"/> Retrofit on Failure	Topic B4-411
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code A, C, D

Product RC45	Sales no. M45 - XXX - YY RC743 RC45/900	Equipment Affected Monitor power supply
Note		

**Reason for change**

From week 38 to week 45 some monitors have been delivered from the production department with minor changes in the power supply (R802 or R928). These changes have no influence on the function of the monitors, and therefore no changes will be made in future productions.

**Description of change**

**Additional Comments**

The FCO-kit includes:		Documentation enclosed
QTY	Description	

The FCO-kit can be ordered at the ITS Dept. KIT free of charge <input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated installations time
--	------------------------------

PN: 96200299

Issue week: 8847	Sign: Jens Michaelson <i>Jens Michaelson</i>	Page of 1
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**FIELD CHANGE ORDER**

**NO:** 22-112

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure	Topic B4-365
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code A, C, D

Product RC45	Sales no. RC4511-01	Equipment Affected PGR638
-----------------	------------------------	------------------------------

Note

Reason for change

See page 2 and 3.

Description of change

1. Replace ROD459 pos. 61 with ROD489.  
    Replace ROD460 - 51 - ROD490.  
    Replace ROD461 - 41 - ROD491.
2. Code FCO-label 22-112.

Additional Comments

The FCO-kit includes:		RC P/N	Documentation enclosed
QTY	Description		
1	ROD489	84208489	
1	ROD490	84208490	
1	ROD491	84208491	

The FCO-kit can be ordered at the ITS Dept.

KIT free of charge  Yes     No      Estimated installations time 0,5 hour

FN: 99200299

FIELD CHANGE ORDER

NO: 22-112

<b>RC45 Information</b>	<b>Category</b> System Information	<b>Product</b> RC4511
<b>Ident</b> 798 50 354	<b>Replaces</b>	<b>Page</b> 3/5

**Subject**

RC45 VT100 Terminal Program, rel. 3.1, package description

**Changes from previous release (at time of rel. 3.0)**

- o New basic firmware allow for operation of down-loaded software on terminal with built-in program.
- o Built-in configurator accessible directly on power-up or restart, before entering program load phase.

Terminal Program

- o New configurable aspects in operation are introduced, gaining compatibility with DEC, Digital Equipment Corp., VT200 series of terminals - notably:
  - VT220 Selective erase supported (monochrome terminals).
  - VT220 pushkey handling by host control: lock and clear pushkey parameters (p1 and p2) comply with DEC usage.
  - Number of configurable emulating modes increased -- now comprising: VT52, VT100 No Options, VT100 AVO, VT200 DEC id, VT200 RC id -- For the VT200 modes, the report send to the host on a primary-DA request are as follows:
    - VT200 DEC id - as DEC VT220 terminal
    - VT200 RC id - actual values for the terminal (excepting soft character set).
  - Insert/replacement mode supported.
- o New edition of the User Guide (SM8906(I)-D).
- o Known errors or deficiencies have been mended:
  - Relay printing is now transparent to CSI sequences.
  - VT52 mode may be changed by Set mode control sequence.
  - Data Carrier Detect missing ( - DCD in status line) is not shown before the signal has been off for more than 100 msec. Previously, prompting of shorter DCD interrupts could itself cause loss of data.
  - Soft reset now complies with DEC VT220 terminal usage.
  - Set compatibility level now includes a Soft terminal reset to be executed after change of level.

Terminal Configurator

- o An error has been mended: Keyboard password can now be deleted.

N: 98200300

## FIELD CHANGE ORDER

NO: 22-112

RC45 Information	Category System Information	Product RC4511
Ident 798 50 354	Replaces	Page 4/5
Subject RC45 VT100 Terminal Program, rel. 3.1, package description		
Changes from previous release (at time of rel. 3.1)		
<u>Terminal Program</u>		
<ul style="list-style-type: none"> <li>o Corrections have been made to obtain functions as follows: <ul style="list-style-type: none"> <li>- Erase line sequence (CSI I pl K): also handled outside scrolling region.</li> <li>- Erase display sequence (CSI I pl J for pl=1): erases also first line in scrolling region when cursor is positioned in this line.</li> <li>- Save/restore cursor: complies with DEC usage.</li> <li>- Cursor forward/backward: reaching side margins the cursor does not wraparound to next/previous line.</li> <li>- Cursor up/down: reaching top or bottom margins the cursor stops independently of state of the origin mode.</li> <li>- Send key, numeric keypad: transmits a CR if Application Mode = Reset and Puskeys = Default.</li> <li>- Print extend full screen sequence (CSI ? 19 h): now working as this function (by mistake the effect of the sequence previously was 'local echo on').</li> <li>- Tabulation: complies with DEC usage.</li> <li>- XOFF transmitted to host when number of vacant input buffers has decreased to 64.</li> <li>- Correct download of pushkeys the RC-way in 8-bit area.</li> <li>- Pushkey programming: contents of pushkeys not deleted when (re)starting the terminal: this was previously the case, having programmed PF-keys in uppercase, due to errors in the start-up check routines.</li> <li>- Caps lock, EDA-keys: values generated depends on the US-mode and the Shift &amp; Alt key states.</li> <li>- Select character attribute sequence (CSI Ps " q for Ps=0 (default)): case handled.</li> </ul> </li> </ul>		

**FIELD CHANGE ORDER**

**NO:** 22-111

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure	Topic B4-364
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code A, C, D

Product RC45	Sales no. RC4511	Equipment Affected PGR637
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Note

**Reason for change**

See page 2 and 3.

**Description of change**

- Replace ROD456 pos. 61 with ROD486.  
 Replace ROD457 - 51 - ROD487.  
 Replace ROD458 - 41 - ROD488.
- Code FCO-label 22-111.

**Additional Comments**

The FCO-kit includes:			Documentation enclosed
QTY	Description	RC P/N	
1	ROD486	84208486	
1	ROD487	84208487	
1	ROD488	84208488	

The FCO-kit can be ordered at the ITS Dept.  
 KIT free of charge  Yes  No  
 Estimated installations time 0,5 hour

PN: 9920299

## FIELD CHANGE ORDER

NO: 22-111

RC45 Information	Category System Information	Product RC4511
Ident 798 50 354	Replaces	Page 3/5
Subject RC45 VT100 Terminal Program, rel. 3.1, package description		
<p>Changes from previous release (at time of rel. 3.0)</p> <ul style="list-style-type: none"> <li>o New basic firmware allow for operation of down-loaded software on terminal with built-in program.</li> <li>o Built-in configurator accessible directly on power-up or restart, before entering program load phase.</li> </ul> <p><u>Terminal Program</u></p> <ul style="list-style-type: none"> <li>o New configurable aspects in operation are introduced, gaining compatibility with DEC, Digital Equipment Corp., VT200 series of terminals - notably: <ul style="list-style-type: none"> <li>- VT220 Selective erase supported (monochrome terminals).</li> <li>- VT220 pushkey handling by host control: lock and clear pushkey parameters (p1 and p2) comply with DEC usage.</li> <li>- Number of configurable emulating modes increased -- now comprising: VT52, VT100 No Options, VT100 AVO, VT200 DEC id, VT200 RC id -- For the VT200 modes, the report send to the host on a primary-DA request are as follows: <ul style="list-style-type: none"> <li>VT200 DEC id - as DEC VT220 terminal</li> <li>VT200 RC id - actual values for the terminal (excepting soft character set).</li> </ul> </li> <li>- Insert/replacement mode supported.</li> </ul> </li> <li>o New edition of the User Guide (SW8906(I)-D).</li> <li>o Known errors or deficiencies have been mended: <ul style="list-style-type: none"> <li>- Relay printing is now transparent to CSI sequences.</li> <li>- VT52 mode may be changed by Set mode control sequence.</li> <li>- Data Carrier Detect missing ( - DCD in status line) is not shown before the signal has been off for more than 100 msec. Previously, prompting of shorter DCD interrupts could itself cause loss of data.</li> <li>- Soft reset now complies with DEC VT220 terminal usage.</li> <li>- Set compatibility level now includes a Soft terminal reset to be executed after change of level.</li> </ul> </li> </ul> <p><u>Terminal Configurator</u></p> <ul style="list-style-type: none"> <li>o An error has been mended: Keyboard password can now be deleted.</li> </ul>		



## FIELD CHANGE ORDER

NO: 22-111

RC45 Information	Category System Information	Product RC4511
Ident 798 50 354	Replaces	Page 4/5
Subject RC45 VT100 Terminal Program, rel. 3.1, package description		
Changes from previous release (at time of rel. 3.1)		
<u>Terminal Program</u>		
<ul style="list-style-type: none"> <li>o Corrections have been made to obtain functions as follows: <ul style="list-style-type: none"> <li>- Erase line sequence (CSI I pl K): also handled outside scrolling region.</li> <li>- Erase display sequence (CSI I pl J for pl-1): erases also first line in scrolling region when cursor is positioned in this line.</li> <li>- Save/restore cursor: complies with DEC usage.</li> <li>- Cursor forward/backward: reaching side margins the cursor does not wraparound to next/previous line.</li> <li>- Cursor up/down: reaching top or bottom margins the cursor stops independently of state of the origin mode.</li> <li>- Send key, numeric keypad: transmits a CR if Application Mode = Reset and Puskeys = Default.</li> <li>- Print extend full screen sequence (CSI ? 19 h): now working as this function (by mistake the effect of the sequence previously was 'local echo on').</li> <li>- Tabulation: complies with DEC usage.</li> <li>- XOFF transmitted to host when number of vacant input buffers has decreased to 64.</li> <li>- Correct download of pushkeys the RC-way in 8-bit area.</li> <li>- Pushkey programming: contents of pushkeys not deleted when (re)starting the terminal; this was previously the case, having programmed PF-keys in uppercase, due to errors in the start-up check routines.</li> <li>- Caps lock, #0A-keys: values generated depends on the US-mode and the Shift &amp; Alt key states.</li> <li>- Select character attribute sequence (CSI Ps " q for Ps=0 (default)): case handled.</li> </ul> </li> </ul>		

**FIELD CHANGE ORDER**

**NO:** 22-098

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure	Topic B4-317
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code A, C, F

Product RC45	Sales no. RC4502	Equipment Affected RC4502 s/n 4983 RC4502 h s/n 100049 RC743 s/n 036
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Note

Reason for change  
For old versions of the unit the filament voltage on the tube is too high, which may decrease the life time of the tube.

Description of change

1. Check the value of R423 on the monitor board. If it is not 2.7 ohm change the resistor to 2.7 ohm 2.5 W.
2. Code fco-label 22-098.

Note: R423 is located between the HT transformer and Q 401.

Additional Comments

The FCO-kit includes:		RC P/N	Documentation enclosed
QTY	Description		
1	resistor 2.7 ohm 2.5 w	1110002	
The FCO-kit can be ordered at the ITS Dept. KIT free of charge <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Estimated installations time 0.5 hour	

PN: 99200299

**FIELD CHANGE ORDER**

**NO:** 22-097

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure	Topic B4-316
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty	Code A, C, F

Product RC45	Sales no. RC4501	Equipment Affected RC4501 s/n 5115 RC4501 h s/n 100271 RC4501-23 s/n 001 ND4501 s/n 042
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Note

**Reason for change**  
The filament voltage on the tube is too high, which may decrease the life time of the tube.

**Description of change**

1. Change R423 on the monitor board to 5.6 ohm 2.5 w.
2. Code FCO-label 22-097.

Note: R423 is located between the HT transformer and Q 401.

Additional Comments

The FCO-kit includes:		RC P/N	Documentation enclosed
QTY	Description		
1	Resistor 5.6 ohm 2.5 w	1110003	

The FCO-kit can be ordered at the ITS Dept.  
 KIT free of charge  Yes  No  
 Estimated installations time 0.5 hour

PN: 99200299

**Service Bulletin**

**Product ..... : DDE 3000 X terminal**

**Date ..... : July 1993**

**Number of pages : 6**

**COVERING NOTE TO ECN 6230.98**

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**Partnumber has been included for the replacing component.**

**Draft has not been previously issued.**

**PRODUCT:** TDV 6230, TDV 6230/1     
 Object level updated:      
 Hardware      
 Software      
 ECN-6230/98

Sub assy name: **Power/Deflection**     
 Sub. assy no: **962270**     
 Old rev.: **09.3**     
 New rev.: **10.3**     
 Effective week: **43/1992**

New assy name:     
 New assy no:     
 New rev.:      
 Effective serial no.: **See Below**

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Prerequisite ECN(s)  PRIORITY Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
		<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	

**SUMMARY:**  
  
 New diodes in pos. CR51, CR52 and CR54.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

New diodes is introduced in pos. CR51, CR52 and CR54 for improved switching speed.

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9827	TDV 6230		28	6230003820	
9825	TDV 6230		29	6230003820	
9826	TDV 6230/1	9769-200	14	6230003820	DZ012642
9828	TDV 6230/1	9769-200	13	6230003820	DZ012642

Documentation enclosed:	Modification kit no.:	Time to implement:	
	Service: <i>Einar Sielke</i>	QA: <i>H. Hafner</i>	Product Manager: <i>[Signature]</i>
Prepared by: <b>KREL</b>	Date: <i>12/11-92</i>	Date: <i>12/11-92</i>	Date: <i>12/11-92</i>

**DETAILED SPECIFICATIONS:**

CR51 type BA159 is replaced with type BYV36E, partno. 420017.

CR52 type RGP10J is replaced with type BYV36E, partno. 420017.

CR54 type RGP10J is replaced with type BYV36E, partno. 420017.

EL 608c-2

Modification kit no.:

Time to implement:

**Covering note to ECN 6230/099**

**This ECN has been implemented with no previous ECN draft.**



<b>PRODUCT:</b> TDV 6000 X Terminals		Object level updated: <input type="checkbox"/>	Hardware <input type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/099</b>
Sub assy name: System Test User's Guide	Sub. assy no: 96 31 85	Old rev.: <b>01.0</b>	New rev.: <b>02.0</b>	Effective week: 44
New assy name:	New assy no:	New rev.: <input type="checkbox"/>		Effective serial no.:
<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input checked="" type="checkbox"/> See below	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Module <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Prerequisite EGN(s)	
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>	

**SUMMARY:**

The title of the former "TDV 6230 Terminal System Test User's Guide" has been changed to "TDV 6000 X Terminals System Test User's Guide." The contents have been revised to cover the present models in the TDV 6000 X series.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

- Chapters 0 and 1:      Cosmetic errors have been corrected.
  
- Chapter 2:              Illustrations of menus and test pictures have been updated.  
Cosmetic errors have been corrected.
  
- Chapters 3 and 4:      Text updated. Cosmetic errors have been corrected.
  
- Appendix A:             New listing of System Mode File.
  
- Appendix B:             List of System Mode Commands has been updated. Cosmetic errors have been corrected.

Documentation enclosed:	Modification kit no.:	Time to implement:
	Service: <i>Erwin S. ...</i>	QA: <i>August Konetsky</i>
Prepared by: PKF 29.10.92	Date: <i>12/11-92</i>	Date: <i>16/11-92</i>

<b>PRODUCT:</b> Keyboard TDV 5010 Danish		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-50/028</b>
<b>Sub assy name:</b> Keypad set	<b>Sub. assy no:</b> 967853	<b>Old rev.:</b> 01.1	<b>New rev.:</b> 02.2	<b>Effective week:</b> 45-92
<b>New assy name:</b>	<b>New assy no:</b>	<b>New rev.:</b> 		<b>Effective serial no.:</b> 5005048424
<b>REASON FOR CHANGE</b>	<b>COMPATIBILITY</b>	<b>Yes No</b>		<b>Prerequisite ECN(s)</b>
Improvement <input type="checkbox"/>	Product <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>		
Change of production process <input type="checkbox"/>	Module <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>		
Standardization <input type="checkbox"/>	<b>CHANGE AFFECTS</b>			<b>PRIORITY</b>
Procurement difficulties <input checked="" type="checkbox"/>	Temporary change <input type="checkbox"/>			Mandatory <input type="checkbox"/>
Custom modification <input type="checkbox"/>	Delivered equipment <input type="checkbox"/>			Recommended <input type="checkbox"/>
Error correction <input type="checkbox"/>	Undelivered equipment <input type="checkbox"/>			For info only <input checked="" type="checkbox"/>
Correction of documentation <input type="checkbox"/>	Future production <input checked="" type="checkbox"/>			
Other <input type="checkbox"/>	Documentation <input type="checkbox"/>			

**SUMMARY:**

Due to procurement difficulties, Tandberg Data has decided to change from double shot moulded keycaps to wet sublimation printing. The keycap material is changed from ABS to Thermoplastic Polyester.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

Tandberg Data receives the keypad set as one complete set containing all necessary keycaps.

**Note:**

As a consequence, keycap sets ordered as spareparts, will be delivered as complete sets.

Item no.:	Product	Nationality	New Obj. Lev.:
7967	TDV 5010	Danish	21

<b>Documentation enclosed:</b>		<b>Modification kit no.:</b>	<b>Time to implement:</b>
<b>Prepared by:</b> STJO	<b>Service:</b> <i>[Signature]</i>	<b>QA:</b> <i>[Signature]</i>	<b>Product Manager:</b> <i>[Signature]</i>
	<b>Date:</b> 02.02.92	<b>Date:</b> 11/10-92	<b>Date:</b> 11/12 92.

TPP Field Change Notice No. 71

DATE: 01.09.92

MODULE: DDE 3000/Tandberg TDV 6230

CATEGORY:

For information only.

CORRECTS THE ERROR: None - production improvements

TOOLS NEEDED: see attachments

DESCRIPTIONS: attachments:

ECN 6230/63	X-mainboard 962276 rev. 2.1
ECN 6230/88	New Installation guide, rev. 4.0
ECN 6230/90	X-Mainboard 962274 rev. 5.2 (prod)
ECN 6230/91	X-Mainboard 962274 rev. 0-.2 (ECO)
ECN 6230/92	X-Mainboard 962279 rev. 4.2 (prod)
ECN 6230/93	X-Mainboard 962279 rev. 0-.2 (ECO)
ECN 6230/94	X-Mainboard 962276 rev. 2.2 (prod)
ECN 6230/95	X-Mainboard 962276 rev. 0-.2 (ECO)
ECN 6230/96	X-Mainboard 962260 rev. 1.2 (prod)
ECN 6230/97	X-Mainboard 962260 rev. 0-.2 (ECO)

(prod = Changes in production, ECO = Changes in the field)

SERVICE KIT: none

ESTIMATED REPAIR TIME: none

lea/MUDV

**PRODUCT:** TDV 6230/1 Object level updated:  Hardware  Software  **ECN-6230/0 63.**

**Sub assy name:** X MAINBOARD **Sub. assy no:** 962276 **Old rev.:** 01.1 **New rev.:** 02.1 **Effective week:** 21-92

**New assy name:** **New assy no:** **New rev.:** **Effective serial no.:** DZ012638

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input checked="" type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/> <hr/> <b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <hr/> <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
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**SUMMARY:**  
Improved margins to use 2MB option (962277)

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

Improved margins, to be able to use PALCE22V10H-25PC/4 in position U44. The /4 indicates a new production process used by the component manufacturer. Our design can not use the /4 PAL without modifications. U44 (962770 LANCEPAL) is changed to rev. 03.0. Modifications are made to X-Mainboard.

New obj.level:

ITEM	Cust.Product	OBJ.LEVEL
9826	9769-200	11

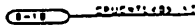
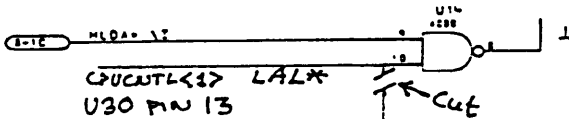
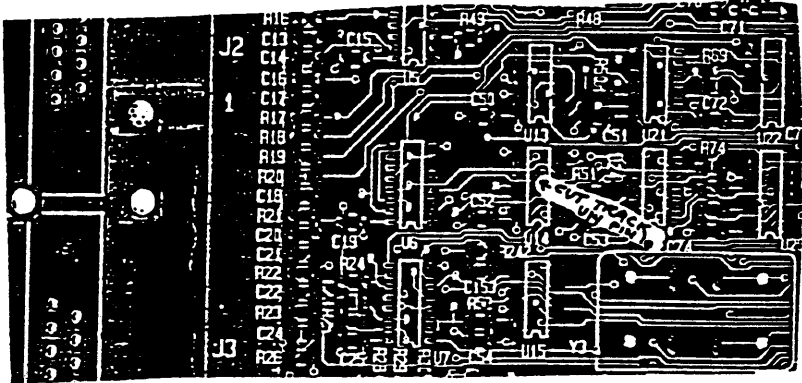
**Documentation enclosed:** **Modification kit no.:** **Time to implement:**

**Prepared by:** *H. Hallberg* **OA:** *A. Konecny* **Product Manager:** *John Posny*

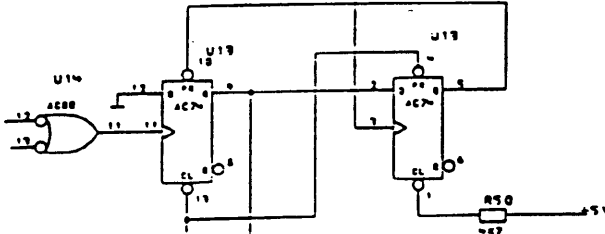
**Date:** 9/6-92 **Date:** 9/6-92 **Date:** 12/6-92

## DETAILED SPECIFICATIONS:

This appendix shows where cut is made.



WAIT-STATE GENERATOR



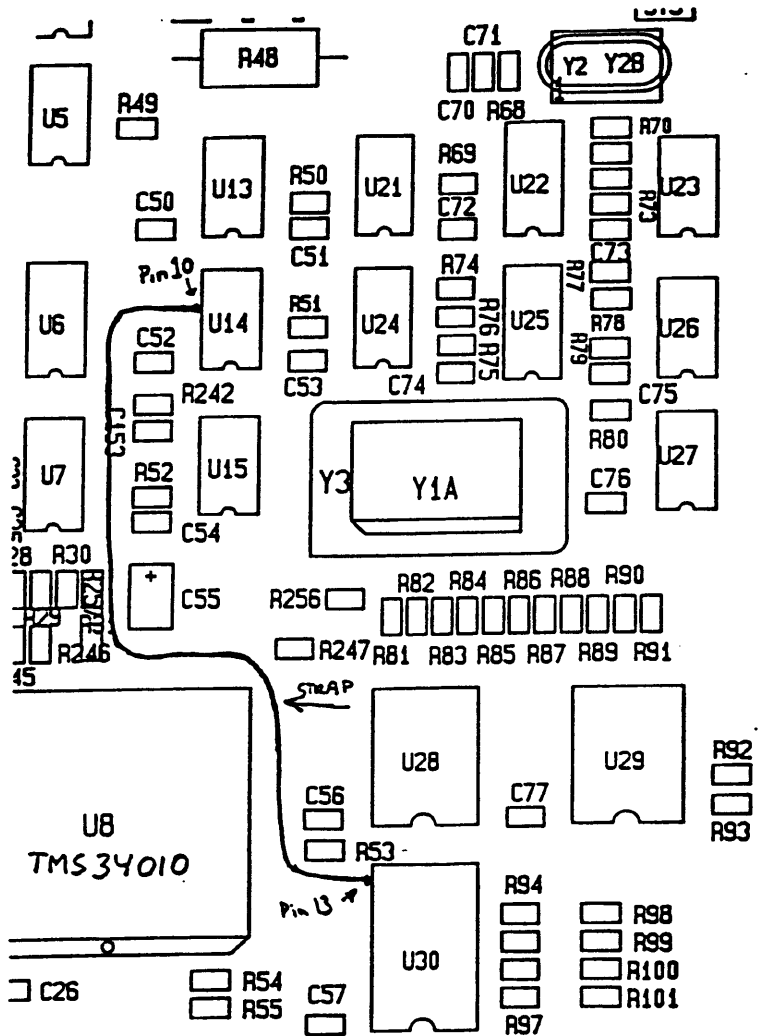
THIS SHEET IS COMMON FOR:

962260 962276 962279 962274

DRAWING		DATE	
REVISED BY	DESIGNED BY	REVISED BY	DESIGNED BY
DATE	PROJECT	DATE	PROJECT
	NO. 100 JAN 30 11:31AM 1983		NO. 100 JAN 30 11:31AM 1983
TITLE		TITLE	
CPU CONTROL SIGNALS		CPU CONTROL SIGNALS	
PART NO.		PART NO.	
962276		962276	
DRAWING NO.		DRAWING NO.	
20183		20183	
SHEET NO.		SHEET NO.	
13-17		13-17	
TANDBERG DATA			

## DETAILED SPECIFICATIONS:

This appendix shows the strap between U14.10 and U30.13.



Bl. 808c-2

Modification kit no.:

Time to implement:



<b>PRODUCT:</b> TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/090</b>
Sub assy name: <b>X MAINBOARD</b>	Sub. assy no: 962274	Old rev.: <b>05.1</b>	New rev.: <b>05.2</b>	Effective week: 21-92
New assy name:		New assy no:	New rev.:	Effective serial no.: <b>6230003695</b>
<b>REASON FOR CHANGE</b>	<b>COMPATIBILITY</b>	Yes	No	<b>Prerequisite ECN(s)</b>
Improvement <input type="checkbox"/>	Product <input checked="" type="checkbox"/>			
Change of production process <input type="checkbox"/>	Module <input type="checkbox"/>			<b>PRIORITY</b>
Standardization <input type="checkbox"/>	<b>CHANGE AFFECTS</b>			
Procurement difficulties <input type="checkbox"/>	Temporary change <input type="checkbox"/>			
Custom modification <input type="checkbox"/>	Delivered equipment <input type="checkbox"/>			
Error correction <input checked="" type="checkbox"/>	Undelivered equipment <input type="checkbox"/>			
Correction of documentation <input type="checkbox"/>	Future production <input type="checkbox"/>			Mandatory <input type="checkbox"/>
Other <input type="checkbox"/>	Documentation <input type="checkbox"/>			Recommended <input checked="" type="checkbox"/>
				For info only <input type="checkbox"/>

**SUMMARY:**  
We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5), but to avoid that these errors will appear in the future delivery we have implemented a modification on the mainboard in our production.

New obj.level:

ITEM	OBJ.LEVEL
9825	28

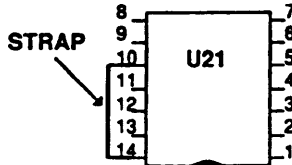
Documentation enclosed:	Modification kit no.:	Time to implement:
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Service: <i>H. Hallberg</i>	QA: <i>A. Konstantin</i>	Product Manager: <i>Stefan Dorn</i>
Date: <i>9/1-92</i>	Date: <i>9/1-92</i>	Date: <i>12/11-92</i>



**DETAILED SPECIFICATIONS:**

The modification is a strap from U21.10 to U21.14

**MARKING THE MAINBOARD AFTER MODIFICATION**

ORDER NO. 962274	REV.LEV 05.2
NOTE 1	
NOTE 2	
22280-1	

**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

<b>PRODUCT:</b> TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/091</b>
<b>Sub assy name:</b> X MAINBOARD	Sub. assy no: 962274	Old rev.: 0.-	New rev.: 0.2	Effective week:
<b>New assy name:</b>		<b>New assy no:</b>		Effective serial no.:
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		Prerequisite ECN(s)
Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>		Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>		Priority Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input type="checkbox"/>
		<b>CHANGE AFFECTS</b>		
		Temporary change <input type="checkbox"/> Delivered equipment <input checked="" type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input type="checkbox"/>		

**SUMMARY:**

For Field Service upgrading.

We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5).

New obj.level:

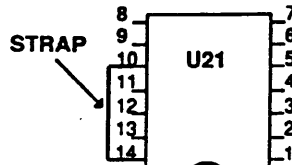
ITEM	OBJ.LEVEL
9825	27

Documentation enclosed:	Modification kit no.:	Time to implement:
	Service: <i>K. Hallberg</i>	QA: <i>A. Konstantin</i>
	Product Manager: <i>Mark D... ..</i>	

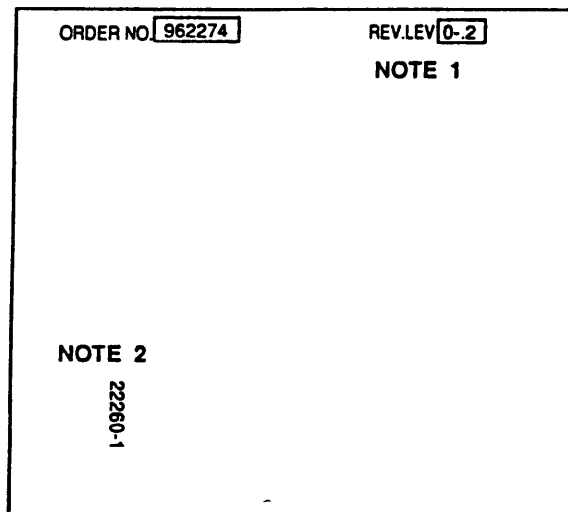
## DETAILED SPECIFICATIONS:

## MODIFICATION THE PCB 22260-1.

The modification is a strap from U21.10 to U21.14



## MARKING THE MAINBOARD AFTER MODIFICATION



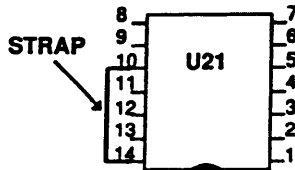
**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

**Example: If the revisjon is 04.1 it will be changed to 04.2 after this mod.**

**DETAILED SPECIFICATIONS:****MODIFICATION THE PCB 22260-0**

The modification is a strap from U21.10 to U21.14

**MARKING THE MAINBOARD AFTER MODIFICATION**

ORDER NO. 962274	REV.LEV 0-2
NOTE 1	
NOTE 2	
22260-0	

**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

**Example: If the revisjon is 03.0 it will be changed to 03.2 after this mod.**

<b>PRODUCT:</b> TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/092</b>
<b>Sub assy name:</b> X MAINBOARD	<b>Sub. assy no:</b> 962279	<b>Old rev.:</b> 04.1	<b>New rev.:</b> 04.2	<b>Effective week:</b> 21-92
<b>New assy name:</b>		<b>New assy no:</b>		<b>Effective serial no.:</b> 6230003695
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		<b>Prerequisite ECN(s)</b>
Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>		Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
		<b>CHANGE AFFECTS</b>		<b>PRIORITY</b>
		Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>

**SUMMARY:**

We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5), but to avoid that these errors will appear in the future delivery we have implemented a modification on the mainboard in our production.

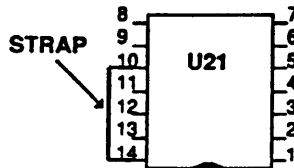
New obj.level:

ITEM	OBJ.LEVEL
9827	27

Documentation enclosed:	Modification kit no.:	Time to implement:
Service) <i>H. Hallberg</i>		QA: <i>A. Konstantin</i>
Prepared by:		Product Manager: <i>Bjarte Rosen</i>

**DETAILED SPECIFICATIONS:**

The modification is a strap from U21.10 to U21.14

**MARKING THE MAINBOARD AFTER MODIFICATION**

ORDER NO. 962279	REV.LEV. 04.2
NOTE 1	
NOTE 2	
22260-1	

**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

PRODUCT: TDV 6230 Object level updated:  Hardware Software:   ECN-6230/093

Sub assy name: X MAINBOARD Sub. assy no: 962279 Old rev.: 0-1 New rev.: 0-2 Effective week:

New assy name: New assy no: New rev.: Effective serial no.:

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Prerequisite ECN(s)	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input checked="" type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>
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**SUMMARY:**  
 For Field Service upgrading.  
 We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5).

New obj.level:

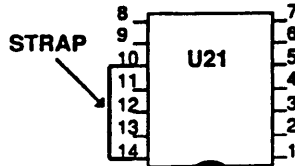
ITEM	OBJ.LEVEL
9827	26

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by:	Service: <i>H. Hallberg</i>	QA: <i>A. Konrad</i>
		Product Manager: <i>D. Rosen</i>

08a-4

**DETAILED SPECIFICATIONS:**

The modification is a strap from U21.10 to U21.14

**MARKING THE MAINBOARD AFTER MODIFICATION**

ORDER NO. <b>962279</b>	REV.LEV <b>0-2</b>
	<b>NOTE 1</b>
<b>NOTE 2</b>	
22260-1	

**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

**Example: If the revisjon is 02.1 it will be changed to 02.2 after this mod.**



<b>PRODUCT:</b> TDV 6230/1	<b>Object level updated:</b> <input checked="" type="checkbox"/>	<b>Hardware</b> <input checked="" type="checkbox"/>	<b>Software</b> <input type="checkbox"/>	<b>ECN-6230/094</b>
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<b>Sub assy name:</b> X MAINBOARD	<b>Sub. assy no:</b> 962276	<b>Old rev.:</b> 02.1	<b>New rev.:</b> 02.2	<b>Effective week:</b> 21-92
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<b>New assy name:</b>	<b>New assy no:</b>	<b>New rev.:</b>	<b>Effective serial no.:</b> DZ012638
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<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>Prerequisite ECN(s)</b>
<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>

**SUMMARY:**

We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5), but to avoid that these errors will appear in the future delivery we have implemented a modification on the mainboard in our production.

New obj.level:

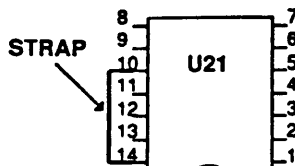
ITEM	OBJ.LEVEL
9826	13

Documentation enclosed:	Modification kit no.:	Time to implement:
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Prepared by: <i>X. Hallberg</i> 9/ 82	QA: <i>A. Kaurth</i> 9/1-92	Product Manager: <i>Bole Reany</i>
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**DETAILED SPECIFICATIONS:**

The modification is a strap from U21.10 to U21.14

**MARKING THE MAINBOARD AFTER MODIFICATION**

ORDER NO. <b>962276</b>	REV.LEV. <b>02.2</b>
	<b>NOTE 1</b>
<b>NOTE 2</b>	
22260-1	

**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

PRODUCT: TDV 6230/1 Object level updated:  Hardware  Software  ECN-6230/095

Sub assy name: X MAINBOARD Sub. assy no: 962276 Old rev.: 0-1 New rev.: 0-2 Effective week:

New assy name: New assy no: New rev.: Effective serial no.:

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Prerequisite ECN(s)   <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>
<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input checked="" type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input type="checkbox"/>				

**SUMMARY:**  
 For Field Service upgrading.  
 We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5).

New obj.level:

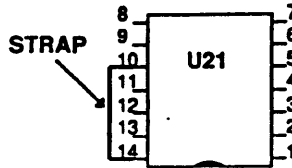
ITEM	OBJ.LEVEL
9826	12

Documentation enclosed: Modification kit no.: Time to implement:

Prepared by: Service: *H. Hallberg* QA: *A. Kometz* Product Manager: *Frank Pösch*

**DETAILED SPECIFICATIONS:**

The modification is a strap from U21.10 to U21.14

**MARKING THE MAINBOARD AFTER MODIFICATION**

ORDER NO. 962276	REV.LEV. 0-2
NOTE 1	
NOTE 2	
22260-1	

**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

**Example: If the revisjon is 01.1 it will be changed to 01.2 after this mod.**

<b>PRODUCT:</b> TDV 6230/1		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/096</b>
<b>Sub assy name:</b> X MAINBOARD	Sub. assy no: 962260	Old rev.: 01.1	New rev.: 01.2	Effective week: 21-92
<b>New assy name:</b>	New assy no:	New rev.:		Effective serial no.: DZ012638
<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Prerequisite ECN(s)	
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>

**SUMMARY:**

We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5), but to avoid that these errors will appear in the future delivery we have implemented a modification on the mainboard in our production.

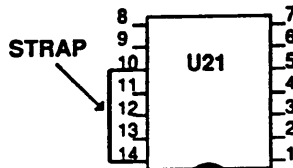
New obj.level:

ITEM	OBJ.LEVEL
9828	12

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: TAN/VE	Service: <i>K. Hallberg</i> Date: 9/6-92	QA: <i>A. Konstantin</i> Date: 9/6-92
	Product Manager: <i>B. P. P. P.</i> Date: 12/11-92	

## DETAILED SPECIFICATIONS:

The modification is a strap from U21.10 to U21.14



## MARKING THE MAINBOARD AFTER MODIFICATION

ORDER NO. <b>962260</b>	REV.LEV. <b>01.2</b>
	NOTE 1
NOTE 2	
22260-1	

NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)

NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL

<b>PRODUCT:</b> TDV 6230/1		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/097</b>
<b>Sub assy name:</b> X MAINBOARD	Sub. assy no: 962260	Old rev.: 0--	New rev.: 0-2	Effective week:
<b>New assy name:</b>	New assy no:	New rev.:		Effective serial no.:
<b>REASON FOR CHANGE</b>	<b>COMPATIBILITY</b>	Yes	No	Prerequisite ECN(s)
Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<b>CHANGE AFFECTS</b>			<b>PRIORITY</b>
	Temporary change <input type="checkbox"/> Delivered equipment <input checked="" type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input type="checkbox"/>			Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>

**SUMMARY:**

For Field Service upgrading.

We have implemented a modification on the mainboard.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

We have detect a fault in the layout on the mainboard.

The following error messages have been traced to be provoked by the fault:

- Error "mfree: double release"
- Error "mget: corrupted mbuf pool"
- The terminal is "hanging"

These errors have been reported from a very limited number of terminals (<5).

New obj.level:

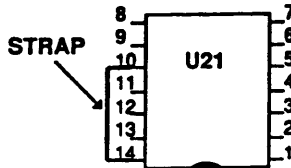
ITEM	OBJ.LEVEL
9828	11

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: INWE	Service: <i>H. Hallberg</i> Date: 11/6-92	QA: <i>F. Konstantin</i> Date: 11/6-92
		Product Manager: <i>Perk Rosen</i> Date: 12/6-92

**DETAILED SPECIFICATIONS:**

MODIFICATION THE PCB 22260-1.

The modification is a strap from U21.10 to U21.14

**MARKING THE MAINBOARD AFTER MODIFICATION**

ORDER NO. 962260	REV.LEV 0-2
NOTE 1	
NOTE 2	
22260-1	

**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

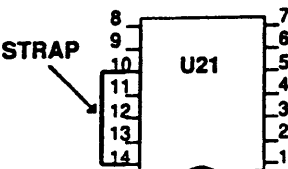
**Example: If the revisjon is 01.1 it will be changed to 01.2 after this mod.**



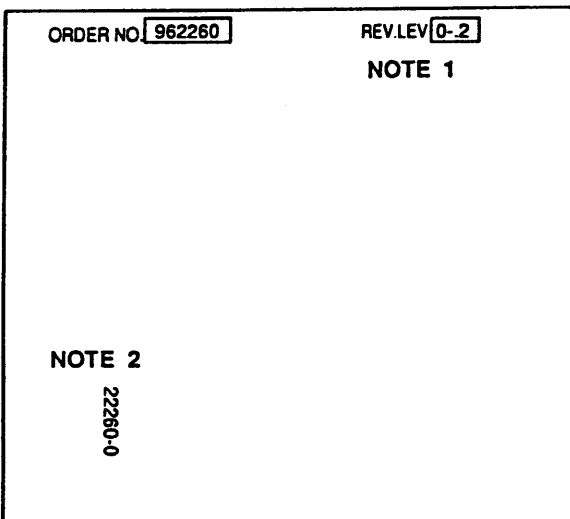
**DETAILED SPECIFICATIONS:**

**MODIFICATION THE PCB 22260-0**

The modification is a strap from U21.10 to U21.14



**MARKING THE MAINBOARD AFTER MODIFICATION**



**NOTE 1 : ONLY THE LAST DIGIT IN THE REV.LEV. HAS TO BE UPDATED.  
(THE TWO FIRST DIGITS SHALL BE UNCHANGED)**

**NOTE 2 : THE DRAWING NR. OF THE PCB SHALL NOT BE CHANGED,  
IT SHOWS THE ORIGINAL REVISJON LEVEL**

**Example: If the revisjon is 0L.0 it will be changed to 0L.2 after this mod.**

Bl. 808c-2

Modification kit no.:

Time to implement:

TPP Field Change Notice No. 57

**DATE:** 10.02.92

**MODULE:** TDV VGA/Tandberg TDV 5320 VGA monitor

**CATEGORY:**

production change : None

In the field: Help for repair

**CORRECTS THE ERROR:** Coloured stripes on the screen.

**TOOLS NEEDED:** none

**DESCRIPTIONS:**

A technical note (TN-5320/102) about potmeter failures, and how to detect and correct them. Refer to attached note.

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** Not applicable.

**NOTE:** Tandberg TN-5320/102 Technical Note attached.

lea/ENA

PRODUCT:

TDV5320, TDV5320/1

Hardware  
Software

TN-5320/102

## DESCRIPTION:

**Potmeters on the TDV5320 Video Board. Assy no. 962297.**

There have been several cases of small changes in the displayed colors, due to failures in the potmeters on the Video Board. These failures are often very subtle, and one cannot measure the potmeters with an ohm-meter and see that they are not OK.

One way of finding a potmeter which fails, is to tap, with "reasonable force", on the top of the Video Board while observing the picture on the screen. One may see thin horizontal stripes of bright red, green or blue. A red stripe indicates that one of the potmeters for adjusting the color red is failing. It is especially the RED GAIN potmeter which is detected in this fashion. (It might also be the RED BLACK LEVEL potmeter.)

Having changed the potmeters, one should again tap on the top of the Video Board, and check if the observed colored stripes are now gone.

One could of course change all the potmeters as a precaution. When mounting the new potmeters, care should be taken to avoid mechanical stress of the potmeters. Do not press a potmeter into position if it doesn't fit quite easily. It has been discovered that the potmeters may be damaged if force is used when mounting, and that this damage is not detected easily at once.

BI. 89

Prepared by:

SOST Dec.-1991.

Service:

*Tom W. Johnson*

Date: 19.12.91.

QA:

*J. Kuntze*

Date: 17/12-91

Product Manager:

*C. M. W. J.*

Date: 02.01.92

**DATE:** 27.12.91

**MODULE:** DDE 3000/Tandberg TDV 6230

**CATEGORY:**

For information only.

**CORRECTS THE ERROR:** None - production improvements

**TOOLS NEEDED:** see attachments

**DESCRIPTIONS:** attachments:

ECN 6230/79	Power deflection rev. 7.2
ECN 6230/80	Power deflection rev. 7.0
ECN 6230/81	Power deflection rev. 8.0 (final)
ECN 6230/82	Power deflection rev. 8.2
ECN 6230/86	Video board contrast rev. 2.0 (new)

TN 6230/100 Transportation O-ring (new)

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** none

lea/MJDV

<b>PRODUCT:</b> TDV 6230, TDV6230/1		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-6230/79</b>
<b>Sub assy name:</b> Power/Deflection	<b>Sub. assy no:</b> 962270	<b>Old rev.:</b> 05.1	<b>New rev.:</b> 07.2	<b>Effective week:</b> 46/1991
<b>New assy name:</b>		<b>New assy no:</b>		<b>Effective serial no.:</b> See Below
<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>		Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	Prerequisite ECN(s)
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>	

**SUMMARY:**

- 1) The horizontal oscillator circuit has been improved.
- 2) Improved product reliability by component replacement.
- 3) The current limit in the power supply circuit has been adjusted.
- 4) A new PCB layout has been implemented.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

- 1) Due to thermal sensibility of the free running horizontal oscillator frequency, caused by parameter variations, some modifications have been made in this circuit.
- 2) The diodes 1N4947 at pos. CR59 and CR60 have been replaced with the more reliable type BYV36E. The capacitor C6 changes value to 33nF.
- 3) Resistor R17 changes value to 22K.

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9827	TDV 6230		18	6230003334	
9825	TDV 6230		19	6230003334	
9826	TDV 6230/1	9769-200	4	6230003334	DZ012340
9828	TDV 6230/1	9769-200	4	6230003334	DZ012340

Documentation enclosed:

Modification kit no.:

Time to implement:

 Prepared by:  
 KREL

Service:

*K. Hallberg*

Date: 15/11-91

QA:

*Lire Stenon*

Date: 15/11-91

Product Manager:

*Alan Hill*

Date: 15/11-91

**DETAILED SPECIFICATIONS:**

The modification of the Horizontal Oscillator circuit is as shown in Fig. 1 to 5. Fig. 3 shows the component side layer of the PCB, where a cut has been made as indicated. Fig. 2 shows the present state of the PCB layout. Fig. 4 and 5 shows the present and modified circuit diagram respectively.

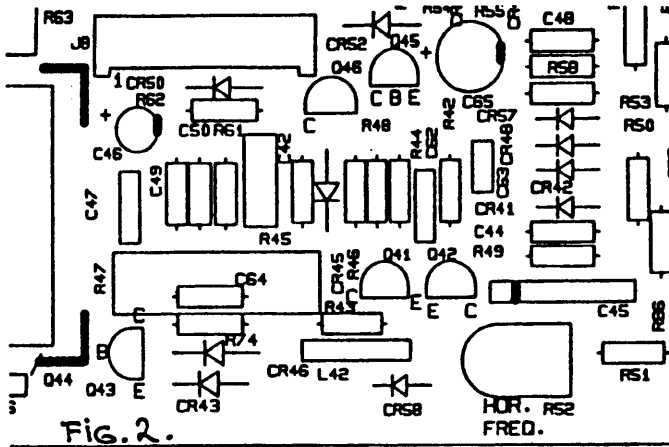


FIG. 2.

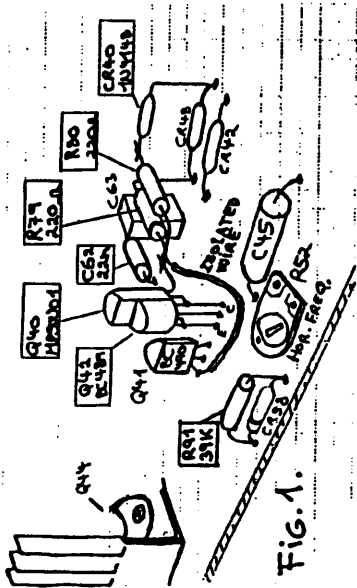


FIG. 1.

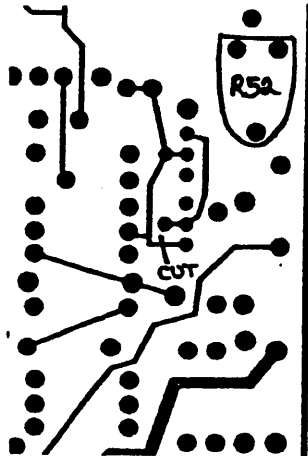


FIG. 3.  
COMPONENT SIDE.

Bl. 808c-2

Modification kit no.:

Time to implement:

DETAILED SPECIFICATIONS:

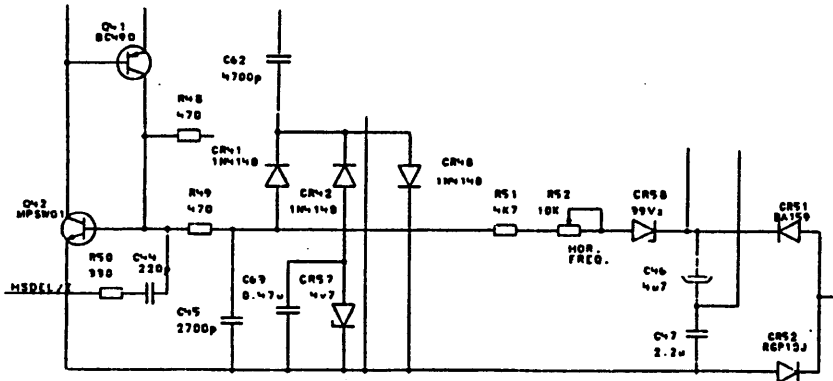


FIG. 4 PRESENT - VERSION

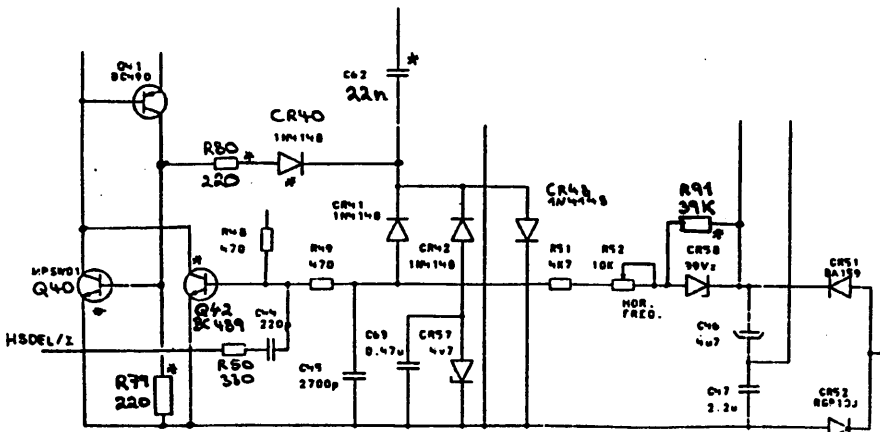


FIG. 5 MODIFIED -VERSION  
 (\* : NEW OR REPLACED COMPONENTS)





**DETAILED SPECIFICATIONS:**

This revision initiates the following steps.

1) The Horizontal Oscillator circuit is modified as shown in fig.1 to 5. This includes the new (or replaced) components.

Transistor Q40, type MPSW01, ordering.no. 402296

Transistor Q42, type BC489, ordering.no. 384676

Resistor R79 & R80, value 220 Ohm, ordering.no. 395114

Resistor R91, value 39 KOhm, ordering.no. 384827

Resistor R51, value 4.7 KOhm, ordering.no. 384798

Pot.meter R52, value 10 KOhm, ordering.no. 375087

Capacitor C62, value 22 nF, ordering.no. 406662

Diode CR40, type 1N4148, ordering.no. 384841

2) Improved product reliability affects the following steps.

The diodes CR59 & CR60 are changed to type BYV36E, ordering.no. 420017.

The capacitor C6 is changed to 33 nF, ordering.no. 250463.

The resistor R6 is replaced and lifted 5 to 10 mm, ordering.no. 392981

The resistor R138 is replaced and lifted 5 to 10 mm, ordering.no. 418694

The diode CR45 is replaced and lifted 5 to 10 mm, ordering.no. 355503

DETAILED SPECIFICATIONS:

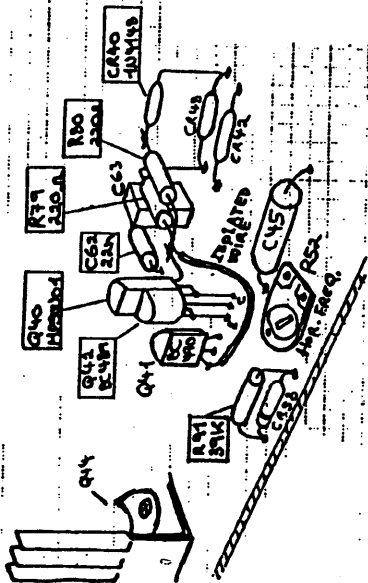
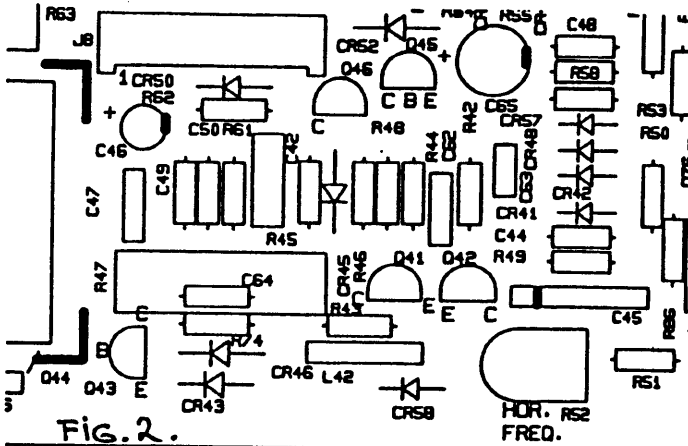


FIG. 1.

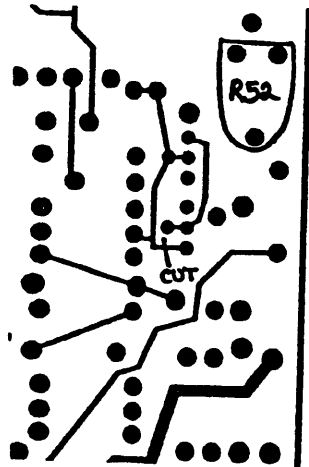


FIG. 3.  
COMPONENT SIDE.  
(A CUT IS MADE)

DETAILED SPECIFICATIONS:

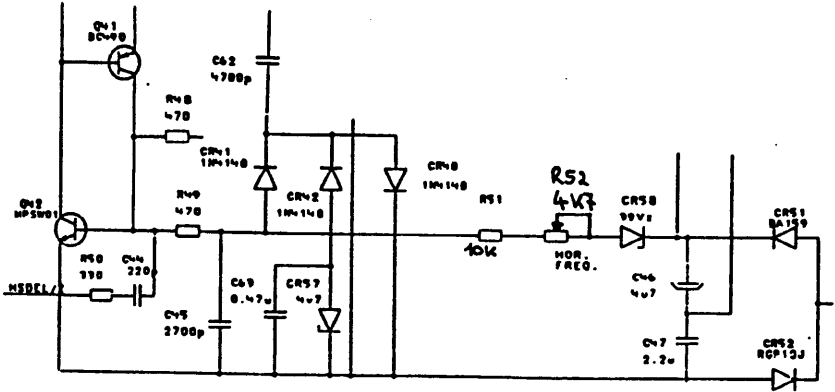


FIG. 4 PRESENT - VERSION

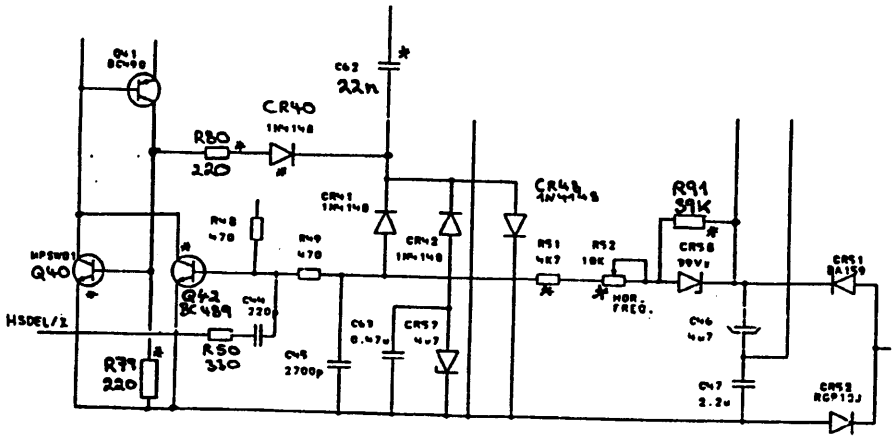


FIG. 5 MODIFIED -VERSION  
(\* : NEW OR REPLACED COMPONENTS)

Bl. 808c-2

Modification kit no.:

Time to implement:

<b>PRODUCT:</b> TDV 5260, TDV 6230, TDV 6230/1		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-6230/81</b>
Sub assy name: Power/Deflection	Sub. assy no: 962270	Old rev.: 07.0	New rev.: 08.0	Effective week:
New assy name:		New assy no:	New rev.:	Effective serial no.:
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		Prerequisite ECN(s)
Improvement <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Product <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Change of production process <input type="checkbox"/>		Module <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Standardization <input type="checkbox"/>		<b>CHANGE AFFECTS</b>		Priority
Procurement difficulties <input type="checkbox"/>		Temporary change <input type="checkbox"/>	Delivered equipment <input type="checkbox"/>	Mandatory <input type="checkbox"/>
Custom modification <input type="checkbox"/>		Undelivered equipment <input type="checkbox"/>	Future production <input type="checkbox"/>	Recommended <input checked="" type="checkbox"/>
Error correction <input checked="" type="checkbox"/>	Documentation <input type="checkbox"/>		For info only <input type="checkbox"/>	
Correction of documentation <input type="checkbox"/>				
Other <input type="checkbox"/>				

**SUMMARY:**

Reduction of dielectrical losses in C54.

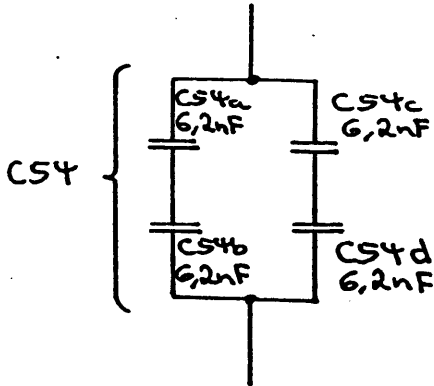
**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

A block of four capacitors connected in parallel and in series makes up a capacitor with value 6.2 nF, as before, but the power losses in the individual capacitors are reduced.

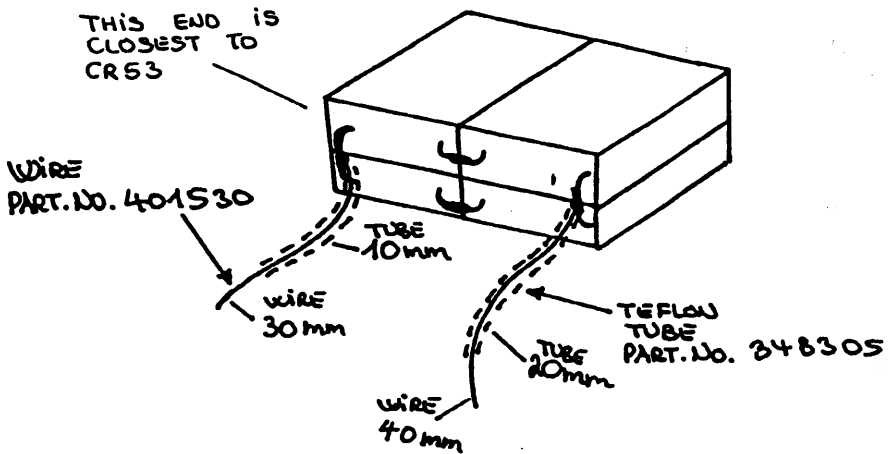
This ECN is for service only and revision level 08.0 will deviate from that of 08.2 in the following points. - There is a resistor for security path mains/earth in 08.2. - The hor.deflection drive circuit is improved in 08.2. - The curr.limit in the power supply has been adjusted in 08.2.

Documentation enclosed:		Modification kit no.:		Time to implement:	
Prepared by: KREL		Service: <i>H. Hallberg</i> Date: 2/12-91	QA: <i>A. Konstantin</i> Date: 2/12-91	Product Manager: <i>G. M. [Signature]</i> Date: 20.91	

DETAILED SPECIFICATIONS:



ALL THE CAPACITORS  
HAVE PART. NO. 418772



<b>PRODUCT:</b> TDV 6230, TDV 6230/1		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-6230/82</b>
Sub assy name: Power/Deflection	Sub. assy no: 962270	Old rev.: 07.2	New rev.: 08.2	Effective week: 46/1991
New assy name:	New assy no:	New rev.: <input type="text"/>		Effective serial no.: See Below
<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>		Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Prerequisite ECN(s)  <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input checked="" type="checkbox"/> Undelivered equipment <input checked="" type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input checked="" type="checkbox"/>		<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	

**SUMMARY:**

Reduction of dielectrical losses in C54.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

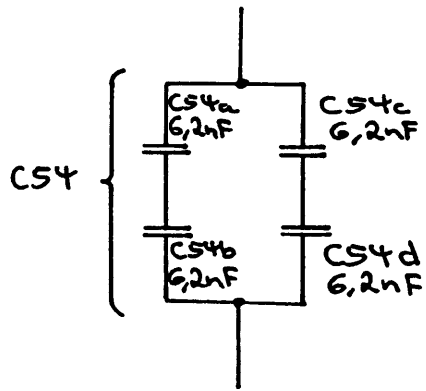
A block of four capacitors connected in parallel and in series makes up a capacitor with value 6.2 nF, as before, but the power losses in the individual capacitors are reduced.

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9827	TDV 6230		20	6230003334	
9825	TDV 6230		21	6230003334	
9826	TDV 6230/1	9769-200	6	6230003334	DZ012340
9828	TDV 6230/1	9769-200	6	6230003334	DZ012340

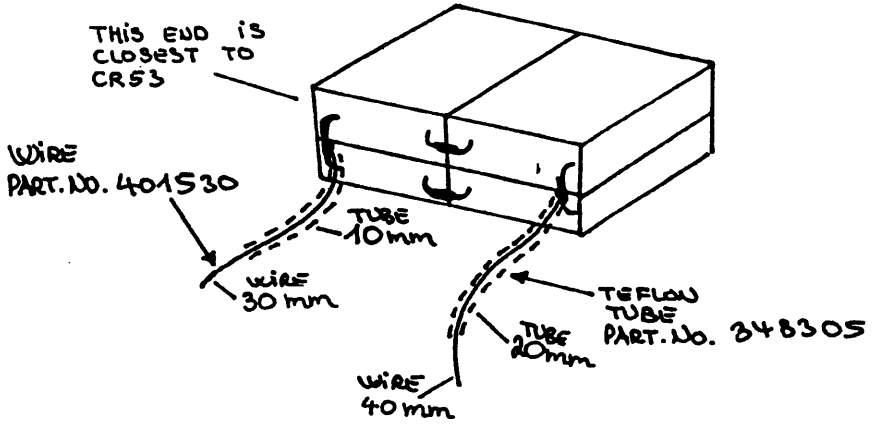
Documentation enclosed:	Modification kit no.:	Time to implement:	
Prepared by: <b>KREL</b>	Service: <i>Kjell Hallberg</i>	QA: <i>Jan Skottun</i>	Product Manager: <i>G. Medell</i>
	Date: <i>15/11-91</i>	Date: <i>15/11-91</i>	Date: <i>15.11.91</i>

BI. 908F

DETAILED SPECIFICATIONS:



ALL THE CAPACITORS HAVE PART. NO. 418772



Bl. 808c-2

Modification kit no.:

Time to implement:

<b>PRODUCT:</b> TDV 6230, TDV 6230/1		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-6230/86</b>
Sub assy name: <b>Video Board</b>	Sub. assy no: <b>962267</b>	Old rev.: <b>01.0</b>	New rev.: <b>02.0</b>	Effective week: <b>50/1991</b>
New assy name:		New assy no:	New rev.: <input type="text"/>	Effective serial no.: <b>See Below</b>

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/> Ease of production process.	<b>COMPATIBILITY</b> Product <input type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes	No	Prerequisite ECN(s)  <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			

**SUMMARY:**

The adjustment of the contrast level has been modified.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

Contrast level adjustments have been extended. Minor changes made in the video amplifier.

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9827	TDV 6230		21	6230003564	
9825	TDV 6230		22	6230003564	
9826	TDV 6230/1	9769-200	7	6230003564	DZ012570
9828	TDV 6230/1	9769-200	7	6230003564	DZ012570

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: <b>KREL</b>	Service: <i>H. Hallberg</i> Date: <i>2/12-91</i>	QA: <i>F. Kometz</i> Date: <i>2/12-91</i>
	Product Manager: <i>G. K. G. G.</i> Date: <i>02.12.91</i>	

Bl. 808a



**DETAILED SPECIFICATIONS:**

The resistor R6 is removed.

The resistor R19 has changed value to 47 Ohm. Ordering nr.384748

J. 808c-2

Modification kit no.:

Time to implement:

## PRODUCT:

TDV 6230/TDV 6230/1

Software: Hardware: 

TN - 6230/100

## DESCRIPTION:

**TDV 6230/TDV 6230/1 (9769-200) - Transportation O-ring**

Two O-rings have been mounted on the Video Board securing screws as a safety precaution during transport. The purpose of the O-rings is to prevent damage during transport under extreme conditions which deviate from the instructions.

The O-rings have no function after the installation and may therefore remain on the screws.

Part No.: 385108  
 Implemented from Serial No.: 6230003514 (p2012520)

Modification kit no.:

Time to implement:

Documentation enclosed:

Service:

K. Hallberg

QA:

J. Konstantin

Product

Manager:

G. M. J. J.

Prepared by: TOHO

Date: 5/12-91

Date: 5/12-91

Date: 05.12.91

TPP Field Change Notice No. 50

**DATE:** 28.11.91

**MODULE:** TDV VGA/TDV 5320 - Beam Current problems.

**CATEGORY:**

Information about possible circuit modifications.

**CORRECTS THE ERROR:** Beam current deviations from norm.

**TOOLS NEEDED:** See each attachments.

**DESCRIPTIONS:** See attachments:

TN-5320/100 Beam Current Limiter.

ECN-5320/016 Modification of beam current limiter circuitry.

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** Varies.

lea/MJDV

**PRODUCT:**

TDV 5320-5320/1

Software:

Hardware:

**TN - 5320/100**

**DESCRIPTION:**

**TDV 5320 Beam Current Limiter**

*Refer to ECN 5320/14*

Due to component tolerances, the value of resistor R203 on the Power/Deflection Board (962299 - 08.6 and above) is allowed to vary from its nominal value of 910 kΩ.

The resistor determines the reference level for the beam current limit circuit, which limit the CRT beam current, and thus the light output, of a full white picture. This is done to limit the "doming" of the CRT's shadow mask.

The light output with a full white picture should be in the range of 100 - 140 cd/m<sup>2</sup>.

If the light output is too low, R203 is changed to 820 kΩ, part no.388269.

If the light output is too high, R203 is changed to 1 MΩ, part no. 390252. or 2.2 MΩ, part no. 387140.

Modification kit no.:

Time to implement:

Documentation enclosed:

Service:

*Johnson*

QA:

*Leipnitz*

Product

Manager:

*[Signature]*

Prepared by:

*SOST*

Date:

*13/9-91*

Date:

*13/9-91*

Date:

*13.09.91*

**PRODUCT:**  
 TDV5320 , TDV 5320/1

Object level updated:  Hardware   
 Software

**ECN-5320/016**

**Sub assy name:** Power/Deflection Board      **Sub. assy no:** 962299      **Old rev.:** 08.6      **New rev.:** 09.6

**Effective week:** 43/1991

**New assy name:** \_\_\_\_\_      **New assy no:** \_\_\_\_\_      **New rev.:** \_\_\_\_\_

**Effective serial no.:** 5320010862

**REASON FOR CHANGE**

- Improvement
- Change of production process
- Standardization
- Procurement difficulties
- Custom modification
- Error correction
- Correction of documentation
- Other

**COMPATIBILITY**

Product  Yes  No  
 Module  Yes  No

**Prerequisite ECN(s)**

**CHANGE AFFECTS**

- Temporary change
- Delivered equipment
- Undelivered equipment
- Future production
- Documentation

**PRIORITY**

- Mandatory
- Recommended
- For info only

**SUMMARY:**

Modification of beam-current-limit circuitry.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

A few monitores have been observed in our production to have some noise in the picture when the beam-current-limit circuit is active. A modification of the circuit is done to eliminate this noise.

Item no.	Product	Obj.level
9816	TDV5320	13
9829	TDV5320	7
9819	TDV5320/1	13
9830	TDV5320/1	7

**Documentation enclosed:** \_\_\_\_\_      **Modification kit no.:** \_\_\_\_\_      **Time to implement:** \_\_\_\_\_

**Service:** *J. Johansson*      **QA:** *A. Korntalv*      **Product Manager:** *[Signature]*  
**Date:** 31.10.91      **Date:** 31/10-91      **Date:** 31.10-91

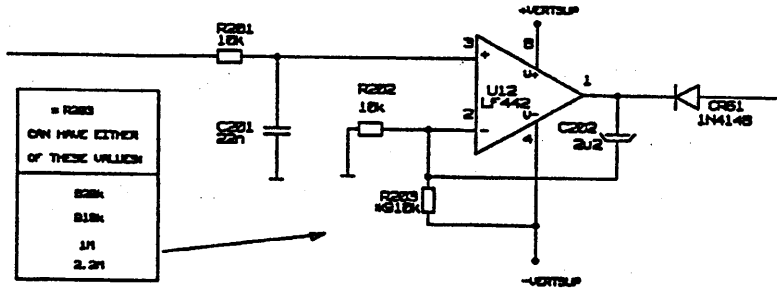
**Prepared by:**  
 BJFO

Bl. 808a-4

**DETAILED SPECIFICATIONS:**

**Modification of the beam-current-circuitry at the pcb 22290-6.**

- The circuit U12 is changed to the type LF442 (TD.part no. 422344).
- The strap in the pcb-layout, S16, is cut and replaced with diode CR61. The diode's anode is connected towards the contrast pot-meter R169. (CR61=1N4148, TD.part no. 384841).
- A new capacitor, C202 is inserted between U12-2 and CR61's cathode. (C202=2,2uF, TD.part no. 380466).



LVA 00810-2

Modification kit no.:

Time to implement:

TPP Field Change Notice No. 49

**DATE:** 17.10.91

**MODULE:** DDE 520/TDV1200 Power/deflection Board.

**CATEGORY:**

For information only.

**CORRECTS THE ERROR:** Procurement problems.

**TOOLS NEEDED:** none

**DESCRIPTIONS:** see attached ECN's from Tandberg Data.

ECN-12/233 New PCB layout and component changes.

ECN-12/305 Change of transistor and resistor.

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** none

lea/MUDV

<b>PRODUCT:</b> TDV 1200		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-12/233</b>
Sub assy name: Power/deflection	Sub. assy no: 967002	Old rev.: 17.5	New rev.: 18.7	Effective week: 48.90
New assy name:	New assy no:	New rev.:	Effective serial no.: 1200063646	
<b>REASON FOR CHANGE</b>	<b>COMPATIBILITY</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Prerequisite ECN(s)
Improvement <input type="checkbox"/> Change of production process <input checked="" type="checkbox"/> Standardization <input checked="" type="checkbox"/> Procurement difficulties <input checked="" type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>			<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
<b>CHANGE AFFECTS</b>				
	Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			

**SUMMARY:**

A new layout of the PCB has been made, in order to improve the production process.  
 A component which will be discontinued by the manufacturer has been changed.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

**Procurement difficulty:**

The capacitor C13 ( 2200 uF, type RSA ) will be discontinued by the manufacturer ELNA.  
 To maintain the same filtering effect, the capacitor has been changed to a different type and to 2700 uF. And a new capacitor ( C24 ) has been added in parallel to C13.

**Standardization:**

All the 2200 uF filter capacitors ( C14, C16, C17, C85 and C91 ) have been replaced by a different type.

The filter capacitor C41 has been changed to 220 uF ( high ripple current version ), same type as capacitor C15.

Since the capacitor C41 has been increased, the coil L41 has been reduced to 6.8 uH ( same type as L3 ).

**Change related to production process:**

In order to have an easier adjustment procedure for horizontal linearity, the linearity coil has been replaced by a different type.

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by:	Service: <i>G. B. S. S. S.</i>	QA: <i>A. K. S. S. S.</i>
	Product Manager: <i>Day Keny...</i>	



## DESCRIPTION OF CHANGE (CONTINUED):

ECN-12/233

Changing the linearity coil, also requires changing the width coil and the values of the filtering components across the linearity coil and the width coil ( C61, R74 and R68 ).

In addition a new RC filter has been added across the horizontal deflection coil ( R71 and C60 ).

The capacitor C49 is split into two capacitors ( C49 and C49B ) and the type has been changed.

This is done to reduced the size of the components, and make them more suitable for automatic mounting.

The capacitor C50 has also been changed to a physically smaller type, suitable for automatic mounting.

The capacitors C42, C84 and C87 have been changed from radial to axial type.

To avoid selection of the capacitor C43, this capacitor has been changed to a 2.5 % type.

A new capacitor in the Blanking circuit is added to speed up the Blanking signal.

This is implemented to avoid selection of components to avoid visible vertical flyback lines.

**Error correction:**

The regulation circuit is changed to ensure a better regulation of the voltage to the horizontal deflection circuit at different loads on the +5V.

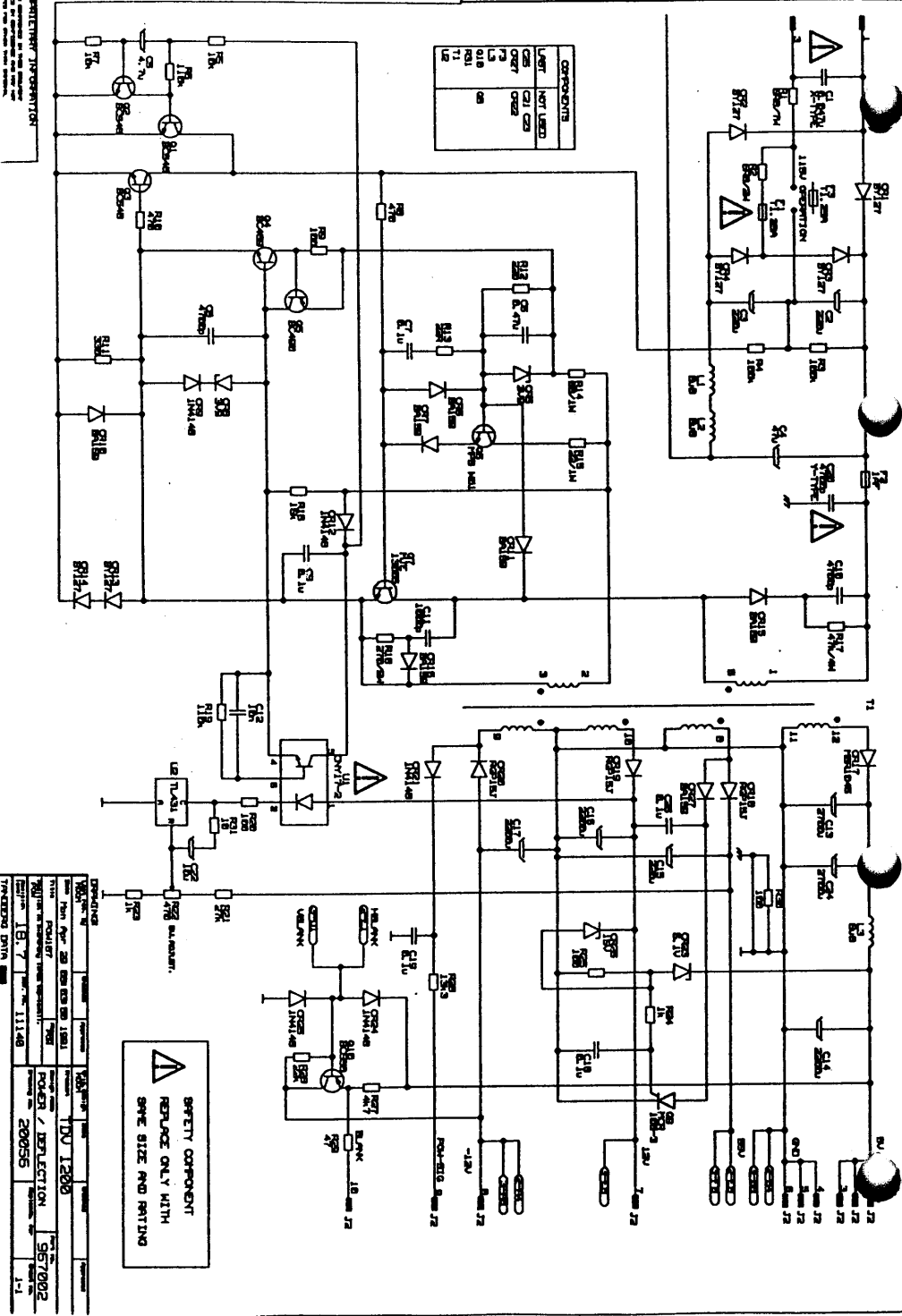
Item no.	TD Product	Customer prod.	New Obj. lev.
8809	TDV 1200/14		1
8810	TDV 1200/14		1

## DETAILED SPECIFICATIONS:

List of new components:

Components	Values	Part no.
C13, C24	2700 uF	415286
C14, C16, C17, C85, C91	2200 uF	415368
C22	10 uF	402772
C41	220 uF	415168
C42, C87	82 pF	410433
C43	0.01 uF	417684
C49	0.33 uF	416665
C49B	0.47 uF	416458
C50	7500 pF	417552
C60	100 pF	415559
C61	680 pF	392571
C84	1000 pF	405436
C94	470 pF	415373
L41	6.8 uF	406906
L42	width	420894
L43	hor. lin.	417364
R21	27 kohm	397578
R22	470 ohm pot	385768
R31	10 ohm	317091
R68	270 ohm	387565
R71	1 kohm	312229
R74	270 ohm	384051
U2	TL 431	402805

TDV 1200 POWER SUPPLY



REV.	DATE	BY	CHKD.	DESCRIPTION
1	18-7-77			REVISED DATA
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

TEMPERATURE MEASUREMENT

RESISTANCE MEASUREMENT

VOLTAGE MEASUREMENT

CURRENT MEASUREMENT

POWER MEASUREMENT

DEFLECTION MEASUREMENT

200056

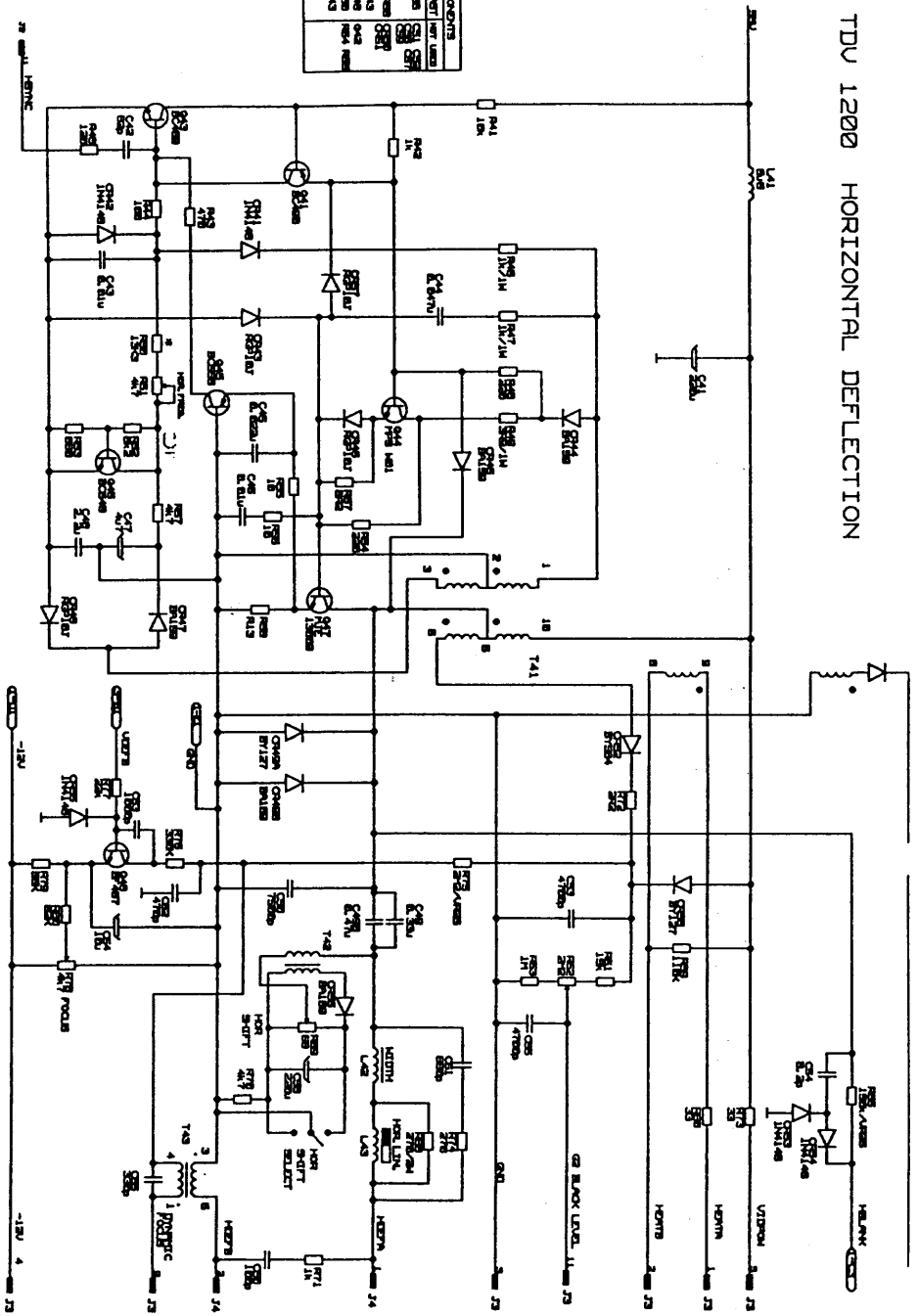
957002

1.1

TDU 1200 HORIZONTAL DEFLECTION

APPENDIX TO ECN-12/233

REV	DATE	BY	CHKD	DESCRIPTION
1	12/23/68	WJ	WJ	INITIAL DESIGN
2	1/10/69	WJ	WJ	REVISED TO ADD
3	1/10/69	WJ	WJ	REVISED TO ADD
4	1/10/69	WJ	WJ	REVISED TO ADD
5	1/10/69	WJ	WJ	REVISED TO ADD



REPRESENTATIVE VIEW  
 COMPONENTS SHOWN AT THIS POINT  
 ARE NOT TO SCALE. THE ACTUAL  
 DIMENSIONS OF THE PARTS SHOULD  
 BE OBTAINED FROM THE MANUFACTURER.

COMPONENTS MARKED WITH "A" ARE SELECTED  
 DEFAULT VALUES FOR THE CIRCUIT.

REVISIONS		APPROVED	
REV	DATE	BY	CHKD
1	12/23/68	WJ	WJ
2	1/10/69	WJ	WJ
3	1/10/69	WJ	WJ
4	1/10/69	WJ	WJ
5	1/10/69	WJ	WJ

DATE	12/23/68	TIME	11:48
BY	WJ	CHKD	WJ
TITLE	HORIZONTAL DEFLECTION		
PROJECT	TDU 1200		
DESIGNER	WJ		
DRWING	WJ		
DATE	12/23/68	TIME	11:48
BY	WJ	CHKD	WJ
TITLE	POWER / DEFLECTION		
PROJECT	TDU 1200		
DESIGNER	WJ		
DRWING	WJ		



<b>PRODUCT:</b> TDV 1200		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-12/305</b>
Sub assy name: Power/Deflection Board	Sub. assy no: 967002	Old rev.: 17.5	New rev.: 19.7	Effective week: 26/91
assy name:		New assy no:		Effective serial no.: 1200080671
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		Prerequisite ECN(s)
Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>		Yes No Product <input checked="" type="checkbox"/> <input type="checkbox"/> Module <input checked="" type="checkbox"/> <input type="checkbox"/>		<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
Note 1)		<b>CHANGE AFFECTS</b>		
		Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		

**SUMMARY:**

The revision lev. no. 18.7 is previously only used at item no. 8809 and 8810. (Ref. ECN-12/233.)

Note 1): Reduced resistor value to compensate changed transistor version.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

When vertical shadows in the right hand side of the screen picture began to appear at test station in our production, the problem was traced to transistor Q47, type MJE 13009E from Motorola.

Some time ago Motorola had changed their transistor MJE 13009 to MJE 13009E as an equivalent.

To compensate for this problem, the value of resistor R54 has been reduced from 220 ohm to 68 ohm (1W).

**NOTE:** The quality of skipped terminals have not been affected.

Documentation enclosed:		Modification kit no.:		Time to implement:	
Prepared by: BTEO		Service: <i>G. Balstad</i> Date: 28/10-91	QA: <i>V. Korntal</i> Date: 29/10-91	Product Manager: <i>Ray Levejend</i> Date: 31/10-91	

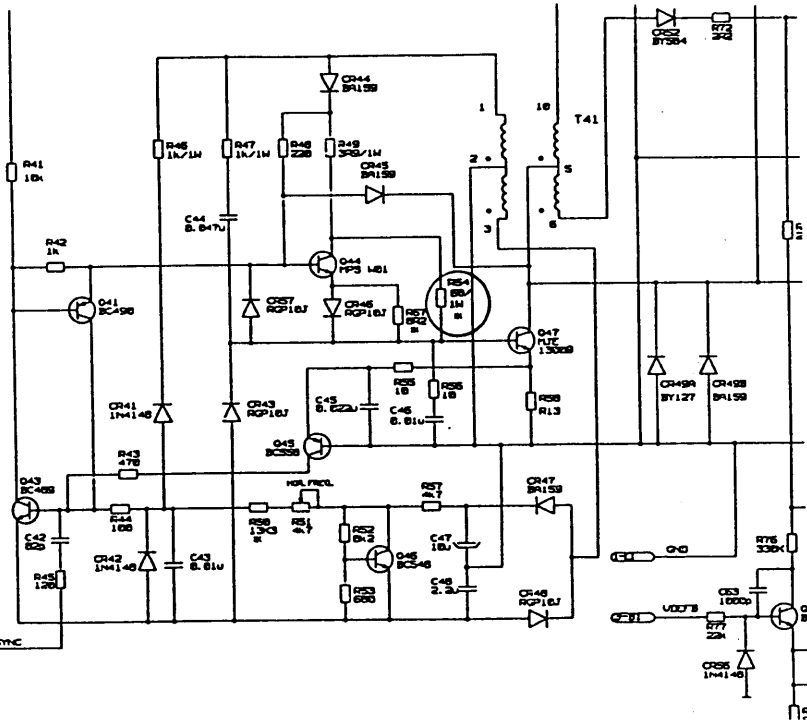
DESCRIPTION OF CHANGE (CONTINUED):

ECN-12/305

Item no.	TD Product	Customer prod.	New Obj.Lev.
7669	TDV1201		-
7663	TDV1211		14
8700	TDV1211		6
7666	TDV1212		9
7917	TDV1212		-
7310	TDV1213		10
7964	TDV1241		7
8701	TDV1241		7
7821	TDV1200/3		22
8630	TDV1200/6		4
8728	TDV1200/7		5
8729	TDV1200/7		8
8545	TDV1200/8		5
8722	TDV1200/9		5
8580	TDV1200/12		3
8577	TDV1200/13		5
8809	TDV1200/14		2
8810	TDV1200/14		2
8903	TDV1200/16	DS81	2
7316	TDV1200/50	6192-Wx	12
7960	TDV1200/50	6192-W92x	12
7987	TDV1200/51	6192-35	6
7923	TDV1250		21
7983	TDV1250		14
7962	TDV1250/1	6192-Sx	13
8840	TDV1250/5		4
8662	TDV1271		2
8670	TDV1272		5
8664	TDV1272		5
8774	TDV1271/1	6471-S	4
8632	TDV1272/1	6472-S	5

## DETAILED SPECIFICATIONS:

The value of the resistor R54 has been reduced from 220 ohm to 68 ohm, 1W, (TD part no. 392981).





TPP Field Change Notice No. 38

**DATE:** 22.05.91

**MODULE:** DDE 3000 keyboard (Tandberg TDV 5010)

**CATEGORY:** For information only.

**CORRECTS THE ERROR:** Manufacturing information.

**TOOLS NEEDED:** None

**DESCRIPTIONS:**

This is a collection of relevant Engineering Change Notes and Technical Notes issued for the Tandberg TDV 5010 PC keyboard, used by the DDE 3000 X-terminal.  
The note numbers are:

ECN-50/009	Color of function keys changed.
ECN-50/010	Keyboard glitches (add pull-up resistors)
ECN-50/011	Increased delay for multibyte codes (F/W)
ECN-50/012	Microcontroller socket removed.
ECN-50/013	Main PCB board material change.
ECN-50/014	Same problem as 50/010.
ECN-50/015	Change of repeat routines (F/W)
ECN-50/016	Microcontroller socket added (again?)

All are for information only.

**SERVICE KIT:** None.

**ESTIMATED REPAIR TIME:** None.

lea/MUDV

<b>PRODUCT:</b> TDV 5010 and TDV 5020 Keyboards		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/>	Software <input type="checkbox"/>	<b>ECN - 50/009</b>
Sub assy name: Key Top Set	Sub. assy no.:	Old rev.:	New rev.:	Effective week: 22-90	
New assy name:	New assy no.:	New rev.:		Effective serial no.:	

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input checked="" type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other _____	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Prerequisite ECN</b> _____  <b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
	<b>CHANGE AFFECTS</b>			

**SUMMARY:**

The colour of the function keys have been changed from light brown to dark grey on all keyboards with Pearl White housing.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

Item No.	Product	Nationality	Key top set				Effective serial no.
			Old ord. no.	Old rev.	New ord. no.	New rev.	
7965	TDV 5010	Norwegian	967494	03.3	967851	01.1	5005008196
7966	TDV 5010	Swedish	967804	03.3	967852	01.1	5005011061
7967	TDV 5010	Danish	967808	03.3	967853	01.1	5005009194
7968	TDV 5010	German	967805	03.3	967854	01.1	5005011425
8573	TDV 5020	Norwegian	967822	04.4	967855	01.1	5005011050
8536	TDV 5010/1	Norwegian	967822	04.4	967855	01.1	5005011050

Modification kit no.:	Time to implement:
Documentation enclosed:	Service: <i>P. Westlund</i> QA: <i>A. Komet</i> Date: <i>10/8-90</i> Date: <i>10/8-90</i>
Prepared by: <b>MOAM</b>	Product Manager: <i>Ray Leung</i> Date: <i>11/8-90</i>

Bl. 808a-3

# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 1

PRODUCT: <b>PC-Keyboard</b>		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN - 50/010</b>
Sub assy name: <b>Electronic Board</b>	Sub. assy no.: <b>96 70 42</b>	Old rev.: <b>01.0</b>	New rev.: <b>02.0</b>	Effective week: <b>13</b>
New assy name:	New assy no.:		New rev.:	Effective serial no.: <b>5005009043</b>

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other _____	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>Prerequisite ECN</b> _____
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Produced equipment <input checked="" type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>	

**SUMMARY:**

After changing from Nmos to Cmos microcontroller in our keyboards, some communication problems have been reported.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

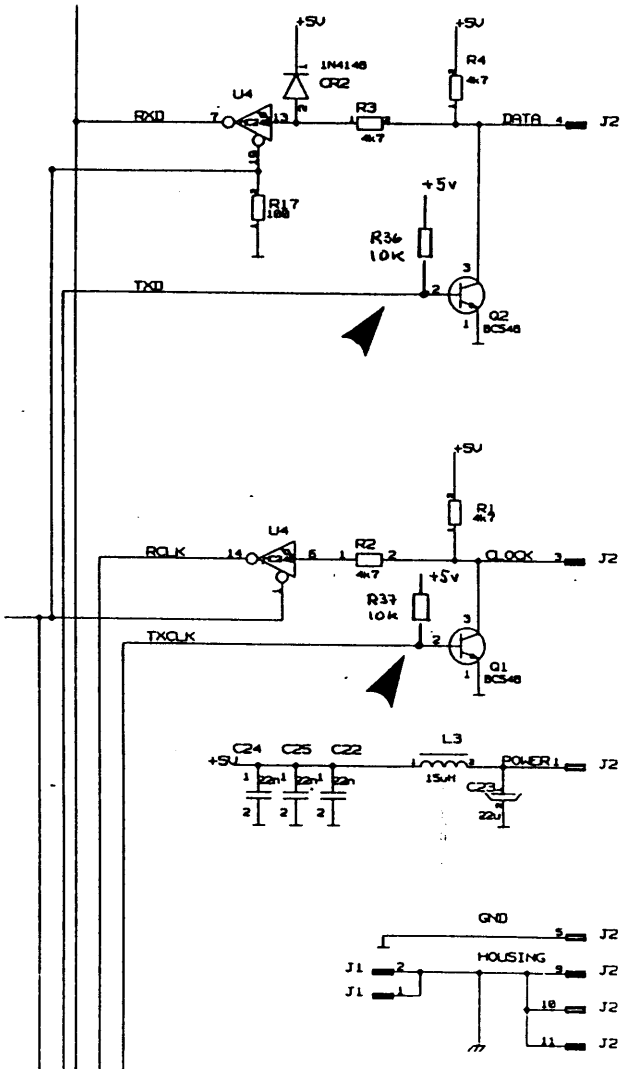
Cmos CPU's are sensitive to "glitches" on the data and clock lines. To avoid "glitches" two 10 kohm pull-up resistors have been added to the microcontroller data and clock outputs.

Modification kit no.:	Time to implement:		
Documentation enclosed:	Service: <i>[Signature]</i>	QA: <i>[Signature]</i>	Product Manager: <i>[Signature]</i>
Prepared by: <b>LAHE</b>	Date: <i>02 05 90</i>	Date: <i>03 05 90</i>	Date: <i>04 05 90</i>

Bl. 808a-3

DETAILED SPECIFICATIONS:

Part of the keyboard circuit diagram showing the two extra resistors, R36 and R37, each 10 kohm.



Bl. 3c-1

Modification kit no.:

Time to implement:

<b>PRODUCT:</b> TDV 5010/5020 PC-Keyboard		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-50/011</b>
<b>Sub assy name:</b> Keyboard FW	Sub. assy no: 968551	Old rev.: 01.7	New rev.: 01.8	Effective week: 39
New assy name:	New assy no:	New rev.:		Effective serial #: 50050188

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>PREREQUISITE ECN(s)</b>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

**SUMMARY:**

The delay between bytes sent from a key producing multibyte codes, has been increased to be sure all PCs will read and understand the codes.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

When connected to some PCs, and when a key in the cursor area was pressed, a number might appear at the display instead of the expected cursor movement.

The timing delay between the codes sent from the keyboard to the PC, has been increased from abt. 100uS to 1.2mS to be sure the PC will read and understand the codes correctly.

The following keyboards will be affected:

Keyboard nationality	Item no	Old obj.level	New obj.level
TDV 5010 Norwegian	7843	10	11
TDV 5010 Swedish	7857	10	11
TDV 5010 Danish	7861	10	11
TDV 5010 German	7858	10	11
TDV 5010 Norwegian	7965	11	12
TDV 5010 Swedish	7966	11	12
TDV 5010 Danish	7967	11	12
TDV 5010 German	7968	11	12
TDV 5010 UK English	8760	1	2
TDV 5010 French	8761	1	2
TDV 5010/1 Norwegian	8536	10	11
TDV 5010/2 Norwegian	8543	5	6
TDV 5010/3 Swedish	8712	9	10
TDV 5010/4 Swedish	8553	7	8
TDV 5010/5 Norwegian	8750	1	2
TDV 5010/6 Danish	8742	3	4
TDV 5010/7 Swedish	8640	1	2
TDV 5020 Norwegian	8573	7	8

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: LAHE	Service: <i>T. Johansen</i> Date: 11.10.90	QA: <i>A. Konstantin</i> Date: 15/10-90
		Product Manager: <i>Peggy Jensen</i> Date: 16.10.90

<b>PRODUCT:</b> TDV 5010/5020 PC-Keyboard		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>ECN-50/012</b>
Sub assy name: Electronic Board	Sub. assy no: 967042	Old rev.: <b>02.0</b>	New rev.: <b>03.0</b>	Effective week: 39
New assy name:	New assy no:	New rev.:		Effective serial no.: 5005018852
<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input checked="" type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>		Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>Prerequisite ECN(s)</b>  <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	

**SUMMARY:**  
The socket for the microcontroller has been omitted.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)  
The socket for the microcontroller has been omitted.

The following keyboards will be affected:

Keyboard nationality	Item no	Old obj.level	New obj.level
TDV 5010 Norwegian	7843	11	12
TDV 5010 Swedish	7857	11	12
TDV 5010 Danish	7861	11	12
TDV 5010 German	7858	11	12
TDV 5010 Norwegian	7965	12	13
TDV 5010 Swedish	7966	12	13
TDV 5010 Danish	7967	12	13
TDV 5010 German	7968	12	13
TDV 5010 UK English	8760	2	3
TDV 5010 French	8761	2	3
TDV 5010/1 Norwegian	8536	11	12
TDV 5010/2 Norwegian	8543	6	7
TDV 5010/3 Swedish	8712	10	11
TDV 5010/4 Swedish	8553	8	9
TDV 5010/5 Norwegian	8750	2	3
TDV 5010/6 Danish	8742	4	5
TDV 5010/7 Swedish	8640	2	3
TDV 5020 Norwegian	8573	6	9

Documentation enclosed:	Modification kit no.:		Time to implement:
	Prepared by: <b>LAHE</b>	Service: <i>A. Johansson</i> Date: 11.10.90	QA: <i>A. Kometel</i> Date: 15/10-90

<b>PRODUCT:</b> TDV 5010/5020 Keyboard		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-50/013</b>
Sub assy name: Matrix board	Sub. assy no: 967043	Old rev.: 01.1	New rev.: 01.3	Effective week: 46
New assy name:	New assy no:	New rev.:		Effective serial no.: 5005020360

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input checked="" type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Prerequisite ECN(s)</b>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>	

**SUMMARY:**  
 A new PCB has been made to ease the production process.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

The base material of the PCB has been changed from glass-epoxy (FR4) to paper-epoxy (CEM1). Combined with that the internal connections and connection pads have been increased in area, this prepares the PCB for a new production process with punched holes instead of drilled holes.

Revision 01.2 was never released

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: LAHE	Service: <i>Tom A. Johnson</i>	QA: <i>A. Korsteb</i>
	Date: 28.02.91.	Date: 13/3-91
Product Manager: <i>Dag Langfred</i>		Date: 13/3-91

Bl. 808a-4

**DESCRIPTION OF CHANGE (CONTINUED):****ECN-50/013****The following keyboards will be affected:**

<b>Keyboard nationality</b>	<b>Item no.</b>	<b>Old obj.lev.</b>	<b>New obj.lev.</b>
TDV 5010 Norwegian	7843	12	13
TDV 5010 Swedish	7857	12	13
TDV 5010 Danish	7861	12	13
TDV 5010 German	7858	12	13
TDV 5010 Norwegian	7965	13	14
TDV 5010 Swedish	7966	13	14
TDV 5010 Danish	7967	13	14
TDV 5010 German	7968	13	14
TDV 5010 UK English	8760	3	4
TDV 5010 French	8761	3	4
TDV 5010/1 Norwegian	8536	12	13
TDV 5010/2 Norwegian	8543	7	8
TDV 5010/3 Swedish	8712	11	12
TDV 5010/4 Swedish	8553	9	10
TDV 5010/5 Norwegian	8750	3	4
TDV 5010/6 Danish	8742	5	6
TDV 5010/7 Swedish	8640	3	4
TDV 5020 Norwegian	8573	9	10



**PRODUCT:**  
 TDV5010/5020 Keyboard

 Object level updated: 

 Hardware   
 Software 
**ECN-50/014**
**Sub assy name:**  
 Electronic Board

**Sub. assy no:**  
 967042

**Old rev.:**  
 03.0

**New rev.:**  
 04.0

**Effective week:**  
 47

**New assy name:**
**New assy no:**
**New rev.:**
**Effective serial no.:**  
 5005020597

**REASON FOR CHANGE**

- Improvement
- Change of production process
- Standardization
- Procurement difficulties
- Custom modification
- Error correction
- Correction of documentation
- Other

**COMPATIBILITY**

	Yes	No
Product	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Module	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**CHANGE AFFECTS**

Temporary change	<input type="checkbox"/>
Delivered equipment	<input type="checkbox"/>
Undelivered equipment	<input type="checkbox"/>
Future production	<input checked="" type="checkbox"/>
Documentation	<input checked="" type="checkbox"/>

**Prerequisite ECN(s)**
**PRIORITY**

Mandatory	<input type="checkbox"/>
Recommended	<input type="checkbox"/>
For info only	<input checked="" type="checkbox"/>

**SUMMARY:**

Unwanted 'glitches' from the microcontroller in the keyboard on the data and clock signals has been suppressed.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

To avoid phantom clockpulses from the keyboard due to negative 'glitches' on the positive part of the clocksignal caused by high switching current in the C-mos microcontroller 80C51, serial resistors from the microcontroller outputs to the driver transistors have been implemented.

These 'glitches' might cause problems when the keyboard is connected to systems with high impedance inputs.

These resistors will suppress the 'glitches' to a safe value not more than 0.5 volt below +5volt even when connected to high impedance systems.

This modification also handles the problem described in ECN-50/010

**Documentation enclosed:**
**Modification kit no.:**
**Time to implement:**
**Prepared by:**  
 LAHE

**Service:**  
*Tom d. Johann*  
 Date: 26.02.91

**QA:**  
*J. Konecny*  
 Date: 13/3-91

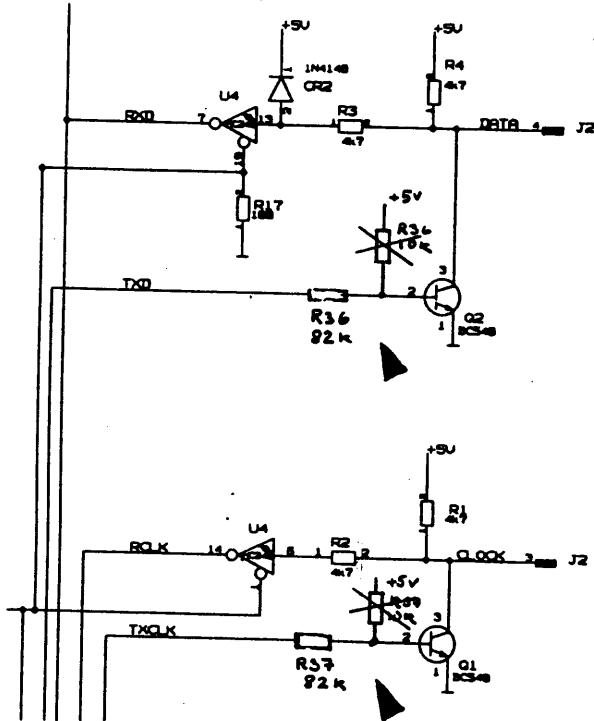
**Product Manager:**  
*Bojhangovrd*  
 Date: 13.03.91

## DETAILED SPECIFICATIONS:

The two 10kohm resistors (R36,R37) from base on transistors Q1,Q2 to +5volt is removed.

The connections from microcontroller 80C51 (U2) pin-10 and pin-11 to the base of transistors Q1 and Q2 are cut, and 82kohm resistors (R36,R37) are inserted.

Tandberg Data A/S partnumber for the 82kohm 1% 0.4W resistor is: 401477



<b>PRODUCT:</b> TDV5010/5020		Object level updated: <input checked="" type="checkbox"/>	Hardware <input type="checkbox"/> Software <input checked="" type="checkbox"/>	<b>ECN-50/015</b>
Sub assay name: PC-Keyboard FW	Sub. assay no: 968551	Old rev.: <input type="text" value="01.8"/>	New rev.: <input type="text" value="01.9"/>	Effective week: 7
New assay name:		New assay no:	New rev.: <input type="text"/>	Effective date no.: 5005022229

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes	No	Prerequisite ECN(s)  <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input checked="" type="checkbox"/>			

**SUMMARY:**  
 The repeat routine has been changed for the cursor keys.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

If inhibit was sent or released to the keyboard when a cursor key was performing repeat, and this occurred between the two codes that the cursor key was repeating, one of the codes would be lost.

This could cause numbers to appear at the PC screen instead of cursor movement.

The repeat routine has been changed to avoid this, by not sending any of the two codes if this situation should appear.

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: <b>LAHE</b>	Service: <i>11/11/91</i>	QA: <i>A. Kometal</i>
	Date: <i>26.02.91</i>	Product Manager: <i>Doyleaugerud</i> Date: <i>13/3-91</i>

Bl. 808a-4

DESCRIPTION OF CHANGE (CONTINUED):

ECN-50/015

The following keyboards will be affected:

Keyboard nationality	Item no	Old obj.level	New obj.level
TDV 5010 Norwegian	7843	14	15
TDV 5010 Swedish	7857	14	15
TDV 5010 German	7858	14	15
TDV 5010 Danish	7861	14	15
TDV 5010 Norwegian	7965	15	16
TDV 5010 Swedish	7966	15	16
TDV 5010 Danish	7967	15	16
TDV 5010 German	7968	15	16
TDV 5010/1 Norwegian	8536	14	15
TDV 5010/2 Norwegian	8543	9	10
TDV 5010/4 Swedish	8553	11	12
TDV 5020 Norwegian	8573	11	12
TDV 5010/7 Swedish	8640	5	6
TDV 5010/3 Swedish	8712	13	14
TDV 5010/6 Danish	8742	7	8
TDV 5010/5 Norwegian	8750	5	6
TDV 5010 UK English	8760	5	6
TDV 5010 French	8761	5	6

<b>PRODUCT:</b> TDV5010/5020		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>ECN-50/016</b>
Sub assy name: <b>Electronic Board</b>	Sub. assy no: 967042	Old rev.: <b>04.0</b>	New rev.: <input type="text"/>	Effective week: 7
New assy name: <b>Electronic Board</b>	New assy no: 968571	New rev.: <b>01.0</b>		Effective serial no.: 5050022229
<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process Standardization <input checked="" type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>		Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	

**SUMMARY:**

The electronic board has been changed.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

For standardization, the electronic board is changed. This new board is equal to the old one, except that a 40pin socket is implemented for the microcontroller.

The following keyboards will be affected:

Keyboard nationality	Item no	Old obj.level	New obj.level
TDV 5010 Norwegian	7843	15	16
TDV 5010 Swedish	7857	15	16
TDV 5010 German	7858	15	16
TDV 5010 Danish	7861	15	16
TDV 5010 Norwegian	7965	16	17
TDV 5010 Swedish	7966	16	17
TDV 5010 Danish	7967	16	17
TDV 5010 German	7968	16	17
TDV 5010/1 Norwegian	8536	15	16
TDV 5010/2 Norwegian	8543	10	11
TDV 5010/4 Swedish	8553	12	13
TDV 5020 Norwegian	8573	12	13
TDV 5010/7 Swedish	8640	6	7
TDV 5010/3 Swedish	8712	14	15
TDV 5010/6 Danish	8742	8	9
TDV 5010/5 Norwegian	8750	6	7
TDV 5010 UK English	8760	6	7
TDV 5010 French	8761	6	7
TDV 5010/8 Norwegian	8896	-	1

Documentation enclosed:	Modification kit no.:	Time to implement:	
Prepared by: <b>LAHE</b>	Service: <i>1001 of Johansen</i>	QA: <i>A. Kometala</i>	Product Manager: <i>Day Loney overend</i>
	Date: <i>26.02.91</i>	Date: <i>13/3-91</i>	Date:

TPP Field Change Notice No. 37

**DATE:** 22.05.91

**MODULE:** DDE 3000/Tandberg TDV6230 X-terminal

**CATEGORY:** For information only.

**CORRECTS THE ERROR:**

TMN's 349 are not completely up to date.

**TOOLS NEEDED:** None

**DESCRIPTIONS:**

This is a second collection of relevant Engineering Change Notes and Technical Notes issued for the Tandberg TDV6230 X-terminal, known as the DDE 3000. They supplement the Technical Manual 349 (DDE numbering system), together with TPP FCN 029. The note numbers are:

ECN-6230/036	New PCB layout (rev. 4.1)
ECN-6230/042	Power/Deflection improvements.
ECN-6230/049	Power/Deflection improvements.
ECN-6230/052	New User Guide (rev. 2.0)
ECN-6230/054	Mainboard resistor changes.
ECN-6230/058	Same as 54, but other Mainboard model.

All are for information only.

**SERVICE KIT:** None.

**ESTIMATED REPAIR TIME:** None.

lea/MUDV

<b>PRODUCT:</b> TDV-6230		Object level updated: <input checked="" type="checkbox"/>	Hardware Software <input checked="" type="checkbox"/>	<b>ECN-6230/036</b>
<b>Sub assy name:</b> X-mainboard 1bp 2Mb	<b>Sub. assy no:</b> 962274	<b>Old rev.:</b> 03.0	<b>New rev.:</b> 04.1	<b>Effective week:</b> 07/91
<b>New assy name:</b>	<b>New assy no:</b>	<b>New rev.:</b> 		<b>Effective serial no.:</b> 6230002240

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process Standardization <input checked="" type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes	No	<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input checked="" type="checkbox"/>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input checked="" type="checkbox"/>			

**SUMMARY:**

1. New PCB-layout.
2. Video multiplexer timing have been improved.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

1. New PCB layout have been made to eliminate straps and modifications.
2. TTL to ECL conversion resistor network have been changed to obtain better video MUX switching. R199 from 1k5 to 1k.

Item	Type	Obj.lev.
9825	TDV6230	12

<b>Documentation enclosed:</b>	<b>Modification kit no.:</b>	<b>Time to implement:</b>
<b>Prepared by:</b> TOHO	<b>Service:</b> <i>H. Hallberg</i>	<b>QA:</b> <i>A. Konetsky</i>
	<b>Date:</b> 12/3-91	<b>Date:</b> 12/3-91
		<b>Product Manager:</b> <i>W. M. ...</i>
		<b>Date:</b> 12.23.91

Bl. 808a-4

**DETAILED SPECIFICATIONS:**

Resistors for updating older revisions.  
Resistors 1k order no. 405424

Bl. 808c-2

Modification kit no.:

Time to implement:



<b>PRODUCT:</b> TDV5260/TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/42</b>	
Sub assy name: <b>Power/Deflection</b>	Sub. assy no: 962270	Old rev.: <b>03.0</b>	New rev.: <b>04.0</b>	Effective week:	
New assy name:	New assy no:	New rev.: <input type="text"/>		Effective serial no.:	
<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b>		Yes No	Prerequisite ECN(s)	
	Product <input checked="" type="checkbox"/>		<input type="checkbox"/>		
	Module <input checked="" type="checkbox"/>		<input type="checkbox"/>		
	<b>CHANGE AFFECTS</b>				<b>PRIORITY</b>
	Temporary change <input type="checkbox"/>				Mandatory <input type="checkbox"/>
Delivered equipment <input type="checkbox"/>				Recommended <input type="checkbox"/>	
Undelivered equipment <input type="checkbox"/>				For info only <input checked="" type="checkbox"/>	
Future production <input type="checkbox"/>					
Documentation <input type="checkbox"/>					

**SUMMARY:**

Improvement of the Vertical Amplifier.

For service only.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The flyback pulse of the vertical amplifier did not reach its full potential, and there was unnecessary loss of power in transistor Q99.

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL
9820	TDV5260		-
9823	TDV6230		-
9827	TDV6230		12
9825	TDV6230		13
9837	TDV6230		-
9835	TDV6230		-
9824	TDV6230/1	9769-200	-
9826	TDV6230/1	9769-200	J
9828	TDV6230/1	9769-200	P

Documentation enclosed:	Modification kit no.:	Time to implement:	
Prepared by: <b>KREL</b>	Service: <i>H. Hallberg</i>	QA: <i>[Signature]</i>	Product Manager: <i>[Signature]</i>
	Date: <i>22/3-91</i>	Date: <i>22/3-91</i>	Date: <i>22.03.91</i>

## DETAILED SPECIFICATIONS:

The improvement includes the following steps.

1. R107 is changed to 4K7, Ordering no.384798
2. C105 is changed to 22pF, Ordering no.410435
3. C108 is changed to 1nF, Ordering no.405436
4. R126 is removed
5. CR94 (diode) is changed to a resistor of 1K, Ordering no.312229

# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 1

<b>PRODUCT:</b> TDV 6230		Object level updated: <input type="checkbox"/>	Hardware <input type="checkbox"/>	Software <input type="checkbox"/>	<b>ECN -6230/052</b>
Sub assy name: User's Guide	Sub. assy no.: 96 31 87	Old rev.: <b>01.0</b>	New rev.: <b>02.0</b>	Effective week: 07/91	
New assy name:	New assy no.:		New rev.:		Effective serial no.: 6230002410

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input checked="" type="checkbox"/> Other _____	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Module <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>Prerequisite ECN</b> _____
			<b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input checked="" type="checkbox"/>

**SUMMARY:**

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

**User's Guide Updated and Extended to 5 Languages**

Known grammatical and cosmetic errors in the TDV 6230 User's Guide have been corrected. In addition the manual is now in English, Norwegian, German, French and Swedish. The manual describes software level 1.0.

Documentation enclosed: None	Modification kit no.:	Time to implement:
	Service: <i>R. Hallberg</i> Date: <i>12/3-91</i>	QA: <i>A. Kometz</i> Date: <i>12/3-91</i>
Prepared by: PKF		

Bl. 809a-4

<b>PRODUCT:</b> TDV5260/TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/49</b>
Sub assy name: Power/Deflection	Sub. assy no: 962270	Old rev.: <b>03.0</b>	New rev.: <b>05.1</b>	Effective week: 07/1991
New assy name:	New assy no:	New rev.: <input type="text"/>		Effective serial no.: <b>See Below</b>

<b>REASON FOR CHANGE</b> <input checked="" type="checkbox"/> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>  <b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>  <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>	Prerequisite ECN(s)   
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**SUMMARY:**

A new PCB layout has been implemented

- 1) Modifications are implemented in the PCB layout.
- 2) A resistor for security path mains/earth is implemented.
- 3) Improvement of the Hor. Deflection drive circuit.
- 4) Improvement of the Vertical Amplifier.
- 5) Improvement of the Hor.Freq. adjustment.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

The new layout affects the parts listed below.

1. The modification of diode CR27 described in ECN-6230/28, and the modification of the PTC R40 described in ECN-6230/30, are implemented in the PCB layout.
2. A special resistor for security path mains/earth is implemented in the new PCB layout.
3. It has been observed in the production some cases of a vertical line in the right hand side of the screen of the terminal. By slowing down the driver circuit this problem will be eliminated.
4. The flyback pulse of the vertical amplifier did not reach its full potential and there was unnecessary loss of power in transistor Q99. The vertical amplifier has been improved according to ECN6230/42 and in addition to this the "bootstrap" circuit has been removed utilizing the 108V supply.

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: <b>KREL</b>	Service: <i>H. Hallberg</i> Date: <b>22/3-91</b>	QA: <i>[Signature]</i> Date: <b>31/3-91</b>
Product Manager: <i>[Signature]</i>		Date: <b>22.03.91</b>

DESCRIPTION OF CHANGE (CONTINUED):

**ECN-6230/49**

5. The range of the Hor.Freq. adjustment has been changed.

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9820	TDV5260		-		
9823	TDV6230		-		
9827	TDV6230		-		
9825	TDV6230		-		
9837	TDV6230		-		
9835	TDV6230		-		
9824	TDV6230/1	9769-200	-		
9826	TDV6230/1	9769-200	K	6230002170	DZ011394
9828	TDV6230/1	9769-200	-		

This revision has been produced  
from serial no. 6230002170 / DZ011394  
to serial no. 6230002212 / DZ011437

Afterwards, Rev. 3.0 has again been produced.

**DETAILED SPECIFICATIONS:**

1. See ECN-6230/28 and ECN6230/30.
2. Can not be upgraded on older versions.
3. Can not be upgraded on older versions.
4. See ECN6230/42 for upgrading older versions.
5. Can not be upgraded on older versions.



**DETAILED SPECIFICATIONS:**

Resistors for updating older revisions  
Resistors 470 ohm order no. 407640

Bl. 908c-2

Modification kit no.:

Time to implement:



**PRODUCT:**

TDV-6230

 Object level updated: 

 Hardware   
 Software 
**ECN-6230/058**
**Sub assy name:**

X-mainboard 1bp 2Mb

**Sub. assy no:**

962274

**Old rev.:**

02.0

**New rev.:**

03.0

**Effective week:**

07/91

**New assy name:**
**New assy no:**
**New rev.:**
**Effective serial no.:**

6230002240

**REASON FOR CHANGE**

 Improvement   
 Change of production process   
 Standardization   
 Procurement difficulties   
 Custom modification   
 Error correction   
 Correction of documentation   
 Other 
**COMPATIBILITY**

 Product   
 Module 

 Yes  No 
**CHANGE AFFECTS**

 Temporary change   
 Delivered equipment   
 Undelivered equipment   
 Future production   
 Documentation 
**PRIORITY**

 Mandatory   
 Recommended   
 For info only 
**SUMMARY:**

- R171, R172 and R175 changed value

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

- R171, R172 and R175 have changed value from 4k7 to 470 ohm to obtain better margins of input function of U35 (I/O controller).

Item	Type	Obj.lev.
9825	TDV6230	11

Documentation enclosed:

Modification kit no.:

Time to implement:

Prepared by:

TOHO

Service:

*K. Hallberg*

QA:

*A. Konstel*

Product Manager:

*C. H. H. H.*

**DETAILED SPECIFICATIONS:**

Resistors for updating older revisions.  
Resistors 470 ohm order no. 407640

Bl. 808c-2

Modification kit no.:

Time to implement:

TPP Field Change Notice No. 36

DATE: 22.05.91

MODULE: DDE 520/TDV 1200 Keyboard

CATEGORY:

production change: For info only.  
In the field: For info only.

CORRECTS THE ERROR: None (New manufacturing method).

TOOLS NEEDED: none

DESCRIPTIONS: Tandberg ECNs attached:

ECN-12/262 Assy 967015 - PCB material changed to paper-epoxy.  
ECN-12/268 Assy 967053 - PCB material changed to paper-epoxy.

SERVICE KIT: none

ESTIMATED REPAIR TIME: none

lea/MUDV

**PRODUCT:**

TDV 1200 Keyboard

 Object level updated: 

 Hardware   
 Software 
**ECN-12/262**

Sub assy name:

Matrix board

Sub. assy no:

967015

Old rev.:

New rev.:

Effective week:

47

New assy name:

New assy no:

New rev.:

Effective serial no.:

1205063755

**REASON FOR CHANGE**

 Improvement   
 Change of production process   
 Standardization   
 Procurement difficulties   
 Custom modification   
 Error correction   
 Correction of documentation   
 Other 
**COMPATIBILITY**

Yes No

 Product    
 Module  

Prerequisite ECN(s)

**CHANGE AFFECTS**

 Temporary change   
 Delivered equipment   
 Undelivered equipment   
 Future production   
 Documentation 
**PRIORITY**

 Mandatory   
 Recommended   
 For info only 
**SUMMARY:**

A new PCB has been made to ease the production process.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The base material of the PCB has been changed from glass-epoxy (FR4) to paper-epoxy (CEM1). Combined with that the internal connections and connection pads have been increased in area, this prepares the PCB for a new production process with punched holes instead of drilled holes.

Documentation enclosed:

Modification kit no.:

Time to implement:

 Prepared by:  
 LAHE

Service:

Date:

*B. Bahad*  
 3/1-91

QA:

Date:

*A. Kuntala*  
 26/2-91

Product Manager:

Date:

*Dag Hansgrud*  
 4/3-91

DESCRIPTION OF CHANGE (CONTINUED):

ECN-12/262

**Affected keyboards:**

Product	Item no.	Old obj.lev.	New obj.lev.
TDV 1211/1241 International	7261	5	6
TDV 1211/1241 Norwegian	7262	5	6
TDV 1211/1241 Swedish	7263	5	6
TDV 1211/1241 German	7264	5	6
TDV 1211/1241 French	7265	5	6
TDV 1211/1241 Danish	7266	5	6
TDV 1211/1241 Swiss	7832	5	6
TDV 1211/1241 International	8702	3	4
TDV 1211/1241 Norwegian	8703	3	4
TDV 1211/1241 Swedish	8704	3	4
TDV 1211/1241 German	8705	3	4
TDV 1211/1241 French	8706	3	4
TDV 1211/1241 Danish	8707	3	4
TDV 1211/1241 Swiss	8708	3	4
TDV 1241/1 German	8564	2	3
TDV 1241/1 English	8565	2	3
TDV 1200/2 German	7806	5	6
TDV 1200/2 International	7954	5	6
TDV 1200/2 German, ICL Off. Pow.	7835	4	5
TDV 1200/6 Swedish	7942	4	5
TDV 1200/6 Swedish	8629	1	2
TDV 1200/11 CCC	8717	3	4
TDV 1200/13 International	8628	1	2
TDV 2540/5 Nixdorf	8566	2	3
TDV 2540/5 Nixdorf	8567	2	3

**PRODUCT:**  
 TDV 1200 Keyboard

 Object level updated: 

 Hardware   
 Software 
**ECN-12/268**
**Sub assy name:**  
 Matrix board

**Sub. assy no:**  
 967053

**Old rev.:**  

**New rev.:**  

**Effective week:**  
 47

**New assy name:**
**New assy no:**
**New rev.:**  

**Effective serial no.:**  
 1205063855

**REASON FOR CHANGE**

 Improvement   
 Change of production process   
 Standardization   
 Procurement difficulties   
 Custom modification   
 Error correction   
 Correction of documentation   
 Other 
**COMPATIBILITY**

 Product  Yes  No  
 Module  
**CHANGE AFFECTS**

 Temporary change   
 Delivered equipment   
 Undelivered equipment   
 Future production   
 Documentation 
**Prerequisite ECN(s)**
**PRIORITY**

 Mandatory   
 Recommended   
 For info only 
**SUMMARY:**

A new PCB has been made to ease the production process.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The base material of the PCB has been changed from glass-epoxy (FR4) to paper-epoxy (CEM1). Combined with that the internal connections and connection pads have been increased in area, this prepares the PCB for a new production process with punched holes instead of drilled holes.

**Affected keyboards:**

Product	Item no.	Old obj.lev.	New obj.lev.
TDV 1200/4 NDS Norwegian	7938	4	5
TDV 1200/7 Swiss	7838	4	5
TDV 1200/7 Swedish	7972	4	5
TDV 1200/7 Norwegian	8720	5	6

Documentation enclosed:

Modification kit no.:

Time to implement:

Service:

QA:

Product Manager:

 Prepared by:  
 LAHE

Date:

Date:

Date:

*B. Babstad*  
 3/11-91

*A. Karstén*  
 Date: 26/2-91

*Dag Langjord*  
 Date: 4/3-91

TPP Field Change Notice No. 29

**DATE:** 27.02.91

**MODULE:** DDE 3000/Tandberg TDV6230 X-terminal

**CATEGORY:** For information only.

**CORRECTS THE ERROR:**

TMN's 349 are not completely up to date.

**TOOLS NEEDED:** None

**DESCRIPTIONS:**

This is a collection of relevant Engineering Change Notes and Technical Notes issued for the Tandberg TDV6230 X-terminal, known as the DDE 3000. They supplements the Technical Manual 349 (DDE numbering system). The note numbers are:

ECN-6230/023	X-mainboard, new PCB layout
ECN-6230/025	Rebuilding old terminals to Class B.
ECN-6230/026	Mechanics, Class B shielding box.
ECN-6230/027	Video board layout change, Class B.
ECN-6230/028	Power/deflection, improvements.
ECN-6230/029	Power/deflection, more improvements.
ECN-6230/030	Power/deflection, component changes.
ECN-6230/016	Int. mechanics, tilt adjustment improved.
ECN-6230/031	Mechanics, ventilation holes changed.
ECN-6230/034	Video Filter Board, revision level change.
ECN-6230/035	Video Board, revision level change.
ECN-6230/038	X-mainboard, further improvements.
ECN-6230/039	X-mainboard, revision level 02.1.

All are for information only. They are implemented in production before we start receiving shipments.

**SERVICE KIT:** None.

**ESTIMATED REPAIR TIME:** None.

lea/MJDV

<b>PRODUCT:</b> TDV-6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/023</b>
Sub assy name: <b>X-mainboard</b>	Sub. assy no: 962274	Old rev.: <b>01.c</b>	New rev.: <b>02.0</b>	Effective week: 40/90
New assy name:		New assy no:		New rev.: [ ]
				Effective serial: 623000093

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes	No	Prerequisite ECN(s)  <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For Info only <input checked="" type="checkbox"/>
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			

**SUMMARY:**

- Timing and noise margins have been improved.
- New PCB-layout.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

1. The U43 (962771) has been changed from revision 01.0 to 02.0, to improve timing margins.
2. The U44 (962770) has been changed from revision 01.0 to 02.0, to improve timing margins.
3. It is no longer necessary to have the mouse inserted for proper functionality of the terminal.
4. Switch-mode noise from the DC-DC converter have been reduced.
5. Some components have changed to SMD parts due to new PCB-layout.
6. A new electrical solution on the bus arbiter have been implemented, to improve timing margins.
7. Resistors have been added to reduce signal noise.
8. The U9 (Am7992) has changed pinout.
9. The hole in the connector brakett, by J4, has been blocked by a tape.

Item	Type	Customer	Cust.Product	Obj.lev.
9825	TDV6230	-	-	6

Documentation enclosed:	Modification kit no.:	Time to implement:	
Prepared by: <b>TOHO</b>	Service: <i>K. Hallberg</i> Date: <i>2/11-90</i>	QA: <i>A. Kowalski</i> Date: <i>6/11-90</i>	Product Manager: <i>Carl Magnus Selt</i> Date: <i>06.11.90</i>



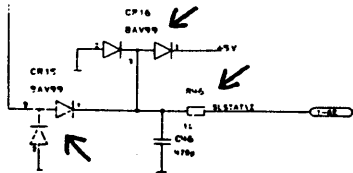
## DETAILED SPECIFICATIONS:

1. The equations in U43 are changed. This affect only the CSDUART\* output pin. The CSDUART\* strobe is stretched so that the setup time from READ\* or WRITE\* strobes going HIGH, to CSDUART\* going HIGH, are improved. New revision on 962771: 02.0 Checksum: 8F2E.
2. In revision 01.0 of 962770, the CAS\* strobe is delayed approx. 10 ns to insure proper EARLY-WRITE cycles to the extension RAM modules. This is now removed, and a delay of approx. 5 ns is implemented by the new resistor R245. This modification improves address hold times to CAS\* strobe. New revision on 962770: 02.0 Checksum: 9B48. R245: 220 Ohm 405127
3. R243 is added to terminate an unconnected mouse input. It is therefore not longer necessary to have the mouse connected for correct operation R243: 39 kOhm 408646. R243 is connected between MSDIN signal (J3 pin 2) and -12V.
4. C36 has changed value and position to reduce noise from the DC-DC converter. It is now mounted between pin 11 and 12 on U19 (DC-DC conv.). C36: 820pF/1000V 389525
5. The following components are added as SMD components due to new PCB-layout. CR15 & CR16: BAV99 401754 R46: 1 kOhm 405424 There is not any changes in any circuit, these components were mounted by hand on previous PCB-layout. See fig.1 page 2.
6. To improve timing in the bus arbiter, a new electrical solution is implemented. See fig.2 page 2. New parts: C153: 560pF 410847 R242: 4,7 kOhm 409204.
7. The following resistors are implemented as general signal noise reduction: R244, R246 & R247 : 39 Ohm 407807. See fig.3 page 2. One resistor have changed value to avoid noise when using INCIRCUIT-EMULATOR equipment. R31: 1 kOhm 405424
8. AMD (Advanced Micro Devices) has changed the pinout of Am7992 circuit (U9). Old: 416991 New: 418942

Modification kit no.:

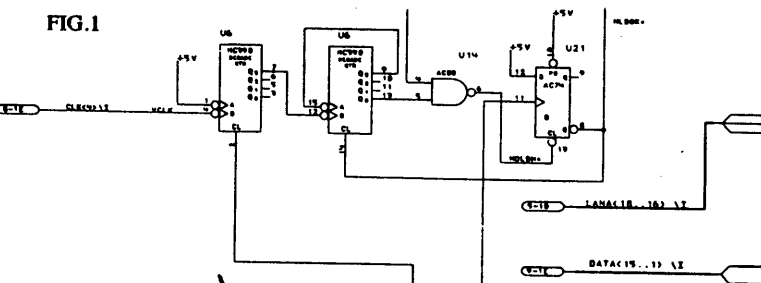
Time to implement:

## DETAILED SPECIFICATIONS:



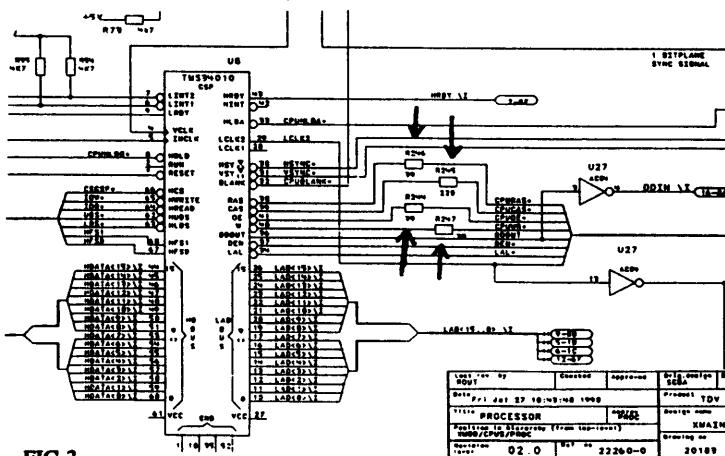
Lot	Rev	Checked	Approved	Proj. Design	Date	Checked	Approved
8001	1			TLM	1/8-80		
Date	Fri Jul 27 10:09:28 1980		Project		YDV 6230		
Title	EYEMETER		Design		YDV 6230		
Position in Hierarchy (from top-level)		Board		MAINBOARD			
Part no.		Rev		962266/79/74			
Revision	02 0	Rev no.	22260-0	20189	Revision	74	Sheet no.
TANDBERG DATA						2-17	

FIG. 1



Lot	Rev	Checked	Approved	Proj. Design	Date	Checked	Approved
8001	1			TLM	2/20-80		
Date	Fri Jul 27 10:52:48 1980		Project		YDV 6230		
Title	LANCEBUP		Design		YDV 6230		
Position in Hierarchy (from top-level)		Board		MAINBOARD			
Part no.		Rev		962266/79/74			
Revision	02 0	Rev no.	22260-0	20189	Revision	74	Sheet no.
TANDBERG DATA						6-17	

FIG. 2



Lot	Rev	Checked	Approved	Proj. Design	Date	Checked	Approved
8001	1			SCA	2/26-80		
Date	Fri Jul 27 10:19:48 1980		Project		YDV 6230		
Title	PROCESSOR		Design		YDV 6230		
Position in Hierarchy (from top-level)		Board		MAINBOARD			
Part no.		Rev		962266/79/74			
Revision	02 0	Rev no.	22260-0	20189	Revision	74	Sheet no.
TANDBERG DATA						8-17	

FIG. 3

BI. 808C:

Modification kit no.:

Time to implement:

<b>PRODUCT:</b> TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/25</b>
<b>Sub assy name:</b>	<b>Sub. assy no:</b>	Old rev.: <input type="text"/>	New rev.: <input type="text"/>	Effective week: 35/90
<b>New assy name:</b>	<b>New assy no:</b>	New rev.: <input type="text"/>		Effective serial no.: 6230000437
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		Yes No
Improvement <input checked="" type="checkbox"/>		Product <input checked="" type="checkbox"/>		<b>PRerequisite ECN(s)</b>
Change of production process <input type="checkbox"/>		Module <input type="checkbox"/>		
Standardization <input type="checkbox"/>		<b>CHANGE AFFECTS</b>		<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
Procurement difficulties <input type="checkbox"/>		Temporary change <input type="checkbox"/>		
Custom modification <input type="checkbox"/>		Delivered equipment <input type="checkbox"/>		
Error correction <input type="checkbox"/>		Undelivered equipment <input type="checkbox"/>		
Correction of documentation <input type="checkbox"/>		Future production <input checked="" type="checkbox"/>		
Other <input type="checkbox"/>		Documentation <input type="checkbox"/>		

**SUMMARY:**

The product has been changed to comply with Amtsblatt/Verfugung 1046/1984 (VDE 0871/6.78 Class B)

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The mechanics has been changed for making the product to conform to the class B radiation limits. A box has been made for shielding the videoboard. The videoboard has been changed accordingly.

It is possible to rebuild an old mechanics, the class A solution, to the new class B solution by installing the box and the new boards. The old videoboard, however, will not fit into this new solution.

- The change of the mechanics is described in ECN 6230/26
- The change of the videoboard is described in ECN 6230/27
- A new filterboard is implemented and has part nr. 962268

ITEM.NO	PRODUCT	CUSTOMER	CUSTOMERS PRODUCT	OBJ.LEVEL
9823	TDV6230			-
9827	TDV6230			3
9825	TDV6230			3
9837	TDV6230			-
9835	TDV6230			-
9824	TDV6230/1	SIEMENS	9769-200	-
9826	TDV6230/1	SIEMENS	9769-200	-
9828	TDV6230/1	SIEMENS	9769-200	F

Documentation enclosed:	Modification kit no.:		Time to implement:	
	Service: <i>H. Hallberg</i>	QA: <i>H. Konetsch</i>	Product Manager: <i>Certhold</i>	
Prepared by: TLAA	Date: <i>9/10-90</i>	Date: <i>9/10-90</i>	Date: <i>08.10.90</i>	

<b>PRODUCT:</b> TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/26</b>
<b>Sub assy name:</b> Mechanics	Sub. assy no: 962371	Old rev.: 01.0	New rev.: 0D.A	Effective week: 35/90
<b>New assy name:</b>		New assy no:	New rev.: [ ]	Effective serial: 6230000
<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> <input type="checkbox"/> Module <input checked="" type="checkbox"/> <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Prerequisite ECN(s) 6230/25
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>

**SUMMARY:**

The mechanics has been changed for making the product to comply with Amtsblatt/Verfugung 1046/1984 (VDE 0871/6.78 Class B)

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

A metal box has been made for shielding the video board.

Documentation enclosed:

Modification kit no.:

Time to implement:

 Prepared by:  
 TLAA

 Service:  
*J. Hallberg*  
 Date: 9/10-90

 QA:  
*A. Koster*  
 Date: 9/10-90

 Product Manager:  
*G. Uddel*  
 Date: 68.10.90

<b>PRODUCT:</b> TDV 6230		Object level updated: <input checked="" type="checkbox"/>	Hardware Software: <input checked="" type="checkbox"/>	<b>ECN-6230/27</b>
Sub assy name: Videoboard	Sub. assy no: 962272	Old rev.: 01.0	New rev.: [ ]	Effective week: 35/90
New assy name: Videoboard	New assy no: 962267	New rev.: 0B.B		Effective serial no.: 6230000437
<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Prerequisite ECN(s) 6230/25	
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>

**SUMMARY:**

A new PCB layout has been implemented in order to make the product to conform to the Amtsblatt/Verfugung 1046/1984 (VDE871/6.78 Class B).

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The mechanics has been changed for making the product to conform to the Class B radiation limits. This new board has been implemented accordingly.

Documentation enclosed:	Modification kit no.:		Time to implement:
	Prepared by: TLAA	Service: <i>K. Hallberg</i> Date: 9/10-90	QA: <i>A. Honstede</i> Date: 9/10-90

Bl. 808a-4

# **Covering note to ECN 6230/28**

Point 3.1 on the draft has been removed on this ECN.

Point 1.4 has been transferred to ECN 6230/29.

<b>PRODUCT:</b> TDV5260 / TDV6230		Object level updated: <input checked="" type="checkbox"/>	Hardware Software: <input checked="" type="checkbox"/>	<b>ECN-6230/28</b>
Sub assy name: Power/Deflection	Sub. assy no: 962270	Old rev.: 01.0	New rev.: 02.0	Effective week: 35/90
New assy name:	New assy no:	New rev.:		Effective serial no.: See below
<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Prerequisite ECN(s)	
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>

**SUMMARY:**

- 1) Due to tolerance variations in the switching transistor some modifications has been implemented in the driver circuitry.
- 2) The crowbar circuit has been improved.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

Tolerance variations in the switching transistor has caused break-downs of this transistor. The crowbar trigger voltage was too high. To avoid these problems the following changes has been implemented.

- (1.1) CR9 has been changed to BYV 36E.
- (1.2) A new diode (CR27) has been connected in series with the emitter of Q7.
- (1.3) Resistor R17 has changed value to 18K.
- (2.1) Zenerdiode CR23 has changed value to 13V.

Documentation enclosed:	Modification kit no.:		Time to implement:
	Service: <i>H. Hallberg</i>	QA: <i>A. Konietzko</i>	Product Manager: <i>Gerd H. G. G.</i>
Prepared by: KREL	Date: <i>9/10-90</i>	Date: <i>9/10-90</i>	Date: <i>08.10.90</i>

DESCRIPTION OF CHANGE (CONTINUED):

ECN-6230/28

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9820	TDV5260		-	5260000136	
9823	TDV6230		-	6230000437	
9827	TDV6230		2	"	
9825	TDV6230		2	"	
9837	TDV6230		-	"	
9835	TDV6230		-	"	
9824	TDV 6230/1	9769-200	-	"	
9826	TDV 6230/1	9769-200	-	"	
9828	TDV 6230/1	9769-200	F	"	



# **Covering note to ECN 6230/29**

A new item (point 2) from ECN 6230/28 has been added.

<b>PRODUCT:</b> TDV5260 / TDV6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/29</b>
<b>Sub assy name:</b> Power/Deflection	Sub. assy no: 962270	Old rev.: 02.0	New rev.: 02.0	Effective week: 39/90
<b>New assy name:</b>		<b>New assy no:</b>		Effective ser. no.: See below
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		Prerequisite ECN(s)
Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input checked="" type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>		Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>		Priority
		<b>CHANGE AFFECTS</b>		Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
		Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input checked="" type="checkbox"/>		

**SUMMARY:**

- 1) The Humming Sound problem is solved.
- 2) The Start-Up problem is solved.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

(1) The problem is solved by soldering the lower corners of the metal can. This is indicated in the drawing on page two.

(2) Zenerdiode CR6 has been changed from 0.5W type to 1.3W type. Even though the rated Zener Voltage remains the same, the actual voltage across the zenerdiode is dependent of the current trough it. Therefore the 1.3W type will have a zener voltage of 3.9v across it at a current of 100mA which is approximately the current imposed upon the zenerdiode in the actual circuit.

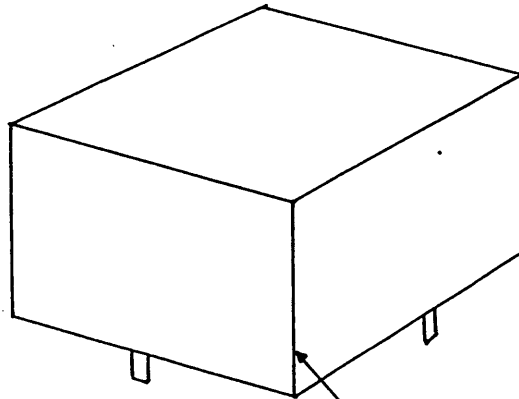
ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9820	TDV5260		-	5260000136	
9823	TDV6230		-	6230000851	
9827	TDV6230		2	"	
9825	TDV6230		2	"	
9837	TDV6230		-	"	
9835	TDV6230		-	"	
9824	TDV 6230/1	9769-200	-	"	
9826	TDV 6230/1	9769-200	-	"	
9828	TDV 6230/1	9769-200	F	"	

Documentation enclosed:		Modification kit no.:		Time to implement:	
Prepared by: KREL		Service: <i>H. Hallberg</i>	QA: <i>A. Kometz</i>	Product Manager: <i>Gerl M. Wdl</i>	
		Date: <i>9/10-90</i>	Date: <i>9/10-90</i>	Date: <i>08.10.90</i>	

Bl. 808a-4

DESCRIPTION OF CHANGE (CONTINUED):

ECN-6230/29



APPLY SOLDER  
ON ALL  
FOUR CORNERS

<b>PRODUCT:</b> TDV 5260 / TDV 6230	Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/30</b>
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Sub assay name: Power/Deflection	Sub. assay no: 962270	Old rev.: <input type="text" value="02.0"/>	New rev.: <input type="text" value="03.0"/>	Effective week: 43/90
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New assay name:	New assay no:	New rev.:	Effective serial no.: See below
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<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input checked="" type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes	No	Prerequisite ECN(s)
<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>			

**SUMMARY:**

- 1) The 12v supplying the X-Mainboard has been protected.
- 2) Diode CR22 has been replaced with more rugged type due to excessive heat development.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

- 1) A PTC resistor (R40) has been connected in series with the 12v supply going to connector J1-3 & J1-4. This will provide a short circuit protection for the Card Reader SS97 Interface (Siemens relevant) or AUI Interface.
- 2) Diode CR22 has been changed from RGP15J to BYW29-100 (TO-220AC Case)

ITEM.NO	PRODUCT	CUST.PROD	OBJ.LEVEL	TD.SER.NO	CUST.SER.NO
9820	TDV5260		-	-	
9823	TDV6230		-	-	
9827	TDV6230		6	6230000977	
9825	TDV6230		7	6230000977	
9837	TDV6230		-	-	
9835	TDV6230		-	-	
9824	TDV6230/1	9769-200	-	-	
9826	TDV6230/1	9769-200	F	6230000977	
9828	TDV6230/1	9769-200	I	6230000977	

Documentation enclosed:	Modification kit no.:	Time to implement:	
Prepared by: <b>KREL</b>	Service: <i>K. Hallberg</i>	QA: <i>A. Koster</i>	Product Manager: <i>Carl Magnus</i>
	Date: <i>2/11-90</i>	Date: <i>4/11-90</i>	Date: <i>06.11.90</i>

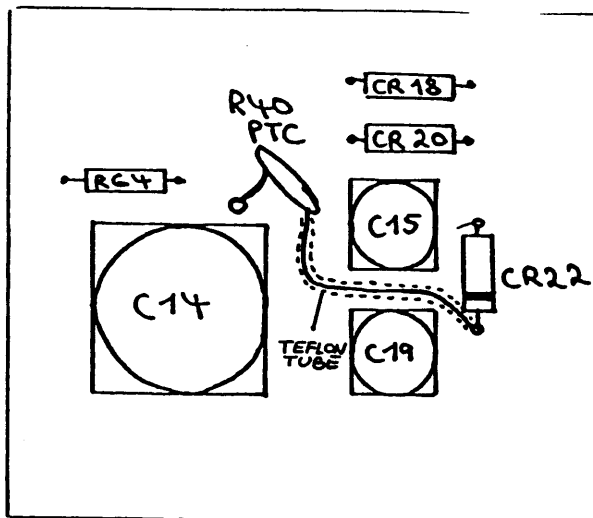
**DETAILED SPECIFICATIONS:**

On page 2 the two places where the connections has been cut is indicated with a thin line crossing the printed circuit. An arrow points out the actual spot.

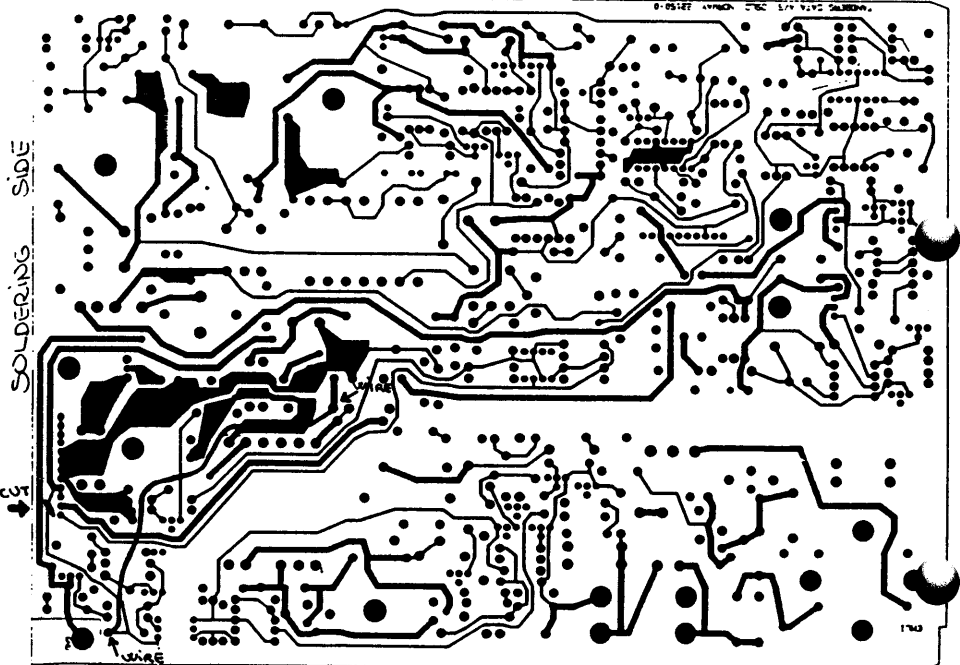
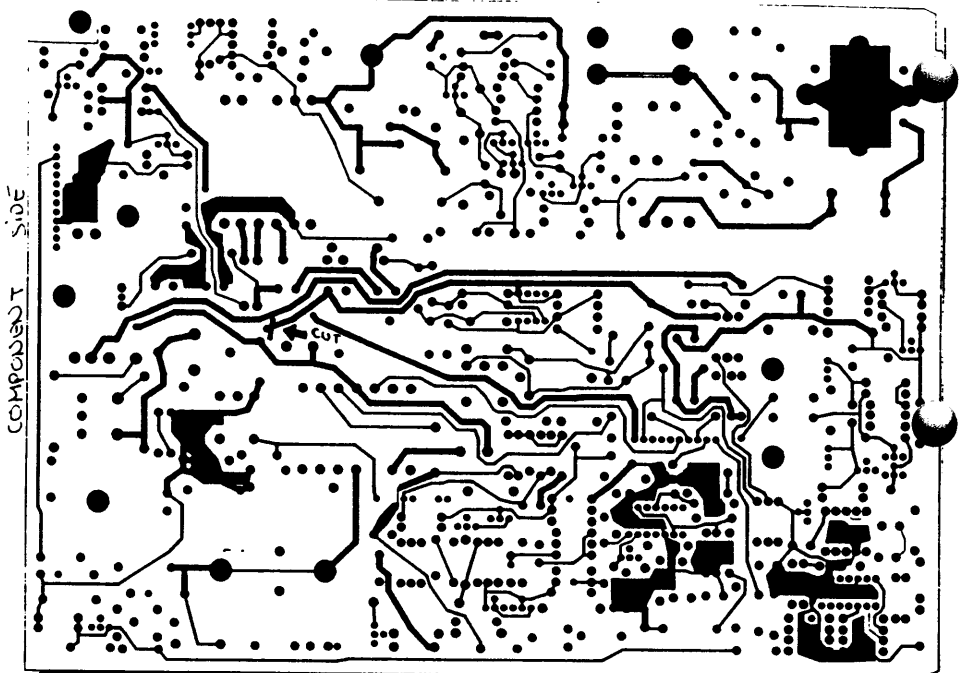
Two other arrows named "wire" points out the two connection points which are to be joined by a wire. The wire itself is also drawn.

The drawing below indicates how the PTC is mounted on the component side of the circuit board.

- 1) R40 : PTC Ordering no. 421018
- 2) Teflon Tube Ordering no. 348305



DETAILED SPECIFICATIONS:



0-05187 APPROX. CUTS LISTED SHOWN.

Bl. 808c-2

Modification kit no.:

Time to implement:

<b>PRODUCT:</b> TDV6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/16</b>
Sub assy name: Int. mechanics	Sub. assy no: 962371	Old rev.: <b>02.0</b>	New rev.: <b>03.0</b>	Effective week: 49
New assy name:		New assy no:	New rev.:	Effective serial no.: 6230001352

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>  <b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	Yes	No	Prerequisite ECN(s)   <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

**SUMMARY:**

The tilt adjustment is improved.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

A spring is introduced to achieve better stability (imbalance). When the spring is mounted, you don't need to tighten the knob/screw so hard, - and the tilt adjustment will function better.

The spring reduces the bouncing period when tilting the terminal/PC-monitor forward.

Ordering no. 420899

ITEM NO.	PRODUCT	CUST. PRODUCT	OBJ.LEVEL	CUST. SERIAL NO.
9823	TDV 6230		-	
9827	TDV 6230		9	
9825	TDV 6230		9	
9837	TDV 6230		-	
9835	TDV 6230		-	
9824	TDV 6230/1	9769-200	-	
9826	TDV 6230/1	9769-200	H	
9828	TDV 6230/1	9769-200	M	

Documentation enclosed:	Modification kit no.:	Time to implement:	
Prepared by: PEVO	Service: <i>K. Hallberg</i>	QA: <i>W. Konecny</i>	Product Manager: <i>6.6.2.56</i>
	Date: <i>4/1-91</i>	Date: <i>3/1-91</i>	Date: <i>7/1-91</i>

Bl. 808a-4

DESCRIPTION OF CHANGE (CONTINUED):

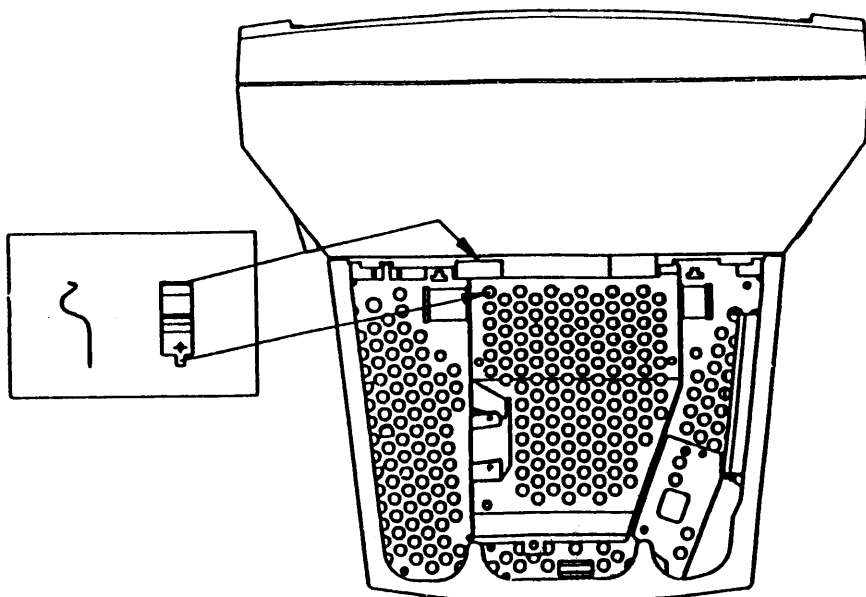
ECN-6230/16

To install the stop spring, follow the instructions given below:

1. Dismount the terminal from its mounting device.
2. Insert the tab in the whole indicated in the drawing.  
Make sure that the projecting side of the spring faces the terminal, so that the indentation faces you.
3. Press the spring down into the corresponding slot in the main frame (see the drawing) using a broad screw driver. Ensure that the spring has been fitted correctly.
4. Remount the terminal on its mounting device by following the instructions originally enclosed with this device.

**WARNING:**

If dismantling the terminal from its mounting device again, the stop spring may fall out. Follow the installation instructions above to reinstall.





<b>PRODUCT:</b> TDV 6230	Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/031</b>
<b>Sub assy name:</b> Mechanics	Sub. assy no: 962371	Old rev.: <b>0D.A</b>	New rev.: <b>02.0</b>
<b>New assy name:</b>	<b>New assy no:</b>	<b>New rev.:</b>	Effective week: 48/90
			Effective serial no.: 6230001227

<b>REASON FOR CHANGE</b>	<b>COMPATIBILITY</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Prerequisite ECN(s)</b>
Improvement <input type="checkbox"/>	Product <input checked="" type="checkbox"/>		
Change of production process <input type="checkbox"/>	Module <input checked="" type="checkbox"/>		
Standardization <input checked="" type="checkbox"/>			
Procurement difficulties <input type="checkbox"/>			
Custom modification <input type="checkbox"/>	<b>CHANGE AFFECTS</b>		<b>PRIORITY</b>
Error correction <input type="checkbox"/>	Temporary change <input type="checkbox"/>		Mandatory <input type="checkbox"/>
Correction of documentation <input type="checkbox"/>	Delivered equipment <input type="checkbox"/>		Recommended <input type="checkbox"/>
Other <input type="checkbox"/>	Undelivered equipment <input type="checkbox"/>		For info only <input checked="" type="checkbox"/>
	Future production <input checked="" type="checkbox"/>		
	Documentation <input type="checkbox"/>		

**SUMMARY:**

The holes in the botton plates have been changed due to product standardization.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The diameter of the ventilation holes in the botton plates art. no. 409851-B, art. no. 408491 and art. no. 418864 have been reduced from 7.5 til 7.0 mm.

Item no.:	Product	Customer Prod.	New Obj. Lev.:	Cust. serial no.:
9837	TDV 6230		-	
9823	TDV 6230		-	
9825	TDV 6230		8	
9835	TDV 6230		-	
9827	TDV 6230		8	
9824	TDV 6230/1	9769-200	-	
9826	TDV 6230/1	9769-200	G	
9828	TDV 6230/1	9769-200	L	

Note : Revision level 01.0 is earlier used. See ECN 6230/026

<b>Documentation enclosed:</b>	<b>Modification kit no.:</b>	<b>Time to implement:</b>
<b>Prepared by:</b> ODEN	<b>Service:</b> <i>S. Hallberg</i>	<b>QA:</b> <i>A. Konstela</i>
	<b>Date:</b> 26/11-90	<b>Date:</b> 26/11-90
	<b>Product Manager:</b> <i>A. Mäkelä</i>	<b>Date:</b> 27.4.90

# Covering note to ECN 6230/034

This ECN replaces ECN 6230/034 is signed by product manager 16 October and 23 October 1990.

<b>PRODUCT:</b> TDV 5260 TDV 6230	Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/034</b>
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Sub assy name: Video Filter Board	Sub. assy no: 962268	Old rev.: <b>0B.B</b>	New rev.: <b>01.0</b>	Effective week: 38/90
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New assy name:	New assy no:	New rev.:	Effective serial no.: See below
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<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other Release for main production <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>  <b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	Prerequisite ECN(s)       <b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
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**SUMMARY:**  
 The revision level is changed to 01.0 when the module released for serial production.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

Only change is the Rev.level marking.

Item no.	Product	Cust. product	Obj.lev.	TD s/n	Cust. s/n
9820	TDV 5260		-	5260000136	
9837	TDV 6230		-		
9823	TDV 6230		-		
9825	TDV 6230		4	6230000752	
9835	TDV 6230		-		
9827	TDV 6230		4	6230000752	
9824	TDV 6230/1	9769-200	-		
9826	TDV 6230/1	9769-200	-		
9828	TDV 6230/1	9769-200	G	6230000752	

Documentation enclosed:	Modification kit no.:	Time to implement:	
Prepared by: TOMO	Service: <i>H. Hallberg</i> Date: <i>30/10-90</i>	QA: <i>A. Konstantin</i> Date: <i>30/10-90</i>	Product Manager: <i>G. H. W. J.</i> Date: <i>30.10.90</i>

Bl. 806

# **Covering note to ECN 6230/035**

This ECN replaces ECN 6230/035 is signed by product manager 16 October and 23 October 1990.

<b>PRODUCT:</b> TDV 5260 / TDV 6230	Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/035</b>
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Sub assy name: Video Board	Sub. assy no: 962267	Old rev.: <b>0B.B</b>	New rev.: <b>01.0</b>	Effective week: 38/90
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New assy name:	New assy no:	New rev.:	Effective serial no.: See below
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<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other Release for main production <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Prerequisite ECN(s)
<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input type="checkbox"/>			<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>

**SUMMARY:**  
 The revision level is changed to 01.0 when the module released for serial production.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

Only change is the Rev.level marking.

Item no.	Product	Cust. product	Obj.lev.	TD s/n	Cust. s/n
9820	TDV 5230		-	5260000136	
9837	TDV 6230		-		
9823	TDV 6230		-		
9825	TDV 6230		5	6230000837	
9835	TDV 6230		-		
9827	TDV 6230		5	6230000837	
9824	TDV 6230/1	9769-200	-		
9826	TDV 6230/1	9769-200	-		
9828	TDV 6230/1	9769-200	H	6230000837	

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: <b>TOMO</b>	Service: <i>K. Hallberg</i> Date: <i>30/10-90</i>	QA: <i>A. Konefalv</i> Date: <i>30/10-90</i>
		Product Manager: <i>Edvard</i> Date: <i>30.10.90</i>

<b>PRODUCT:</b> TDV-6230	Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/038</b>
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Sub assy name: X-mainboard	Sub. assy no: 962279	Old rev.: 01.c	New rev.: 02.0	Effective week:
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New assy name:	New assy no:	New rev.:	Effective serial no.:
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<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Prerequisite ECN(s)
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>

**SUMMARY:**

1. Timing and noise margins have been improved.
2. New PCB-layout

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

- 1.1 The U43 (962771) has been changed from revision 01.0 to 02.0, to improve timing margins.
- 1.2 The U44 (962770) has been changed from revision 01.0 to 02.0, to improve timing margins.
- 1.3 Switch-mode noise from the DC-DC converter have been reduced.
- 1.4 A new electrical solution on the bus arbiter have been implemented, to improve timing margins.
- 1.5 Resistors have been added to reduce signal noise.
- 2.1 Some components have changed to SMD parts due to new PCB-layout.
- 2.2 The U9 (Am7992) has changed pinout.
- 2.3 It is no longer necessary to have the mouse inserted for proper functionality of the terminal.

Item	Type	Customer	Cust.Product	Obj.lev.
9827	TDV6230	-	-	-

Documentation enclosed:	Modification kit no.:	Time to implement:
Prepared by: TOHO	Service:	QA:
	Date:	Date:
		Product Manager:
		Date:

## DETAILED SPECIFICATIONS:

## 1.1

The equations in U43 are changed. This affect only the CSDUART\* output pin. The CSDUART\* strobe is stretched so that the setup time from READ\* or WRITE\* strobes going HIGH, to CSDUART\* going HIGH, are improved. New revision on 962771: 02.0 Checksum: 8F2E.

## 1.2

In revision 01.0 of 962770, the CAS\* strobe is delayed approx. 10 ns to insure proper EARLY-WRITE cycles to the extension RAM modules. This is now removed, and a delay of approx. 5 ns is implemented by the new resistor R245. This modification improves address hold times to CAS\* strobe. New revision on 962770: 02.0 Checksum: 9B48. R245: 220 Ohm 405127

## 1.3

C36 has changed value and position to reduce noise from the DC-DC converter. It is now mounted between pin 11 and 12 on U19 (DC-DC conv). C36: 820pF/1000V 389525

## 1.4

To improve timing in the bus arbiter, a new electrical solution is implemented. See fig.2 page 2. New parts: C153: 560pF 410847 R242: 4.7 kOhm 409204

## 1.5

The following resistors are implemented as general signal noise reduction: R244, R246 & R247 : 39 Ohm 407807. See fig.3 page 2. One resistor have changed value to avoid noise when using INCIRCUIT-EMULATOR equipment. R31: 1 kOhm 405424

## 2.1

The following components are added as SMD components due to new PCB-layout. CR15 & CR16: BAV99 401754 R46: 1 kOhm 405424 There is not any changes in any circuit, these components were mounted by hand on previous PCB-layout. See fig.1 page 2.

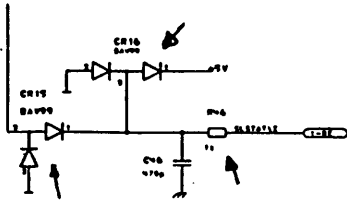
## 2.2

AMD (Advanced Micro Devices) has changed the pinout of Am7992 circuit (U9). Old: 416991 New: 418942

## 2.3

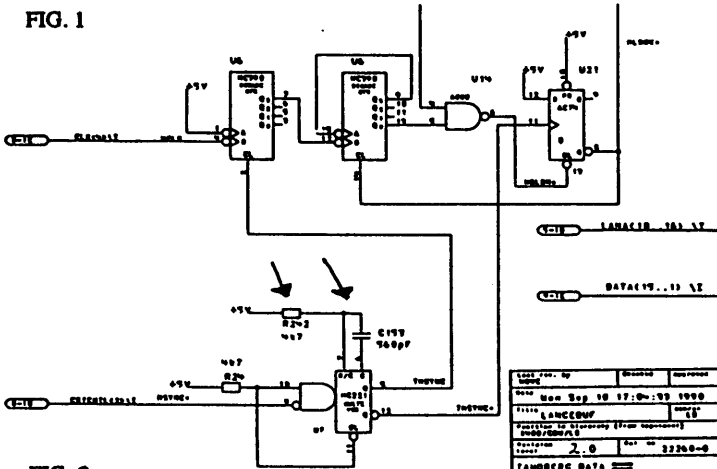
R243 is added to terminate an unconnected mouse input. It is therefore not longer necessary to have the mouse connected for correct operation. R243: 39 kOhm 408646. R243 is connected between MSDIN signal (J3 pin 2) and -12v.

DETAILED SPECIFICATIONS:



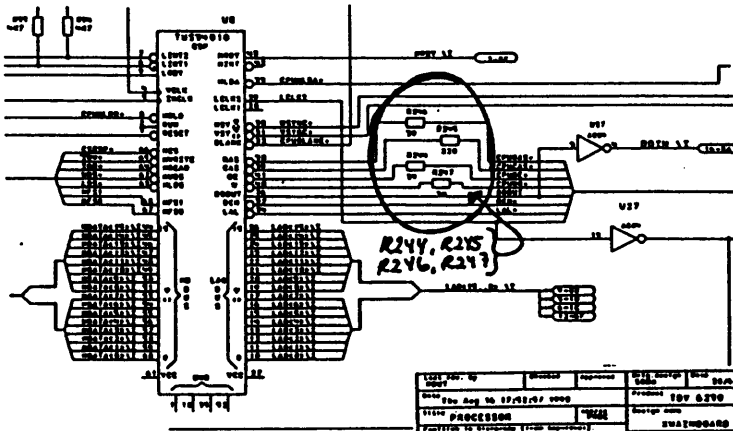
Issued	Revised	Approved	By	Design	Date	Checked	Approved
2011	2011	2011	2011	2011	2011	2011	2011
Date: Mon Aug 20 10:01:05 1990		Project: 10V 0300		Part no: 9031		Sheet no: 2-1	
Title: MODIFIED		Design name: SWIMBOARD		Drawing no: 2220-0		Revision for: 2010	
Author: 2.0		Rev: 2220-0		2010		FANBERG DATA	

FIG. 1



Issued	Revised	Approved	By	Design	Date	Checked	Approved
2011	2011	2011	2011	2011	2011	2011	2011
Date: Mon Sep 18 17:00:00 1990		Project: 10V 0300		Part no: 9031		Sheet no: 2-1	
Title: MODIFIED		Design name: SWIMBOARD		Drawing no: 2220-0		Revision for: 2010	
Author: 2.0		Rev: 2220-0		2010		FANBERG DATA	

FIG. 2



Issued	Revised	Approved	By	Design	Date	Checked	Approved
2011	2011	2011	2011	2011	2011	2011	2011
Date: Mon Aug 16 17:00:00 1990		Project: 10V 0300		Part no: 9031		Sheet no: 2-1	
Title: MODIFIED		Design name: SWIMBOARD		Drawing no: 2220-0		Revision for: 2010	
Author: 2.0		Rev: 2220-0		2010		FANBERG DATA	

FIG. 3

Bl. 008c-2

Modification kit no.:

Time to implement:



# Covering note to ECN 6230/039

ECN 6230/038 is included in this ECN 6230/039.  
X-Mainboard 962279 rev. 02.0 has not been produced and the same changes are included in rev. 02.1 (This ECN).

Pt. 3 in this ECN 6230/039 was neither included in the ECN 6230/038 draft nor the ECN6230/039 draft.

## DETAILED SPECIFICATIONS:

## 1.1

The equations in U43 are changed. This affect only the CSDUART\* output pin. The CSDUART\* strobe is stretched so that the setup time from READ\* or WRITE\* strobes going HIGH, to CSDUART\* going HIGH, are improved. New revision on 962771: 02.0 Checksum: 8F2E.

## 1.2

In revision 01.0 of 962770, the CAS\* strobe is delayed approx. 10 ns to insure proper EARLY-WRITE cycles to the extension RAM modules. This is now removed, and a delay of approx. 5 ns is implemented by the new resistor R245. This modification improves address hold times to CAS\* strobe. New revision on 962770: 02.0 Checksum: 9B48. R245: 220 Ohm 405127

## 1.3

C36 has changed value and position to reduce noise from the DC-DC converter. It is now mounted between pin 11 and 12 on U19 (DC-DC conv). C36: 820pF/1000V 389525

## 1.4

To improve timing in the bus arbiter, a new electrical solution is implemented. See fig.2 page 2. New parts: C153: 560pF 410847 R242: 4.7 kOhm 409204

## 1.5

The following resistors are implemented as general signal noise reduction: R244, R246 & R247 : 39 Ohm 407807. See fig.3 page 2. One resistor have changed value to avoid noise when using INCIRCUIT-EMULATOR equipment. R31: 1 kOhm 405424

## 2.1

The following components are added as SMD components due to new PCB-layout. CR15 & CR16: BAV99 401754 R46: 1 kOhm 405424 There is not any changes in any circuit, these components were mounted by hand on previous PCB-layout. See fig.1 page 2.

## 2.2

AMD (Advanced Micro Devices) has changed the pinout of Am7992 circuit (U9). Old: 416991 New: 418942

## 2.3

R243 is added to terminate an unconnected mouse input. It is therefore not longer necessary to have the mouse connected for correct operation. R243: 39 kOhm 408646. R243 is connected between MSDIN signal (J3 pin 2) and -12v.



<b>PRODUCT:</b> TDV-6230		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN-6230/039</b>
<b>Sub assay name:</b> X-mainboard	<b>Sub. assay no.:</b> 962279	<b>Old rev.:</b> 01.c	<b>New rev.:</b> 02.1	<b>Effective week:</b> 46/90
<b>New assay name:</b>	<b>New assay no.:</b>	<b>New rev.:</b> _____	<b>Effective serial no.:</b> 6230001	<b>Prerequisite ECN(s)</b>
<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input checked="" type="checkbox"/> Standardization <input checked="" type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Undelivered equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>

**SUMMARY:**

1. Timing and noise margins have been improved
2. New PCB-layout
3. New RAMDAC

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

- 1.1 The U43 (962771) has been changed from revision 01.0 to 02.0, to improve timing margins.
- 1.2 The U44 (962770) has been changed from revision 01.0 to 02.0, to improve timing margins.
- 1.3 Switch-mode noise from the DC-DC converter have been reduced.
- 1.4 A new electrical solution on the bus arbiter have been implemented, to improve timing margins.
- 1.5 Resistors have been added to reduce signal noise.
- 2.1 Some components have changed to SMD parts due to new PCB-layout.
- 2.2 The U9 (Am7992) has changed pinout.
- 2.3 It is no longer necessary to have the mouse inserted for proper functionality of the terminal.
- 3.1 The U61 RAMDAC BT454 (417415) have been changed to BT455 (421001) due to standardization.

Item	Type	Obj.lev.
9827	TDV6230	7

<b>Documentation enclosed:</b>	<b>Modification kit no.:</b>	<b>Time to implement:</b>
<b>Prepared by:</b> TOHO	<b>Service:</b> <i>K. Hallberg</i> Date: 26/11-90	<b>QA:</b> <i>A. Kometz</i> Date: 26/11-90
		<b>Product Manager:</b> <i>C. Mell</i> Date: 27.11.90

TPP Field Change Notice No. 28

**DATE:** 08.02.91

**MODULE:** DDE 520/Tandberg TDV1200 terminal

**CATEGORY:** For information only.

**CORRECTS THE ERROR:**

TMN's 347 and 348 are not completely up to date.

**TOOLS NEEDED:** None

**DESCRIPTIONS:**

This is a collection of relevant Engineering Change Notes and Technical Notes issued for the Tandberg TDV1200 terminal, known as the DDE 520. They supplement the Technical Manuals 347 and 348 (DDE numbering system). The note numbers are:

ECN-12/188	Processor board layout change.
ECN-12/088	Keyboard electronics board layout change.
ECN-12/189	Power/Deflection board improvements - adj.
TN-12/012	Same.
ECN-12/133	V.24 adapter new layout.
ECN-12/165	Processor board improvements - flash-over.
ECN-12/159	Video board grounding change. (Invalidates an ECN-12/066 not included)
ECN-12/160	Mechanics improvements (temporary)
TN-12/010	Same.
ECN-12/161	Power/Deflection board improvements - adj.
ECN-12/127	Power/Deflection board improvements - heat.
ECN-12/135	Video Board improvements - better focus.
ECN-12/131	V.24 adapter improvement - flash-over.

All are for information only. They are implemented in production before we start receiving shipments.

**SERVICE KIT:** None.

**ESTIMATED REPAIR TIME:** None.

lea/MUDV

# TANDBERG DATA

## ENGINEERING CHANGE NOTICE

Page 1 of 1

<b>PRODUCT:</b> TDV 1200		Object level updated: <input type="checkbox"/>	Hardware <input checked="" type="checkbox"/>	Software <input type="checkbox"/>	<b>ECN - 12/188</b>
Sub assy name: Processor Board 132	Sub. assy no.: 96 70 41	Old rev.: <u>11.4</u>	New rev.: <u>11.5</u>	Effective week: 39/90	
New assy name:	New assy no.:		New rev.:		Effective serial no.: 1200058870

<b>REASON FOR CHANGE</b> Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <input type="checkbox"/> <u>New PCB layout</u>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Prerequisite ECN _____
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Produced equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>	

**SUMMARY:**

A new layout of the PCB has been implemented to ease the production process and the test procedure.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

On the new layout, diodes CR20-23 have been implemented to avoid manual assembly. Copper areas for mounting of chassis ground Spring and Clip have been implemented to make wave soldering possible.  
There are no electrical changes on the new revision.

PCB artwork no. 22050, revision 5.

It is not possible to upgrade from revision 11.4 to 11.5.

Modification kit no.: -	Time to implement: -		
Documentation enclosed:	Service: <i>C. Balstad</i>	QA: <i>or. Koushala</i>	Product Manager: <i>Ingelangeved</i>
Prepared by: ABPE	Date: <i>29/1-90</i>	Date: <i>1/2-90</i>	Date: <i>2/2-90</i>

Bl. 808a-3

# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 1

<b>PRODUCT:</b> TDV 1200 Keyboard		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/>	Software <input type="checkbox"/>	<b>ECN- 12/088</b>
Sub assy name: Electronics Board	Sub. assy no.: 96 70 14	Old rev.: <u>2</u>	New rev.: <u>3</u>	Effective week: 43	
New assy name:	New assy no.:	New rev.: <u>        </u>		Effective serial no.: 1205045567	

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other _____	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>Prerequisite ECN</b> _____
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Produced equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>	

**SUMMARY:**

We have increased the ESD immunity for the keyboard.

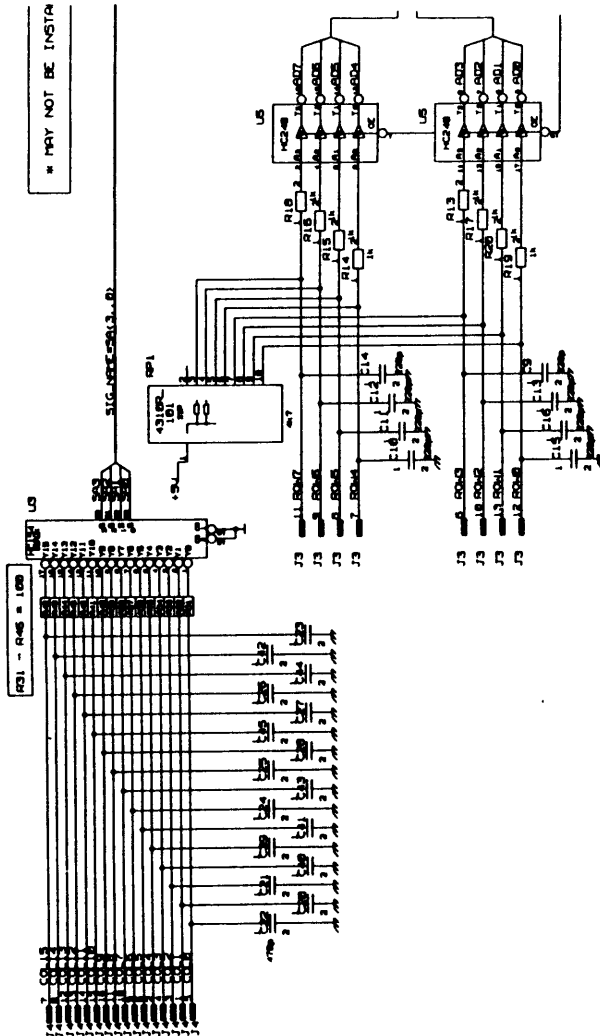
**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

The product had an ESD immunity of 15 KV. This has now been increased to 20 KV, as we have connected capacitors and resistors to connectors J3 and J4. See the enclosed schematics. A new PCB-layout has been made to implement this modification.

Modification kit no.:	Time to implement: 30 minutes		
Documentation enclosed:  Schematics	Service: <i>E. Bahrstedt</i>	QA: <i>S. Kuehler</i>	Product Manager: <i>Dirk Kimpfner</i>
Prepared by: TLAA	Date: <i>22/10 89</i>	Date: <i>21. 89</i>	Date: <i>4/11-89</i>

Bl. 80Ba-3

DETAILED SPECIFICATIONS:



Bl. 808c-1

Modification kit no.:

Time to implement:



# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 1

**PRODUCT:**

TDV 1200

Object level updated:

Hardware   
Software

ECN - 12/189

Sub assy name:

Sub. assy no.:

Old rev.:

New rev.:

Effective week:

Power/Deflection Board 96 70 02

16.5

17.5

46/89

New assy name:

New assy no.:

New rev.:

Effective serial no.:

1200044906

**REASON FOR CHANGE**

- Improvement
- Change of production process
- Standardization
- Procurement difficulties
- Custom modification
- Error correction
- Correction of documentation
- Other \_\_\_\_\_

**COMPATIBILITY**

Product  Yes  No  
Module  Yes  No

**Prerequisite**

ECN \_\_\_\_\_

**CHANGE AFFECTS**

Temporary change   
Delivered equipment   
Produced equipment   
Future production   
Documentation

**PRIORITY:**

Mandatory   
Recommended   
For info only

**SUMMARY:**

- 1) In order to avoid pre-selecting the horizontal switch transistor (Q47), selectable values for resistors R67 and R54 are necessary.
- 2) To avoid pre-selecting capacitor C43, selectable values for R50 is also necessary.
- 3) Increased horizontal shift area.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

Details are given on a separate appendix.

Modification kit no.:

Time to implement:

Documentation enclosed:

Service:

QA:

Product

Manager:

Prepared by: OVJE

*E. B. Stal*

*X. Konstantin*

*D. Hennig*

Date: 23/10 89

Date: 23/10-89

Date: 24/10 89

Bl. 80.

DETAILED SPECIFICATIONS:

1) Due to variations in transistor Q47, some transistors had to be replaced in order to fulfill our requirements. To optimize the production process, a resistor (R67) has been added in parallel with diode CR46. The value of existing resistor R54 has been changed.

The values of R54 and R67 are made selectable.

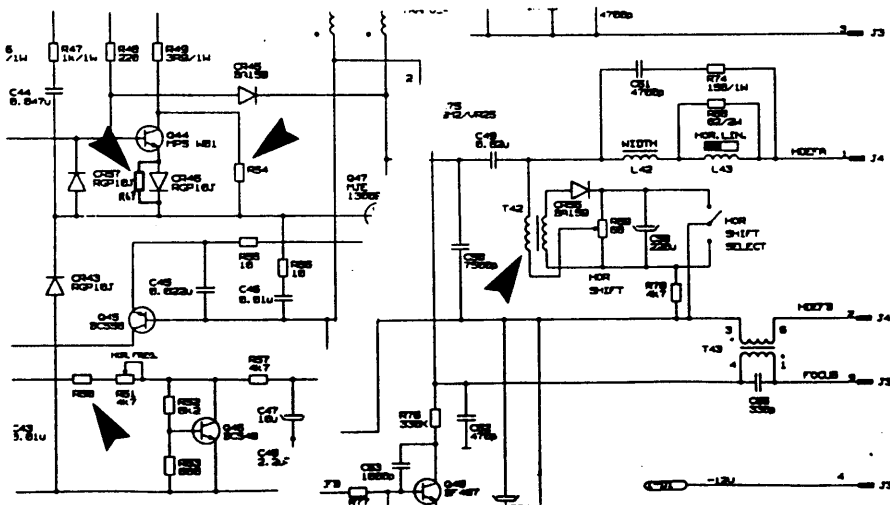
R54 has default value 220 Ω, 1/4 W; part no. 39 51 14  
R67 has default value 8.2 Ω; part no. 39 22 19

2) Due to variations in capacitor C43, some capacitors had to be replaced to fulfill our requirements. To optimize the production process, the value of resistor R50 has been changed so we can adapt to all variations of capacitor C43.

The value of R50 is made selectable.  
R50 has default value 13k3 Ω; part no. 39 04 31

3) To ease the production process, the horizontal shift transformer (T42) has been changed. Refer to technical note TN 12/015.

The new T42 has part no. 41 81 26



808C-1

Modification kit no.:

Time to implement:

PRODUCT:  
**TDV 1200**  
 Power/Deflection Board rev. 17.5

Software:   
 Hardware:

**TN - 12/015**

DESCRIPTION:

**Increased Horizontal Shift Area**

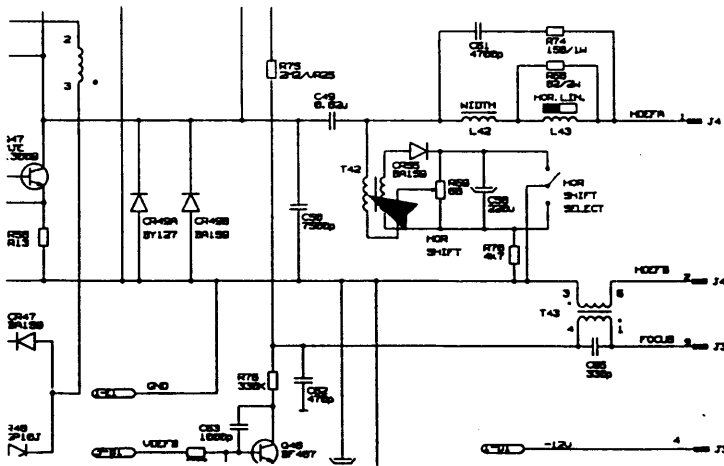
Refer to ECN-12/189, Power/Deflection level 17.5

To ease the production process, the horizontal shift area is increased. This is done by changing to a new horizontal shift transformer (T42).

The number of windings on the secondary side of the transformer has been increased from 45 to 60.

Due to procurement difficulties, the current transformer (part no. 41 18 40) will be used until the new one is available.

The new horizontal shift transformer (part no. 41 81 26) will be implemented without further notice.



Modification kit no.:

Time to implement:

Documentation enclosed:

Service:

QA:

Product

Manager:

*Ray Koenigs*

Prepared by: OVJE

Date: *24/10-89*

Date: *24/10-89*

Date: *24/10-89*



# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 2

<b>PRODUCT:</b> TDV 1200		Object level updated: <input type="checkbox"/>	Hardware <input checked="" type="checkbox"/>	Software <input type="checkbox"/>	<b>ECN - 12/165</b>
Sub assy name:	Sub. assy no.:	Old rev.:	New rev.:	Effective week:	
Processor Board 132 char. 96 70 41		10.4	11.4		
New assy name:	New assy no.:			New rev.:	Effective serial no.:
					1200039441

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other _____	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Prerequisite ECN _____  <b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
		<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Produced equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>		

**SUMMARY:**

Improved protection of the digital electronics against damage caused by flashover in the CRT.

This change replaces the temporary modification described in ECNs 12/159 and 12/160.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

Reason for change:

Due to high-voltage pulses caused by flashovers in the CRT, there is a possibility of damage to the electronics on the Processor Board, or on the interface adapters. The flashovers are caused by small particles present in the CRT and occur normally at power up when the terminal is new. The voltage-pulses follow the ground leads from the Video Board and the Power/Deflection Board to the Processor Board. The aim of this modification is therefore to lead these voltage-pulses to chassis ground before they can make any damage.

Modification kit no.:	Time to implement:		
Documentation enclosed:	Service:	QA:	Product Manager:
	G. Balstad	A. Konatah	Ray Langford
Prepared by: AB PE	Date: 3/8-84	Date: 2/5-84	Date: 2/5-84

Bl. 608a.

DESCRIPTION OF CHANGE (CONTINUED):

ECN- 12/165

Technical solution.

1. A spring is glued on the upper edge of the Processor Board next to connector J5.

Two 6.2V zener diodes are connected in series, cathode against cathode, between the spring and the negative side of capacitor C41, which is Signal GND. The purpose of the zener diodes is to maintain the possibility to divide chassis and Signal GND. (ECN 12/066).

When the chassis top plate is mounted and fastened, the spring will create a good connection between chassis and the diodes. This will now form a short path from Signal GND to chassis for the high-voltage pulses that follow the power cable ground leads.

2. Likewise, a clip is glued to the edge of the Processor Board next to connector J7.

Two 6.2V zener diodes as in 1., are connected between the clip and the base of pin 3 of connector J7, Signal GND.

A pad of non-conductive double sided tape(3M) is placed on the board, covering the resistors underneath the two diodes, to prevent a short-circuit.

When the Processor Board is slid into position, the clip will create a good connection between the guides in the chassis and the diodes. This will again form a short path from Signal GND to chassis for the high-voltage pulses that follow the video cable ground lead.

The clip is preshaped to create the smallest resistance when the Board is pulled up from the guides. Nevertheless some care should be taken to avoid jamming the clip in the top guide when removing the Board.

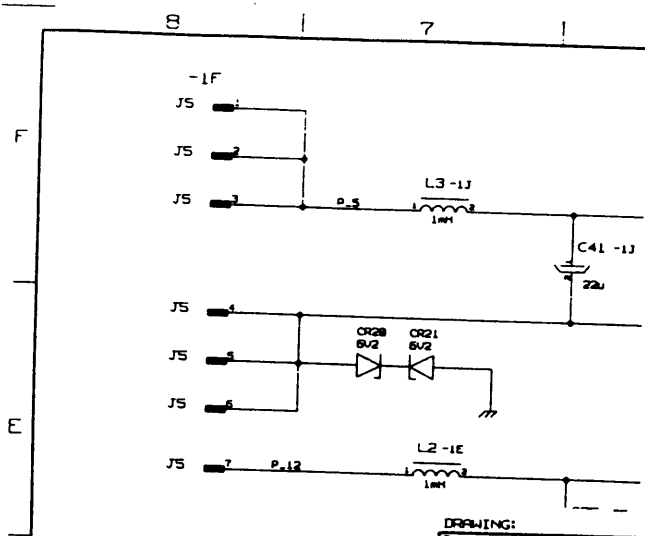
**NOTE!**

This modification will not work with the two-layer boards; 9670000, 967009 and 967018.

See TN 12/010 for an alternative technical solution for these boards.

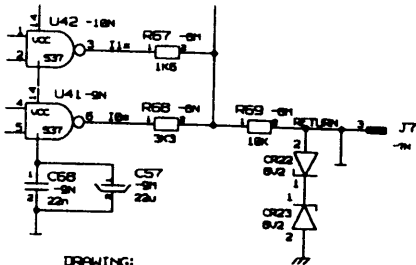
### DETAILED SPECIFICATIONS:

#### Changes in the schematics:



DRAWING:

Product	Design name		A
TDU1200	PROCESSOR BOARD 132 CH-RR		
Unit Rev.	Date	Order no.	967041
ALBA	Fri Jun 9 08:18:56 1989		
Title	Priority	Rev. Rev.	
POWER INTERFACE	LOW		
PBB/0108	(From Sub-level)		
22058-7	20157-11	2-11	11.4
TANDBERG DATA			



DRAWING:

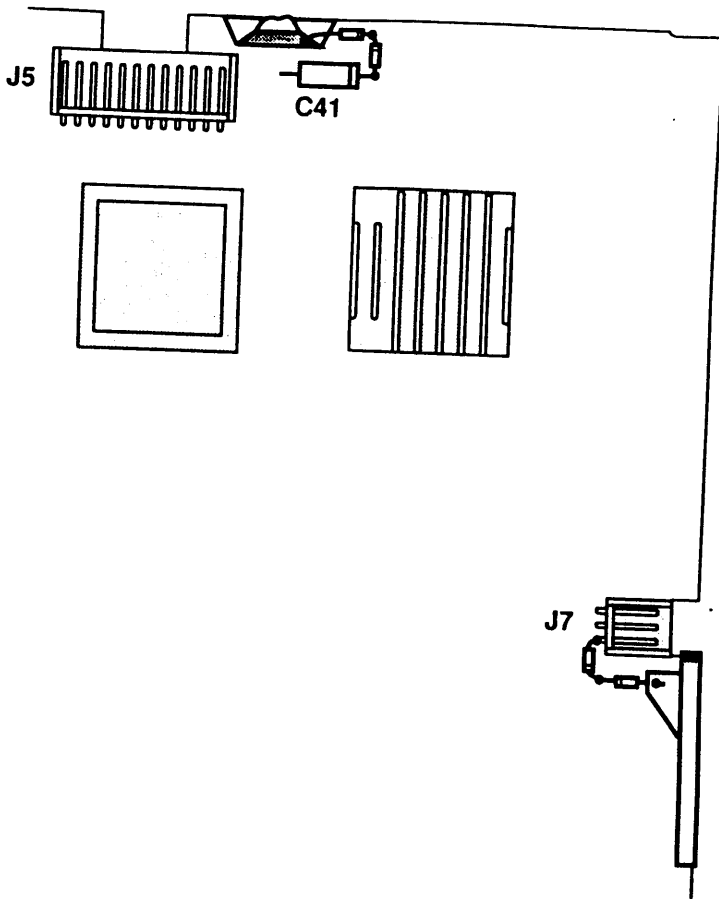
Product	Design name		A
TDU1200	PROCESSOR BOARD 132 CH-RR		
Unit Rev.	Date	Order no.	967041
ALBA	Fri Jun 9 07:52:49 1989		
Title	Priority	Rev. Rev.	
VIDEO SECTION	VIDEO		
PBB/0108	(From Sub-level)		
22058-7	20157-11	7-11	11.4
TANDBERG DATA			

Modification kit no.:

Time to implement:

DETAILED SPECIFICATIONS:

Illustrations:



Parts list:

Component	Name	Partno.
Spring		417156
Clip		417158
Zener Diode	CR20	383124
"	CR21	"
"	CR22	"
"	CR23	"

Modification kit no.:

Time to implement:

Bl. 808c-1



<b>PRODUCT:</b> <b>TDV 1200</b>		Object level updated: <input type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN - 12/159</b>
Sub assy name: <b>Video Board</b>	Sub. assy no.: <b>967001</b>	Old rev.: <b>13.2</b>	New rev.: <b>-</b>	Effective week:
New assy name:		New assy no.:		Effective serial no.: <b>12037629</b>
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		Prerequisite ECN <u>12/160</u>
Improvement <input type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input checked="" type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other _____ <input type="checkbox"/>		Yes No Product <input checked="" type="checkbox"/> <input type="checkbox"/> Module <input checked="" type="checkbox"/> <input type="checkbox"/> <b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> <input checked="" type="checkbox"/> Delivered equipment <input type="checkbox"/> Produced equipment <input type="checkbox"/> Future production <input type="checkbox"/> Documentation <input type="checkbox"/>		Priority: Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>

**SUMMARY:**

Improved protection against damage caused by flashover in the CRT.

The change is temporary until all necessary parts for a permanent modification of the Digital Board are available.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The purpose of the modification is to decouple the Signal GND leads from the Video Board to the Digital Board, to Chassis GND.

The decoupling will ensure that high-voltage spikes from a flashover in the CRT quickly are lead to Chassis GND, thus avoiding damage to the electronics on the Digital Board or on the interface adapters.

An extra ground lead is connected to the signal ground lead of video cable W3. The other end of the ground lead is connected to the chassis wall, so that it creates a short way to chassis ground.

**NOTE:**

With this modification, it is no longer possible to separate Signal Ground from Chassis Ground, even when the short-circuit strap for the 100 ohm resistor on the Power/Deflection Board is cut.  
(Described in ECN 12/066.)

A future permanent change will make this possible.

See TN - 12/010 for technical details.

Modification kit no.:	Time to implement:		
Documentation enclosed:	Service: <i>K. B. L. H. A. D.</i>	QA: <i>F. K. M. A. L. E. R.</i>	Product Manager: <i>D. H. A. N. G. E. R. S. T.</i>
Prepared by: <b>ABPE</b>	Date: <i>7/6-84</i>	Date: <i>6/6-84</i>	Date: <i>9/6-84</i>

BI. 808z

# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 1

**PRODUCT:**  
**TDV 1200**

Object level updated:  Hardware  Software

**ECN - 12/160**

Sub assy name: **Mechanics Common Parts** Sub. assy no.: **098100**

Old rev.:  New rev.:

Effective week:

New assy name: New assy no.:

New rev.:

Effective serial no.:  
12037629

**REASON FOR CHANGE**

- Improvement
- Change of production process
- Standardization
- Procurement difficulties
- Custom modification
- Error correction
- Correction of documentation
- Other

**COMPATIBILITY**

Product  Yes  No  
Module  Yes  No

Prerequisite  
ECN 12/159

**CHANGE AFFECTS**

Temporary change  Yes  No  
Delivered equipment   
Produced equipment   
Future production   
Documentation

**PRIORITY:**  
Mandatory   
Recommended   
For info only

**SUMMARY:**

Improved protection of digital electronics against damage caused by flashover in the CRT.  
The change is temporary until all necessary parts for a permanent modification of the Digital Board are available.

**DESCRIPTION OF CHANGE:**

(symptom, cause of problem, desired result, parts list)

The purpose of the modification is to decouple the Signal GND leads from the Power/Deflection Board to the Digital Board to Chassis GND.  
The decoupling will ensure that high-voltage spikes from a flashover in the CRT quickly are lead to Chassis GND, thus avoiding damage to the electronics on the Digital Board.  
An extra ground lead is connected to the signal ground leads of the power cable W1. The other end of the ground lead is connected so that it creates a short way to chassis ground.

**NOTE:**

With this modification, it is no longer possible to separate Signal Ground from Chassis Ground, even when the short-circuit strap for the 100 ohm resistor on the Power/Deflection Board is cut.  
(Described in ECN 12/066.)

A future permanent change will make this possible.

See TN-12/010 for technical details.

Modification kit no.:

Time to implement:

Documentation enclosed:

Service:

QA:

Product Manager:

*E. Sabiraj*  
Date: *7/2-89*

*A. Koster*  
Date: *6/6 89*

*Blangsted*  
Date: *7/6 89*

Prepared by: **ABPE**

PRODUCT:

**TDV 1200**

Software:   
 Hardware:

**TN - 12/010**

**DESCRIPTION:**

**Improved protection against damage caused by flashover in the CRT**

**Background**

Due to high-voltage pulses caused by flashover in the CRT, there is a possibility of damage to the electronics on the digital boards, i.e. Mainboard, Processor Board, Coax Board and Syncboard, or on the interface adapters.

The flashovers are caused by small particles present in the CRT and occur normally at power up when the terminal is new.

**Technical solution**

To make the electronics boards less vulnerable, a better earthing solution has been introduced as a modification.

The purpose of the modification is to decouple the Signal GND leads that run from the Power- and Video Boards to the Digital Board, to Chassis GND.

The decoupling will ensure that high-voltage spikes from a flashover in the CRT quickly are lead to Chassis GND, thus avoiding damage to the electronics on the Digital Board or the interface adapters.

**Practical implementation**

A chassis ground lead is connected to the signal ground leads of the power cable W1, leads 4, 5 and 6, and the video cable W3, lead 3 (green or blue).

The chassis ground leads are connected so that they create a short path to chassis ground.

See the mounting instructions for details.

**NOTE:**

With this modification, it is no longer possible to separate Signal Ground from Chassis Ground, even when the short-circuit strap for the 100 ohm resistor on the Power/Deflection Board is cut.  
 (Described in ECN 12/066.)

Modification kit no.: 967589		Time to implement: 15 minutes	
Documentation enclosed:	Service:	QA:	Product Manager:
Mounting Description	<i>E. Kristiansen</i>	<i>S. Kometaler</i>	<i>Th. Henningsen</i>
Prepared by: ABPE	Date: <i>7/6-89</i>	Date: <i>6/6 89</i>	Date: <i>7/6-89</i>

31.8

## MOUNTING DESCRIPTION

Consult the TDV 1200 Field Service Manual for general service information necessary to perform this modification.

### POWER CABLE W1

**Step 1:** Disconnect the old cable and remove it from the clip on the rear chassis wall.

**Step 2:** Place the new cable in the clip and connect to the Power - and Processor Board.

**Step 3:** Bend the chassis ground lead so that the fastening ear is centered right over the hole for the top-plate screw. **To ease mounting:** Place your finger on the ear and press the blue plastic-coated shaft of the ear down so that it is pressed against the corner of the chassis around the screw hole.

**Step 4:** When the top plate is replaced; make sure that the screw enters the fastening ear.

### VIDEO CABLE W3

**Step 1:** Remove the Video Board from the CRT neck by pulling it gently straight backwards.

**Step 2:** Replace the old video cable with the new one:

- Desolder the leads carefully
- Press together retaining hooks on lead ends or cut them off close to the board.

**Be careful not to damage copper area!**

- Replace with new video cable and solder.

#### NOTE:

Make sure that the red cable enters the hole marked "RED"!

**Step 3:** Replace the Video Board. Be very careful not to bend the pins on the CRT neck. Make sure to connect all the cables.

**Step 4:** Pull the video cable and the chassis ground lead out of the hole in the chassis.

**Step 5:** Place the iron core on the inside of the hole.

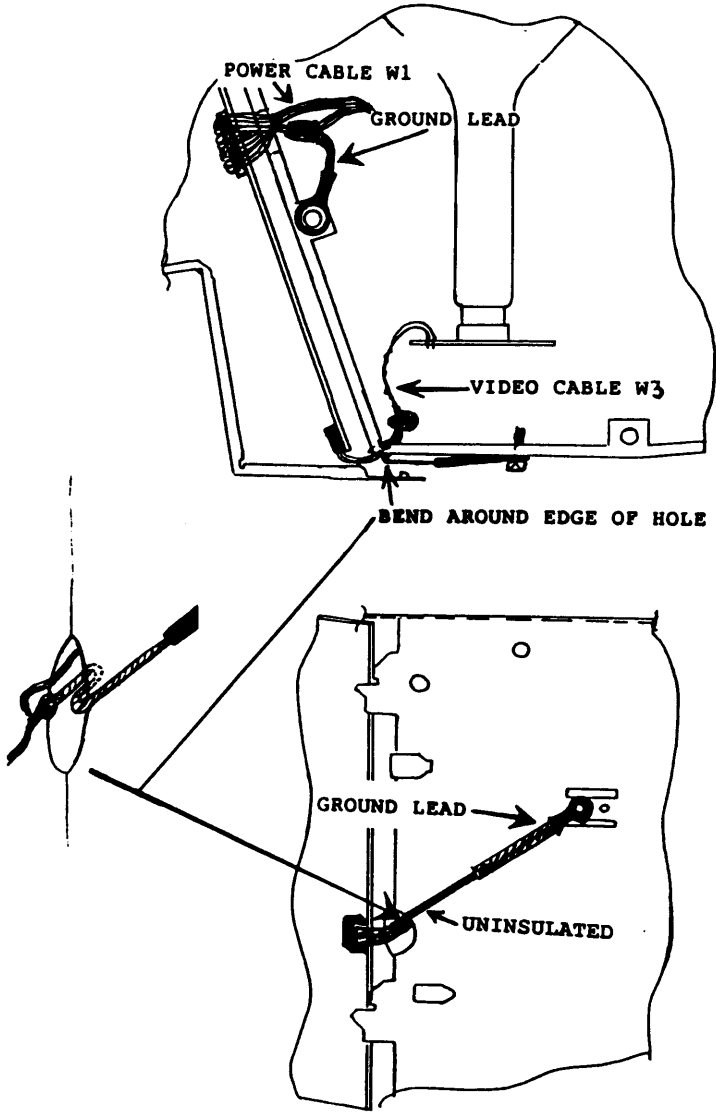
**Step 6:** Place the bend on the uninsulated chassis ground lead around the edge of the hole in the chassis.

The end of the chassis ground lead connected to the signal ground lead (green or blue) should now point out of the hole.

**Step 7:** Fasten the ear with a screw in the nearest of the two holes in the rear wall of terminal.

**Step 8:** Close the chassis door carefully and make sure that the ground lead is not misplaced.

# ILLUSTRATIONS



For practical reasons the cables and ground leads are delivered as a kit:  
**Ordering number: 967589 - Cable Kit w/Ground**

The kit substitutes:  
Power Cable W1 (410280)  
Video Cable W3 (414378)

# TANDBERG DATA

## ENGINEERING CHANGE NOTICE

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<b>PRODUCT:</b> TDV 1200		Object level updated: <input checked="" type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN - 12/161</b>
Sub assy name: <b>Power/Deflection</b>	Sub. assy no.: 96 70 02	Old rev.: <b>15.5</b>	New rev.: <b>16.5</b>	Effective week:
New assy name:	New assy no.:	New rev.: <input type="text"/>		Effective serial no.: 12037690
<b>REASON FOR CHANGE</b>		<b>COMPATIBILITY</b>		Prerequisite ECN
Improvement <input type="checkbox"/>	Change of production process <input checked="" type="checkbox"/>	Product <input checked="" type="checkbox"/>	Module <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Standardization <input type="checkbox"/>	Procurement difficulties <input type="checkbox"/>	<b>CHANGE AFFECTS</b>		<b>PRIORITY:</b>
Custom modification <input type="checkbox"/>	Error correction <input type="checkbox"/>	Temporary change <input type="checkbox"/>	Delivered equipment <input type="checkbox"/>	Mandatory <input type="checkbox"/>
Correction of documentation <input type="checkbox"/>	Other <input type="text"/>	Produced equipment <input type="checkbox"/>	Future production <input checked="" type="checkbox"/>	Recommended <input type="checkbox"/>
		Documentation <input type="checkbox"/>		For info only <input checked="" type="checkbox"/>

**SUMMARY:**

The width of the left margin has been increased.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

To ease the adjustment procedure in the production, the width of the left margin has been increased. The width of the text area, however, remains the same.

R66 changed to 150 k VR25  
R68 changed to 82 ohm

Modification kit no.:	Time to implement:		
Documentation enclosed:	Service:	QA:	Product Manager:
Prepared by: <b>MO OM</b>	<i>[Signature]</i> Date: <b>3/12-89</b>	<i>[Signature]</i> Date: <b>7/2-89</b>	<i>[Signature]</i> Date: <b>7/8-89</b>

Bl. 8088-3

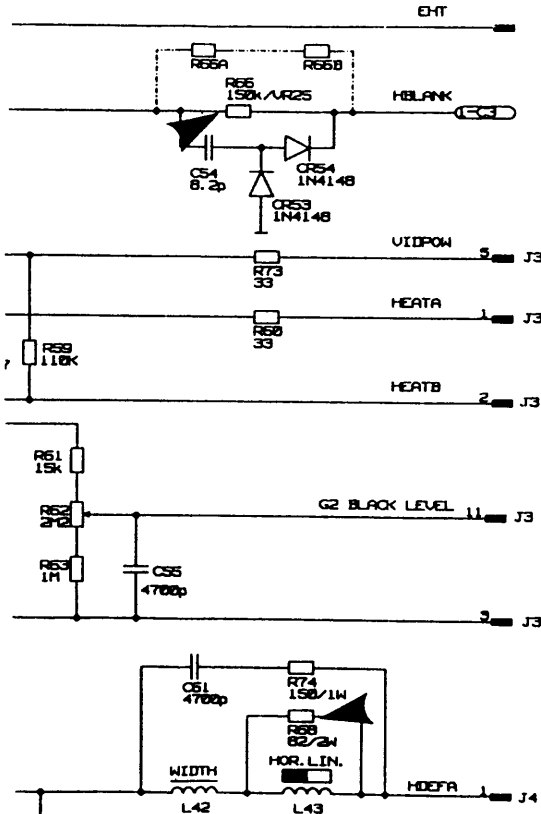
DETAILED SPECIFICATIONS:

R66 changed from 220 k VR25 to 150 k VR25 (TD ordering no. 41 74 79).

R68 changed from 270 ohm to 82 ohm, 2 w (TD ordering no. 39 21 12).

On some boards, two resistors in series are used instead of the VR25 resistor (high voltage type).

Schematic diagram:

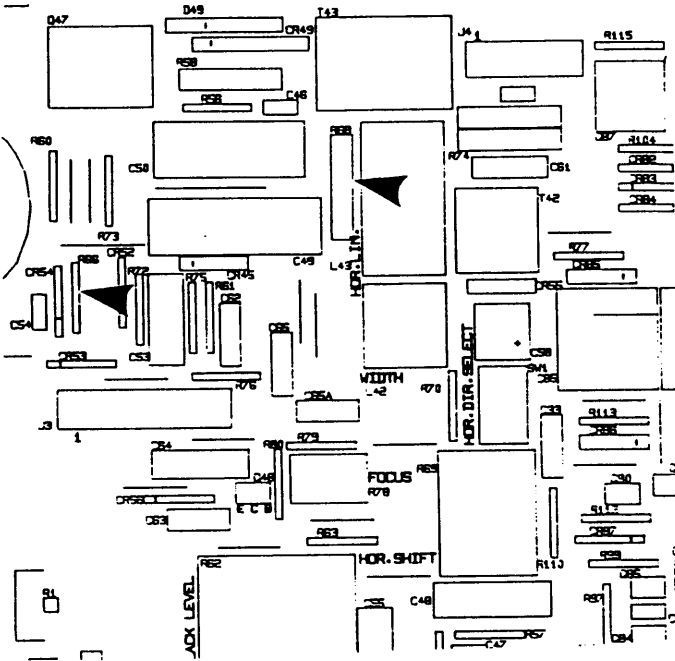


Modification kit no.:

Time to implement:

DETAILED SPECIFICATIONS:

Component location:



Bl. 0000-1

Modification kit no.:

Time to implement:



# TANDBERG DATA ENGINEERING CHANGE NOTICE

Page 1 of 3

**PRODUCT:** TDV 1200      Object level updated:       Hardware  Software       **ECN- 12/127**

Sub assy name: **Power/Deflection Board**      Sub. assy no.: **96 70 02**      Old rev.: **14.3**      New rev.: **15.5**      Effective week:

New assy name:      New assy no.:      New rev.:      Effective serial no.: **12036252**

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input checked="" type="checkbox"/> Standardization <input checked="" type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other <u>Preparation for future change</u>	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<b>Prerequisite ECN</b> _____  <b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> For info only <input checked="" type="checkbox"/>
<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Produced equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>			

**SUMMARY:**

Fixed horizontal and vertical dynamic focus have been introduced  
 Larger adjustment area for black level.  
 Standardization of components.  
 Preparation for future change on the Video Board.  
 Heat reduction.

**DESCRIPTION OF CHANGE:**  
 (symptom, cause of problem, desired result, parts list)

**Improvements :**

- Heat reduction : ref. no. 1 on the next page.
- Improved protection of the transistor Q10 : ref. no. 4.

**Change of production process :**

- The 5 V adjustment range, and the crowbar trigger level have been changed, ref. no. 5.
- Due to the change of the PC board material ( ref. no. 15 ), the temperature in some resistors have been reduced further, ref. no. 7 and ref no. 11.
- In order to cover the large variation of the CRT Grid 2 specification, the maximum CRT grid supply voltage has been increased, ref. no. 9.
- Since the CRT grid supply has been increased, the Grid 2 potentiometer has been changed to a version that can handle this increased operating voltage, ref. no. 10.
- To ease the focus adjustment procedure, a fixed horizontal and vertical dynamic focus replace the adjustable horizontal focus, ref. no. 12.

Modification kit no.:      Time to implement:

Documentation enclosed:  Prepared by: <b>MO</b>	Service: <i>E. Sabtal</i> Date: <b>22-5-89</b>	QA: <i>A. Kometel</i> Date: <b>25/5-89</b>	Product Manager: <i>D. Chaugand</i> Date: <b>25-89</b>
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Bl. 8000-3

## DESCRIPTION OF CHANGE (CONTINUED):

ECN-12/127

## Standardization :

- Several minor changes have been introduced to use TD standard components.
  - ref. no. 2
  - ref. no. 3
  - ref. no. 6
  - ref. no. 8
  - ref. no. 14
  - ref. no. 15

## Preparation for future change on the Video Board :

- ref. no. 13
1. The resistor R1 may become hot when the terminal is working at a low mains supply ( 115 V - 15 % ). The resistor R1 has been changed from 6.8 ohms / 2 Watts to 6.8 ohms / 7 Watts.
  2. The transistors Q6 and Q44 have been changed from MPS U01 to MPS W01 due to procurement problems.
  3. The new layout has been prepared for a 12-pin transformer.
  4. To protect the transistor Q10 during flash-over in the CRT, a new resistor, R29, is added in series with the BLANK signal.
  5. For testing the short-circuit protection, the adjustment range for the 5 V potmeter has been changed to make it possible to trigger the crowbar circuit. In addition, the crowbar trigger level has been changed.
  6. Due to standardization, the value of coil L3 has been changed to 6.8 uH.
  7. The resistors R46 and R47 have been changed to a 1 Watt type.
  8. A new diode CR57, type RGP10J, replaces the transistor Q42, and the transistor Q41 has been changed to type BC490.
  9. The CRT grid supply has been increased by introducing a new line output transformer with an additional winding on pin 6. This additional winding replaces the earlier Q47 collector peak voltage doubler circuit.
  10. Since the CRT grid supply voltage is increased, the potentiometer R62 has been substituted for a 1000 V type.
  11. The ground connection resistor R70 has been increased to 4k7.

## DESCRIPTION OF CHANGE (CONTINUED):

ECN-12/127

12. The earlier focus circuit with a DC and a horizontal dynamic adjustment has been replaced by a new circuit. This circuit has a fixed horizontal and vertical dynamic voltage. The only adjustment is now the DC level, with the potentiometer R78.
13. Pin no. 4 on connector J3 is connected to -12 V.
14. The resistor R106 has been reduced to 2.2 ohms, and a new resistor, R115 has been added in series to the emitter of Q88. This makes the change described in ECN 12/076 ( R89 was changed to 1 ohm ) redundant. R89 is changed back to 10 ohms NFR ( fuse type ).
15. The PCB material has been changed from FR4 to CEM1.

## DETAILED SPECIFICATIONS:

## Parts list

C18, 0.1 uF	TD part no. 385703
C53 and C56, 4700 pF	TD part no. 414561
C62, 470 pF	TD part no. 415373
C63, 1000 pF	TD part no. 415554
C64, 10 uF	TD part no. 329082
C65, 330 pF	TD part no. 415145
CR22, 6.2 V zener	TD part no. 383124
CR23, 5.1 V zener 2 %	TD part no. 416004
CR52, BY 584	TD part no. 407623
CR56, 1N4148	TD part no. 384841
CR57, RGP 10J	TD part no. 385107
CR58, BY127	TD part no. 407721
L3, 6.8 uH	TD part no. 406906
Q6 and Q44, MPS W01	TD part no. 402296
Q42, BC490	TD part no. 379066
Q48, BF 487	TD part no. 415083
R1, 6.8 ohms 7W	TD part no. 415117
Resistor bracket for R1	TD part no. 286238
R46 and R47, 1k 1W	TD part no. 415561
R61, 15 k	TD part no. 384906
R62, Pot 2M2 1000V type	TD part no. 308665
R70, 4.7 k	TD part no. 384798
R72, 2.2 ohms	TD part no. 398993
R75, 2M2 VR25	TD part no. 409305
R76, 330 k	TD part no. 385265
R77, 22 k	TD part no. 382722
R78, 4.7 k pot	TD part no. 388196
R79, 56 k	TD part no. 382061
R80, 82 k	TD part no. 381436
R106 2.2 ohms	TD part no. 398993
R115, 2.2 ohms	TD part no. 398993
T41, line transformer	TD part no. 415418
T43, dynamic focus transformer	TD part no. 415087







# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 1

<b>PRODUCT:</b> TDV 1200		Object level updated: <input type="checkbox"/>	Hardware <input checked="" type="checkbox"/>	Software <input type="checkbox"/>	<b>ECN - 12/135</b>
Sub assy name: Video Board	Sub. assy no.: 96 70 01	Old rev.: 12.0	New rev.: 13.2	Effective week:	
New assy name:	New assy no.:	New rev.: <input type="checkbox"/>		Effective serial no.:	12036252

<b>REASON FOR CHANGE</b>	Improvement <input checked="" type="checkbox"/>	<b>COMPATIBILITY</b>	Yes	No	Prerequisite ECN _____	
	Change of production process <input type="checkbox"/>		Product <input type="checkbox"/>	Module <input type="checkbox"/>		
Standardization <input type="checkbox"/>	Procurement difficulties <input type="checkbox"/>	<b>CHANGE AFFECTS</b>	Sec below		<b>PRIORITY:</b>	
Custom modification <input type="checkbox"/>	Other _____		Temporary change <input type="checkbox"/>	Delivered equipment <input type="checkbox"/>		Mandatory <input type="checkbox"/>
Error correction <input type="checkbox"/>			Produced equipment <input type="checkbox"/>	Future production <input checked="" type="checkbox"/>		Recommended <input type="checkbox"/>
Correction of documentation <input type="checkbox"/>			Documentation <input type="checkbox"/>			For info only <input checked="" type="checkbox"/>

**SUMMARY:**

New version of the PC board layout, which includes the possibility for a better focus performance.

**Note!** Video Boards with lower revision level can not be upgraded to revision level 13.2.

**DESCRIPTION OF CHANGE:**  
(symptom, cause of problem, desired result, parts list)

This new version of the Video Board layout has two new selectable switches, SW1 and SW2.

**SW1:**  
This switch is a preparation for a possible future change. On revision level 13.2 this switch is shorted and has no function.

**SW2:**  
With the switch SW2, the CRT grid 1 may be connected to either ground or + 12V. For better focus performance the SW1 should be mounted in the + 12V position. However, when the Video Board is used in combination with a Power/Deflection Board with revision level 14.3 or lower, the SW2 must be in the GND position. For field service upgrading, note that the light output will drop when changing the SW1 from GND to + 12V. A readjustment of the "Black Level" is therefore needed.

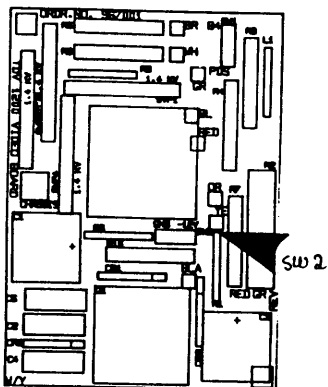
Modification kit no.:	Time to implement:		
Documentation enclosed:	Service: <i>B. Babstad</i>	QA: <i>H. Konatelo</i>	Product Manager: <i>M. Augetved</i>
Prepared by: MO OM	Date: 23-5-89	Date: 25/5-89	Date: 25/5-89

Bl. Buda-3





DETAILED SPECIFICATIONS:



Bl. 80...-1

Modification kit no.:

Time to implement:

3011 - 12/11/89

# TANDBERG DATA

# ENGINEERING CHANGE NOTICE

Page 1 of 1

<b>PRODUCT:</b> TDV 1200		Object level updated: <input type="checkbox"/>	Hardware <input checked="" type="checkbox"/> Software <input type="checkbox"/>	<b>ECN- 12/131</b>
Sub assy name: V.24 Adapter	Sub. assy no.: 96 70 05	Old rev.: <u>5</u>	New rev.: <u>6</u>	Effective week: 03/89
New assy name:	New assy no.:	New rev.: <input type="checkbox"/>		Effective serial no.:

<b>REASON FOR CHANGE</b> Improvement <input checked="" type="checkbox"/> Change of production process <input type="checkbox"/> Standardization <input type="checkbox"/> Procurement difficulties <input type="checkbox"/> Custom modification <input type="checkbox"/> Error correction <input type="checkbox"/> Correction of documentation <input type="checkbox"/> Other _____	<b>COMPATIBILITY</b> Product <input checked="" type="checkbox"/> Module <input checked="" type="checkbox"/>	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Prerequisite ECN _____
	<b>CHANGE AFFECTS</b> Temporary change <input type="checkbox"/> Delivered equipment <input type="checkbox"/> Produced equipment <input type="checkbox"/> Future production <input checked="" type="checkbox"/> Documentation <input type="checkbox"/>	<b>PRIORITY:</b> Mandatory <input type="checkbox"/> Recommended <input checked="" type="checkbox"/> For info only <input type="checkbox"/>	

### SUMMARY:

Better protection of the driver circuit against damage from static discharge.

### DESCRIPTION OF CHANGE:

(symptom, cause of problem, desired result, parts list)

Static discharge and flashover in the CRT may cause damage to the V.24 driver U1, DS14C88, with a stop in the data communication as a result. In order to reduce the possibility of damage, a damping resistor has been mounted in series with every transmitter output.

Modification kit no.:	Time to implement: 30 min.		
Documentation enclosed:	Service: <i>B. B. abstad</i>	QA: <i>A. Konetalo</i>	Product Manager: <i>Defanged</i>
Prepared by: ABPE	Date: <i>3/3-89</i>	Date: <i>6/3-89</i>	Date: <i>4/5-89</i>

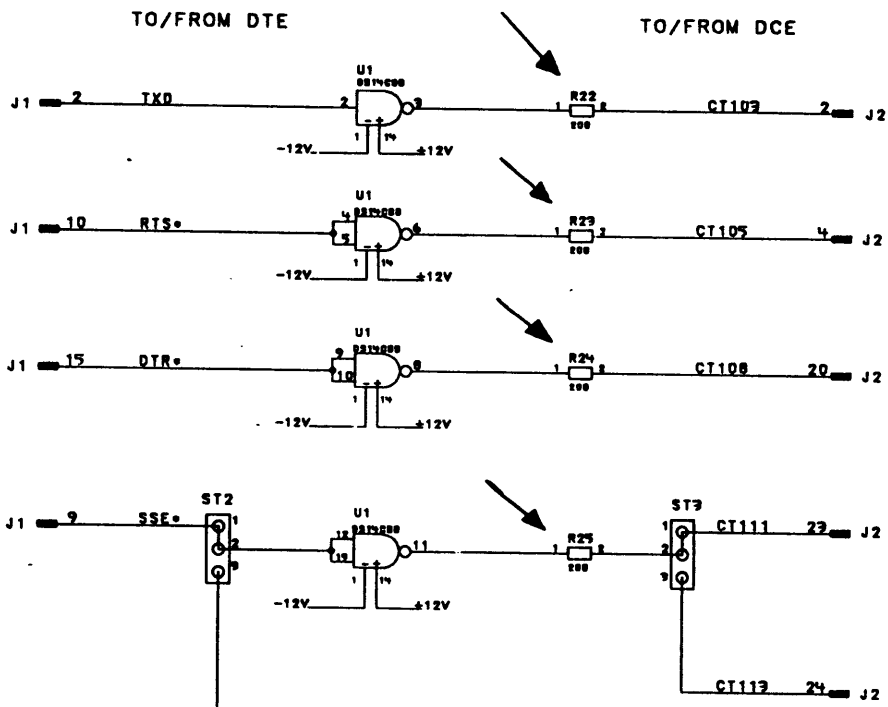
Bl. 1/8/89

### DETAILED SPECIFICATIONS:

The new schematics has revision 6.

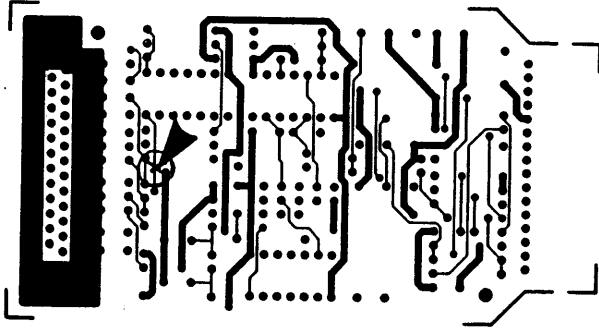
New resistors R22, R23, R24 and R25, value 200 ohm,  
Tandberg Data part no.: 398828

### Changes in the schematics

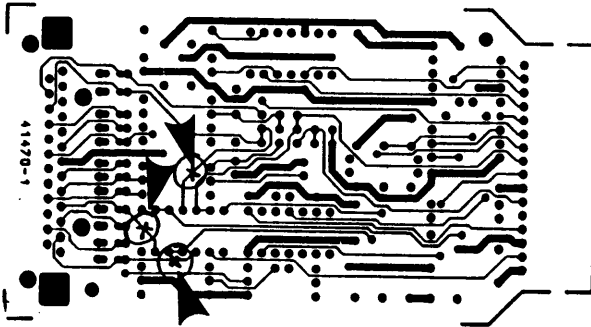


DETAILED SPECIFICATIONS:

Cut on the component side



Cut on the Solder side



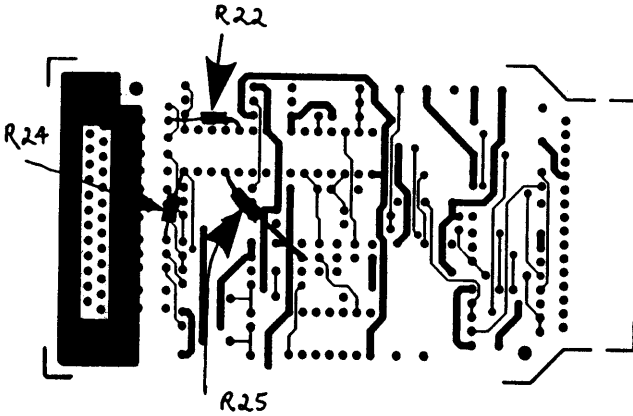
Bl. 808

Modification kit no.:

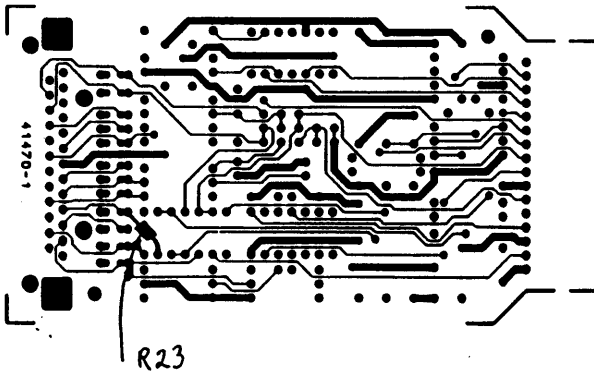
Time to implement:

DETAILED SPECIFICATIONS:

Modification on the component side



Modification on the solder side



Bl. 808c-1

Modification kit no.:

Time to implement:

TPP Field Change Notice No. 68

DATE: 01.09.92

MODULE: Canon LBP-8 II/III series

CATEGORY:

production change : when Minozon filter is fitted!  
In the field: Check when Minozon filter is fitted!

CORRECTS THE ERROR: Casing of blower has been modified.

TOOLS NEEDED: none

DESCRIPTIONS:

Canon has modified the blower casing, so that the Minozon type 320 attachment no longer fit. A new attachment ring can be obtained from Newtronic, stock no. 8290036. It should be used together with Canon blower, type RH7-1074-~~xxx~~ and RH7-1122-~~xxx~~

Check also, that the blower runs properly after modification. If not, then the blower should be replaced.

SERVICE KIT: none

ESTIMATED REPAIR TIME: none

NOTE: See attached note from Newtronic (NTS TECH NEWS #6/92, in danish)

lea/BNA

*Nyt fra NewTronic Scandinavia AIS - NTS TECH NEWS # 6/92.*

## **Ny pakning til LBP-8 Mk.II/III ved skift af blæsermotoren.**

Gælder kun, hvis printeren anvendes  
sammen med et Minozon type 320 ozonfilter.

Da Canon har ændret udformningen af blæsermotorens hus på de seneste typer, har vi - i samarbejde med Dansk Teknologi, som fremstiller Minozon filtret - ladet fremstille en ny pakning. Denne skal anbringes mellem motorhuset og printerens udblæsningsgitter.

**Men altså kun  
hvis et eksternt ozonfilter  
af fabrikat Minozon, type 320  
er koblet til printeren.**

Den nye pakning har vort varenummer 8290036. Den skal anvendes sammen med blæsermotorerne type RH7-1074-xxx samt RH7-1122-xxx, og bestilles separat.

Husk i øvrigt altid at kontrollere, om blæsermotoren kører korrekt, hvis et passivt, eksternt ozonfilter er koblet til printeren. Gør den ikke det, må blæsermotoren udskiftes.

Med venlig hilsen  
*NEWTRONIC SCANDINAVIA AIS*



**Michael Fahlgren**



TPP Field Change Notice No. 64

DATE: 12.06.92

MODULE: FlatTop 1 Technical Manual (TMN 387)

CATEGORY: TMN upgrade

CORRECTS THE ERROR: TMN 387 not up to date

TOOLS NEEDED: none

DESCRIPTIONS:

Remove the attached pages, and insert in the TMN 387 manual (NCR Document No.: D2-0520-A). Put the UPDATE NOTIFICATION at the front of the manual.

SERVICE KIT: None. Order a new manual.

ESTIMATED REPAIR TIME: 10 min.

lea/BNA

TPP Field Change Notice No. 64

DATE: 12.06.92

MODULE: FlatTop 1 Technical Manual (TMN 387)

CATEGORY: TMN upgrade

CORRECTS THE ERROR: TMN 387 not up to date

TOOLS NEEDED: none

DESCRIPTIONS:

Remove the attached pages, and insert in the TMN 387 manual (NCR Document No.: D2-0520-A). Put the UPDATE NOTIFICATION at the front of the manual.

SERVICE KIT: None.

ESTIMATED REPAIR TIME: 10 min.

lea/BNA

TPP Field Change Notice No. 63

DATE: 12.06.92

MODULE: Quantum LPS 105AT (100 Mb AT-disk)

CATEGORY:

production change : Check new shipments.  
In the field: If problem occurs

CORRECTS THE ERROR: Unable to FORMAT/FDISK IBM OS/2 V.1.3

TOOLS NEEDED:

IC extractor  
Screwdriver (to disassemble PC)

DESCRIPTIONS:

During OS/2 installation, a timeout or unrecoverable disk error is reported the first time the installation program tries to change the disk parameters and installation will fail.

Disassemble the PC system unit, and remove the disk controller PROM on the bottom of the disk. It is mounted in a low-profile socket, not soldered. Replace with the PROM from the kit.

SERVICE KIT: Stock No. 95140630 contains:

A 27C256 PROM with the label:

Quantum Corp. LPS 52/105 AT A 2.6 00
--

ESTIMATED REPAIR TIME:

15 min. (On at DeskTop 1 - others add time to remove HD from unit)

NOTE: IBM OS/2 V.1.3 is not a DDE supported product.

lea/BNA

DATE: 27.07.92

MODULE: FlatTop 1/NCR 3210 BIOS

**CATEGORY:**

Production change : Check all in stock, and new shipments.  
In the field: When problems are reported but \*NOT\* in PCs  
installed with the NCR 30-function key  
keyboard.

**CORRECTS THE ERROR:**

Problems with loading large programs HIGH.

**TOOLS NEEDED:**

IC-extractor.  
Screwdriver.

**DESCRIPTIONS:**

FlatTop 1 (NCR model 3210) changed the VGA adress to E0000 to offer better PS/2 compatibility. It left the UMB area too fragmented for large program to load high. This firmware (C.5) has added the option to put the VGA-BIOS back to C0000, wich is the ISA-standard. That option is now the DDE factory default. Due to hardware design, however, it is not possible to use the C0000 to CFFFF for anything else! EtherCard PLUS adapter memory and other memory have to be moved to the D0000-area.

NOTICE: This firmware will only support the standard keyboard. It crashes the PC when used with the non-standard 30 function key keyboard.

Check to see if C.5 is installed. Use the build in SETUP program (Press F1 during POST), select page 2 (by pressing F2), and look for a line with "Shad. Video to C0000:". If NOT present, you need to upgrade:

Disassemble the system unit, replace the BIOS prom with the one from the Kit. Power on, and in setup, set the the video to C0000, as described in the attachment.

**SERVICE KIT:** Stock No. 95140620 contains:

A 27C1024 PROM with the label:

017-0049385 U51 VERS. C.5 ©NCR 1991
---

Manufacturer **\*MUST\*** be AMD or Amtel, others might hang the PC with blank monitor on power on!

**ESTIMATED REPAIR TIME:** 15 min.

**NOTE:** The attachment (NCR 017-0063445) has been reported delivered with several FlatTop 1 units, without the proper BIOS version installed!

lea/BNA

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## SETUP Option Shad. Video to C0000

The option **Shad. Video to C0000** in the "Chip Set Feature Control" screen of SETUP was added to your system after the print of the *User's Manual*.

### Shad. Video to C0000

Set **Yes** to copy the system's video ROM to the RAM address area C0000 - C7FFF.

With the video ROM in address area C0000 - C7FFF, you may use the address area E0000-EFFFF for the ROMs of additional boards or for the reserved memory between 640 KB and 1 MB.

If you have set **Shadow 16K** at CXXXX, add 64 KB to the extended memory setting on the first SETUP screen.

This option requires **Shadow Video ROM** set to **Yes (Enabled)**.

The default setting is **No**.

The following memory maps provide more details.



**Memory Map Standard Use (VGA at 0E0000 hex)**

Setup condition:

Shadow Video ROM: *yes or no*

Shadow Video to C0000: *no*

address  
(hex)

000000	interrupt vector
000400	BIOS data area
	disk operating system including BIOS interface
	RAM up to 640 KB
0A0000	graphics display buffer 128 KB memory
0C0000	RAM or ROM extension
0D0000	RAM or ROM extension
0E0000	video BIOS 32 KB
0E8000	RAM extension
0F0000	system ROM BIOS 64 KB
100000	up to 15 MB RAM extension (I/O channel memory)
FE0000	duplicated code assignment at address 0E0000
FF0000	system ROM BIOS 64 KB (protected mode)

**Memory Map (VGA shadow to 0C0000 hex)**

Setup condition:

Shadow Video ROM: **yes**

Shadow Video to C0000: **yes**

address  
(hex)

00000	interrupt vector
000400	BIOS data area
	disk operating system including BIOS interface
	RAM up to 640 KB
0A0000	graphics display buffer 128 KB memory
0C0000	video BIOS 32 KB shadowed
0C8000	RAM or if Shadow 16K at C0000: = yes as ROM extension
0CC000	RAM or if Shadow 16K at CC000: = yes as ROM extension
0D0000	RAM or ROM extension
0E0000	RAM or ROM extension
0F0000	system ROM BIOS 64 KB
100000	up to 15 MB RAM extension (I/O channel memory)
FE0000	duplicated code assignment at address 0E0000
FF0000	system ROM BIOS 64 KB (protected mode)



TPP Field Change Notice No. 58

**DATE:** 10.02.92

**MODULE:** PC216/ICL RC960

**CATEGORY:**

production change : None

In the field: Replace BIOS when problems occur.

**CORRECTS THE ERROR:**

Keyboard error during POST, and subsequent confusion of CP865 (DK) and CP437 (US) keyboard layout.

**TOOLS NEEDED:**

IC-extractor  
Screw driver

**DESCRIPTIONS:** See ICL DATA Field Change Order No: 23-102

**SERVICE KIT:** Stock No. 95140580 contains:

System BIOS Ver. 1.1R2T2. (Call ICL for details!)

**ESTIMATED REPAIR TIME:** 20 min.

**NOTE:** ICL FCO No: 23-104 attached.

lea/EVA

FIELD CHANGE ORDER

NO: 23-102

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty

Topic Code	A, B
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Product	Sales no.	Equipment Affected
RC900		RC960/A3/B3/C3 sn. below 29000

Note Refer to ICL FCA PG207-116.

Reason for change

At start-up the test reports "Keyboard Error or No Keyboard Connected" and the keyboard sends a mix of cp865 and cp437.

Description of change

The system BIOS ver. 1.1R2T2 is replaced with ver. 1.1R2.4. Remove PROM7s in pos. U55 and U56 and return for reblowing.

If pos. U57 and U58 are marked below 1.06, remove PROM's in pos. U1, U57 and U58, and return for reblowing.

Code FCO-label 23-102.

Additional Comments

Ensure all ESD precautions are observed.

The FCO-kit includes:			Documentation enclosed
QTY	Description	RC P/N	
The FCO-kit can be ordered at the ITS Dp. Kit free of charge <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			Estimated installation time: 20 min.

Issue week: 45	Sign: LRP	Page 1/1
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Revision: A, 910923

TPP Field Change Notice No. 48

**DATE:** 11.11.91

**MODULE:** PC325 (RC970) - MF301B (2Mb memory card)

**CATEGORY:**

production change : None  
In the field: Next available occasion.

**CORRECTS THE ERROR:** Excessive /CAS undershoot

**TOOLS NEEDED:**

Soldering Iron.  
Plyers.  
Screw driver(s).

**DESCRIPTIONS:** See attached ICL (RCI) FCO no. 23 - 098B.

**SERVICE KIT:** Stock No. 95140480 contains:

8 pcs. 33 ohm, 0.4W resistors (RC P/N 1135172)

**ESTIMATED REPAIR TIME:** 1 Hour

**NOTE:**

According to our installation register no PC325 has been sold. This should be for information only!

lea/BNA

## FIELD CHANGE ORDER

NO: 23 - 098B

<input type="checkbox"/> Mandatory <input checked="" type="checkbox"/> Retrofit on Failure <input checked="" type="checkbox"/> Warranty <input type="checkbox"/> Non Warranty	Topic Code    A, B
--	--------------------

Product	Sales no.	Equipment Affected
RC900	MF301B RC970 RC990	MEM451B
Note		

Reason for change

The /CAS signals to the DRAM's have an undershoot of -3V. The maximum undershoot according to the datasheet is -2V. Malfunction of the memory board might occur.

Description of change

Unsolder IC1 and IC2. (74AS32)  
 Mount two 74AS32's with the pins 3,6,8,11 lifted so that they are not soldered.  
 Mount 33 ohm resistors between the lifted pins and their corresponding holes in the PCB.

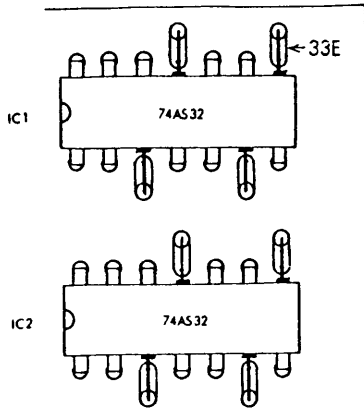
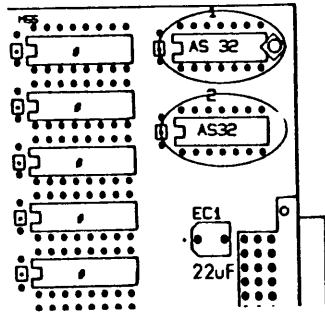
Additional Comments

The FCO-kit includes:			Documentation enclosed
QTY	Description	RC P/N	
8	Resistor 33 ohm, 0.4W .	1135172	
The FCO-kit can be ordered at the ITS Dp. Kit free of charge <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			

Issue week: 91-39	Sign: BL	Page 1/2
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FIELD CHANGE ORDER

NO: 23 - 098



TPP Field Change Notice No. 46

**DATE:** 14.08.91

**MODULE:** PC325, RCI RC970, CPU-board.

**CATEGORY:**

production change : None - product discontinued.  
In the field: As soon as convenient.

**CORRECTS THE ERROR:** Unmotivated keyboard initiated boot.

**TOOLS NEEDED:**

- screw driver for disassembly.
- PROM extractor tool.

**DESCRIPTIONS:**

The keyboard controller will initiate a boot when receiving an undocumented command. See RCI FCO 23-093.

Replace the keyboard controller with the one from the service kit.

**SERVICE KIT:** Stock No. 95140460 contains:

1 pcs. ROE202 Keyb. controller, RCI P/N 84209202

**ESTIMATED REPAIR TIME:** 15 min.

**NOTE:** RCI FCO 23-093 attached.

lea/MUDV

## FIELD CHANGE ORDER

NO: 23-093

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure
<input checked="" type="checkbox"/> Warranty	<input checked="" type="checkbox"/> Non Warranty

Topic B4-XXX  
Code A, B, C og D

Product	Sales no.	Equipment Affected
RC950	All models	CPU45x
RC970	All models	CPU45x
RC990	All models	CPU45x
Note		

**Reason for change**

The system reboots, when the keyboard controller recieves undocumented commands. This problem has been observed in IBM Network programs.

This FCO replaces the keyboard controller, so that undocumented commands are ignored.

**Description of change**

1. All models: Replace ROE017 with ROE202.

CPU451/452:        Position U4  
CPU454:            Position U1  
CPU453/455/456: Posttition U50

2. Code FCO-label 23-093.

**Additional Comments**

The FCO-kit includes:			Documentation enclosed
QTY	Description	RC P/N	
1	ROE202	84209202	N/A
The FCO-kit can be ordered at the ITS Dp. Kit free of charge <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			Estimated installation time: 15 min.

Issue week: 9117

Sign: NEH

Page 1/1

TPP Field Change Notice No. 45

**DATE:** 17.07.91

**MODULE:** DDE PC/WS325, RCI RC970 - CPU 453(B)

**CATEGORY:**

production change : none - model discontinued.  
In the field: If OS/2 is to be used.

**CORRECTS THE ERROR:** Hangup during OS/2 boot.

**TOOLS NEEDED:**

- Soldering Iron.
- Screw driver for disassembly.
- Wire cutter.

**DESCRIPTIONS:** See RCI FCO No. 23-095.

**SERVICE KIT:** Stock No. 95140450 contains:

2 pcs. SIL 9*4K7	RCI P/N 1144032
20 cm wire	RCI P/N 3625005

**ESTIMATED REPAIR TIME:** 0.5 hour

**NOTE:** RCI FCO No. 23-095 is attached.

lea/MJDV



**FIELD CHANGE ORDER**

**NO:** 23-095

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty

Topic Code	A, B, C, D
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Product RC900	Sales no. RC990 RC970	Equipment Affected CPU453 (B)
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Note

**Reason for change**  
 During the bootphase of OS/2 the computer may go down. It incorrectly detects memory on the AT-bus, tries to use it, and breaks down.

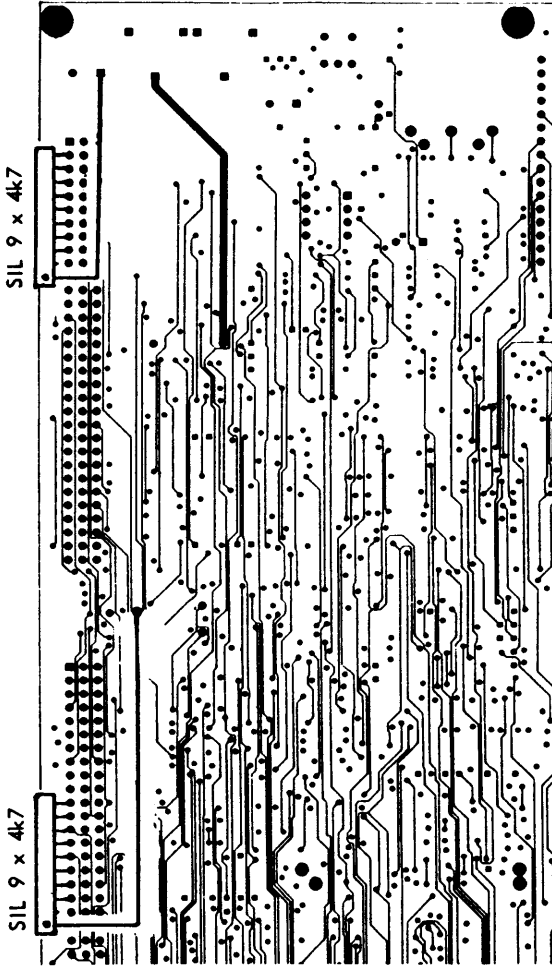
**Description of change**  
 Pull up the AT-bus SD datapath using two 9\*4k7 SIL's placed on the solder side of the PCB as shown on the following pages.

Additional Comments

The FCO-kit includes:			Documentation enclosed pn: 99112099 Diagram pages: 25 and 26
QTY	Description	RC P/N	
2	SIL 9*4k7	1144032	
20	cm wire	3625005	
The FCO-kit can be ordered at the ITS Dp. Kit free of charge <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			Estimated installation time: 0.5 hour

FIELD CHANGE ORDER

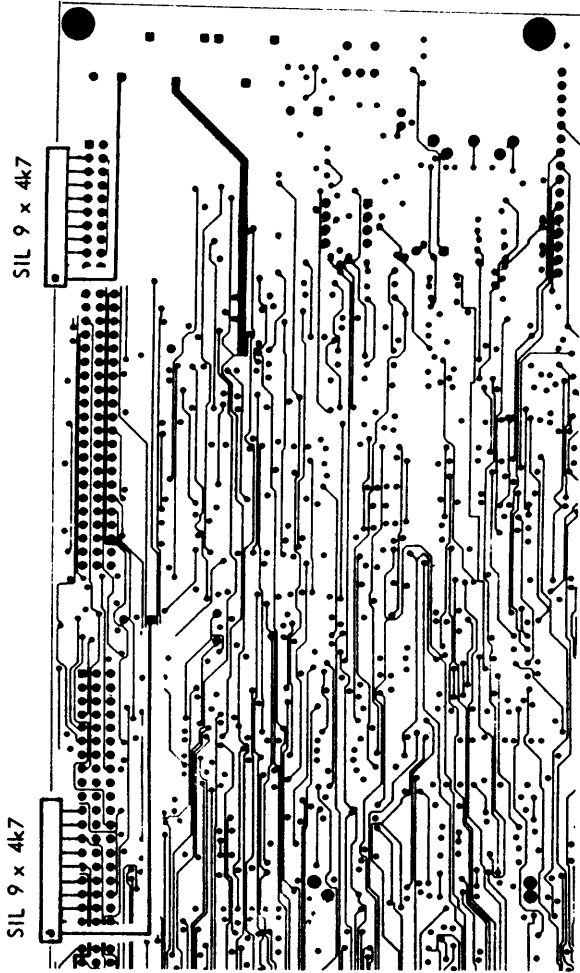
NO: 23-095



CPU453B: Two 9\*4k7 SIL's placed on the solder side of the PCB 2214973.

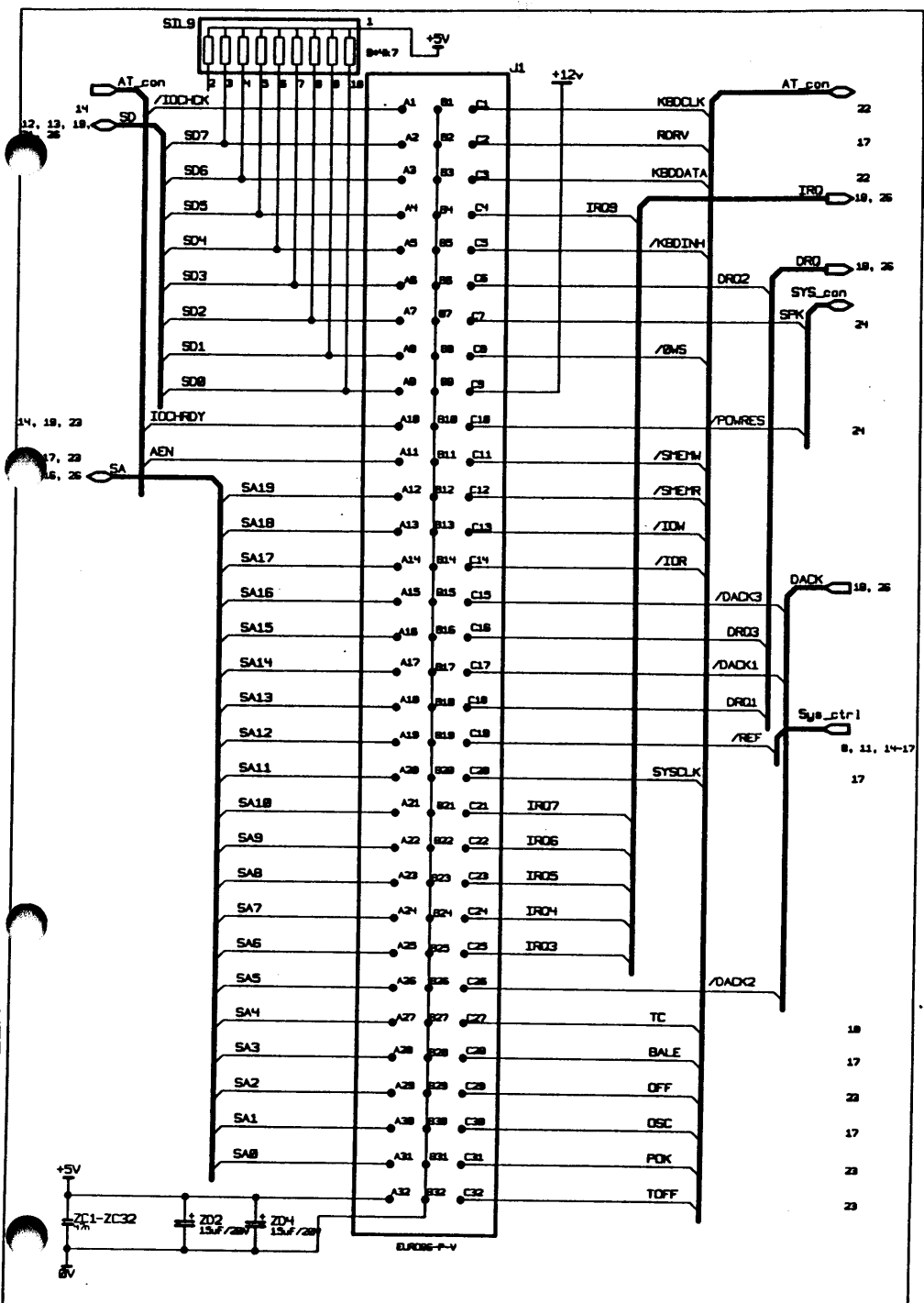
FIELD CHANGE ORDER

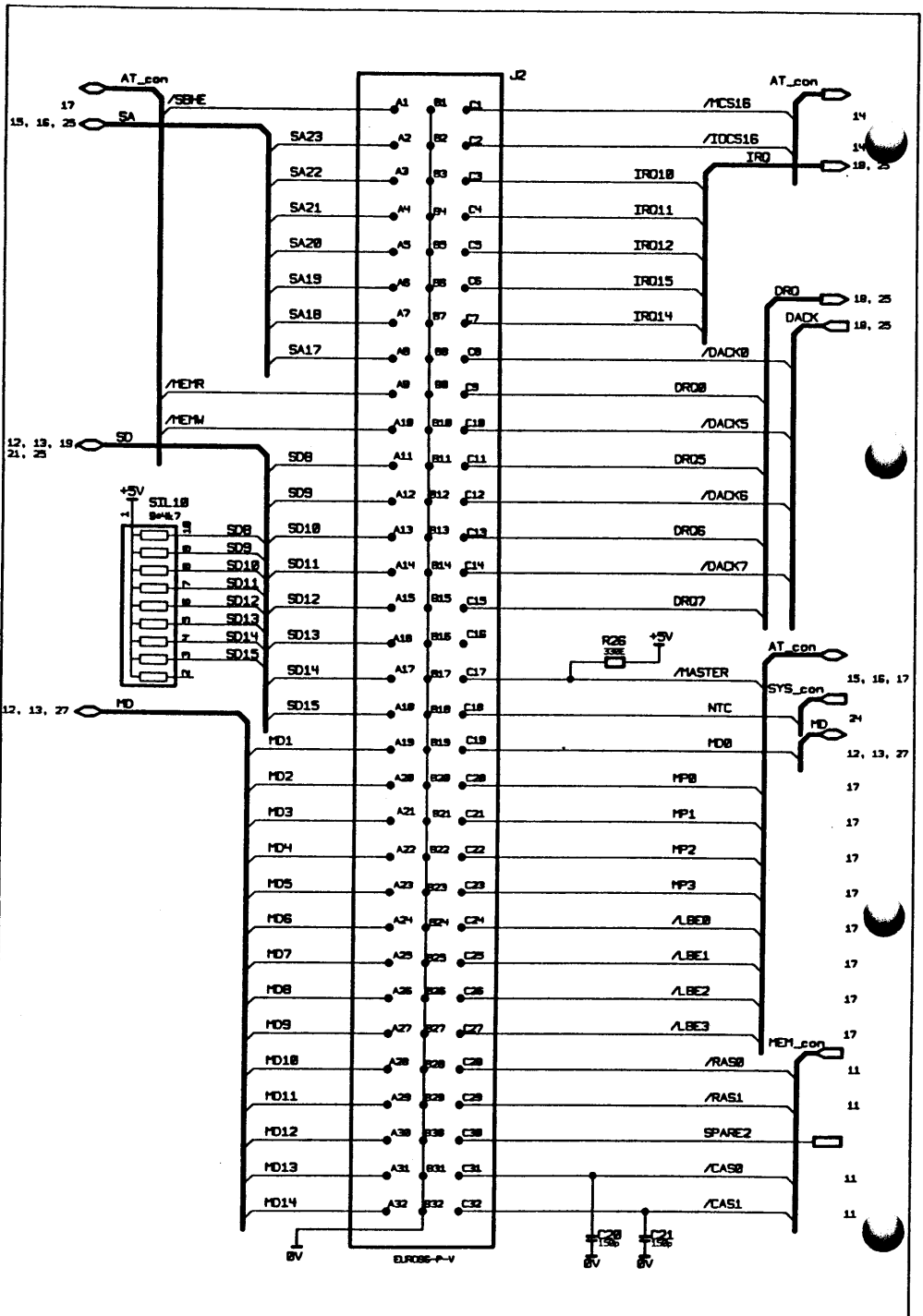
NO: 23-095



CPU453: Two 9\*4k7 SIL's placed on the solder side of the PCB 2214950A.

REGNOCENTRALEN





UNIT	DESIGN
CPU	880817 AFJ
453b	DRAWN
	900621 AFJ

AT-BUS 2/MEM 1 CONNECTOR

TPP Field Change Notice No. 44.

**DATE:** 05.07.91

**MODULE:** Western Digital EtherCards or 3COM 3C501,  
PC212, PC316L, PC316, PC320 or WS333,  
MS-Windows and Microsoft compatible mouse.

**CATEGORY:**

production change : Change installation procedure.  
In the field: Disable COM2 on next service call, or when  
problem is reported.

**CORRECTS THE ERROR:** Network card is lost from MS-Windows.

**TOOLS NEEDED:** Screwdriver (for disassembling PC).

**DESCRIPTIONS:**

When MS-Windows program has been started on a PC with COM2 port, the network card is "lost", i.e. no network accesses are possible. If MS-Windows has been started from a server, it will hang the PC.

MS-windows seems to look for the MS-mouse by writing something to each COM-ports, and wait for interrupt. As the LAN-adaptor uses the COM2 interruptvector, this must confuse both LAN-driver and Windows.

This problem has so far only occured using LMX on a PC316L, and only on 5% of all systems, but it is expected to occur on any PC with COM2 enabled.

**SERVICE KIT:** None.

**ESTIMATED REPAIR TIME:** 10 min.

**NOTE:** Watch out for future changes in installation, where the LAN-cards interrupt vector might be moved.

lea/MUDV

**DATE:** 23.05.91

**MODULE:** RC931 Keyboard (PC216 or PC/WS325)

**CATEGORY:**

production change : none

In the field: If problem is met.

**CORRECTS THE ERROR:** Keyboard status LEDs not correct when using MS-DOS V.4.0. and slow reacting or characters lost under LAN Manager.

**TOOLS NEEDED:**

- Screwdriver.
- IC extractor.

**DESCRIPTIONS:**

See attached Field Change Order 23-088 from RCI

**SERVICE KIT:** 95140350 contains:

- EPROM ROE196 (27C64), RCI P/N 84209196.

**ESTIMATED REPAIR TIME:** 10 minutes.

**NOTE:** This FCN replaces TPP FCN 032 about the same product. It not been issued as final, only draft. Please remember to remove the draft version, if you have one.

lea/MUDV

# FIELD CHANGE ORDER

NO: 23-088

<input type="checkbox"/> Mandatory <input checked="" type="checkbox"/> Warranty	<input checked="" type="checkbox"/> Retrofit on Failure <input type="checkbox"/> Non Warranty	Topic B4-607 Code A, B, C, D
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Product  RC900	Sales no.  RC931 RC930	Equipment Affected  KAS451C KAS451B, KAS451
Note		

**Reason for change**

In connection with DOS LAN Manager the following problems can occur with the RC930/RC931 keyboards:

- The keyboard reacts slowly.
- The keyboard loses characters.

**Description of change**

1. Open keyboard.
2. Replace old EPROM by new ROE196
3. Close keyboard.
4. Code FCO-label 23-088

**Additional Comments**

<b>The FCO-kit includes:</b>		<b>Documentation enclosed</b>
QTY	Description	RC P/N
1	EPROM ROE196 (27C64)	84209196
The FCO-kit can be ordered at the ITS Dept.		
KIT free of charge <input type="checkbox"/> Yes <input type="checkbox"/> No		Estimated Installations time 1/4 hour

Issue week: 9118	Sign: Albert Jensen	Page 1 of 1
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P/N: 98200296



TPP Field Change Notice No. 30

DATE: 13.03.91

MODULE: NCR PC 810

CATEGORY:

production change : none  
In the field: Before mounting of 1.44Mb drive.

CORRECTS THE ERROR:

No support for 1.44Mb, 3 $\frac{1}{2}$ " floppy drive in setup.

TOOLS NEEDED:

- PC screw driver.
- IC extractor.

DESCRIPTIONS:

Previous versions of the BIOS does not know a 1.44Mb drive, when modifying parameters in Setup Menu. This version does. Replace the two BIOS Proms at U27 and U30 on the CPU card. See the label markings for which PROM goes where.

Disassemble the CPU, and take the CPU card up - DO NOT REMOVE THE BATTERY CONNECTOR - and replace the PROMS. Assemble the system again. Power on, enter Setup with F1, and verify that the 1.44Mb option is available on A or B drive. Change configuration where needed.

SERVICE KIT: Stock No.: 95140300

Contains two 27C256 PROMs with the label:

NCR 810	and	NCR 810
U27 V.4.7		U30 V.4.7
1989		1989

ESTIMATED REPAIR TIME:

30 Min.

NOTE:

In order to operate a 1.44Mb drive, the system will also have to run a NCR DOS version higher than 3.20.20. If the customer only wants to use the 720Kb part and stick with 3.20.10 or earlier - DO NOT UPGRADE BIOS.

New NCR-DOS V.3.30 has stock no. 80600101.

lea/MUDV

TPP Field Change Notice No. 26

**DATE:** 17.12.90

**MODULE:** PC325, RCI RC970

**CATEGORY:**

For information only.

**CORRECTS THE ERROR:**

Temporary loss of data in files under UNIX.

**TOOLS NEEDED:**

None

**DESCRIPTIONS:**

See attachments, Technical Tip C-142.

On a more detailed note, the controller in question is Adaptec AHA-2322 (ESDI-controller). The problem is, that when a disk reports temporary timeout on a READ-CMD, the controller does not report the fact to the driver software under UNIX. The driver would have issued a retry command, but does not.

No problems exists under MS-DOS.

The final fix is planned to contain af new firmware version for the controller board.

**SERVICE KIT:** None.

(This only an alert. Check to see if any of our installations contains the Adaptec controller, and note it down. Report the findings to me. If we do not have any Adaptec controllers, there is no need to issue a replacement PROM.)

**Circuits involved:**

WDC455, WDC455B - Adaptec AHA-2322 ESDI controller

lea/MUDV

# TECHNICAL TIP

Udstedt af	Dato	Code	Topic
HSP/ELS	29/11 1990	A,B,C,D	C-142

Dear Sirs,

Please be informed that RC INTERNATIONAL has observed a minor problem concerning the following products:

Product: RC970/XX, RC990/XX  
MF336

Module: WDC455, WDC455B

Problem: WDC455 and WDC455B controllers produced by Adaptec may cause system errors especially when used in UNIX systems, because the controllers cannot handle a specific type of disc error correctly.

Solution: Replace the Adaptec controller with the latest version of MF336, which is: WDC455C, Western Digital type WD1007V-SE2.

Note: The WDC455 and WDC455B Adaptec controllers should not be used for field repair. Check before replacement that the controller is the correct type as specified above.

Best regards  
RC International

  
Nasse Skouboe  
Department Manager/ITS

TPP Field Change Notice No. 25

**DATE:** 20.11.90

**MODULE:** PC325, RCI RC970

**CATEGORY:**

production change : None  
In the field: Check and replace

**CORRECTS THE ERROR:**

Lost files or filesystem damage under UNIX.

**TOOLS NEEDED:**

PC screwdriver.

**DESCRIPTIONS:**

See attachments, Technical Tip C-141. Swap the CPU456 board when U24 chip 82C301 is manufactured in USA, and return to RCI.

Before you swap, note down the content of setup. After swap, change setup for the new CPU to the old setup.

**SERVICE KIT:** None.

(Obtain a swap CPU456B after inspection, directly from RCI.)

**Circuits involved:**

CPU456 - CPU card.

lea/MUDV

# TECHNICAL TIP

Udstedt af	Dato	Code	Topic
HSP/ELS	25/10 1990	A,B,C,D	C-141

Dear Sirs,

Please be informed that RC INTERNATIONAL has observed a minor problem concerning the following products:

Product: RC900

Sales No.: RC970/K, L, M RC990/XK, XL  
MF411-25, MF412-25

Module: CPU456

Problem: CPU456 modules with a certain version of IC type 82C301 from Chips & Technologies in position U42 may show errors. These errors often occur under UNIX, especially at elevated temperatures. Contact may be lost to RC intelligent controllers such as the LAN or COM controllers. Files may be lost or file system damage may occur during operation.

This type of problem occurs with 82C301 chips marked USA. Chips marked Japan will not show the same problem.

Solution: Check the origin of the IC in position U42, 82C301 from Chips & Technologies. If it is manufactured in Japan, this TechTip is not relevant. If it is marked USA, the board must be modified to a CPU456B. The CPU456 board is replaced and is shipped to factory for modification.

Best regards  
RC International

  
Hasse Skouboe  
Department Manager/ITS

TPP Field Change Notice No. 24

DATE: 19.11.90

MODULE: PC325, RCI RC970

CATEGORY:

production change : None

In the field: Implemented if error reported

CORRECTS THE ERROR:

- (1) POST errors when using som LAN cards (23-079)
- (2) Power-reset and POST starts unprovoked (23-080)

TOOLS NEEDED:

PC screwdriver  
IC extractor  
Soldering iron

DESCRIPTIONS:

See attachments, FCO NO: 23-079 and 23-080. Implement both, even though only one of the errors is reported.

SERVICE KIT:

Stock no. 95140240, contains:

ROE175 RCI P/N 84209175  
PAB002 RCI P/N 84124002  
10 cm wire

Circuits involved:

CPU456 (B) - CPU card.

lea/MUDV

# FIELD CHANGE ORDER

NO: 23-079

<input type="checkbox"/> Mandatory <input checked="" type="checkbox"/> Retrofit on Failure <input checked="" type="checkbox"/> Warranty <input type="checkbox"/> Non Warranty	Topic    B4-586 Code     A, B, C, D
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Product  RC900	Sales no.  RC970 RC990	Equipment Affected  KBN453/454/457/458/459 CPU453/454/455/456
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Note  
FCO 23-078 solves the same problem for RC950(X)

Reason for change

During the boot phase of the system, the Power On Selftest (POST) reports an error for some of the RCI adapters (LAN451-457, COM451, MUX451). The error message states something like:

Checking for dual cards: LAN1  
Timeout error checking LAN1

The error has no significance for software, which is loaded on the adapter card, after termination of the POST.

Description of change

1. For CPU453/455 and 456:  
Replace ROE145 in position 35 by ROE175.
2. For CPU454:  
Replace ROE145 in position 10 by ROE175.
3. Code FCO-label 23-079.

Additional Comments

This FCO supersedes FCO 23-067.

The FCO-kit includes:		Documentation enclosed
QTY	Description	RC P/N
1	ROE175	84209175
		N/A

The FCO-kit can be ordered at the ITS Dept.  
 KIT free of charge  Yes     No      Estimated installations time    1/4 hour

I: 98200299

# FIELD CHANGE ORDER

NO: 23-080

<input type="checkbox"/> Mandatory <input checked="" type="checkbox"/> Warranty	<input checked="" type="checkbox"/> Retrofit on Failure <input type="checkbox"/> Non Warranty
--	--

Topic Code	B4-585 A, B, C, D
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Product RC900	Sales no. MF411-25 MF412-25 RC970/K, L, M RC990/XK, XL	Equipment Affected CPU456(B)
Note		

Reason for change

The computer will perform a power-reset and will restart its selftest. This may happen at boot time or after a system has been booted.

Description of change

1. Change U33 (PAT433) by a PAB002.
2. Cut PCB path leading from U33 pin 15 on the solder side, as shown on page 2.
3. Insert a wire between U33 pin 15 and U30 pin P15 as shown on page 2.
4. Code FCO-label 23-080.

Additional Comments

The FCO-kit includes:		Documentation enclosed
QTY	Description	RC P/N
1	PAB002	84214002
1	10 cm wire	3625005
The FCO-kit can be ordered at the ITS Dept. KIT free of charge <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Page 2: CPU456 PCB drawing Page 3: CPU456 diagram change
		Estimated installations time 1/2 hour

PN: 98200289

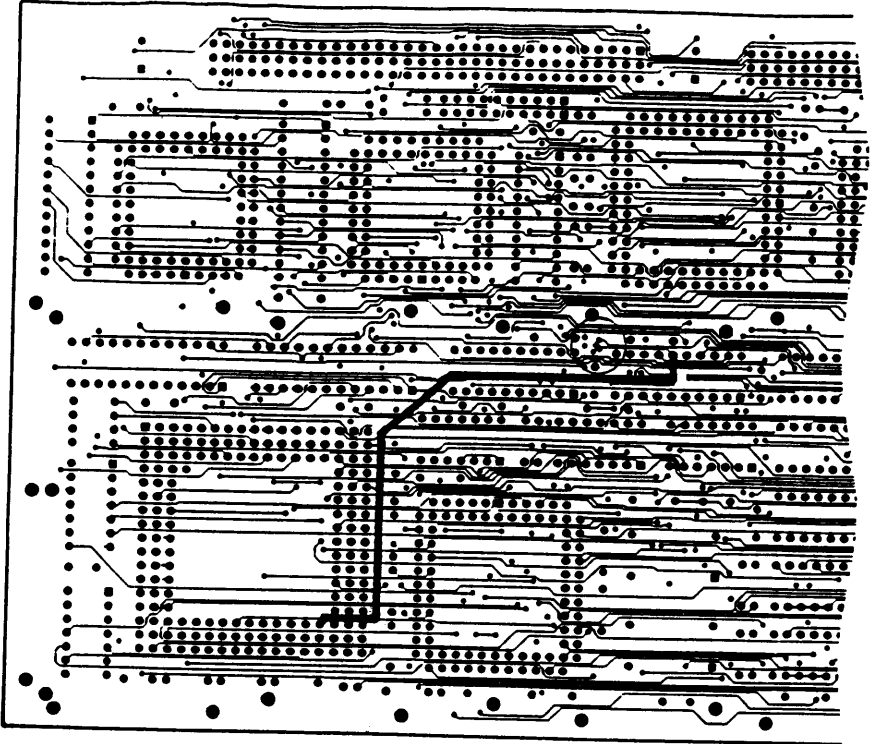
Issue week: 9041	Sign: Albert Jensen <i>Albert Jensen</i>	Page lot 3
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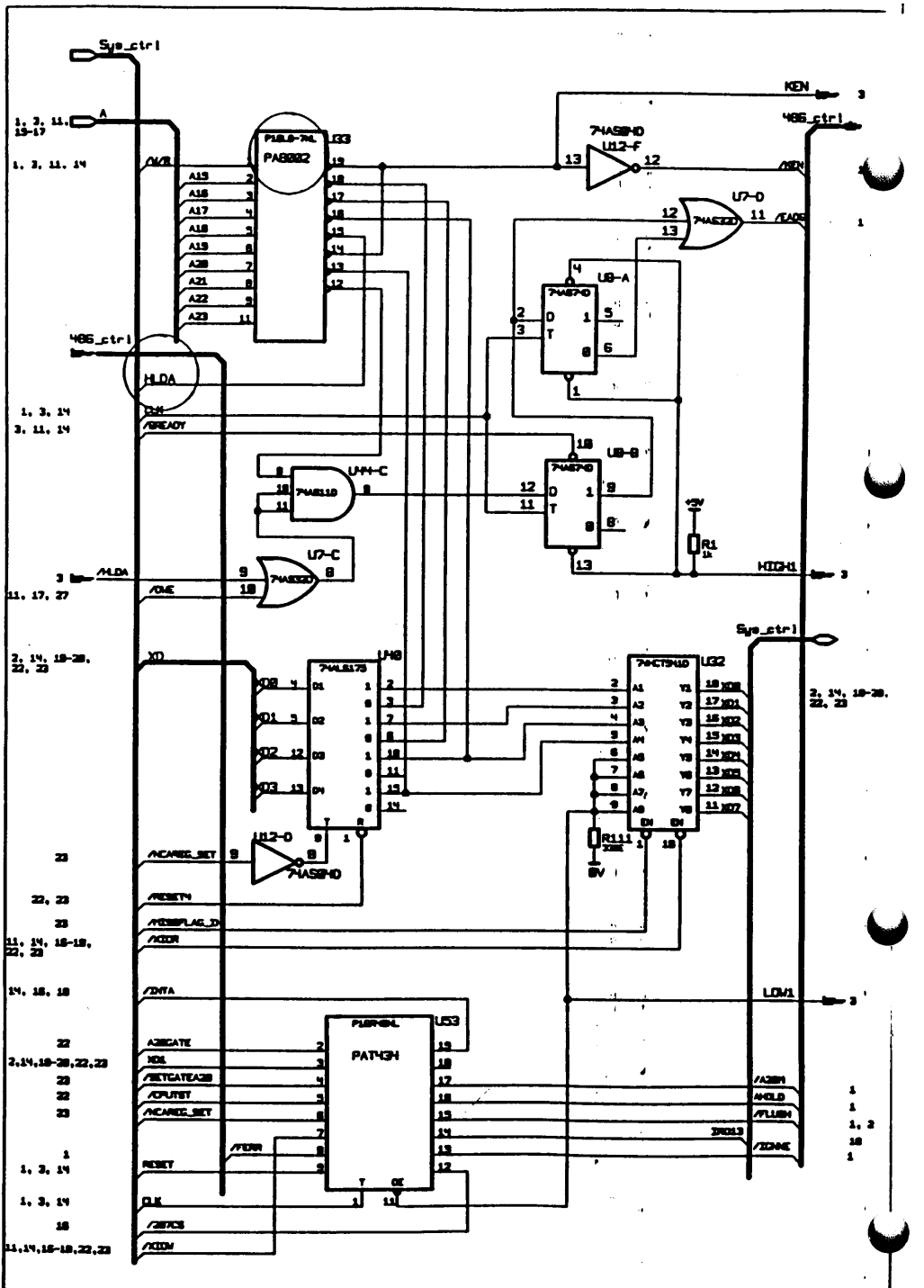
FIELD CHANGE ORDER

NO:

23-080



Note



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TPP Field Change Notice No. 22

DATE: 28.08.90

MODULE: PC325, RCI RC970

**CATEGORY:**

production change : None  
In the field: Help for debugging.

**CORRECTS THE ERROR:**

- (1) Diskette failure during initial SETUP (C-136)
- (2) OS/2 errors (C-140)

**TOOLS NEEDED:**

None

**DESCRIPTIONS:**

See attachments, Technical Tips C-136 and C-140.

**SERVICE KIT:**

None

**Circuits involved:**

- MF331 - Western Digital SCSI controller (C-136)
- MF324 - AST I/O mini II Parallel serial board (C-140)

**Comments:**

I would like to point out, that the problem described in C-140 is not specific to RCI. Byte magazine has reported, that any serial port with at 8250 type chip might fail under OS/2. This was reported to RCI last fall by DDE during evaluation.

lea/MUDV

# TECHNICAL TIP

Udstedt af	Dato	Code	Topic
HSP/ELS	8/8 1990	A,B,C,C,	C-136

Dear Sirs,

Please be informed that RC INTERNATIONAL has observed a minor problem concerning the following products:

Product: RC900

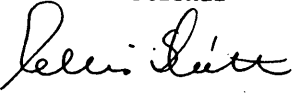
Sales No.: RC950, RC970, RC990, MF311

Problem: The problem arises on RC900 systems equipped with a MF331, i.e. a Western Digital SCSI Host Adapter. The problems occur only on systems with an uninitialized Non-Volatile-Memory (CMOS memory), which can be on completely new systems or on systems, which for some reasons has got an uninitialized NVM. Upon power up the Power-On-Selftest will report various errors, due to the uninitialized NVM, and finally request the user to run the SETUP program on the RC-Diagnostics diskette. It is however not possible to do this, because the system reports "Diskette Read Failure", thus the system can not be configured.

Solution: Remove the MF331 Host Adapter card from the RC900 system before configuring the system. Without the MF331 card installed the system is able to run the SETUP program on the RC-Diagnostics diskette. After having run the SETUP program, install the MF331 card again, and boot the system.

Note: The MF331 SCSI Host Adapter is replaced with MF338 in new RC900 models. The problem above does not occur with this Host Adapter.

Best regards  
RC International

  
Hasse Skouboe  
Department Manager/ITS

# TECHNICAL TIP

Udstedt af	Dato	Code	Topic
HSP/ELS	8/8 1990	C-140	A, B, C, D

Dear Sirs,

Please be informed that RC INTERNATIONAL has observed a minor problem concerning the following products:

Product: RC900

Sales No.: MF324

Module: COM452, AST I/O mini II Parallel seriel board

Problem: Some of the first delivered MF324 are defectived with an error coming up in connection with OS/2.

The first board is of the format XT, consisting of an UART, type INS8250B.

Solution: Eventual boards failing, are replaced by new boards, of the AST I/O mini II-AT type, consisting an UART, type NS16450 or UMC 82450.

Best regards  
RC International



Hasse Skouboe  
Department Manager/ITS

TPP Field Change Notice No. 19

**DATE:** 250590

**MODULE:** DDE PC216-20M (RCI RC960/B3 model)

**CATEGORY:**

Warning for wrong keyboard controller.

**CORRECTS THE ERROR:**

Keyboard entry using "CTRL" and "ALT" keys give wrong characters.

**TOOLS NEEDED:**

NA.

**DESCRIPTIONS:**

Certain PC's (See S/N on attached RCI FCN 23-074) has been fitted with a wrong keyboard controller chip. Only RC960/B3 models seemed to be affected (=DDE PC216-20M), and only very low S/N.

This FCN is only a warning. None of the S/N has been delivered to DDE.

**SERVICE KIT:** none.

Leif Andersen/MUDV

# FIELD CHANGE ORDER

NO: 23-074

<input checked="" type="checkbox"/> Mandatory <input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Retrofit on Failure <input type="checkbox"/> Non Warranty	Topic <b>B4-571</b> Code <b>A, B, C, D</b>
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Product	Sales no.	Equipment Affected
RC900	RC960/A3 RC960/B3 RC960/C3	RC960/B3    sn: 1107, 1153, 1746, 1750, 1751, 1752, 1753, 1754 1755, 1756, 1757, 1758, 1759, 1760, 1861, 1863 1866, 1898, 1933, 1944, 1954, 1955, 1956, 1959 1960, 2114, 2116, 2119, 2121, 2130, 4515, 6760

Note

Reason for change

Keyboard controller is malfunctioning causing keys reached by using "Ctrl" or "Alt" to produce wrong characters.

Description of change

1. Replace the socket mounted keyboard controller with a new one, supplied by ICL, UK. The keyboard controller is located on the motherboard in position U3 beneath the diskette drive. The motherboard will have to be dismountet to get secure access to U3.
2. Code FCO-label 23-074

Additional Comments

The FCO-kit includes:		Documentation enclosed
QTY	Description	RC P/N
1	Controller Chip	
		Mounting Instruction (In English) <i>Removed by DDE</i>
The FCO-kit can be ordered at the ITS Dept. KIT free of charge <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Estimated installations time    0,5 hour

PN: 99200296

TPP Field Change Notice No. 18

DATE: 160590

MODULE: DDE PC216 (RCI RC960 series)

**CATEGORY:**

Changes to be made a PC with S/N less than 3536.

**CORRECTS THE ERROR:**

Several random failures in connection with a printer on the parallel port. RCI FCO 23-069.

**TOOLS NEEDED:**

- Screwdriver (for removing the cover).
- Cutting tool.

**DESCRIPTIONS:**

The capacitor C C167 is located at the back of the mainboard, close to the parallel port. Be carefull, it is in the middle of a long row of capacitors. Do not cut C157, which is in the same row - note that numbering in that row is not sequential!

Estimated time to repair: 10 min.

**SERVICE KIT:** none.

Leif Andersen/MUDV



# FIELD CHANGE ORDER

NO: 23-069

<input type="checkbox"/> Mandatory	<input checked="" type="checkbox"/> Retrofit on Failure
<input checked="" type="checkbox"/> Warranty	<input type="checkbox"/> Non Warranty

Topic	B4-555
Code	A, B, C, D

Product RC900	Sales no. RC960/A3 RC960/B3 RC960/C3	Equipment Affected S/N below 3536 - - - - - -
Note		

Reason for change

Problems with parallel printers may occur, e.g.

- System rebooting
- Blanking screen
- Loossing characters
- Paper runaway

Description of change

1. Remove capacitor C167.
2. Code FCO-label 23-069.

Additional Comments

The FCO-kit includes:		Documentation enclosed
QTY	Description	
	N/A	N/A
		RC PIN

The FCO-kit can be ordered at the ITS Dept.	
KIT free of charge <input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated installations time 0.5 hour

N: 99200299

TPP Field Change Notice No. 16

DATE: 120390

MODULE: PC208 (WY-2108) PC/AT CPU

**CATEGORY:**

production change : none.

In the field : To be made when failure suspected.

**CORRECTS THE ERROR:**

Certain types of floppy disk controller, LAN controllers and tape system controllers fails or work erratic when mounted in PC208.

**TOOLS NEEDED:**

- IC soldering tools.
- PC screwdriver.
- Approved DMA chip. See attached FEB 258.

**DESCRIPTIONS:**

AMD components P8237A and AM9517A has been disqualified for use in WYSEpc systems. See FEB 258 for details.

**Circuits involved:**

Wyse WY-2108 Daughterboard P/N 990177-xx, circuits 1E and 1H. Both chips should be replaced at the same time. They are not mounted in sockets!

**Attachment:**

Wyse Field Engineering Bulletin 0258

lea/MUDV-TPP



0258

# FIELD ENGINEERING BULLETIN

## DISQUALIFICATION OF AMD 8237A/9517A DMA CONTROLLER COMPONENTS FROM WYSEpc SYSTEMS

### DESCRIPTION

This document describes the disqualification of the 8237A/9517A DMA controller component made by the semiconductor vendor AMD. The component has the designation P8237A or AM9517A.

### SYMPTOMS

WYSEpc286 and pc386 Systems installed with two 8237A/9517A Direct Memory Access controller components manufactured by AMD are failing with certain hardware applications. The problem has been exhibited with floppy disk drive subsystem intermittent failures, with certain network boards that use DMA which fail to work properly, and tape drive backup subsystems that work intermittantly or fail completely.

### PRODUCTS AFFECTED

All WYSEpc products with AMD 8237A/9517A DMA controller components. For WYSEpc 286 systems, this would be WY-2200, WY-2108, WY-2112 (dual CPU board assembly), and WY-2114 (dual CPU board assembly). For WYSEpc 386 systems, this would be WY-3216.

WYSE manufacturing has also disqualified this AMD component for the WY-1100 and WY-1400 8088 CPU based pc Systems.

### REVISION LEVEL

One applicable.

Note: This FEB does not qualify as a valid claim. For product that is under warranty or service contract, this FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE RMA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

### RECOMMENDED PARTS

205006-01 I.C. 8237A Qty: 1 or 2

These approved vendor manufacturers are (WYSE P/N 205006-01):

INTEL 8237A-5  
SIEMENS SAB8237A5P (SAB8237A-5-P)

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3698A	J.G. RR	FINAL	NOV. 9, 1989	0258	REQUIRED <input type="checkbox"/> OPTIONAL <input checked="" type="checkbox"/> SPECIAL/OEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	1 of 5

**FIELD ENGINEERING BULLETIN**

**STOCK DISPOSITION**

**TABLE 1 - Stock and Service Disposition**

PART NUMBER	LOCATION	
	SPARES	SERVICE
990049-01/02/03	Rework - O	Rework - O
990078-01/02/03/04/05	Rework - O	Rework - O
990104-01/02/03/04/07	Rework - O	Rework - O
990108-01/02/03	Rework - O	Rework - O
990177-01/02	Rework - O	Rework - O
990178-06/07	Rework - O	Rework - O
990195-01	Rework - O	Rework - O
205006-01 (AMD 8237A/9517A ONLY)	Purge	Purge

**LEGEND**  
 ■ STOCK - Continue or start to stock this part.      ■ REWORK - R - Required rework.      ■ N/A - Not applicable.  
 ■ PURGE - Purge all stock of this part.              ■ REWORK - O - Optional rework.      ■ USE NTE (DATE) - Use remaining stock but do not keep past the specific date.

**RECOMMENDED TOOLS**

- Phillips Screwdriver
- I.C. Extractor

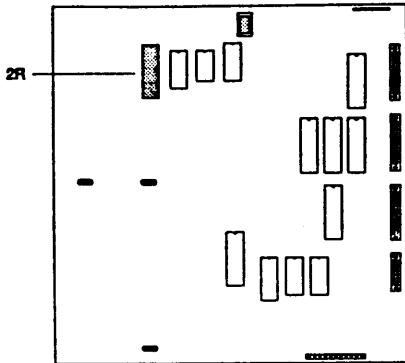
**INSTRUCTIONS**

- NOTE:**
- a. Handle circuit boards by their edges.
  - b. Follow acceptable ESD precautions when handling circuit boards and components.

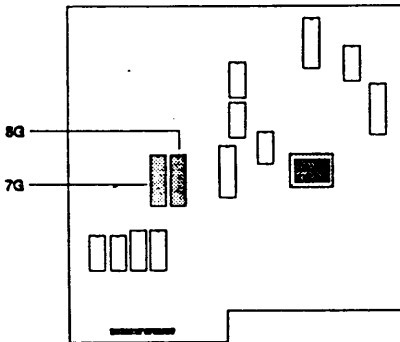
1. Replace AMD 8237A/9517A DMA controllers on WYSEpc 286 and WYSEpc 386 systems with approved vendor components. WYSE recommends that the DMA controllers be replaced with DMA controllers manufactured by the same vendor. Locations for the DMA controller components are shown in Figure 1 .

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3696A	J.G. RJR	FINAL	NOV. 9, 1989	0258	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/> SPECIAL/ADM: <input type="checkbox"/> ADVISORY: <input type="checkbox"/>	2 of 5

FIELD ENGINEERING BULLETIN



PCBA, WY-1100 CPU SYSTEM P/N 990049-XX

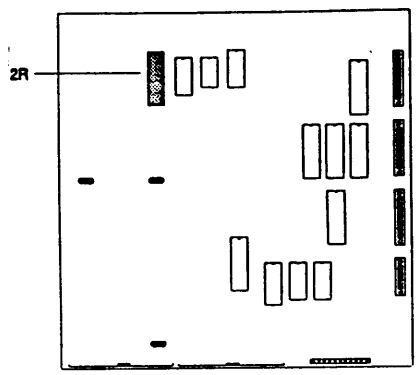


PCBA, WY-2200 PC-AT SYSTEM P/N 990078-XX

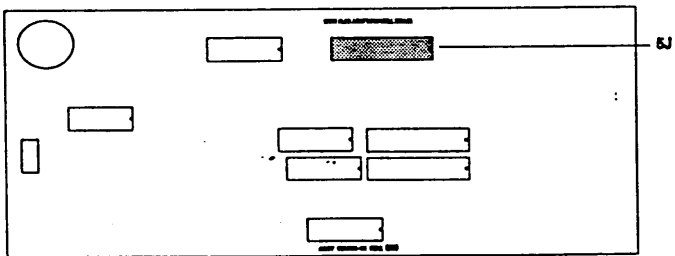
FIGURE 1 - Component Locations

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3698A	J.G. <i>RK</i>	FINAL	NOV. 9, 1989	0258	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/> SPECIAL/OEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	3 of 5

FIELD ENGINEERING BULLETIN



PCBA, WY-1100 CPU SYSTEM P/N 990104-XX

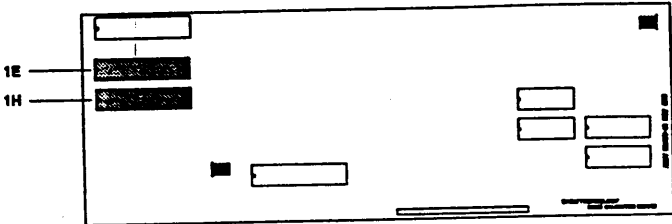


PCBA, WY-1400 CPU P/N 990108-XX

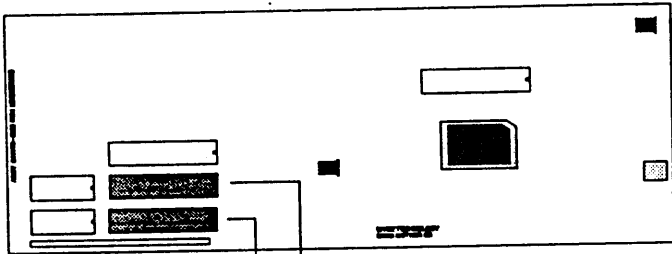
FIGURE 1 (Continued) - Component Locations

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3898A	J.G. <i>RA</i>	FINAL	NOV. 9, 1989	0258	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/> SPECIAL/OEM: <input type="checkbox"/> ADVISORY: <input type="checkbox"/>	4 of 5

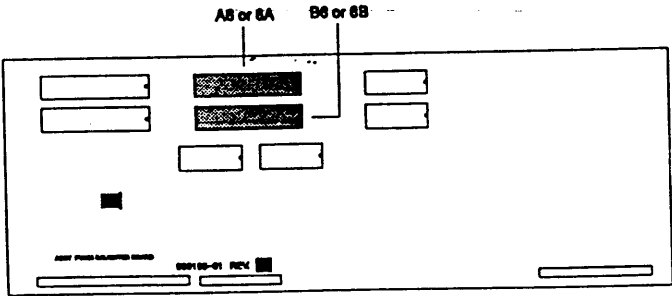
# FIELD ENGINEERING BULLETIN



PCBA, WY-2108 DAUGHTERBOARD P/N 990177-XX



PCBA, WY-2112/2114 MOTHERBOARD CPU 12.5 MHZ P/N 990178-XX



PCBA, WY-3216 PC386 DAUGHTERBOARD P/N 990195-01

FIGURE 1 (Continued) - Component Locations

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3698A	J.G. RZ	FINAL	NOV. 9, 1989	0258	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/> SPECIAL/OEM: <input type="checkbox"/> ADVISORY: <input type="checkbox"/>	5 of 5

TPP Field Change Notice No. 15

DATE: 120390

MODULE: PC208 (WY-2108) PC/AT CPU board.

CATEGORY:

production change : None

In the field : To be made when problem occurs.

CORRECTS THE ERROR:

The system will suddenly lock-up (crash) in the following situation:

- a. Bargraph on LCD is enabled.
- b. A large number of extended interrupts occurs (INT10, 11, 12, 13 and 15).
- c. Hard disk drive is active, using extended interrupt INT14.

TOOLS NEEDED:

- IC soldering tools
- PC screwdriver
- Approved pair of 8259A chips. Refer to attached FEB 257.

DESCRIPTIONS:

The interrupt controller chip UMC 8259A has been disqualified for use in WYSEpc systems. See FEB 257 for details.

Circuits involved:

PC208 (WY-2108) Motherboard P/N 990176-01, circuits 1J and 1K. Both chips must be replaced at the same time. They are not mounted in sockets!

Attachments:

Wyse Field Engineering Bulletin 0257

lea/MUDV-TPP





0257

# FIELD ENGINEERING BULLETIN

## DISQUALIFICATION OF UMC 8259A INTERRUPT CONTROLLER COMPONENTS FROM WYSEpc SYSTEMS

### DESCRIPTION

This document describes the disqualification of the 8259A controller component made by the semiconductor vendor UMC. The component has the designation UM8259A.

WYSEpc systems are experiencing interrupt service failures specifically to the second interrupt controller which is cascaded to the first interrupt controller. The failure is most likely to occur when the first interrupt controller is receiving the highest priority interrupt-INT 0 (the system timer used by application software and BIOS) followed by an INT 2 request (which is directed to the first interrupt controller input from the second interrupt controller output). The second interrupt controller will be receiving its highest interrupt service request-INT 8 (the system real time clock, used by the BIOS generated LCD performance bar graph display) in addition to other lower priority interrupt service requests input to the second interrupt controller, INT 10 through INT 15.

### SYMPTOMS

WYSEpc286 and pc386 Systems installed with two cascaded 8259A controller components manufactured by UMC are failing when experiencing a large number of interrupts generated by hardware/software applications. This failure is most likely to occur when the following conditions are met.

1. The bar graph system performance display is enabled for the LCD front panel. The bar graph system performance display uses the system real time clock (via INT 8 which is input to the second interrupt controller) as a time base.
2. A large number of interrupts (INT 10, INT 11, INT 12, INT 13, and INT 15) are being generated which are input to the second interrupt controller.
3. The hard disk drive subsystem is active and accessing the hard disk drive (INT 14 is being input to the second interrupt controller).

Systems that exhibit this failure will generally lockup. In some instances an MS-DOS generated read error may be displayed some time later after the system halts.

### PRODUCTS AFFECTED

All WYSEpc products with dual cascaded UMC 8259A interrupt controller components. For WYSEpc 286 systems, this would be WY-2200, WY-2108, WY-2112 (dual CPU board assembly), and WY-2114 (dual CPU board assembly). For WYSEpc 386 systems, this would be WY-3216.

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3746	J.G. RR	FINAL	NOV. 9, 1989	0257	REQUIRED <input type="checkbox"/> OPTIONAL <input checked="" type="checkbox"/> SPECIAL/DEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	1 of 6



0257

# FIELD ENGINEERING BULLETIN

WYSE manufacturing has also disqualified this UMC 8259A component for the WY-1100 and WY-1400 8088 CPU based pc Systems.

### REVISION LEVEL

None applicable.

Note: This FEB does not qualify as a valid claim. For product that is under warranty or service contract, FEB must be performed by a WYSE Service Center. For service in the USA, contact the WYSE MA Department at 800-626-3160. Customers in all other countries are to contact their local WYSE Service Center.

### RECOMMENDED PARTS

205004-01 I.C. 8259A Qty: 1 or 2

The following are approved vendor manufacturers for the 8259A Interrupt Controller.

INTEL	P8259A (P8259A-2)
TOSHIBA	TMP8259AP
NEC	D8259AC (D8259AC-2)
SIEMENS	SAB8259AP
AMD	P8259A

### STOCK DISPOSITION

TABLE 1 - Stock and Service Disposition

LOCATION		
PART NUMBER	SPARES	SERVICE
990049-01/03	Rework - O	Rework - O
9900061-03	Rework - O	Rework - O
990078-01/02/03/04/05	Rework - O	Rework - O
990104-01/02/03/04/07	Rework - O	Rework - O
990108-01/02/03	Rework - O	Rework - O
990176-01	Rework - O	Rework - O
990178-06/07	Rework - O	Rework - O
990195-01	Rework - O	Rework - O
205004-01 (MC 8259A ONLY)	Purge	Purge

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3746	J.G. RIZ	FINAL	NOV. 9, 1989	0257	REQUIRED <input type="checkbox"/> OPTIONAL <input checked="" type="checkbox"/> SPECIAL/DEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	2 of 6

## FIELD ENGINEERING BULLETIN

### LEGEND

STOCK - Continue or start to stock this part.  
 PURGE - Purge all stock of this part.

REWORK - R - Required rework.  
 REWORK - O - Optional rework.

N/A - Not applicable.  
 USE MTE (DATE) - Use remaining stock but do not keep past the specific date.

### RECOMMENDED TOOLS

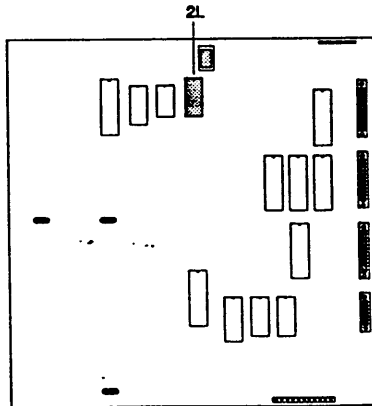
Phillips Screwdriver  
 I.C. Extractor

### INSTRUCTIONS

NOTE:

- Handle circuit boards by their edges.
- Follow acceptable ESD precautions when handling circuit boards and components.

- Replace UMC 8259A interrupt controllers on WYSEpc 286 and WYSEpc 386 systems with approved vendor components. WYSE recommends that the interrupt controllers be replaced with interrupt controllers manufactured by the same vendor. Locations for the interrupt controller components are shown in Figure 1.

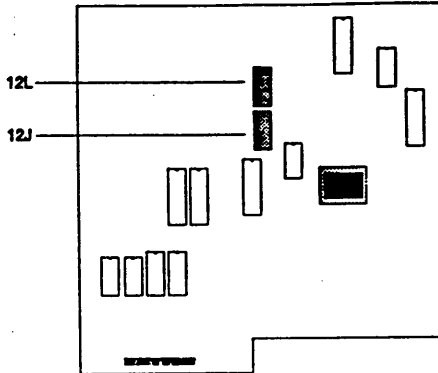


PCBA, WY-1100 CPU SYSTEM P/N 990049-XX

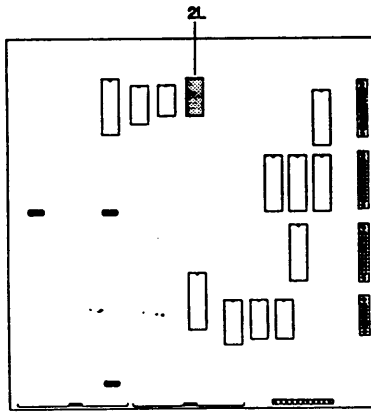
FIGURE 1 - Component Locations

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3746	J.G. RK	FINAL	NOV. 9, 1989	0257	REQUIRED <input type="checkbox"/> OPTIONAL <input checked="" type="checkbox"/> SPECIAL OEM <input type="checkbox"/> ADVISORY <input type="checkbox"/>	3 of 6

FIELD ENGINEERING BULLETIN



PCBA, WY-2200 PC-AT SYSTEM P/N 990078-XX

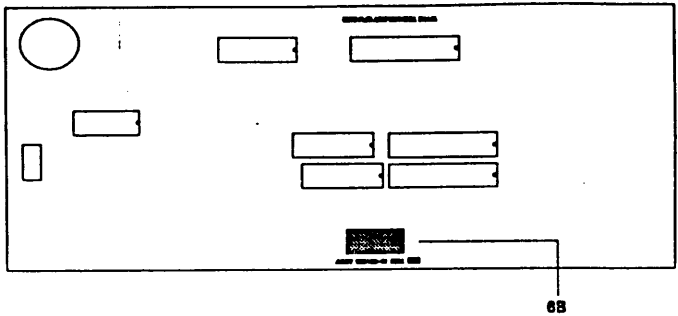


PCBA, WY-1100 CPU SYSTEM P/N 990104-XX

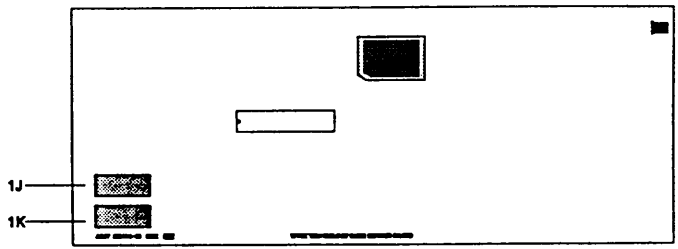
FIGURE 1 (Continued) - Component Locations

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY		PAGE-
						REQUIRED	OPTIONAL	
MULTI.	ECN-3746	J.G.	FINAL	NOV. 9, 1989	0257	SPECIAL/OEM	ADVISORY	4 of 6

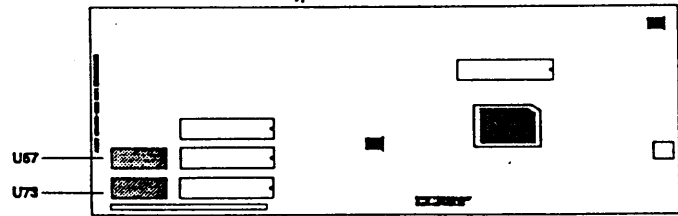
FIELD ENGINEERING BULLETIN



PCBA, WY-1400 CPU P/N 990108-XX



PCBA, WY-2108 MOTHERBOARD CPU P/N 990178-01

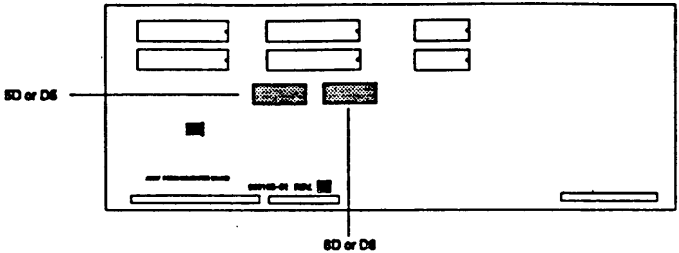


PCBA, WY-2112/2114 MOTHERBOARD CPU 12.5 MHZ P/N 990178-XX

FIGURE 1 (Continued) - Component Locations

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3746	J.G. JZC	FINAL	NOV. 9, 1989	0257	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/> SPECIAL/DEM: <input type="checkbox"/> ADVISORY: <input type="checkbox"/>	5 of 6

FIELD ENGINEERING BULLETIN



PCBA, WY-3216 PC386 DAUGHTERBOARD P/N 990195-01

FIGURE 1 (Continued) - Component Locations

PRODUCT	SOURCE	AUTHOR/VERIFY	STATUS	FEB REVISION DATE	FEB NUMBER	ACTION PRIORITY	PAGE
MULTI.	ECN-3746	J.G. RR	FINAL	NOV. 9, 1989	0257	REQUIRED: <input type="checkbox"/> OPTIONAL: <input checked="" type="checkbox"/> SPECIAL/OEM: <input type="checkbox"/> ADVISORY: <input type="checkbox"/>	6 of 6

TPP Field Change Notice No. 14

DATE: 050390

MODULE: PC208 (WY-2108) PC/AT CPU board

CATEGORY:

Production change : If still in stock.

In the field: Required if previous version is 1.83,  
Required if version is 2.74 and a 1.44Mb  
drive is to be installed.  
Otherwise not needed!

CORRECTS THE ERROR:

- 1) Disk loses free sectors over time. Use of CHKDSK frequently shows 'lost sectors' (in version 1.83)
- 2) Drivedensity 1.44Mb not supported (Version 1.83 and 2.74).

TOOLS NEEDED:

- PROM tools and PC-screwdriver
- 27256 PROM marked 'WYSE TECH, rev 2.75, 250389-05'
- 27256 PROM marked 'WYSE TECH, rev 2.75, 250390-05'  
(PROM release no.: 009)
- "DDE PC208/210 Software Update V.1.1" floppy disk.

DESCRIPTIONS:

- Lost sector errors has not been reported in DDE, probably because most Wyse WY-2108 (DDE PC208) has been delivered with v.2.74a or newer BIOS'es. A number of PC's has been encountered within the DDE organisation itself, however, all with very low serial no.

- Before replacing the PROMs, run SETUP and write down the configuration parameters just in case. Then remove the cover. The PROM pair is situated on the lower, front part of the CPU-board. Version 1.83 may read 'WYSE TECH REV.A' on both. Note that the partno are not the same as the new ones, and they are 27128 types. Remove the old PROM's, and:

- 1) put no. 250389-05 in EVEN socket.

- 2) put no. 250390-05 in ODD socket.
- 3) Move strap from W10 to W11 (change ROM type)  
(Only needed for version 1.83).

Replace cover and power-on. Verify with new SETUP on update floppy, that configuration is unchanged, and copy the new SETUP program to systemdirectory. Leave a copy of the update floppy disk with the systemmanager.

**Attachment**

Wyse Product Bulletin 42: Contains description of Wyse MS-DOS 3.30, Bios V.2.75 and Bios V.3.53. Note that MS-DOS version 3.30 is not part of this upgrade.

Wyse Technical Alert 19: Explains why setup is V.1.09, and not V.1.08.

lea/MJDV-TPP





WYSE

## PRODUCT BULLETIN 42

**TOPIC:** Wyse Enhanced MS-DOS 3.3 Version 1.00 and Setup and Test Version 1.08  
**PRODUCT(S) AFFECTED:** WY-2108, WY-2112, WY-2200, WY-3216  
**DATE:** September 2, 1988

Wyse Enhanced MS-DOS 3.3 Version 1.00 and Setup and Test Version 1.08 have been developed in combination with ROM BIOS Versions 2.75 and 3.53, and are now available on Wyse 80286- and 80386-based systems.

This bulletin describes the enhancements provided in the new versions of Wyse Enhanced MS-DOS and Setup and Test, and specifies the date when customers will begin receiving system units with the new versions. Refer to Product Bulletins 41 and 43 for supplemental information about the new ROM BIOS versions and upgrade procedures.

### DESCRIPTION

The attached descriptions outline the capabilities that were added to the new versions of Wyse Enhanced MS-DOS and Setup and Test. To take full advantage of these new capabilities, a new version of the ROM BIOS (Version 2.75 for 80286-based systems or Version 3.53 for 80386-based systems) is also required.

The entire contents of Wyse Enhanced MS-DOS 3.3 will be on one 1.2MB diskette, instead of two 360KB diskettes as with earlier releases. The 1.2MB diskette will contain all the system and utility files as well as GW-BASIC. The Setup and Test program will continue to be on one bootable 360KB diskette.

Also included with each system as part of this release are the *Wyse Enhanced MS-DOS 3.3 User's Guide* and the *WYSEpc System Setup and Test Guide*. (The *WYSEpc System Setup and Test Guide* now and replaces the chapter "Setting Up the System" and the appendix "System Tests" in the installation and assembly manuals.)

### AVAILABILITY

All Wyse 80286- and 80386-based systems now include Wyse Enhanced MS-DOS 3.3, Setup and Test 1.08, and a new ROM BIOS (Version 2.75 or 3.53).

The way to differentiate between systems with old versions and systems with new versions is by the date code located on the outside of the carton in which your system is shipped. All systems with the date code 08820 and higher will contain the new versions.

### UPGRADES

If you would like to take advantage of the enhancements contained in Enhanced MS-DOS 3.3, you may purchase an upgrade kit for your system. The upgrade kit contains Enhanced MS-DOS and Setup and Test as well as the appropriate ROM BIOS for your system. Upgrade kit contents, part numbers, availability, and ordering information are described in Product Bulletin 41.

## ENHANCED MS-DOS 3.3

*Enhanced MS-DOS 3.3 is an improved version of Enhanced MS-DOS 3.2. New commands and device drivers have been added, and many existing commands have been enhanced. To take full advantage of these new capabilities, Setup and Test 1.08, and either ROM BIOS Version 2.75 or later (80286-based systems) or Version 3.53 or later (80386-based systems) are required.*

### CAPABILITIES ADDED

- \* The operating system supports 1.44MB, 3.5-inch diskette drives.
- \* The new FASTOPEN command improves the operating system's performance, especially when you run an application that uses many files.
- \* The KEYB command and the KEYBOARD.SYS information file provide many more international keyboard configurations than earlier country-specific keyboard commands, such as KEYBFR.
- \* The COUNTRY configuration command and the COUNTRY.SYS information file provide additional country-specific configurations.
- \* The new CHCP and NLSFUNC commands allow for the selection of alternate language-specific character sets (called code pages); the enhanced COUNTRY, GRAFTABL, KEYB, MODE, SORT, and SELECT commands provide additional support for code pages.
- \* The DATE and TIME commands reset the CMOS battery-backed system clock directly.
- \* The APPEND, ATTRIB, BACKUP, and RESTORE commands can be used more flexibly.
- \* A batch file program can run another batch file program and return, through the CALL command.
- \* The @ symbol allows you to cancel screen display echoing of individual batch-file lines.
- \* Up to 24 partitions can be created on the hard disk.
- \* MS-DOS environment variables can be accessed from within a batch file.

### UPGRADE NOTES FOR EXISTING WYSE MS-DOS USERS

- \* The HDINIT, SPARE, and HDPARK utilities are now part of Setup and Test Version 1.08 and are no longer part of MS-DOS.
- \* As with any MS-DOS revision, files backed up using earlier versions of BACKUP cannot be restored using the new version of RESTORE. Users should boot MS-DOS 3.3 from the diskette and back up the hard disk, using the BACKUP command, before copying MS-DOS 3.3 files to the hard disk.
- \* GW-BASIC 3.2 has been updated to Version 3.22. The functionality and documentation are unchanged.

### FIXES

- \* WY-3216 no longer has a slow boot problem when any two parallel ports are enabled.
- \* CHKDSK no longer fails on partitions smaller than 100 cylinders.
- \* Norton Utilities Advanced Edition Version 4.0 works properly with partitions larger than 32MB.
- \* Small partitions can be made bootable.
- \* FDISK will activate the proper partition if non-MS-DOS partitions exist on the hard disk.
- \* BACKUP and RESTORE work with WY-3216 when used with a 3.5-inch diskette drive.
- \* Microsoft Windows will recognize all partitions of a drive with multiple partitions.

### OPEN PRODUCT ISSUES

- \* Loading foreign language keyboard driver disables keyclick.
- \* Cannot remote boot using 3COM Server.

## SETUP AND TEST 1.08

*The Setup and Test program is described in the new WYSEpc System Setup and Test Guide, which replaces the chapter "Setting Up the System" and the appendix "System Tests" in the Installation and Assembly Manual.*

### CAPABILITIES ADDED

- \* Diskette drive test for 1.44MB 3.5-inch diskette drives.
- \* New bad track sparing compatible with IBM and the bad track table of MS-DOS 3.21. The *WYSEpc System Setup and Test Guide* describes the new procedure for entering bad tracks.
- \* Hard disk preparation module now includes the function of HDPARK (this utility was previously part of MS-DOS).
- \* Hard disk preparation module displays current Interleave factor menu.

### FIXES

- \* Verticom Multisync EGA monitor with the WY-440 card is now recognized by the Setup program.

### OPEN PRODUCT ISSUES

- \* None

## BIOS 2.75

To take full advantage of the new features below, Wyse Enhanced MS-DOS 3.3 and Setup and Test 1.08 are required.

### CAPABILITIES ADDED

- \* Read, write, and boot support for 1.44MB 3.5-inch diskettes (Epson SMD 400P106, Panasonic JU-257-A01P, Toshiba FDD4603A0K, and Teac 135MFN-891).
- \* RLL encoded hard disk drive support (Control Data drive 94155-135; DTC controller 5287).
- \* ESDI encoded hard disk drives of greater than 1024 cylinders are supported (Control Data drive 94166-182, Priam drive 638, and Miniscribe drive 9380; WD controller 1007A).
- \* Extended international language support with foreign language versions:
  - ROM BIOS messages are displayed in French and German.
  - Default time format: English (12-hour format); French/German (24-hour format).
- \* Extended remote console support:
  - WY-75 and WY-85 terminals.
  - Serial port up to 9600 baud.
  - Supported on COM2 with one serial card.
- \* Extended Hard Disk Table:
  - ST506 (17 sectors/track) ranges from type 100 to 138.
  - ESDI (34 sectors/track) ranges from type 150 to 189.
  - RLL (25 or 26 sectors/track) ranges from type 216 to 238.
- \* LCD messages for non-fatal errors are included in addition to fatal error messages.

### UPGRADE NOTES FOR CURRENT WYSE USERS

- \* Drive type 106 was redefined to drive type 132. Current users with hard disk drive type 106 must use Setup and Test 1.08 to change to new drive type 132 before booting from the hard disk.

### FIXES

- \* 40MB Hardcard Plus now works correctly.
- \* Canon scanner now works correctly.
- \* Hard disk type 103 and 104 landing zone is now on data free cylinder.
- \* A divide by zero operation using Asyst software package no longer causes system to lock.
- \* System will run if LCD PAL is removed and DIGIboard is set to LCD port address.
- \* WordPerfect Version 4.2 window scroll-down now works correctly.
- \* Drive A now recognizes 720KB media when two 3.5-inch drives (either 720KB or 1.44MB) are installed and drive B is a 1.44MB drive.
- \* Bernoulli Box boots when the CMOS indicates a zero hard disk (also requires fix from Bernoulli).
- \* Correct speed reported when switching speeds.
- \* The system no longer locks accidentally when there is no battery power or no password, and the lock bit is set.
- \* Parity errors at power-up no longer halt the system.
- \* During the self-test power-up diagnostics for the RAM test, the RAM area greater than 1MB is now correctly termed as "Extended" instead of "Expansion."
- \* System will boot with PC-Net Baseband board installed.

## OPEN PRODUCT ISSUES

*The issues below are under investigation:*

- \* Certain RLL Incompatibilities exist.
- \* IBM Forte card on WY-2200 has an Intermittent problem showing "cannot lock" error message.
- \* Mitsubishi 3.5-Inch drive does not work.
- \* TOPS UPDATE diskettes cannot be read on WY-2108.
- \* Cannot change disk drive select from C to D using Microsoft Windows on WY-2108.
- \* Cannot access A or C drives after running TISPEECH.COM while using TI Speech board with WY-2108.
- \* The Forte 3270 board will not install or communicate correctly with the 3270 system.

## BIOS 3.53

*In order to take full advantage of the new features below, Wyse Enhanced MS-DOS 3.3 and Setup and Test 1.08 are required.*

### CAPABILITIES ADDED

- \* Read, write, and boot support for 1.44MB 3.5-inch diskettes (Epson SMD 400P106, Panasonic JU-257-A01P, Toshiba FDD4603A0K, and Teac 135MFN-891).
- \* RLL encoded hard disk drive support (Control Data drive 94155-135; DTC controller 5287).
- \* ESDI encoded hard disk drives of greater than 1024 cylinders are supported (Control Data drive 94166-182, Priam drive 638, and Miniscribe drive 9380; WD controller 1007A).
- \* Extended international language support with foreign language versions:
  - BIOS messages are displayed in French and German.
  - Default time format: English (12-hour format); French/German (24-hour format).
- \* Extended remote console support:
  - WY-75 and WY-85 terminals.
  - Serial port up to 9600 baud.
  - Supported on COM2 with one serial card.
- \* Extended Hard Disk Table:
  - ST506 (17 sectors/track) ranges from type 100 to 138.
  - ESDI (34 sectors/track) ranges from type 150 to 189.
  - RLL (25 or 26 sectors/track) ranges from type 216 to 238.
- \* LCD messages for non-fatal errors are included in addition to fatal error messages.

### UPGRADE NOTES FOR CURRENT WYSE USERS

- \* Drive type 106 was redefined to drive type 132. Current users with hard disk drive type 106 must use Setup and Test 1.08 to change to new drive type 132 before booting from hard disk.

### FIXES

- \* 40MB Hardcard Plus works correctly.
- \* Canon scanner works correctly.
- \* Diskette drive access is no longer slow.
- \* Hard disk type 103 and 104 landing zone is on a data free cylinder.
- \* Golden Gate software package works.
- \* A divide by zero operation while using Asyst software package no longer causes system to lock.
- \* System runs if LCD PAL is removed and DIGIboard is set to LCD port address.
- \* WordPerfect Version 4.2 window scroll down works properly.
- \* Arnet multipoint card works properly with PICK operating system.
- \* Drive A recognizes 720KB media when two 3.5-inch drives (either 720KB or 1.44MB) are installed and drive B is a 1.44MB drive.
- \* Bernoulli Box boots when the CMOS indicates a zero hard disk (also requires fix from Bernoulli).
- \* Correct speed is reported when switching speeds.
- \* The system no longer locks accidentally when there is no battery power or no password, and the lock bit is set.
- \* Parity errors at power-up no longer halt the system.
- \* The Homeward Plus word processor works.
- \* The LCD module does not lose characters.
- \* Windows\$386 no longer indicates a "drive not ready" error when trying to write data to that drive.
- \* IBM OS/2 works when LOADALL is executed.
- \* WD-1007 ESDI disk controller no longer fails during power-up.

**OPEN PRODUCT ISSUES**

*The issues below are under investigation:*

- \* Certain RLL Incompatibilities exist.
- \* Mitsubishi 3.5-inch drive does not work.
- \* WordPerfect Tutor does not run on WY-3216.
- \* Microsoft Windows does not work from drive D.
- \* The copy file command of VM386 fails on WY-3216.

## TECHNICAL ALERT

TT: 19  
DATE: SEPTEMBER 29, 1988  
TO: DISTRIBUTION/FIELD SERVICE  
FROM: AARON L. REYNOSO/PRODUCT SUPPORT  
SUBJECT: SETUP 1.08, BIOS 3.53/2.75 AND HARD DISK DRIVES

---

A problem has shown up with the introduction of Setup 1.08 and the latest revision of BIOS (3.53 and 2.75). The problem is that this combination of Setup and BIOS does not allow the system to perform a low level format (initialization) on MFM (ST506 type) hard disks with 9 or more heads. The system will hang when the initialization gets to cylinder 0 head 8 and will display a "Failed to initialize the hard disk drive" error message. However, there is no problem accessing the hard disk if it has been previously initialized.

The reason for this failure has been isolated to a timing violation between the BIOS, Setup 1.08 and the hard disk controller, WD1003, when initializing the hard disk. The permanent fix is to use Setup 1.09, which has not been released as of this date (9/29/88) but will be released within the next month. Setup 1.09 has been altered to accommodate the timing, so there will be no other differences between Setup 1.08 and 1.09. Unfortunately, Setup 1.07 cannot be used due to its different method of mapping the defective bits during initialization.

There are three temporary solutions; 1) use drive Type 108, 2) use factory initialized hard disks 3) use a Data Technology (DTC) hard disk controller. Solution 1 proves to be very costly in terms of lost disk memory if the hard disk is greater than 9 heads. For example, a Maxtor XT-2190 has 15 heads and so using Type 108 which is for only 8 heads will cause the disk to loose access to 7 heads or about one half of the disk capacity. Using Type 108 for Seagate ST-4096 which has 9 heads is not as bad because access to only one head is lost, or about 9 MBs. Solutions 2 and 3 are the best, depending on the availability of pre-formatted hard disks or the DTC controller.

Please note that this problem does not exist with ESDI drives having more than 9 heads. This is due to the better timing margins inherent to the ESDI disk controller board.



TPP Field Change Notice No. 12

DATE: 110190

MODULE: Sigma VGA/H videocontroller in PC/AT (V.1.00)

CATEGORY:

Production change : If still in stock.

In the field: When problem occurs.

CORRECTS THE ERROR:

There is no  $\phi$  or  $\emptyset$  in the default font for the first version of the VGA/H videocontroller, V.1.00 (Version number is displayed during boot, before DOS is loaded). If no fontloader is used (ex. Codepage-support in MS-DOS 3.30), a  $\text{C}$  or a  $\text{W}$  is displayed instead of  $\phi$  and  $\emptyset$ .

TOOLS NEEDED:

- PROM tools and PC-screwdriver
- New 27512 type PROM marked "Sigma VGA/H, Rev. 1.01d"

DESCRIPTIONS:

- Several IBM character set fonts are present in the VGA BIOS on the board. None of these has been modified to use in Scandinavia. This is a general problem in almost all new VGA controllers regardless of manufacturer. It has been corrected in newer Sigma VGA/H's (Version V.2.xx -> V.3.1), see TPP-FCN 008.

- The very large PROM (27512) contained two copies of the firmware. The second version might be located at base address C800. This was unreadable from an AT, and has been disabled. If the card has been mounted in other systems than DDE supplied systems, and it won't work after replacement, please file an errorreport to MJDV, stating PC-model, and remount old PROM.

- The firmware patch is done by internal development, without access to sourcecode, because the manufacturer (Hitachi - Sigma) is no longer able to support it.

(A final warning: The boards from Sigma described here and in

TPP-FCN 008 are very different. Take special note of the different PROM's used, and be very specific when ordering new PROM's)

lea/MUDV-TPP

TPP Field Change Notice No. 10

DATE: 070989

MODULE: 3½" diskettes and drives for PC's

CATEGORY: For information only

**CORRECTS THE ERROR:**

Sometimes diskettes formatted to 720 kb on one drive will not be read on another drive.

TOOLS NEEDED: None

**DESCRIPTIONS:**

There are two densities available for 3½" diskette drives, 1,44 Mb (High Density) and 720 Kb (Double Density). Diskettes are manufactured for one density only, as are the drives. Only the following combinations will work:

		<u>Drive type</u>	
		D. D.	H. D.
Diskette types	D. D.	yes	yes <sup>1</sup>
	H. D.	no <sup>2</sup>	yes

The following notes are important:

<sup>1</sup>The formatting must be done with special parameters on a HD drive (It is the only way!)

FORMAT B: /T:80 /N:9

<sup>2</sup>Some older drives (most older drives) will accept, and format HD diskettes. They will NOT be accepted on new DD and HD drives.

HD diskettes have an extra hole, opposite the writeprotect notch. You might be able to salvage wrongly formatted HD diskettes if you block that hole with black tape.

lea/MUDV-TPP

TPP Field Change Notice No. 8

DATE: 010989

MODULE: Sigma VGA/H videocontroller in PC/AT

CATEGORY:

Production change : alle new cards before delivery.

In the field: When problem occurs.

CORRECTS THE ERROR:

When using SGD-PC (grafic option for PCNetTerm) characters  $\phi$  and  $\emptyset$  is replaced by  $\text{C}$  and  $\text{W}$  on some occations. It is also seen when using the card in Hercules monochrome emulation.

During testing with VGADIAG (supplied on SIGMA utilities disk) no  $\phi$  or  $\emptyset$  can be seen in the the 14 pts. charset. There is no problem in default VGA mode, wich uses 16 pts charset.

TOOLS NEEDED:

- PROM tools and PC-screwdriver
- New 27256 type PROM marked "Sigma VGA/H, Rev. 3.01"

DESCRIPTIONS:

- Several IBM character set is present in the VGA BIOS on the board. Some of these has not been modified to use in Scandinavia. Old boards, i.e. PROM Rev. 2.00 D/N is correct, (H/W rev. 1.20). Newer versions, from Rev 2.02 and up show problems on and off. Newest error version is "Rev. 2.68", mounted on H/W rev. 1.60. There may be a board depency, because "Rev 2.00 D/N" will not run at all on HW Rev 1.60 or vice versa ("Rev 3.1" on HW rev 1.20). If other hardware revisions is met, you might have to replace the board in case the PROM upgrade wont work.

- Only one PROM should be changed. The one with the "XL" suffix is not to be changed.

lea/MUDV-TPP

**Service Bulletin**

**Product ..... : DDE 48 Bubble Jet printer**

**Date ..... : July 1993**

**Number of pages : 2**



Model **BJIF-8030**  
**(SCSI Interface Unit)**

Number **PRNT-160**  
**(PD-12E-003)**  
Date **28.02.1992**

**SUBJECT : CORRECTION OF PARTS CATALOGUE**

Please correct the Parts Catalogue of the BJIF-8030, with part number QY8-3133-000, as indicated in this bulletin.

FIGURE & KEY NO.	PART NUMBER	RANK	QTY	DESCRIPTION	REMARKS
R 18	VV1-2115-223		1	RESISTOR,CHIP,METAL: 22K OHM 1/10W	
R 19	VV1-2115-223		1	RESISTOR,CHIP,METAL: 22K OHM 1/10W	
R 20	VV1-2115-223		1	RESISTOR,CHIP,METAL: 22K OHM 1/10W	
R 22	VV1-2115-472		1	RESISTOR,CHIP,METAL: 4.7K OHM 1/10W	
R 23	VV1-2115-102		1	RESISTOR, CHIP, METAL: 1K OHM 1/10W	
R 24	VV1-2115-472		1	RESISTOR,CHIP,METAL: 4.7K OHM 1/10W	
R 25	VV1-2115-102		1	RESISTOR, CHIP, METAL: 1K OHM 1/10W	
SCS 1	VS1-5296-000 050		1	CONNECTOR, FEMALE, 50P	
SCS 2	VS1-5296-000 050		1	CONNECTOR, FEMALE, 50P	

**Service Bulletin**

**Product ..... : DDE 48 & DDE 2005 printers**

**Date ..... : July 1993**

**Number of pages : 37**



COMPUTER SYST.

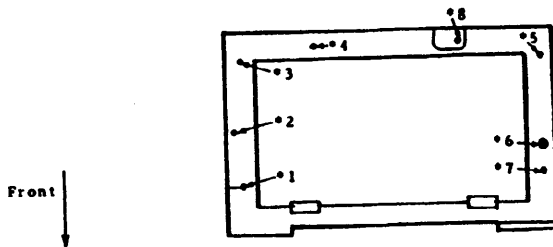
Number PRNT-165  
(PD-12E-007)  
Date 15.05.1992

Model BJC-800/820

**SUBJECT : CHANGES OF LOWER COVER AND POWER SWITCH ARM**

The lower cover and power switch arm have been changed:

- a. Lower cover: Seven screw holes or positioning holes and one tapped hole have been made (figure 1).
- b. Power switch arm: Two oval holes have been added (figure 2).



\*1 to \*7: screw holes or positioning holes  
\*8: tapped hole

Fig. 1: Lower cover

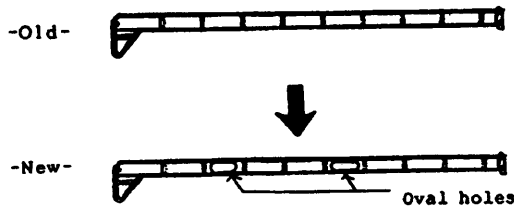


Fig. 2: Power switch arm

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
LOWER COVER	QB1-0197-000	QB1-0197-020	1	YY	B16-8-14
LOWER COVER UNIT	QG5-0036-000	QG5-0036-030	1	YY	B16-8-9
POWER SWITCH ARM	QB1-0212-000	QB1-0212-020	1	YY	B16-8-6

**Note:**

- \*1. Refer to the Parts Catalogue for models BJC-800/820, with part number QY8-3132-000, dated Dec. 1991.

COMPUTER SYST.

Number ~~PRE~~ ~~TT-166~~  
(~~P~~-12E-005)  
Date 15 ~~05~~.1992

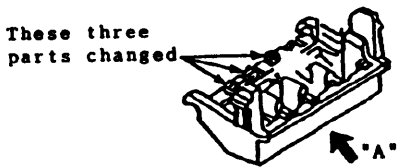
Model BJC-800/820

**SUBJECT : PRINTER UNIT/HEAD COVER**

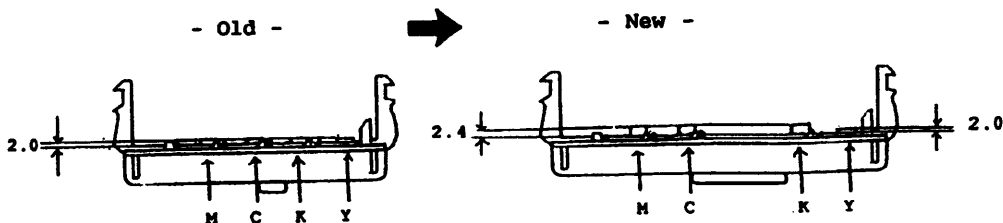
The head cover may not press the head units fully, and the four heads may not be seated horizontally. This may cause vertical dot mis-alignment among the four colours.

To improve this, the head cover has been modified (figures 1 and 2).

Note: Spacers have been added to the above-mentioned parts, as a temporary measure. Refer to figure 3.



**Fig. 1: Head cover unit**



**Fig. 2: View "A" (figure 1)**

Transparent spacers applied to M, C and K



**Fig. 3: Temporary measure**

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
HEAD COVER	QB1-0082-000	QB1-0082-020	1	NY	B14-7-1
HEAD COVER UNIT	QG5-0027-000	QG5-0027-030	1	NY	B14-7-..

**Note:**

- \*1. Refer to the Parts Catalogue for models BJC-800/820, with part number QY8-3132-000, dated Dec. 1991.

**COMPUTER SYST .**

Number **PRNT-172**  
**(PD-12E-010)**  
 Date **05.06.1992**

Model **BJIF-8030**  
**(BJC-800/820)**

**SUBJECT : SCSI CARD/CHANGE OF NPU IC**

The NPU IC (IC3) on the SCSI Card has been changed.

- Current-                      - New -

Manufacturer	Hitachi	Hitachi
Type No.	HD64180SH8	HD64180S2H8
Part No.	WA3-5771	WA3-6367

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information. c	

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
NPU IC	WA3-5771-000	WA3-6367-000	1	YY	B-4-1-IC3

**Note:**

- \*1. Refer to the Parts Catalogue for model BJIF-8030 (for BJC-800/820), with part number QY8-3133-000, dated Dec. 1991.

**SERVICE PARTS**

**INTERCHANGEABILITY**

CODE

"Former" and "new" parts are fully interchangeable. YY  
 "Former" and "new" parts are ~~not~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. not in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. not in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
ENGINE MPU IC	QH8-8389-020*2	QH8-8389-030*2	1	YY	B61-27-IC19
LOGIC CARD	QG2-2347-080	QG2-2347-090	1	YY	B10-5-2

**Notes:**

- \*1. Refer to the Parts Catalogue for models BJC-800/820, with part number QY8-3132-000, dated Dec. 1991.
- \*2. IC: M37704M2A127FP
- \*3. IC: M37704M2A132FP

COMPUTER SYST.

Number **PRNT-175**  
(PD-12E-002)  
Date **05.06.1992**

Model **BJC-800,**  
**BJC-820**

**SUBJECT : CHANGE OF MECHANICAL AND ELECTRICAL PARTS**

This bulletin describes the changes, which have been made in the mechanical and electrical parts:

**1. Packaging**

- a. Eliminating the filament tapes used for fixing the printer  
(See Figure 1.)

To facilitate production, two filament tapes used for fixing both sides of the ink cartridge cover have been eliminated. It has been proven that the change does not affect the quality and performance.

■ : Filament tape

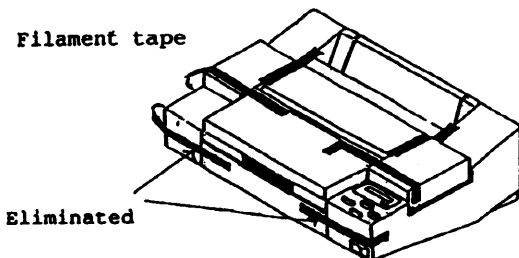


Figure 1

- b. Using the corrugated paper to protect the paper support  
(See Figure 2.)

A corrugated paper has been used to prevent the paper support from being damaged during the transportation.

■ : Filament tape

Paper support

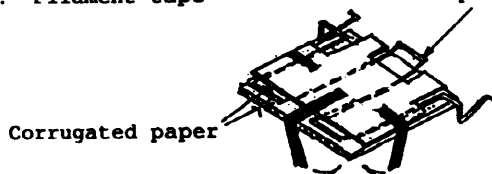
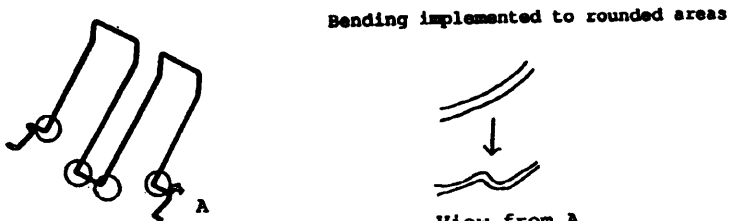


Figure 2

## 2 . Cover

- a. Change in shape of the paper support (See Figure 3.)

To prevent sheets of paper from running onto the paper support (QB1-0210), the shape of paper support has been changed in shape as shown in Figure 3. (The change has been implemented from the beginning of mass production. Along with this, the revision number has been advanced from 000 to 020.)



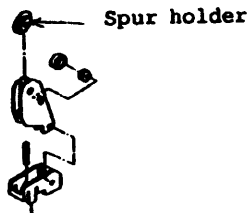
Paper support (QB1-0210)

Figure 3

## 3 . Printer cover unit

- a. Change in color of the spur unit (See Figure 4.)

To facilitate assembly, the spur holder (NPN) has been changed in color from natural color of the material (POM) to black.



Spur unit (QG5-0041)

Figure 4



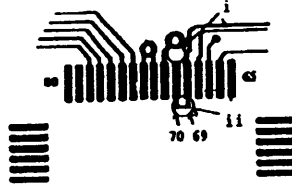
4. Logic card

a. Change of the pattern of the PCB (See Figure 5.)

To avoid the abnormal temperature (service 52 to 55) of the print head on arrival, the pattern for pins 69 and 70 of IC19 on the PCB has been changed as shown in Figure 5. (The change has been implemented from the beginning of mass production. The advanced revision number will be informed with another bulletin reporting the engineering change of the ROM.)

Temporary countermeasure

- i. Jumper connected
- ii. Pattern cut

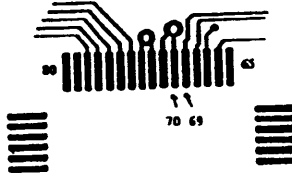


The part number has been underlined.

-04

Permanent countermeasure

- i. Change of the pattern



The underline is eliminated.

-04

Figure 5

5. Printer unit

a. New assignment of the rubber plate and head cover unit as service parts (See Figure 6.)

To prevent the dot mis-alignment among four-color heads, a rubber plate has been newly assigned as a service part. This rubber plate can fully press the head cover against the head units. (As a temporary countermeasure, the four rubbers have been separately applied from the beginning of mass production, but each rubber has not been assigned as a service part. If any of rubbers should be replaced, replace the whole rubber plate.) Also, to improve the service efficiency, the head cover unit, which consists of the parts as shown in Figure 3, has been newly assigned as a service part.

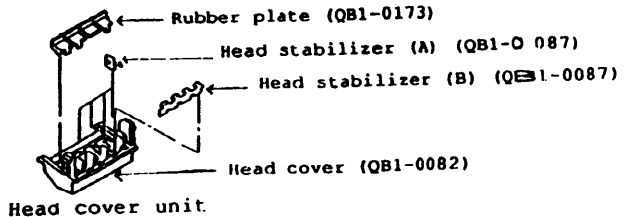


Figure 3

## 6. Lower cover

- a - Change in color of the power switch

To facilitate production, the power switch (QG5-0037) has been changed in color from art grey 7.5 to art grey 5.5. (The color has come darker slightly.)

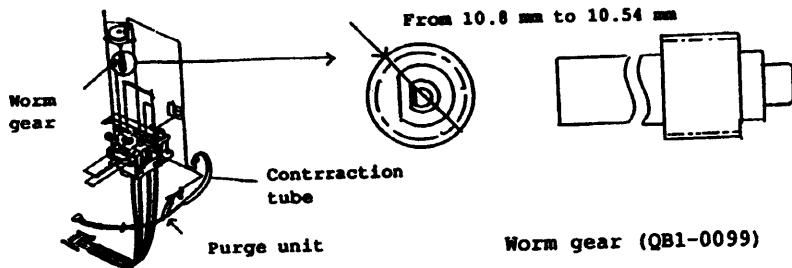
## 7. Purge unit (See Figure 7.)

- a - Change of the heat-shrinkable tube used for the purge sensor unit

To secure parts supply, the diameter of the heat-shrinkable tube (sumi-tube F2 [Z]) of the purge sensor unit (QG2-2353) has been increased from 4.5 mm to 5.0 mm.

- b - Change in shape of the worm gear

To avoid the noise during the purging operation, the diameter of the worm gear has been reduced.



Purge unit

Figure 7

8. Carriage card

a. Change in material of the carriage card holder

It has been found that the projection on the position lever (QB1-0086) is partially shaven into powder during the durability test (the motor is put into action approx. 1,000 times). To prevent this, the material of the carriage card holder has been changed. This change has been implemented at any time since the new material should have required the UL, and since the position lever is not so frequently used as is in the durability test.

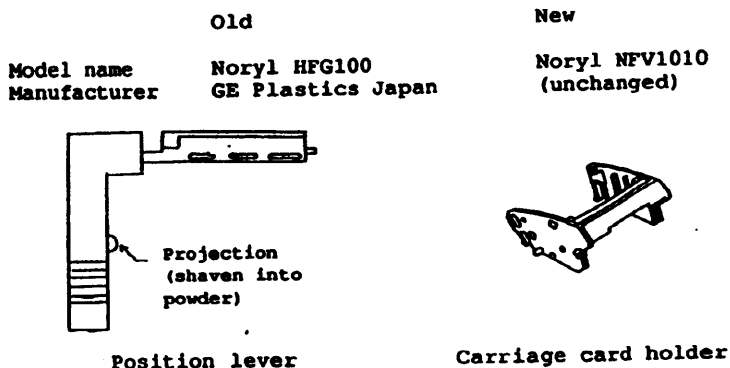


Figure 8

9. Carriage unit

a. Change of the carriage ink supply unit

It has been found that the four heads may not be seated horizontally, resulting in the dot mis-alignment among four-color heads. To prevent this, the head installation part of the carriage has been changed in shape. (See Figure 9.) (As a temporary countermeasure, a Mylar sheet has been applied to the same position from the commencement of mass-production.)

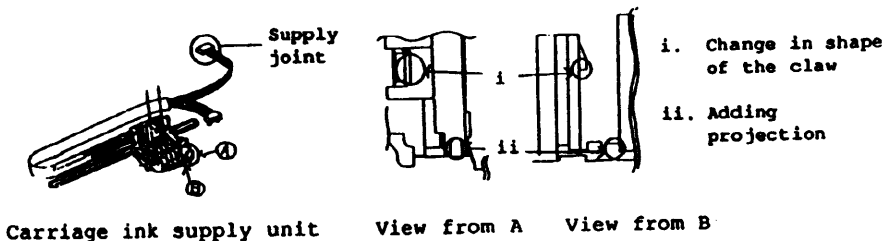
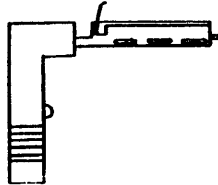


Figure 9

It has been found that the position lever (QB1-0086) may be dislocated around position 3 during the operation. To prevent this, the shape of the position lever has been changed. As a temporary countermeasure, the position lever has been shaved from the commencement of mass-production. (See Figure 10.)

Shaved by 0.3 mm

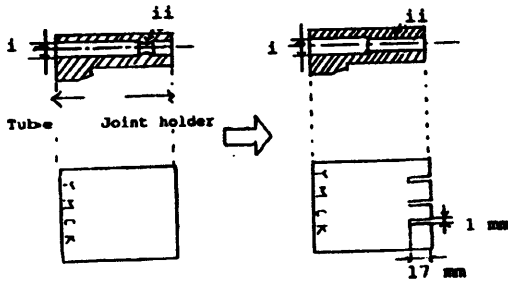


Position lever (QB1-0086)

Figure 10

To increase a margin against the air leakage in the ink supply route, the supply joint (QB1-0075) has been changed as described below. (See Figure 11.)

- i. To make the connection between the joint holder (QB1-0067) and the tube (NPN) tight, the joint part has been changed in diameter from 1.9 mm to 1.7 mm.
- ii. The shape of the supply joint has been changed. As a temporary countermeasure, the supply joint has been notched at three parts on the joint holder side from the beginning of mass production.



Old (-000)

New (-020)

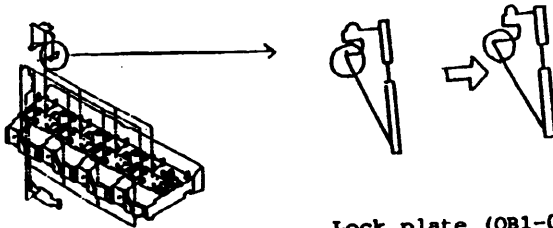
Supply joint (QB1-0075)

Figure 11

10. Ink compartment unit

a. Change in shape of lock plate (See Figure 12.)

To make the cartridge inserted smoothly, the lock plate (QB1-0158) has been changed in shape.



Ink compartment unit

Lock plate (QB1-0158)

Figure 12

11. Paper lifting plate

a. Change in material of the separation sheet

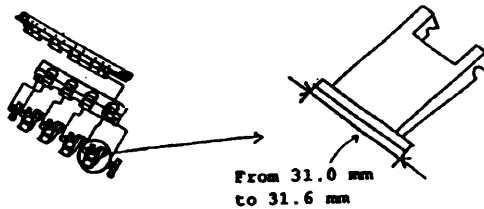
To avoid the multi feeding when the last A4 size of SK paper is fed widthwise in the low temperature/low humidity, the separation sheet (QB1-0037) has been changed in material.

	Old	New
Manufacturer	Kuraray	Dai-ichi Lace MFG
Model name	Clarino	Ciegal
Type No.	3611-000U	7655-006

12. Pinch roller base unit

a. Change in shape of the pinch roller arm (See Figure 13.)

To facilitate production, the pinch roller arm (QB1-0010) has been changed in shape.



Pinch roller base unit

Pinch roller arm (QB1-0010)

Figure 13

13. Pick-up roller unit

a. Change in shape of the pick-up roller shaft

It has been found that there may be a play around the pick-up roller shaft (QB1-0019). To prevent this, the distance between grooves for E rings on the pick-up roller shaft has been changed. Along with this, the 0.1 mm-thick washer, which was installed from the beginning of mass production as a temporary countermeasure, has been eliminated

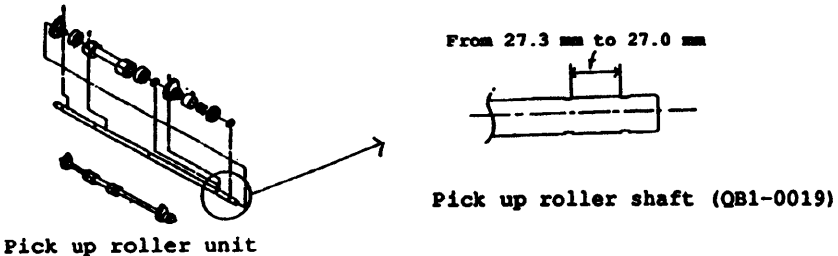


Figure 14

14. Paper feed roller

a. Change in hardness of rubbers used for the paper feed roller (QB1-0004) (See Figure 15.)

To improve the paper feed accuracy, the rubbers used for the paper feed roller has been changed in hardness.

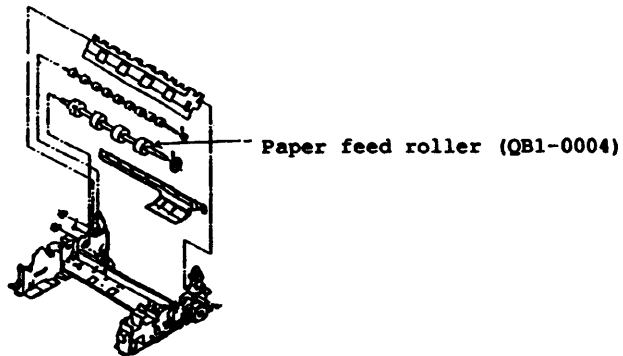


Figure 15

- Note 1: The packaging box has not been assigned as a service part. (Refer to 1. Packaging.)
- Note 2: The spur holder used for the spur has not been assigned as a service part. (Refer to 3. Spur unit.)
- Note 3: The revision number of the logic card has been advanced by the change of the pattern along with upgrading the version of the ROM. (The separate engineering change bullet in will inform the upgrading the version of the ROM for details.) (Refer to 4. Logic card.)
- Note 4: The change in color of the power switch (QG5-0037) does not affect the revision number. (Refer to 6. Lower cover.)

## SERVICE PARTS

## INTERCHANGEABILITY

## CODE

"Former" and "new" parts are fully interchangeable. YY

"Former" and "new" parts are not interchangeable. NN

The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN

The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY

Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PAPER SUPPORT	QB1-0210-000	QB1-0210-020	1	NY	B4-2-1
RUBBER PLATE	-----	QB1-0173-000	0+1	--	B14-7-...
HEAD COVER UNIT	-----	QG5-0027-000	0+1	--	B14-7-...
PURGE SENSOR UNIT	QG2-2353-000	QG2-2353-020	1	YY	B20-10-5
WORM GEAR	QB1-0099-000	QB1-0099-020	1	YY	B20-10-3
CARRIAGE CARD HOLDER COVER	QB1-0083-000	QB1-0083-030	1	YY	B22-11-3
POSITION LEVER	QB1-0086-000	QB1-0086-020	1	NY	B28-14-4
SUPPLY JOINT (B)	QB1-0075-000	QB1-0075-020	1	NY	B28-14-8
LOCK PLATE	QB1-0158-000	QB1-0158-020	1	YY	B40-20-2
SEPARATION SHEET	QB1-0037-000	QB1-0037-020	1	YY	B42-21-6
PINCH ROLLER ARM	QB1-0010-000	QB1-0010-020	1	YY	B44-22-3

(Continued on next page.)

**SERVICE PARTS** (continued)

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PICK UP ROLLER SHAFT	QB1-0019-000	QB1-0019-020	1	YY	B46-23-8
PAPER FEED ROLLER	QB1-0004-000	QB1-0004-020	1	YY	B48-24-7

**Note:**

- \*1. Refer to the Parts Catalogue for models BJC-800 & BJC-820, with part number QY8-3132-000, dated Dec. 1991.



## COMPUTER SYSTEM

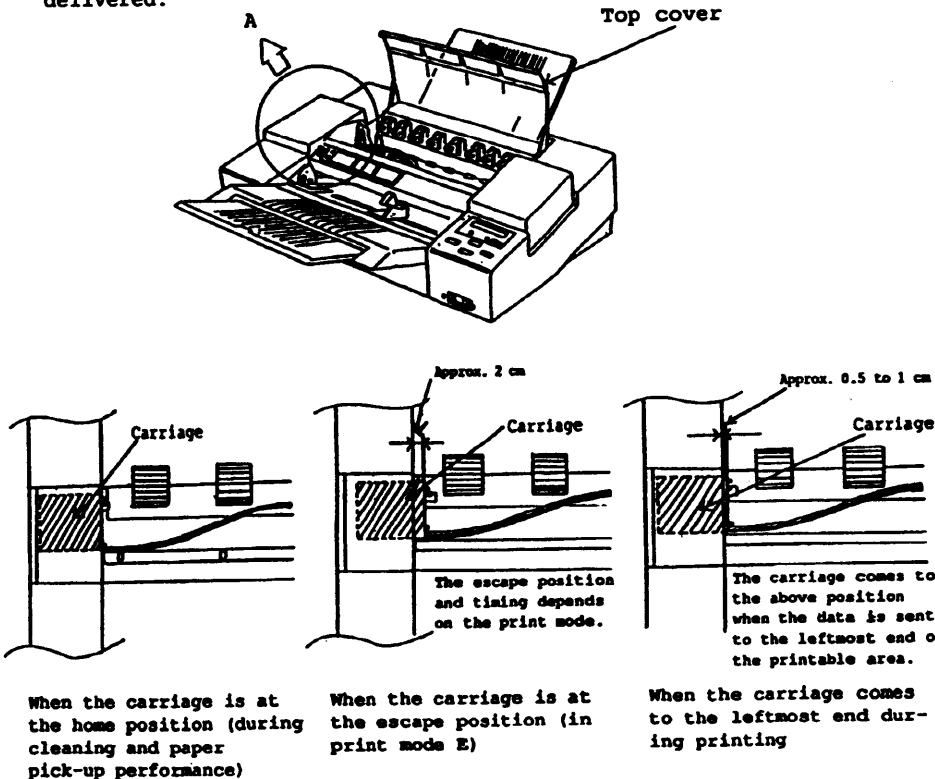
Model **BJC-800,  
BJC-820**

Number **PRNT-177  
(PD-12E-015)**  
Date **10.07.1992**

### SUBJECT : PREVENTING 5E SERVICE ERROR

To avoid the paper jam by the carriage, the carriage is specified to move to the escape position just before the paper is delivered, and to return to the home position after the paper is delivered (see Figure 1).

In print mode E, if the top cover is opened just before the paper is delivered (when the carriage is moving to the escape position), the "5E SERVICE" error may be indicated when the carriage moves from the escape position to the home position after the paper is delivered.



Enlarged view of A

Figure 1

**Countermeasure:**

If the "SE SERVICE" error is caused by the above operation, turn the printer off, then turn it on to correct the problem.

**Note:** This problem is caused by the abnormal operation like that the top cover is opened just before the paper is delivered. Also, this problem is caused in the momentary timing when the carriage is moving to the escape position. Therefore, it is expected that the problem seldom occurs. If the problem occurs, instruct the customers not to do such an abnormal operation.

ORIGINAL PARTS

Model BJC-800,  
BJC-820

Number PRNT-180  
(PD-12E-012)  
Date 10.07.1992

**SUBJECT : INK CARTRIDGE COVER/SHOCK ABSORBER**

If the printer is transported without the shock absorber, the ink cartridges are slid forward, which may cause ink leakage or "no cartridge error". To prevent this, transport the printer in the following way in the shock absorber is missing.

Fold four sheets of (80g/m<sup>2</sup>) A4-size paper, as shown in figure 1, and use these instead of the shock absorber.



Length (297mm)

Equivalent to 24 papers in thickness.

Figure 1

However, there is a possibility that in this way the cartridges may be slightly shifted. When the printer is powered on after transportation, confirm that all ink cartridges are installed properly.

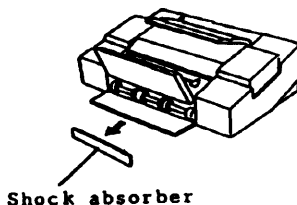


Figure 2

COMPUTER SYSTEM

Number **PRNT-182**  
(PD-12E-020)  
Date **10.07.1992**

Model **BJC-800,**  
**BJC-820**

**SUBJECT : USER'S MANUAL**

The User's Manual has been upgraded from V3 to V4. (The version number is indicated by the last two digits of PUB. Q-IM-439-xx on the back cover of the User's Manual.)

1. Addition and change in the method of loading transparency film (pages 34 and 35). (See attachments 1 and 2.)
2. Addition in the method of placing paper inside the ink cartridge cover during transportation (page 73). (See attachment 3.)

Attachment 1

5. Adjust the paper guide snugly against the right side of the envelopes. Make sure that the envelopes are not bent or folded.
6. Adjust the head position lever all the way down to Position 3.
7. Select ENVELOPE/THICK in the MEDIA SELECT menu. (See p.55 and 57 for details about this menu.)

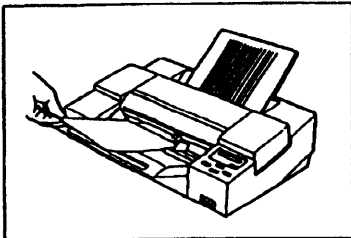
**NOTE:** Press down on each edge of the envelopes firmly before printing, in the direction of the arrows, in order to make the folds crisp, remove curls, and expel air.



**Loading Transparency Film**

Your printer can only load one sheet of transparency film at a time. Use the following procedure when loading transparency film. As the general operation is the same as that for loading cut sheets, refer to the section on pp.30-31 for further details.

1. Adjust the paper guide to the position for the size of the transparency film (A4 or LTR).



2. Load the transparency film face-up in the paper tray with the rounded corner toward you on the left (it indicates the bottom left of the form). Setting it against the left side of the paper tray, allow it to slide in gently until it comes to a stop

1. (changed)

3. Adjust the paper guide snugly against the right side of the transparency film. Make sure the transparency film is not bent or folded

## Attachment 2

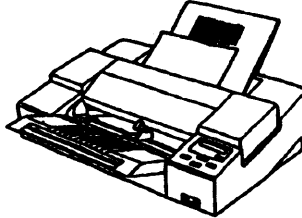
OPERATION  
INSTALLING THE PAPER

ENGLISH

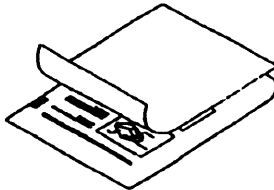
Chapter 2

**NOTE: Recommendations on printing on transparency film:**

- **REMOVE ONE BY ONE:** After printing is completed, remove each transparency film from the output tray individually.



- **DRY SUFFICIENTLY:** Dry transparency film sufficiently before storage. The necessary time to dry Canon Color BJ Transparencies CF-101 is about 20 minutes.
- **COVER WITH PAPER DURING STORAGE:** To prevent the printed colors from running together during storage, place a piece of plain (not coated) paper over the printed side of the transparency film once the ink has dried. Store the transparency film with this paper even when it is placed in a clear file.



- **AVOID EXCESSIVE HEAT AND HUMIDITY:** Avoid highly humid situations when printing on transparency film. Maintain the following temperature and humidity ranges when printing:  
 Temperature : 15°C to 30°C (59°C to 86°C)  
 Humidity: 10% to 70% (no condensation )
- After printing, keep transparency film away from hot and humid places.

- Do not allow anything except plain paper to come into contact with the printed surface of transparency film, even after the ink has dried. Caution is especially required in the following situations, as ink can be stripped from the printed surface
  - Placing transparency film on a document stand with the printed surface facing downward, such as a projection-type overhead projector (lighted from below).
  - Inserting transparency film without protection into a clear folder

1. (added)

Attachment 3

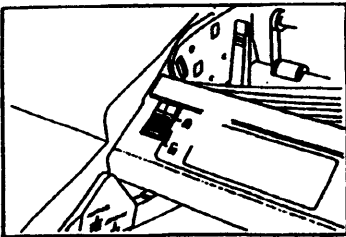
# Transporting and Storing Your Printer

When you plan to move your printer to another building, you must first put it in a carton (preferably the original carton that it came with). If you have thrown the carton away (along with the packing materials) or misplaced it, you should use a strong cardboard of sufficient size, placing ample padding inside.

Remember also not to subject the printer to shock or unusual conditions of temperature or humidity when it is transit or storage.

ENGLISH  
Chapter 3

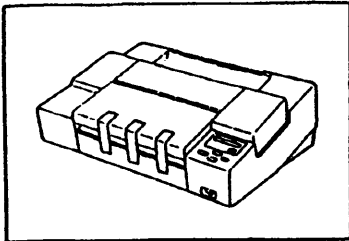
## Preparing Your Printer for Transit or Storage



Turn the printer off, confirming that the "OO READY \* " message appears in the display, and lock the carriage lock lever.

**NOTE:** If an asterisk (\*) does not appear in the final character space of the display when you try to turn off the printer, contact your local authorized Canon dealer for

**CAUTION:** Failure to lock the carriage lock lever will damage the printer during transit.



Place either the original styrofoam or paper inside the ink cartridge cover. Then tape the cover shut so that the ink cartridges will not fall out. Also tape the paper tray shut.

When placing paper inside the ink cartridge cover, use the following procedure:

1. Use A4-sized or LETTER-sized plain bond paper (approx. 90g/m<sup>2</sup>).
2. Stack four pieces of paper together and fold in half. Next, take this and fold in three as shown.

Folded in half      Folded in three  
 ←                      →

2.  
(added)

## COMPUTER SYSTEM

Model **BJC-800,  
BJC-820**

Number **PRNT-183  
(PD-12E-023)**  
Date **10.07.1992**

### SUBJECT : UPGRADING LQ CONTROL ROM

The following changes have been made to the control ROM for IC9. Along with this, the version of the LQ control ROM has been upgraded from 1.05 to 1.06.

The changes have been made only to the LQ control ROM of the 4M control ROM, into which the LQ and Native control ROMs have been combined. The version of Native control ROM is unchanged. The current versions are as follows:

LQ: 1.06  
Native: 1.05 (unchanged)

#### Changes:

1. When the LQ mode is changed to the Native mode during printing, the printer is specified to deliver the paper. At this time, if a paper jam occurs, the printer takes action against it (indicating "13 CHECK PAPER" without delivering the paper) to avoid the damage to the mechanism of the printer. However, it has been found that a few times of paper delivery operation were conducted. The operations have been eliminated. The printer now eliminates a few times of paper delivery operation and indicates the "13 CHECK PAPER" just after the paper jam occurs.
2. In ESC Z (which selects quadruple-density bit-image graphics), some of full mapped bits in the print pattern of the BJC-800 is not printed since there is a mechanical difference between the target printer (240 dpi in the LQ-2550) and the BJC-800 (360 dpi). Therefore, there is a possibility that the BJC-800 causes the uneven print density every line. This depends on the combination of total number of possible horizontal dots in this command and the print pattern. This problem has been corrected.
3. When the text printing is done in the LQ mode, the printer is specified to conduct the bidirectional printing. It has been found that when the mode is changed from Native to LQ in the text printing, the unidirectional printing was done, which may make the print speed slow. (However, if the graphic printing is done once in the LQ mode, the printer operation becomes normal.) This problem has been corrected.



**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <del>NOT</del> interchangeable.	YY
"Former" and "new" parts are <del>NOT</del> interchangeable.	NW
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>NOT</del> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>NOT</del> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information. C	

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
MASK ROM IC	QH8-8390-000*2	QH8-8390-020*3	1	YY	B60-27-IC9
LOGIC CARD	QG2-2347-090	QG2-2347-100	1	YY	B10-5-2

Notes:

- \*1. Refer to the Parts Catalogue for models BJC-800 & BJC-820, with part number QY8-3132-000, dated Dec. 1991.
- \*2. MASK ROM MB834100AP-8H1
- \*3. MASK ROM MB834100AP-8H9

COMPUTER SYSTEM

Number **PRNT-184**  
(FD-12E-022)  
Date **10.07.1992**

Model **BJC-800,**  
**BJC-820,**  
**BJC-880**

**SUBJECT : HANDLING INK SUPPLY TUBES IN SERVICING**

When the upper cover is installed, there is a possibility that the ink supply tubes (A in Figure 1) of the carriage unit may be caught in the upper cover. To prevent this, a guide was added to the left frame plate of the carriage frame unit (B in Figure 1). However, it has been found that when the joint holder is attached to the hook on the left of the carriage frame in servicing, stress may be applied between the supply joint and the ink supply tubes (C in Figure 1). In such a case, there is a possibility that the ink supply tubes may come off or loose the supply joint. To prevent this, be careful for the following.

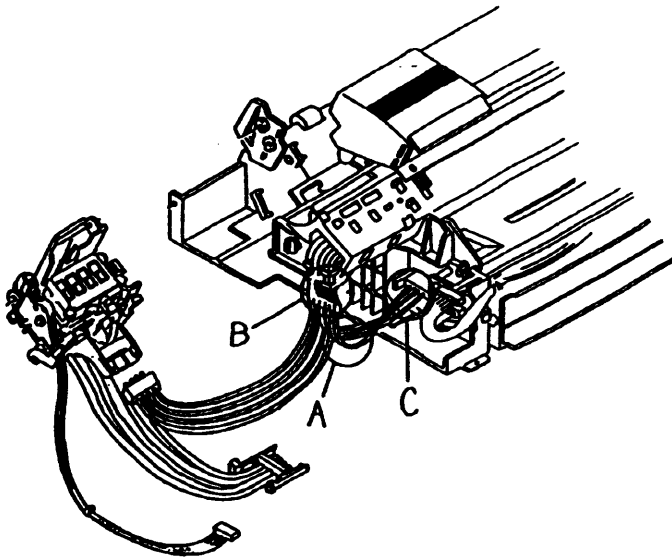


Figure 1

When the joint holder is attached to the hook on the left of the carriage frame, lift up the ink supply tubes, pressing the tube cover as shown in Figure 2.

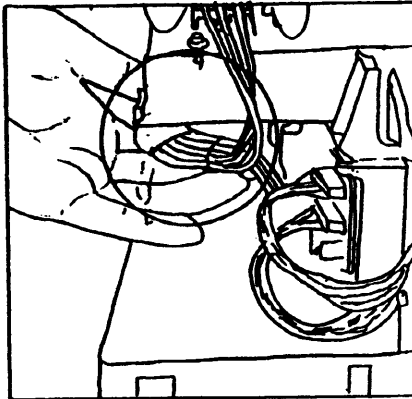
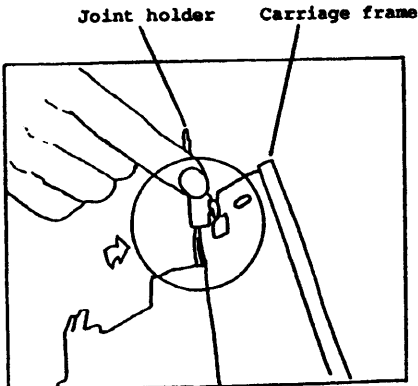


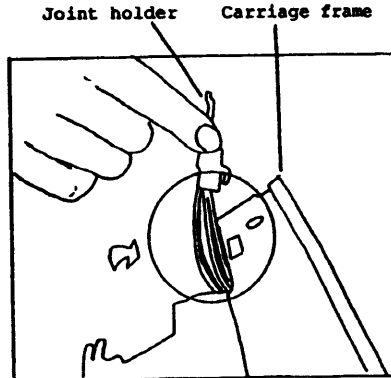
Figure 2

The following figures show the cases, in which the ink supply tubes are lifted up (Figure 4), and in which they are not (Figure 3).



When the ink supply tubes are not lifted up, the joint holder barely reaches the carriage frame.

Figure 3



When the ink supply tubes are lifted up, the joint holder fully reaches the carriage frame.

Figure 4

If the ink supply tubes come off or loose, wipe off the ink attached around the joint part of the tubes completely and re-insert them into the supply joint.

**COMPUTER SYSTEM**

Number **PRNT-185**  
(PD-12E-011)  
Date **10.07.1992**

Model **BJC-800,**  
**BJC-820**

**SUBJECT : 5E SERVICE ERROR**

If the printer is powered OFF and ON during the paper pick-up operation (while the pressure plate comes up and the cam is rotating), the carriage may stop around A in figure 1, indicating "5E SERVICE".

When the printer is powered OFF during the paper pick-up operation, the cam stops rotating at the abnormal position. In such a case, when the printer is powered ON again, the carriage (C in figure 2) hits the cam (D in figure 2) during initialization, causing the "5E SERVICE" error. This occurs only when the above abnormal operation is done in the printer with the modified cam (QB1-0024-020), whose outer round part was thickened.

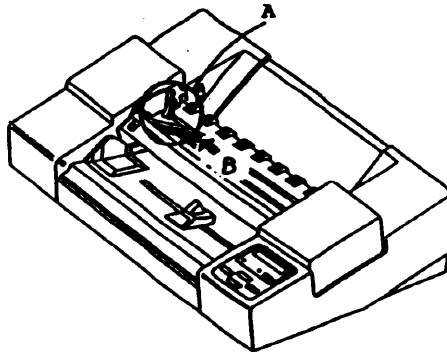


Figure 1

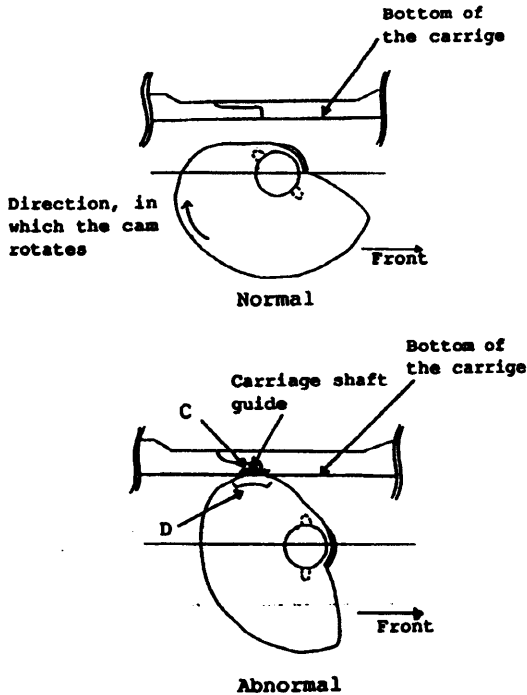
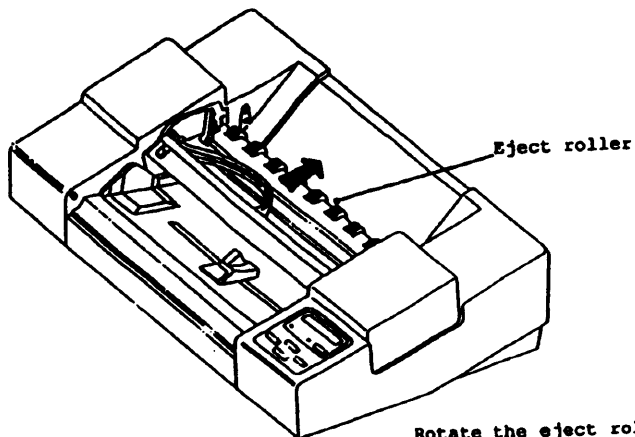


Fig. 2: View B (fig. 1)

If the "5E SERVICE" is indicated, try the following two steps.

- Step 1:** Turn the printer OFF and ON at an interval of four seconds or more. (If this can make the printer operation normal, the cause of the problem is just an initial check error by the short period between ON and OFF. This phenomenon is different from what is mentioned before.)
- Step 2:** If Step 1 cannot correct the problem, open the inner cover and rotate the eject roller in the direction of the rear side of the printer (see figure 3). (Rotate it until the pressure plate comes down completely. The eject roller can not rotate forward.)



Rotate the eject roller in the direction of arrow.

Figure 3

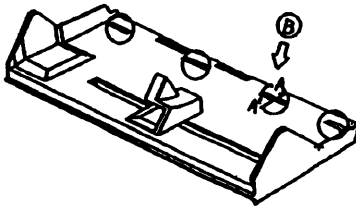
**COMPUTER SYSTEMS**

Number **PRNT-186**  
(PD-12E-006)  
Date **10.07.1992**

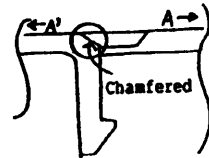
Model **BJC-800,**  
**BJC-820**

**SUBJECT : PAPER LIFTING PLATE**

The shape of the paper lifting plate has been changed as shown in figures 1, 2 and 3.



Changed in the rounded parts

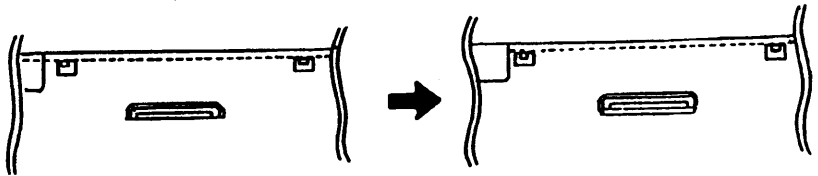


**Fig. 1: Paper lifting plate**

**Fig. 2: Cross view A-A' (fig.1)**

- old -

- New -



**Fig. 3: View B (fig. 1)**

**SERVICE PARTS**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are ~~NOT~~ interchangeable. YY  
 "Former" and "new" parts are ~~NOT~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~NY~~ NY  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~NY~~ NY  
 Interchangeable on condition: a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PAPER LIFTING PLATE	QG5-0009-000	UNCHANGED	1	YY	B42-21-5

**Note:**

\*1. Refer to the Parts Catalogue for BJC-800 & BJC-820, with part number QY8-3132-000, dated Dec. 1991.



**COMPUTER SYSTEM**

Number **PRNT-188**  
(PD-12E-016)  
Date **10.07.1992**

Model **BJC-800,**  
**BJC-820**

**SUBJECT : CORRECTING 5E SERVICE ERROR**

If the "5E SERVICE" error is indicated during continuous printing, there is a possibility that the grease may not be sufficiently applied to the carriage shaft. To improve the problem, follow the procedure described below.

1. Move the carriage to the center of the printer in the same manner that the print head is replaced. (Figure 1)

Method: Switch the mode to the factory/service personnel cleaning mode, then select the "CENTER HEAD" from a menu. For details, refer to the Service Manual; 3.2.1 SERVICE FUNCTIONS FOR FACTORY/SERVICE PERSONNEL in page 2-9 to 2-13.

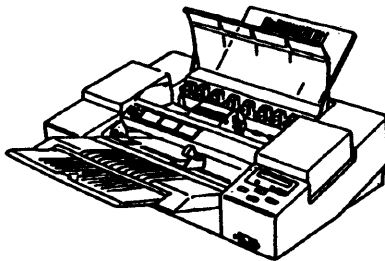


Figure 1

2. Turn the printer off (after above 1 is completed).
3. Remove the inner cover and the upper cover. (Conduct the following procedure from the rear side of the printer.)

4. Wipe off the grease applied to the carriage shaft (A), both ends of the carriage shaft (B), and the carriage bearings (C) of the carriage, using a paper towel. (Figure 2)

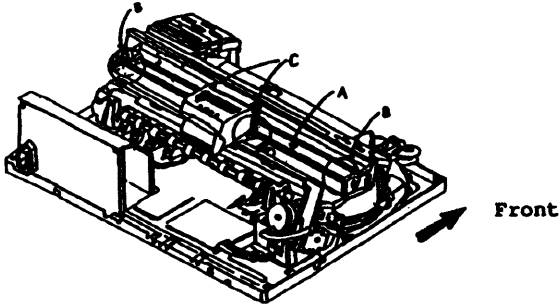


Figure 2

5. In the following procedure, move the carriage repeatedly from left to right by hands. At this time, press the projection on the left and right sides of the carriage, or use the carriage belt to move the carriage.

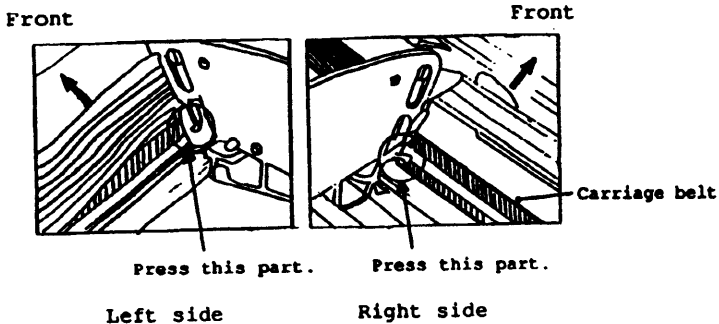


Figure 3

6. Take out 400 mg of grease (approx. 10 mm from the tube of grease MOLYKOTE PG641 specified as a tool) and divide it into four. Apply the grease to each part according to the following procedures. Be careful not to apply it to any parts other than the carriage shaft. However, if it happens, wipe off the grease completely, using the paper towel. (If the grease is applied to the head and purge unit, replace them.)

7. Move the carriage to the left end, then apply a quarter of the grease (approx. 100 mg) to the whole of the carriage shaft, while taking the end of it and rotating it. (Figure 4)

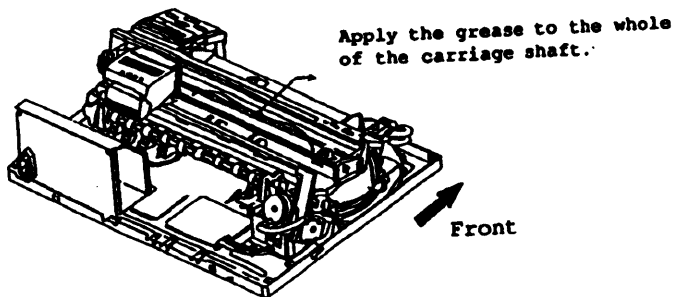


Figure 4

8. Move the carriage from left to right several times so that the grease is applied to the carriage shaft evenly. (Figure 5)

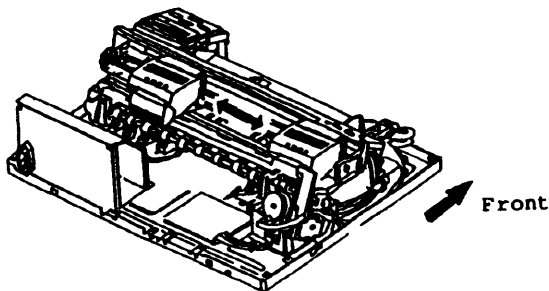


Figure 5

9. Move the carriage to the right end, then apply a quarter of the grease (approx. 100 mg) to the whole of the carriage shaft, while taking the end of it and rotating it. (Figure 6)

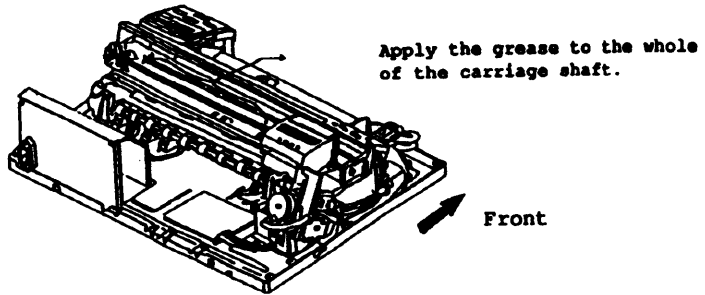


Figure 6

10. Move the carriage from left to right several times. (Figure 5)

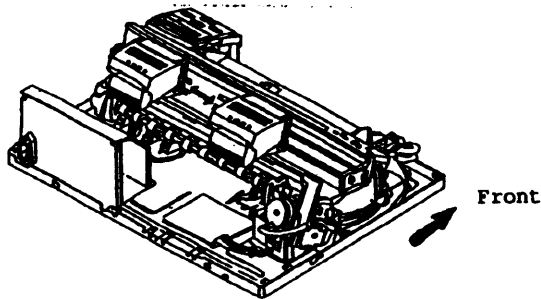


Figure 7

11. Repeat above 7 to 10. Apply all of 400 mg of grease to the carriage shaft.
12. Install the inner cover and the upper cover.
13. Turn the printer on and confirm that it is initialized normally.

Note: This "5E SERVICE" may be indicated after 20,000 pages of A4-sized paper are printed. It is expected that this seldom occurs. Cope with this problem by servicing.

As a countermeasure against this problem.. the amount of grease applied has been increased from 90mg to 300mg.

SERIAL NUMBERS OF AFFECTED MACHINES

BJC-800: TDJ04281 and later  
BJC-820: TDM00001 and later  
BJC-880: From the commencement of mass-production

## COMPUTER SYSTEM

Model BJC-800,  
BJC-820,  
BJC-880

Number PRNT-189  
(PD-12E-021)  
Date 21.08.1992

### SUBJECT : INK COMPARTMENT UNIT

When the ink compartment unit is returned from a customer, instruct service personnel to send it in the following manner to avoid the ink leakage from the ink tubes.

1. Insert the tip of a syringe (assigned as a special tool) into the ink outlet at the ink supply joint (A in Figure 1), then suck the ink from the ink supply tubes.
2. Conduct the above for all (four) colors.
3. Remove the ink compartment unit from the printer main body, then the ink cartridges from the ink compartment unit. Insert the ink outlet at the ink drain joint (B in Figure 2), then suck the ink from the ink drain tubes in the same way.
4. Conduct the above for all (four) colors.
5. Cover the ink supply joint and the ink drain joint with paper towel, and with the vinyl bag.

For details of above 1 and 2, refer to "Removing the ink compartment unit" (page 4-5) in the Service Manual.

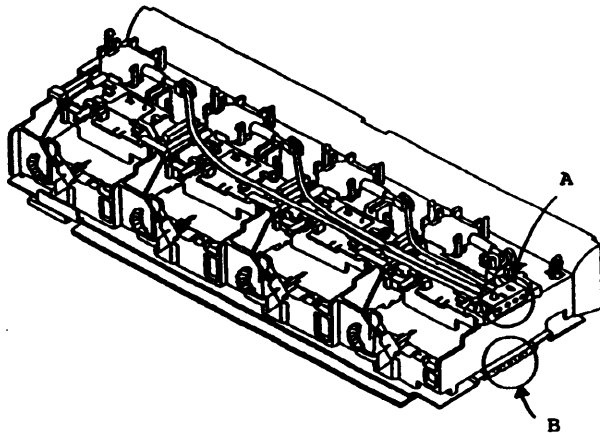


Figure 1

## FOR PUBLICATION

Number **PRNT-190**  
 (PD-12E-030)  
 Date **21.08.1992**

Model **BJC-800,**  
**BJC-820,**  
**BJC-880**

**SUBJECT : LOGIC CARD**

**EEPROM IC13 on the Logic Card has been changed.**

### SERVICE FACTS

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <b>interchangeable.</b>	YY
"Former" and "new" parts are <b>interchangeable.</b>	NY
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <b>is in "original" machines.</b>	YB
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <b>is in "modified" machines.</b>	BY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
EEPROM	WA3-5392-000*3	WA3-6719-000*4	1	YY	B60*1 -27-IC13 B77*2 -31-IC13

#### Notes:

- \*1. Refer to the Parts Catalogue for models BJC-800 and BJC-820, with partnumber QY8-3132-000, dated Dec. 1991.
- \*2. Refer to the Parts Catalogue for model BJC-880, with part number QY8-3142-000, dated Apr. 1992.
- \*3 IC, S-29171 F01.
- \*4 IC, S-29171 F10.

## COMPUTER SYSTEM

Model **BJC-800,  
BJC-820,  
BJC-880**

Number **PRNT-191  
(PD-12E-024)**  
Date **21.08.1992**

### SUBJECT : SERVICING BEFORE RETURNING PRINTER

If the capping operation is not performed by the failures of power supply (including the electrical system) or purge unit, the heads should be capped manually. However, there is a possibility that the ink leaks from the air-through holes (A in Figure 1) since they may not be properly closed according to the abnormal capping position. Also, they cannot be capped manually. Therefore, if the problematic printer is returned from a customer, cope with the problem in the following method.

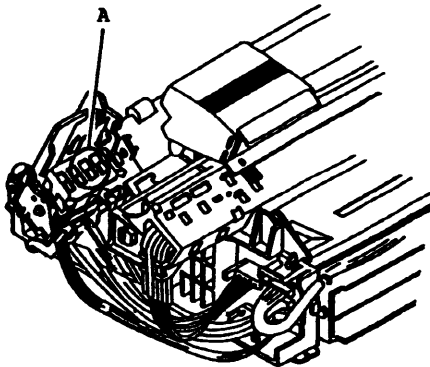
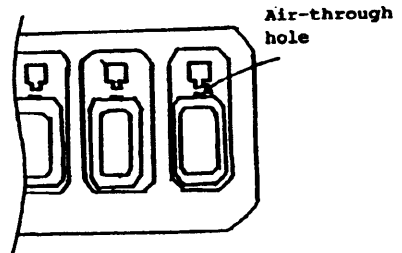
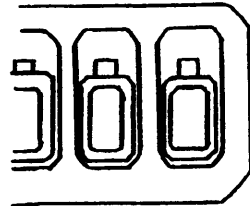


Figure 1



Air-through holes are opened.



Air-through holes are closed.

Enlarged view of A



**SERVICING**

1. Remove the two screws fixing the purge motor (see Figure 2), then remove it from the purge unit (see Figure 3).

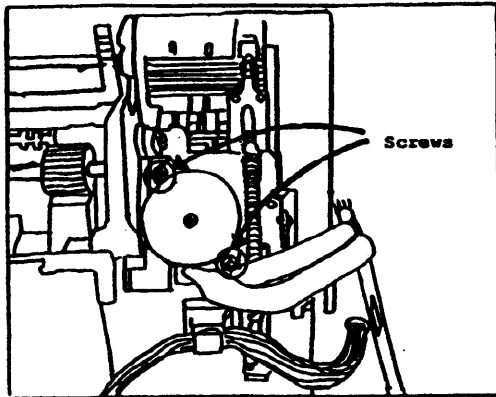


Figure 2

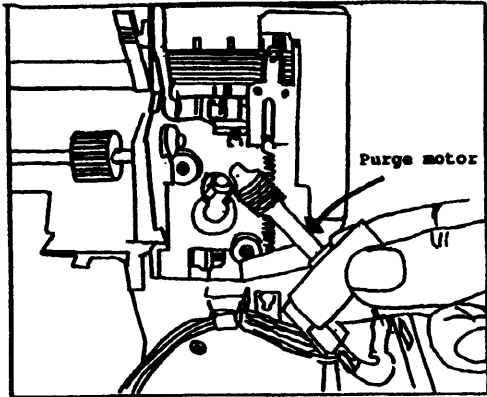


Figure 3

2. Rotate the cap cam in the front direction of the printer using the pliers.

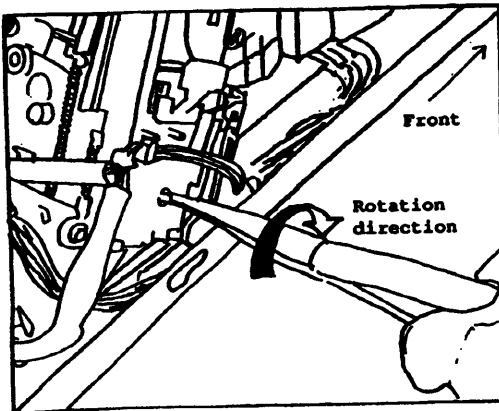


Figure 4

3. Rotating the cap cam causes the head caps, the air-through holes then the projection for fixing the carriage to operate as shown below. Rotate the cap cam until the head caps and the air-through holes are closed. (See Figure 5.)

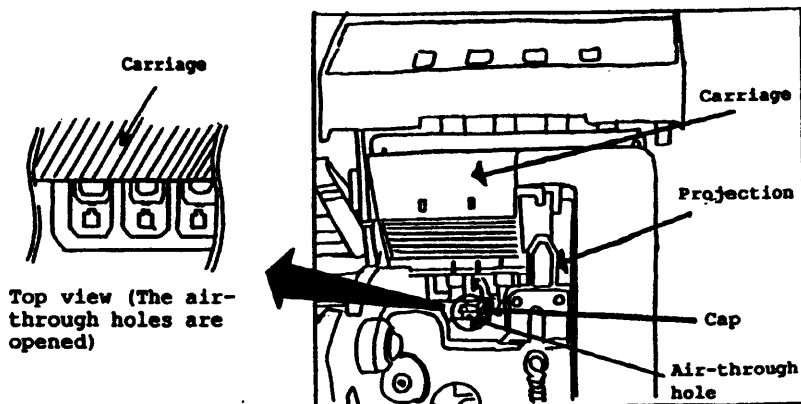


Figure 5

#### Operation steps by the cap cam rotation

As a premise, the air-through holes should be opened completely at first. (The head caps and air-through holes are opened, and the projection for fixing the carriage is in the lowest position).

Approx. 90° rotation: The head caps are closed, and the projection is lifted up.

Approx. 180° rotation: The air-through holes are closed. (Above 3 is completed.)

Approx. 270° rotation: The projection is lifted down, and other parts (the head sponge and the head wiper) are operated.

Approx. 90° rotation (second rotation): The projection is lifted up.

Approx. 180° to 360° rotation (second rotation):

The air-through holes are opened completely (first condition).

4. Install the purge motor in the original place with screws.
5. Lock the carriage by the carriage lock lever.

**Inquiries about returning the problematic printer**

To cope with the problem, the upper cover need to be opened. Therefore, it is impossible for customers to confirm the opening or closing of the air-through holes and to conduct the above-mentioned countermeasure. If the following errors occur at the customer site, visit the customer for servicing.

- Error in the electrical system (excluding the DOA [Dead On Arrival] and the failure of the control panel)
- Error in the purge unit (excluding the DOA and the failure caused when the printer is turned on)

If the error related to the carriage (SE SERVICE, etc.) occurs, turn on the printer to perform the initial operation again. (If the carriage is not at the home position, it returns there. If the carriage is at the home position, the carriage moves to the right by a few centimeters, then returns to the home position.) The capping operation is performed 15 seconds after. Instruct the customer to conduct the above before he returns the printer, then the printer need not to be returned for repair.

**REMARKS**

The above is the temporary countermeasure.

## COMPUTER SYSTEM

Model BJC-800,  
BJC-820

Number PRNT-192  
(PD-12E-028)  
Date 21.08.1992

**SUBJECT : POWER SUPPLY UNIT**

Photocoupler PH2 of the power unit may be damaged. To prevent this, a resistor (R60: 56k $\Omega$ , 1/4 W) has been added to the P.C. Board. Along with this, the pattern of the P.C. Board has been changed.

Note: As a temporary countermeasure, a carbon resistor (56 k $\Omega$ , 1/4 W) is soldered on the P.C. Board (figure 1).

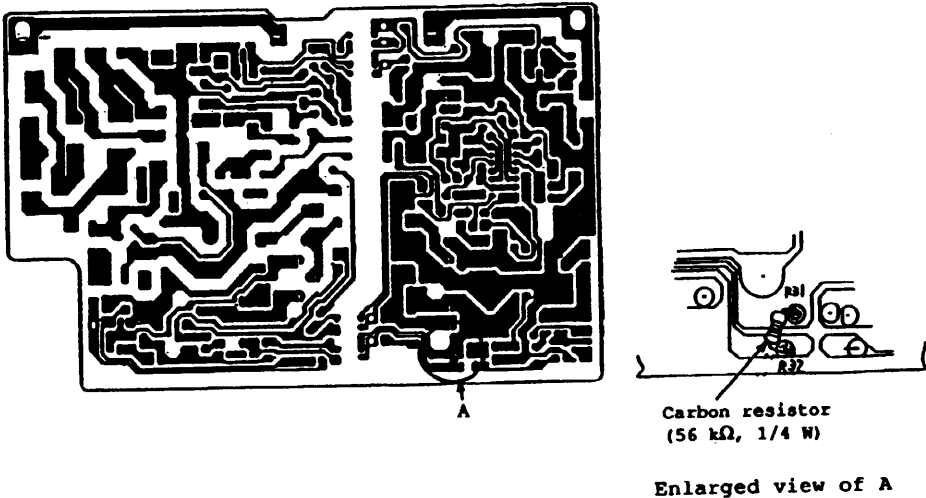


Figure 1

**SERVICES PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <del>NOT</del> interchangeable.	YY
"Former" and "new" parts are <del>NOT</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>NOT</del> in "original" machines.	YH
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>NOT</del> in "modified" machines.	HY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
POWER SUPPLY UNIT	QH3-3080-000	QH3-3080-030	1	YY	B12-6-1

**Note:**

\*1. Refer to the Parts Catalogue for models BJC-800 and BJC-820, with partnumber QY8-3132-000, dated Dec. 1991.

**AFFECTED MACHINES**

Model	Serial number	Rating
BJC-800 BJC-820	TDJ02621 and later From the start of "mass-production"	220V ~ 240V 50Hz 220V ~ 240V 50Hz

**CONFIDENTIAL**

Number **PRNT-194**  
(PD-12E-031)  
Date **21.08.1992**

Model **BJC-800,**  
**BJC-820,**  
**BJC-880**

**SUBJECT : CARRIAGE FRAME**

The following changes have been made to the carriage frame:

1. To prevent electrostatic discharge in the BJC-880, a M3-tapped hole has been added (figure 3).
2. To easily confirm the level of ink in the subtank (figure 2) in the carriage unit, the shape of the observation hole has been changed as shown in figure 3.

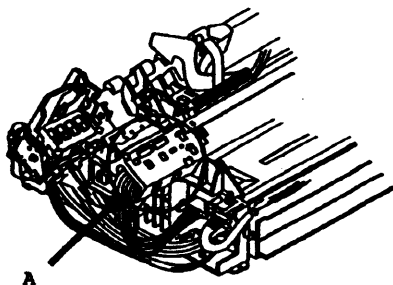


Figure 1

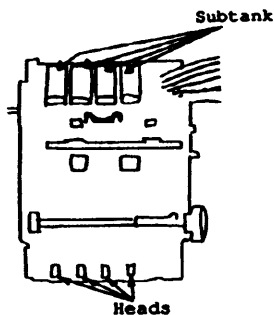


Figure 2: Bottom view of carriage

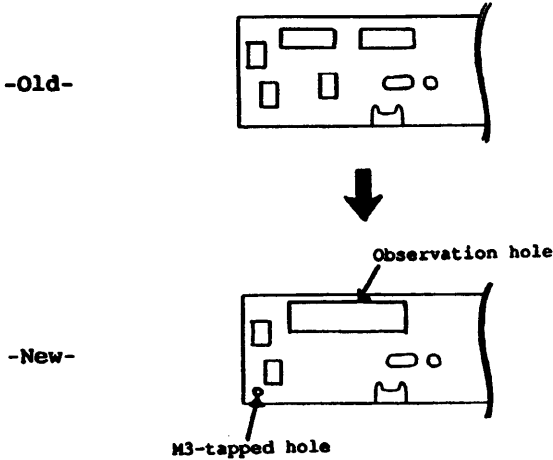


Figure 3: Enlarged view A (figure 1)

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <del>not</del> interchangeable.	YY
"Former" and "new" parts are <del>not</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>Not</del> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>Not</del> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information. C	

Description	Part number		Qty	IC	P.Cat.
	Former	New			
CARRIAGE FRAME	QB1-0059-000	QB1-0059-020	1	YY*3	B30-15-12*1 B36-18-12*2

**Notes:**

- \*1. Refer to the Parts Catalogue for models BJC-800 and BJC-820, with part number QY8-3132-000, dated Dec. 1991.
- \*2. Refer to the Parts Catalogue for model BJC-880, with part number QY8-3142-000, dated Apr. 1992.
- \*3. The carriage frame is not interchangeable if used for model BJC-880!

COMPUTER SYSTEMS

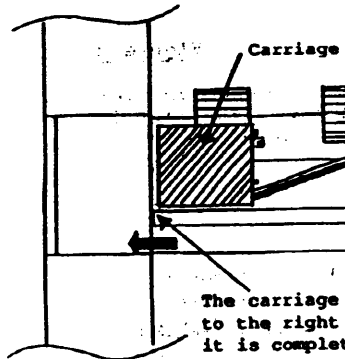
Number **PRNT-195**  
(PD-12E-025)  
Date **21.08.1992**

Model **BJC-800,**  
**BJC-820,**  
**BJC-880**

**SUBJECT : PURGE UNIT/INK DROPPING ON PAPER**

The printer performs cleaning operation in the following sequence: capping the head, purging the ink, moving the carriage to the right (figure 1), then wiping the head while the carriage is returning to the home position. (In addition to the above, in cleaning B, which is performed after the ink cartridge is replaced, the carriage moves to the left and right slightly several times). In the above cleaning operation, the ink may remain on the face of the head since the purging capability of the ink absorber is relatively low. The ink is splashed on the paper by the shock caused when the carriage moves to the right.

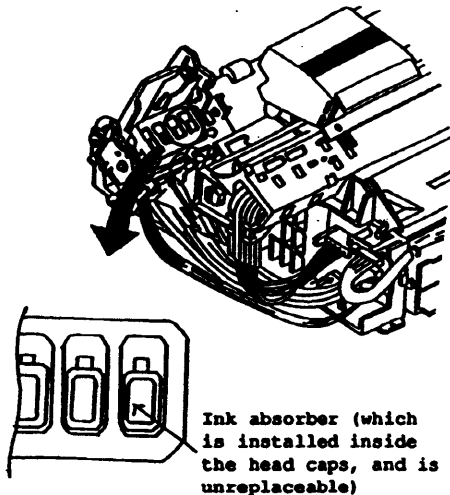
To prevent this, the thickness of the ink absorber has been increased from 1 mm to 1.5 mm (figure 2).



The carriage moves to the right until it is completely visible, stops for 0.5 second, then slowly returns to the home position (in the direction of the arrow).

**Figure 1**





Thickness: from 1 mm  
to 1.5 mm  
(changed)

Figure 2

It has been found that continuous cleaning operation causes this problem. The problem may also occur in the usual automatic cleaning operation during printing.

**SERVICEPART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <del>not</del> interchangeable.	YY
"Former" and "new" parts are <del>not</del> interchangeable.	HH
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>not</del> in "original" machines.	YH
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>not</del> in "modified" machines.	HY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
PURGE UNIT	QG5-0030-030	QG5-0030-040	1	YY	B18-9-1*1 B26-13-2*2

**Notes:**

- \*1. Refer to the Parts Catalogue for models BJC-800 and BJC-820, with part number QY8-3132-000, dated Dec. 1991.
- \*2. Refer to the Parts Catalogue for model BJC-880, with part number QY8-3142-000, dated Apr. 1992.

## COMPUTER SYST.

Model BJC-800,  
BJC-820,  
BJC-880

Number PRNT-197  
(PD-12E-027)  
Date 21.08.1992

**SUBJECT : LOGIC CARD/DRIVER IC**

Error codes "5E SERVICE" and "13 CHECK PAPER" may frequently occur (when the engine ROM-version 1.16- is used). This problem is caused by driver IC24. To prevent this, the driver ICs are now being selected by checking their AC characteristics at the factory.

### Notes

- Also, the driver ICs shipped as service parts are now being selected.
- The part number of the selected parts has been changed.

To distinguish from the "former" driver IC, a red mark is being added to the slanted area (figure 1) of selected parts.



Figure 1: Driver IC

**SERVICE PART**

## INTERCHANGEABILITY

## CODE

"Former" and "new" parts are ~~fully~~ interchangeable. YY

"Former" and "new" parts are ~~not~~ interchangeable. NN

The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. YN

The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. NY

Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
DRIVER IC, L298HN	WA4-5143-000	QH8-8539-000*3	1	NY	B61-27-IC24*1 B77-31-IC24*2

**Notes:**

- \*1. Refer to the Parts Catalogue for models BJC-800 and BJC-820, with part number QY8-3132-000, dated Dec. 1991.
- \*2. Refer to the Parts Catalogue for model BJC-880, with partnumber QY8-3142-000, dated Apr. 1992.
- \*3. Selected part.

**COMPUTER SYST.**

Model **BJC-800,  
BJC-820,  
BJC-880**

Number **PRNT-198  
(PD-12E-032)**  
Date **21.08.1992**

**SUBJECT : CHANGED COLOUR OF RUBBER JOINTS**

The colour of the rubber joints listed below has been changed from grey to black:

1. Supply joint (B) : A in Figure 1, QB1-0075
2. Rubber joint 16mm : B in Figure 2, QB1-0150
3. Rubber joint 10mm : C in Figure 2, QB1-0163
4. Supply joint (A) : D in Figure 2, QB1-0166

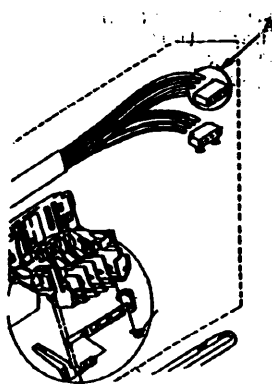


Figure 1: Carriage unit (2)

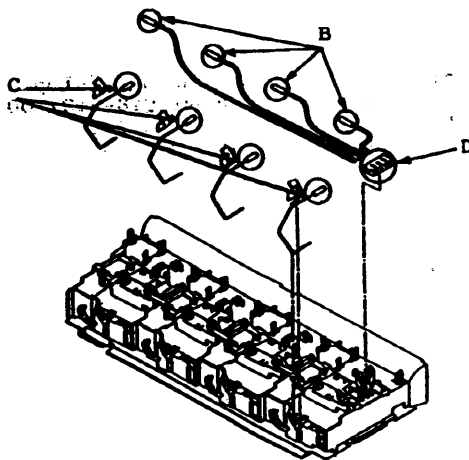


Figure 2: Ink supply tubes

**SERVICE PARTS****INTERCHANGABILITY****CODE**

"Former" and "new" parts are ~~not~~ interchangeable. YY  
 "Former" and "new" parts are ~~not~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
SUPPLY JOINT (B)	QB1-0075-020	QB1-0075-030	1	YY	B28-14-8*1 B34-17-8*2
RUBBER JOINT 16mm	QB1-0150-000	QB1-0150-020	4	YY	B36-18-2*1 B42-21-2*2
RUBBER JOINT 10mm	QB1-0163-000	QB1-0163-020	4	YY	B36-18-9*1 B42-21-9*2
SUPPLY JOINT (A)	QB1-0166-000	QB1-0166-020	1	YY	B36-18-1*1 B42-21-1*2

**Notes:**

- \*1. Refer to the Parts Catalogue for models BJC-800 and BJC-820, with part number QY8-3132-000, dated Dec. 1991.
- \*2. Refer to the Parts Catalogue for model BJC-880, with partnumber QY8-3142-000, dated Apr. 1992.

**COMPUTER SYST.**

Number **PRNT-199**  
**(FD-12E-026)**  
Date **25.09.1992**

Model **BJC-800,**  
**BJC-820,**  
**BJC-880**

**SUBJECT : LOGIC CARD/UPGRADING ENGINE MPU**

The following software bugs have been improved.  
(The engine MPU has been upgraded from 1.16 to 1.18.)

**Problem:**

It has been found that the value of PWM (pulse width modulation) for driving the carriage motor in engine MPU does not have enough latitude. When motor driver IC24 (driver IC, L298HN) with low AC characteristics is used, the carriage motor drive control is likely to become unstable. In such a combination, the load applied to the motor may come larger after a long use, resulting in 5E SERVICE and 13 CHECK PAPER errors. To prevent this, the value of PWM has been changed.

**Notes:**

1. As a temporary countermeasure, engine MPU version 1.16 has been selected by checking the AC characteristic of driver IC (IC24), and good ones have been used in the printers. (As for the printers with engine MPUs version 1.16, refer to section AFFECTED MACHINES in this bulletin).
2. The above problem occurs only in the printers with engine MPU version 1.16. No problem occurs in the engine MPUs with earlier versions. Below are the part numbers of logic cards with engine MPU version 1.16.

BJC-800/820: QG2-2347-100  
BJC-880: QG2-2406-020

## SERVICE PARTS

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
ENGINE MPU IC	QH8-8389-030*3	QH8-8389-040*3	1	YY	B61-27-IC19*1 B77-31-IC19*2
LOGIC CARD	QG2-2347-100	QG2-2347-110	1	YY	B10-5-2*1
LOGIC CARD	QG2-2406-020	QG2-2406-030	1	YY	B12-6-2*2

Notes:

- \*1. Refer to the Parts Catalogue for models BJC-800 and BJC-820, with part number QY8-3132-000, dated Dec. 1991.
- \*2. Refer to the Parts Catalogue for model BJC-880, with part number QY8-3142-000, dated Apr. 1992.
- \*3. IC M37704M2A132FP.

## AFFECTED MACHINES

Engine MPU version 1.16 is used in the following machines:

## BJC-800

TDJ07723, TDJ07822-TDJ07828, TDJ07830, TDJ07832-TDJ07843,  
 TDJ07845-TDJ07865, TDJ07867-TDJ07921, TDJ07923-TDJ07936,  
 TDJ08004-TDJ08020, TDJ08022-TDJ08042, TDJ08051, TDJ08064-TDJ08088,  
 TDJ08090-TDJ08141, TDJ08144-TDJ08147, TDJ08149-TDJ08182,  
 TDJ08184-TDJ08255, TDJ08257, TDJ08258-TDJ08331, TDJ08333-TDJ08339,  
 TDJ08341-TDJ08349, TDJ08351-TDJ08358, TDJ08360-TDJ08363,  
 TDJ08365-TDJ08371, TDJ08373, TDJ08374, TDJ08385, TDJ08398,  
 TDJ08400, TDJ08401, TDJ08406-TDJ08408, TDJ08412-TDJ08426,  
 TDJ08446-TDJ08484, TDJ08486-TDJ09264, TDJ09266-TDJ09269,  
 TDJ09271-TDJ09277, TDJ09279, TDJ09281-TDJ09296, TDJ09298,  
 TDJ09299, TDJ09301

## BJC-820

TDM00685-TDM00792, TDM00794, TDM00796, TDM00798-TDM00838,  
 TDM00844-TDM01130, TDM01136-TDM01141, TDM01143-TDM01162,  
 TDM01164-TDM01224

## BJC-880

TFF00780-TFF00809, TFF00811, TFF00812, TFF00814-TFF00878, TFF00887,  
 TFF00891-TFF00897, TFF00899-TFF00951, TFF00953-TFF01091, TFF01093,  
 TFF01094, TFF01096, TFF01098-TFF01105, TFF01107-TFF01113

**OVERVIEW**

Number **PRNT-202**  
(**FD-12E-038**)  
Date **08.10.1992**

Model **BJC-800,**  
**BJC-820,**  
**BJC-880**

**SUBJECT : STANDARD COLOUR IMAGE CI-1/CI-2**

The standard colour image (ink consumption: 30% print duty, 7.5% each colour) for the BJC-800 series has been assigned as a service tool.

Part number : **QY9-0006-000**

Description : **Standard colour image CI-1/CI-2**

Type : **Two kinds of images CI-1 and CI-2 are written in 3.5" and 5.25" floppy diskettes respectively. The two pairs of above two diskettes (total 4 diskettes) make a set.**

Usage condition: **IBM AT/XT or its compatible machine PC-DOS version 3.1 or above. (For further information, refer to the manual included in the package of this tool.)**



## COMPUTER SYST.

Model    **BJC-800,  
BJC-820,  
BJC-880**

Number    **PRNT-203  
(PD-12E-035)**  
Date       **20.11.1992**

### SUBJECT : IMPROVING PRINT PROBLEM

If a print quality problem (non fire or dot mis-alignment) occur, instruct customers to do the following.

1. Perform cleaning B (cleaning+ for the BJC-880). For the details, refer to the User's Manual; page 48 for the BJC-800/820 and page 2-82 for the BJC-880.
2. If the print quality does not recover after above 1, perform cleaning B again.
3. If the problem still occurs after above 1 and 2, conduct flushing (cleaning++ for the BJC-880). For the details, refer to the User's Manual; page 40 for the BJC-800/820 and page 2-82 for the BJC-880.

In cleaning B, the rate of air purge is relatively high and the surface of print head may not be wetted enough. (The air purge means the purging condition when the nozzles of print head is not filled with ink.)

Owing to this, the wiping operation of cleaning B may not recover the print quality if foreign matters adhere to the surface of print head. The flushing operation which enables the wiping operation with the surface of print head wet is of help for such a case.

If a print quality problem occurs, perform cleaning B and flushing.

## COMPUTER SYST.

Model BJC-800,  
BJC-820,  
BJC-880

Number **PRNT-205**  
(PD-12E-040)  
Date **20.11.1992**

### SUBJECT : INK LEAKAGE

The ink leakage problem occurring in the field was investigated. It has been found that, while the printer is transported, shocks cause the head cap to shift horizontally and ink may leak.

If the printer is transported with one side down (A, A', B, B' and C in figure 1) and left for a long time, the head cap is apt to shift, resulting in ink leakage. However, even if the head cap is shifted, the ink does not leak if the printer is left with the bottom side down as shown in figure 1.

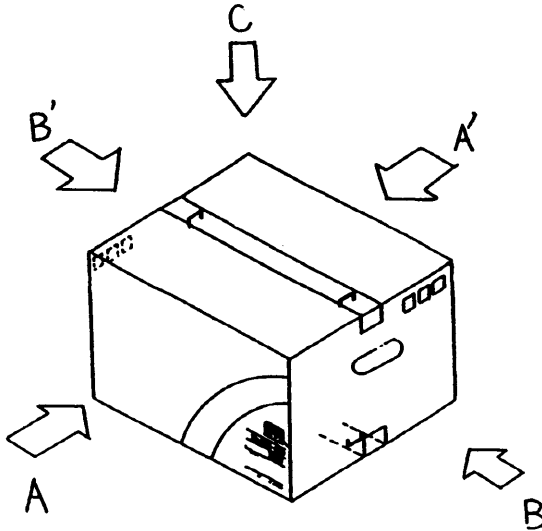


Figure 1: Outer carton

## COMPUTER SYST.

Model **BJC-880**

Number **PRNT-206  
(PD-12E-043)**  
Date **20.11.1992**

**SUBJECT : CONTROLLER CARD COMPONENT/DRAM ICs**

The DRAM IC used for IC41 to IC48 on the Controller Card Component has been changed as shown below.

	Old	New
Manufacturer	Toshiba	Motorola
Type number	TC514400AZ-80	MCM54400AZ80
Part number	WA3-5862	WA3-6044

### SERVICE PART

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are <u>not</u> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <u>Not</u> in "original" machines.	YF
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <u>Not</u> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
DRAM IC	WA3-5862-000*2	WA3-6044-000*3	8	YY	B64-30-IC41~IC48

### Notes:

- \*1. Refer to the Parts Catalogue for model BJC-880, with part number QY8-3142-000, dated Apr. 1992.
- \*2. DRAM IC: TC514400AZ-80
- \*3. DRAM IC: MCM54400AZ80

## COMPUTER SYSTEM

Model BJC-800,  
BJC-820,  
BJC-880

Number PRNT-208  
(FD-12E-037)  
Date 20.11.1992

### SUBJECT : TRANSPARENCY USED FOR CLC10 COPIER

The Canon-recommended CF-301 is available as a transparency for the CLC10 copier. This Service Bulletin compares the CF-301 with transparency CF-101 for the BJC-800 series.

#### Inferior points:

##### 1. Paper feed capability

The coating on the CF-301 is thicker than the CF-101, and the CF-301 is apt to curl in an unusual direction (the leading and trailing edges of CF-301 hit the pressure plate, and the center of CF-301 is lifted). When the CF-301 is picked up, it is apt to be caught by the separation sheet unit (the silver metal where the transparency comes to the end in the paper pick-up).

##### 2. Paper feed roller mark

The rubber of the paper feed roller contains the oil. The oil is transferred to the transparency in the paper delivery, causing a paper feed roller mark to appear. The mark appearing on the CF-301 is more conspicuous than the CF-101 from a difference in surface treatment.

##### 3. Image permeability

The image permeability of the CF-101 is not so good, and that of the CF-301 is still worse since numberless holes on the surface of CF-301 diffuse the light. When a deep color (ex. blue) is printed on the CF-301, it may be difficult to distinguish it from black.

##### 4. Paper curl after printing

The coating of the CF-301 is thicker than that of the CF-101. If the CF-301 is used for the BJC-800 series, it is apt to curl while the temperature inside the printer is raised.

Superior points:

## 1. Spur mark

There are numberless holes on the surface of CF-301, and the ink is absorbed in them. Therefore, the CF-301 is dried up faster than the CF-101, preventing the spur mark from appearing in paper delivery.

## 2. Continuous paper feed

For the reason of above 1, the CF-301 is dried up faster than the CF-101, which makes it possible to feed papers continuously.

## 3. Image quality

The color ink is fixed on the CF-301 better than the CF101. This prevents white lines, and makes the edge of image smooth.

## 4. Finger mark before printing

Even if a finger mark is left on the CF-301 before printing, the oil of finger is absorbed in the numberless holes on the surface of CF-301. Therefore, a finger mark on the CF-301 is less conspicuous than the CF-101.

**Service Bulletin**

**Product ..... : DDE 1051 Laser printer**

**Date ..... : July 1993**

**Number of pages : 2**

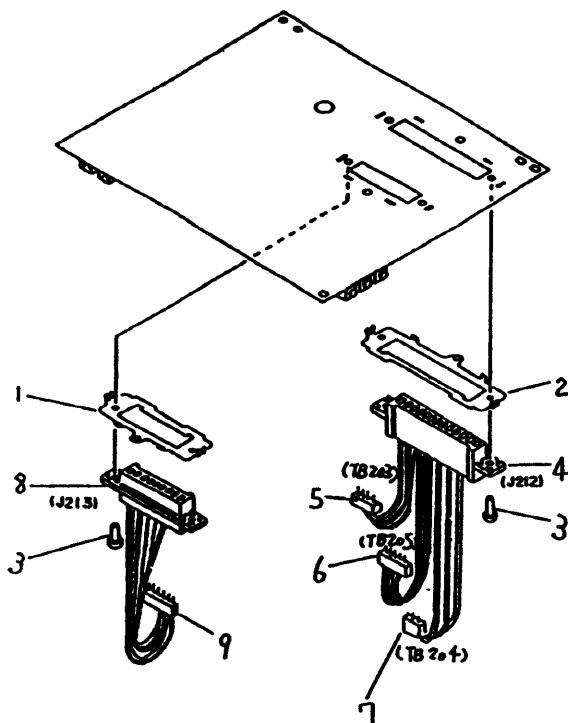


Fig. 930A: DC Controller P.C.B. Assembly (RG1-2706-050)

**Service Bulletin**

**Product ..... : DDE 40 Canon Matrix Printer**

**Date ..... : July 1993**

**Number of pages : 3**



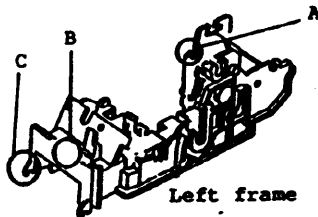
## COMPUTER SYST.

Model **BJ-300,  
BJ-330**

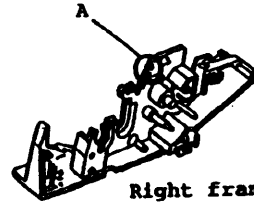
Number **PRNT-209  
(PB-12E-0025)**  
Date **20.11.1992**

### SUBJECT : PRINTER MECHANISM/LEFT & RIGHT FRAME

The following changes have been implemented in the shape of the left and right frames.



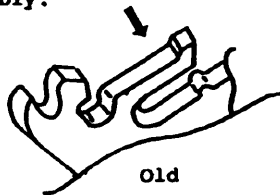
Left frame



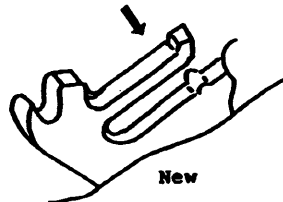
Right frame

- A. Left/Right frame: Increasing the length of claw which connects platen

The length of the claw has been increased to make the installation easier by bending in the direction of the arrow plially.



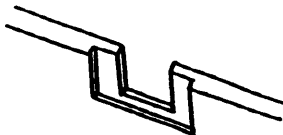
Old



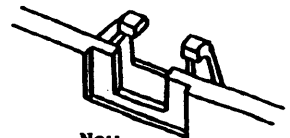
New

- B. Left frame: Changing shape of coupler plate support

To increase installation stability, the coupler plate has been widened as shown below.



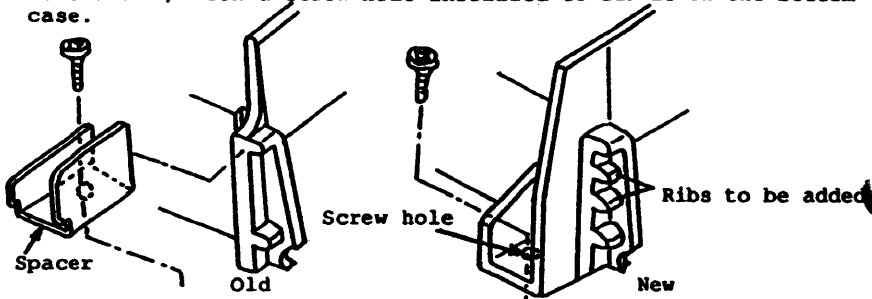
Old



New

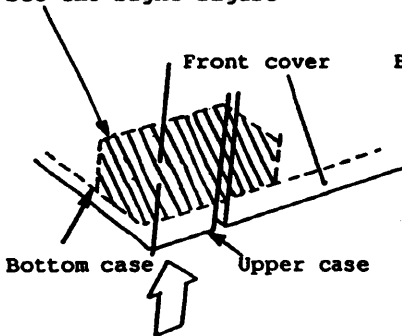
C. Left frame:

1. Changing the shape of connection to front cover  
 Ribs has been added to fortify the front cover installation.
2. Integrating spacer into left side of left frame  
 The current spacer has been integrated into the left side of the left frame, with a screw hole installed to fix it on the bottom case.

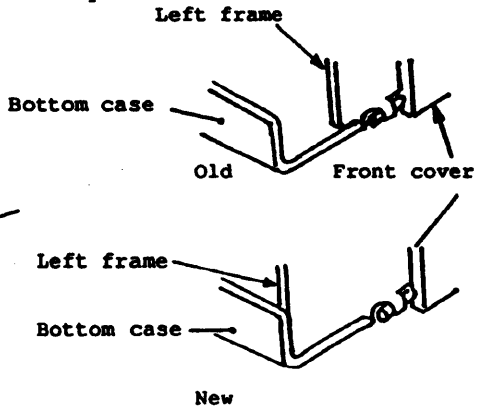


The change can be recognized by looking at the integrated spacer described above C-2 through the clearance between the upper case and bottom case. The current left and right frames have been changed into new ones simultaneously.

See the right figure



Look through here



**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"former" and "new" parts are <del>fully</del> interchangeable.	YY
"former" and "new" parts are <del>not</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>not</del> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>not</del> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	Remarks .Cont
	Former	New			
FRAME, right	QA2-0002-000	QA2-0628-000	1	YY	B2C ——— 10-11*1 B2C ——— 10-11*2
FRAME, left	QA2-0003-000	QA2-0629-020	1	YY	B2C ——— 10-12*1 B2C ——— 10-12*2

Notes:

- \*1. Refer to the Parts Catalogue for model BJ-300, with part number QY8-3119-000, dated Nov. 1990.
- \*2. Refer to the Parts Catalogue for model BJ-330, with part number QY8-3109-000, dated Sep. 1990.

TPP Field Change Notice no. 79

**Service Bulletin**

**Product .....** : DDE Canon Laser Printers

**Date .....** : November 1992

**Number of pages** : 21

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

DESCRIPTION	PART NUMBER		IC	P.CAT.	REMARKS
	FORMER	NEW			
IC, CPU, HPD7811HG	RH4-0064-040	RH4-0064-000	--	930-IC214	(RF-1ZE-009) Note: *1. Refer to the Parts Catalogue for model LBP-8III/8III PLUS, with part number RY8-3174-000, dated July 1991.
PHOTO-DIODE	RH7-7012-020	RH7-7012-000	--	930-J201	



LBP

Number **LBP-157B**  
(RQ-11-0366)  
Date **10.07.1992**

Model **LBP-4,**  
**LBP-4 PLUS,**  
**LPB-4 LITE**

## SUBJECT : FIXING ASSEMBLY/GROUNDING OF UPPER FIXING ROLLER

The location of D502 has been changed.  
Along with this change, the grounding method of the upper fixing roller has been changed. Refer to figures 1, 2 and 3.

Note: D501 is unnecessary, but is not eliminated for interchangeability with the old type fixing roller.

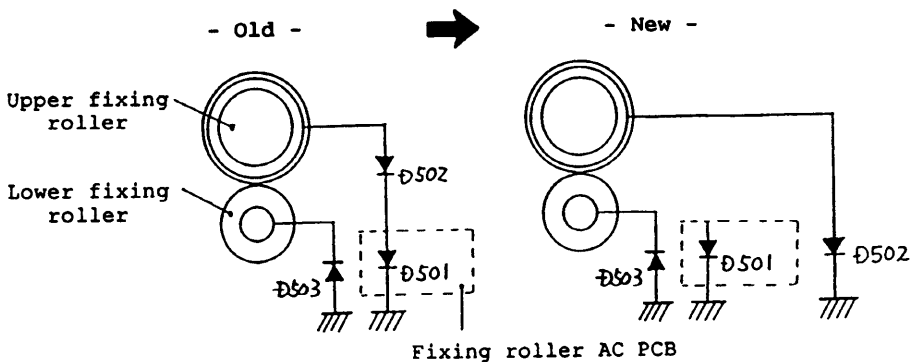


Figure 1

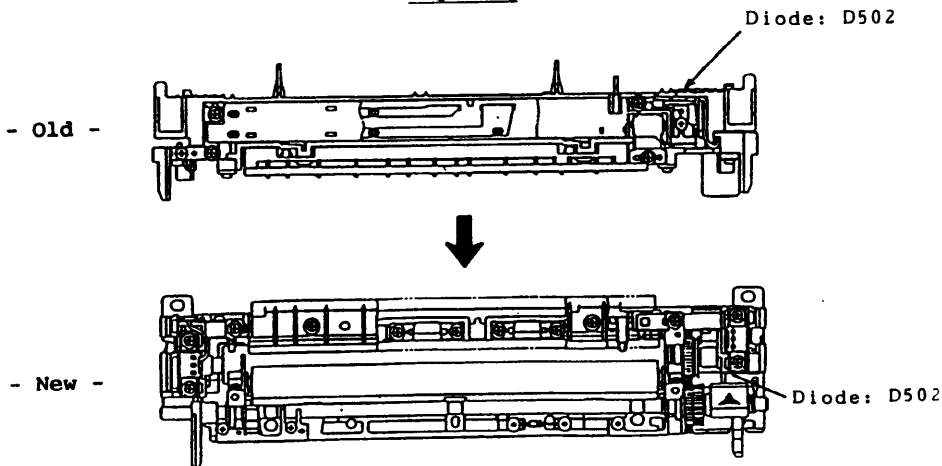


Fig. 2: Fixing Assembly

**LBP**

Number **LBP-230A**  
**(RY-11-0189)**  
 Date **25.09.1992**

Model **LBP-CX**

**SUBJECT : DC CONTROLLER P.C.B. ASSEMBLY**

The HAL, used on the DC Controller P.C.B. Assembly, has been changed as indicated in this bulletin.

**SERVICE PART**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YM
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
HAL	RH4-0026-030*2	RH4-0026-040*3	1	YY	931-IC207

**Notes:**

- \*1. Refer to the Parts Catalogue for model LBP-CX, with part number RY8-8101-060, dated Nov. 1988.
- \*2. PALCE16V8H-25PC (Refer to Service Bulletin LBP-230).
- \*3. PALCE16V8H-25PC/4.



LBP

Number **LBP-232 Rev.1** ←  
 (RF-11-0357)  
 Date **10.07.1992**

Model **LBP-SX,  
 LBP-8II,  
 LBP-8III**

**DESTROY : SERVICE BULLETIN LBP-232**  
**SUBJECT : LASER/SCANNER ASSEMBLY**

To increase the reliability of the Laser/Scanner Assembly, the "circuit constant" has been changed.

### SERVICE PART

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable: the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable: the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
LASER/SCANNER ASSEMBLY	RG0-0050-070	RG0-0050-090	1	YY	400*1 400*2 340-44*3

### Notes:

- \*1. Refer to the Parts Catalogue for model LBP-SX, with part number RY8-3114-020, dated May 1990.
- \*2. Refer to the Parts Catalogue for model LBP-8II, with part number RY8-3113-010, dated July 1987.
- \*3. Refer to the Parts Catalogue for model LBP-8III/8III PLUS, with part number RY8-3174-000, dated July 1991.

L B P

Number **LBP-233**  
(RQ-11-0350)  
Date **15.05.1992**

Model **LBP-4,**  
**LBP-4 PLUS,**  
**LBP-4 LITE**

**SUBJECT : H.V. CONTACT ASSEMBLY**

When the EP-L cartridge is installed, the plate contact mount might be deflected. To prevent this, the shape of the plate contact has been modified as shown in figures 1, 2 and 3.

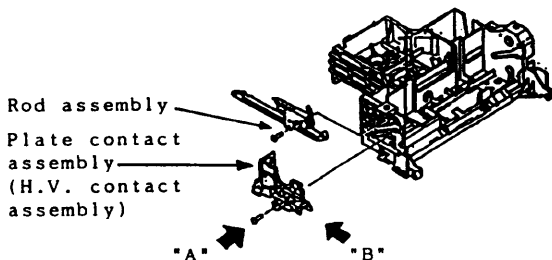


Figure 1

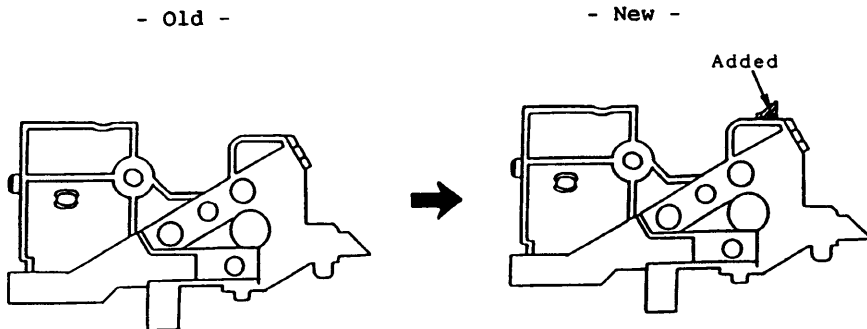


Fig. 2: View "A" in figure 1

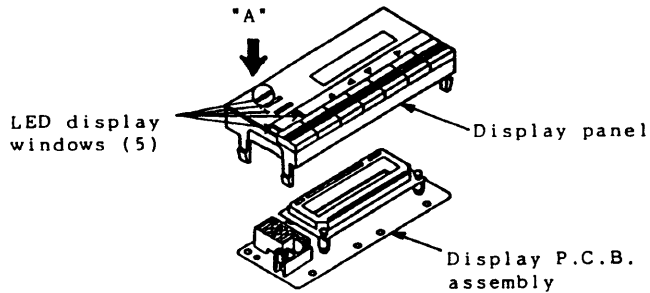
LBP

Number **LBP-234**  
(RF-11-0368)  
Date **15.05.1992**

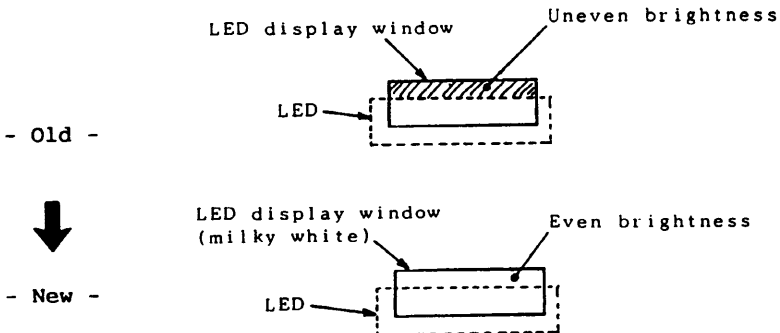
Model **LBP-8III,**  
**LBP-8III PLUS**

**SUBJECT : LED DISPLAY WINDOWS**

The LED display windows may not overlap the LEDs completely, causing uneven brightness. To ensure even brightness, the back of the LED display windows is painted in milky white. Refer to figures 1 and 2.



**Figure 1**



**Fig. 2: View "A" in figure 1**

L B P

Number **LBP-235**  
(RQ-11-0357)  
Date **15.05.1992**

Model **LBP-4,**  
**LBP-4 PLUS,**  
**LBP-4 LITE**

**SUBJECT : VIDEO CONTROLLER P.C.B. ASSEMBLY**

The EEPROM on the Video Controller P.C.B. Assembly has been changed.

### SERVICE PARTS

#### INTERCHANGEABILITY

CODE

"Former" and "new" parts are fully interchangeable. YY  
"Former" and "new" parts are not interchangeable. NN  
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN  
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY  
Interchangeable on condition: a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
EEP-ROM*4	SF5-4167-000*2	SF5-4167-020*3	1	YY	931-IC26
EEP-ROM*5	RF1-3327-000*2	RF1-3327-020*3	1	YY	931A-IC20

#### Notes:

- \*1. Revision-0, dated Aug. 1991.
- \*2. NMC9306N
- \*3. NM9306N
- \*4. For models LBP-4, LBP-4 LITE.
- \*5. For model LBP-4 PLUS.

L B P

Number **LBP-236**  
(RQ-11-0354)  
Date **15.05.1992**

Model **LBP-4,**  
**LBP-4 PLUS,**  
**LBP-4 LITE**

**SUBJECT : H.V. POWER SUPPLY P.C.B. ASSEMBLY**

Resistors R53, R54, R55 and R86 on the H.V. Power Supply P.C.B. Assembly have been changed.

### SERVICE PARTS

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable: the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable: the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
RESISTOR	VR1-1141-689	VR5-3530-689	3	NY	980-R53, R54, R55
RESISTOR	VR1-1141-229	VR5-3530-229	1	NY	980-R86

Note:

\*1. Revision-0, dated Aug. 1991.



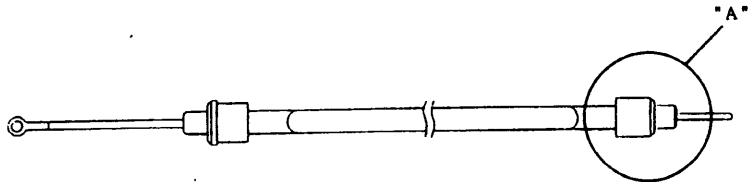
LBP

Model **LBP-4,**  
**LBP-4 PLUS**  
**LBP-4 LITE**

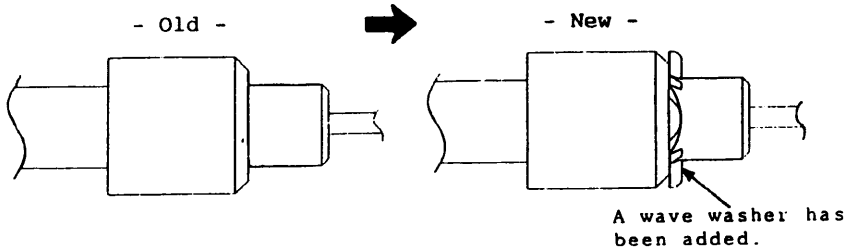
Number **LBP-238**  
**(RQ-11-0362)**  
Date **05.06.1992**

**SUBJECT : FIXING ASSEMBLY/HALOGEN HEATER**

To lessen the impact on the halogen heater during transportation, a wave washer has been added to the heater. Refer to figures 1 and 2.



**Fig. 1: Halogen heater**



**Fig. 2: View "A" (figure 1)**

### SERVICE PART

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
HALOGEN HEATER	RH7-4033-000	RF1-3304-000	1	YY	810-41

**Note:**

\*1. Refer to the Parts Catalogue for models LBP-4/4 PLUS/4 LITE, with part number RY8-3175-010, dated Apr. 1992.

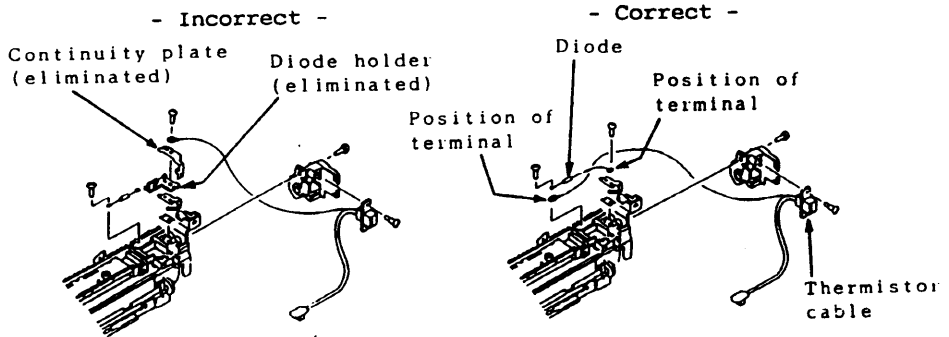
LBP

Number **LBP-239**  
(RQ-11-0363)  
Date **05.06.1992**

Model **LBP-4 PLUS**  
**LBP-4 LITE**

**SUBJECT : CORRECTION OF PARTS CATALOGUE**

Please correct the errors in Figure 810 (Fixing Assembly) of the Parts Catalogue for models LBP-4 PLUS & LBP-4 LITE as shown in figure 1.



**Figure 1**

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable: the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable: the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
CONTINUITY PLATE	RA1-8245-000	-----	1→0	--	810-58
DIODE HOLDER	RA1-8246-000	-----	1→0	--	810-59

**Note:**

- \*1. Refer to the Parts Catalogue for models LBP-4/4 PLUS/4 LITE, with part number RY8-3175-010, dated Apr. 1992.



**LBP**

Model **LBP-8II,  
LBP-SX**

Number **LBP-240  
(RF-11-0372)**  
Date **10.07.1992**

**SUBJECT : CORRECTION OF PARTS CATALOGUE**

The part number of the optical fiber in the Parts Catalogue has been corrected as indicated below.

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are fully interchangeable. **YY**  
 "Former" and "new" parts are not interchangeable. **NR**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat.
	Former	New			
OPTICAL FIBER	RH2-5053-000	RH2-5108-000	1	NY	105-9* <sup>1</sup> 105A-9* <sup>1</sup> 105B-9* <sup>1</sup> 103-18* <sup>2</sup>

**Notes:**

- \*1. Refer to the Parts Catalogue for model LBP-SX, with part number RY8-3114-020, dated May 1990.
- \*2. Refer to the Parts Catalogue for model LBP-8II, with part number RY8-3113-010, dated July 1987.

L B P

Model **LBP-4,  
LBP-4 PLUS,  
LBP-4 LITE**

Number **LBP-241  
(RQ-11-0368)**  
Date **10.07.1992**

**SUBJECT : PICK-UP ROLLER ASSEMBLY**

To reduce rattling of the idler ring, the following modifications were implemented:

1. The inner diameter of the idler ring has been increased (figure 1).
2. The position of the groove for an E-ring in the paper pick-up roller shaft has been changed (figure 2).

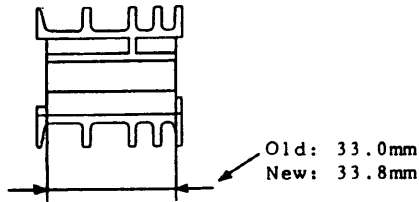


Fig. 1: Idler ring (cross section)

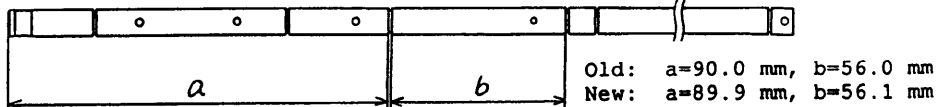


Fig. 2: Paper pick-up roller shaft

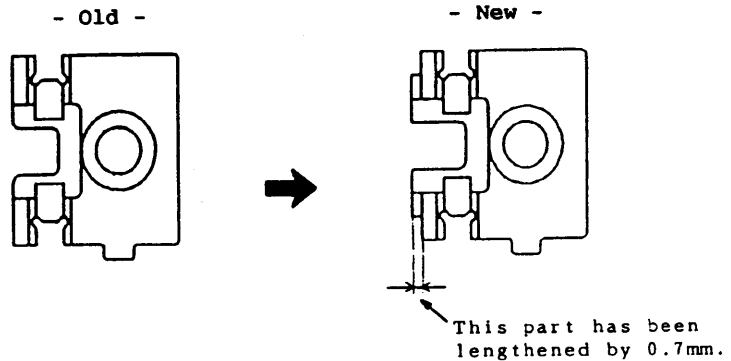
LBP

Number **LBP-242**  
(RQ-11-0373)  
Date **10.07.1992**

Model **LBP-4,**  
**LBP-4 PLUS,**  
**LBP-4 LITE**

**SUBJECT : FIXING ASSEMBLY/SHAPE OF BUSHING**

The lower fixing roller bushing in the Fixing Assembly has been modified as illustrated in figure 1.



**Fig. 1: Bushing**

### SERVICE PART

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NW
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
BUSHING	RA1-7586-000	RA1-7586-030	2	YY	810-6

### Note:

- \*1. Refer to the Parts Catalogue for models LBP-4/4 LITE/4 PLUS, with part number RY8-3175-010, dated Apr. 1992.

L B P

Number **LBP-243**  
(RF-11-0373-1)  
Date **10.07.1992**

Model **LBP-8III**

**SUBJECT : VIDEO CONTROLLER P.C.B. ASSEMBLY/CPU**

The CPU on the Video Controller P.C.B. Assembly has been changed.

### SERVICE PARTS

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
CPU	WA3-3905-000	RH4-9027-000	1	NN	931-IC2
VIDEO CONTROLLER P.C.B. ASSEMBLY	SG5-4150-120	SG5-4150-180	1	YY	931

**Note:**

- \*1. Refer to the Parts Catalogue for models LBP-8III/8III PLUS, with part number RY8-3174-000, dated July 1991.

LBP

Number **LBP-244**  
**(RQ-11-0375)**  
 Date **10.07.1992**

Model **LBP-4 LITE**

**SUBJECT : VIDEO CONTROLLER P.C.B. ASSEMBLY/CPU**

The CPU on the Video Controller P.C.B. Assembly has been changed. A choke coil has been added to the P.C.Board at the same time.

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are <del>not</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
CPU	SH8-4356-000	RH4-9027-000	1	NN	931-IC8
CHOKE COIL	----	WE2-5016-000	0>1	--	931-...
VIDEO CONTROLLER P.C.B. ASSEMBLY	SG5-4003-040	UNCHANGED	1	YY	931

**Note:**

1. Refer to the Parts Catalogue for models LBP-4/4 LITE/4 PLUS, with part number RY8-3175-010, dated Apr. 1992.

L B P

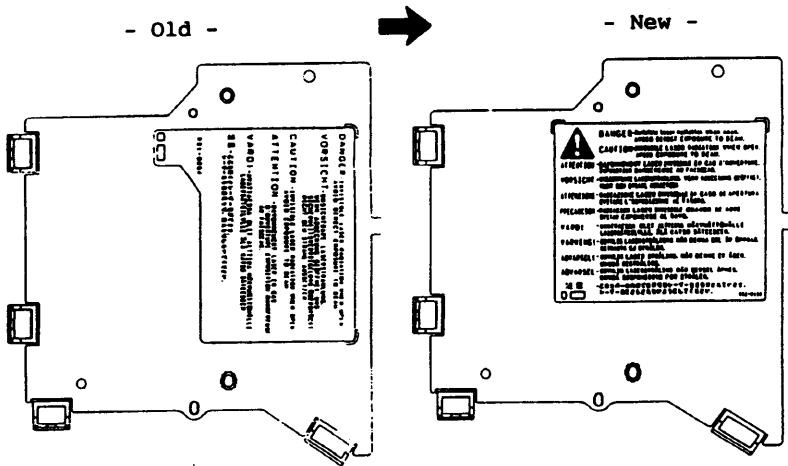
Number **LBP-245**  
(RQ-11-0371)  
Date **10.07.1992**

Model **LBP-4,**  
**LBP-4 PLUS,**  
**LBP-4 LITE**

**SUBJECT : LASER WARNING LABEL**

To comply with the safety standard of laser, the laser warning label has been modified (figure 1):

- 1) The warning, written in six languages before, is now written in ten languages.
- 2) The warning sign has been added.
- 3) The shape of the label has been changed. Along with this, the position of the rib on the cover has also been changed.



**Fig.1: Cover**

**LBP**

Number **LBP-246**  
(RM-11-0196)  
Date **21.08.1992**

Model **LBP-RX/TX,**  
**LBP-8IIR/8IIT,**  
**LBP-8IIR/8IIIT**

**SUBJECT : DC CONTROLLER P.C.B. ASSEMBLY/ZENER DIODE**

The Zener diode on the DC Controller P.C.B. Assembly has been changed. Along with this, resistor R212 has also been changed.

### SERVICE PARTS

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
DIODE	WA1-0371-000* <sup>3</sup>	WA1-0329-000* <sup>4</sup>	1	C* <sup>2</sup>	930-ZD203
RESISTOR	VR5-0810-331* <sup>5</sup>	VR5-0810-391* <sup>5</sup>	1	C* <sup>2</sup>	930-R212

### Notes:

- \*1. Refer to:
  - The Parts Catalogue for model LBP-RX, with part number RY8-3119-010, dated Apr. 1989.
  - The Parts Catalogue for model LBP-TX, with part number RY8-3122-010, dated Apr. 1989.
  - The Parts Catalogue for model LBP-8IIR, with part number RY8-3123-010, dated Apr. 1989.
  - The Parts Catalogue for model LBP-8IIT, with part number RY8-3124-010, dated Apr. 1989.
  - The Parts Catalogue for model LBP-8IIR, with part number RY8-3149-000, dated July 1989.
  - The Parts Catalogue for model LBP-8IIIT, with part number RY8-3148-000, dated May 1989.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.
- \*3. Zener diode: HZ9A-2
- \*4. Zener diode: HZ9A-1
- \*5. Resistor: 330Ω/1W → 390Ω/1W

LBP

Number **LBP-247**  
(RM-11-0199)  
Date **25.09.1992**

Model **LBP-RX/TX,**  
**LBP-8IIR/8IIT,**  
**LBP-8IIIR/8IIIT**

**SUBJECT : MAIN BODY BLOCK ASSEMBLY**

The hook plate has been eliminated. Along with this change, ribs have been added to the right hook. Refer to figures 1 and 2.

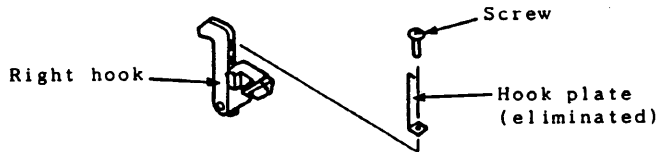


Figure 1

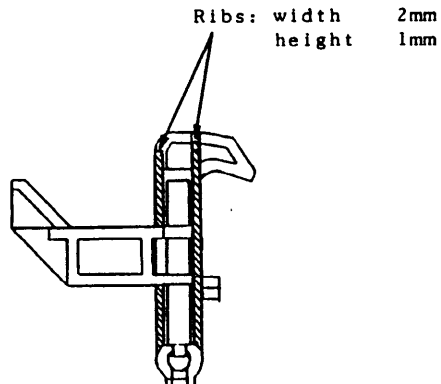


Figure 2: Right hook



LBP

Number **LBP-248**  
(RF-11-0377)  
Date **25.09.1992**

Model **LBP-SX,**  
**LBP-8II,**  
**LBP-8III/8III PLUS**

**SUBJECT : MAIN BODY BLOCK ASSEMBLY**

The hook plate has been eliminated. Along with this change, ribs have been added to the right hook. Refer to figures 1 and 2.

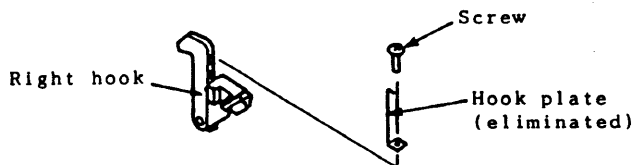


Figure 1

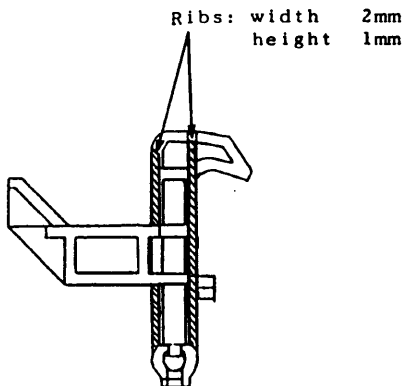


Figure 2: Right hook

DATE: 23.11.92

MODULE: DDE 70/Facit E950

**CATEGORY:**

production change : Check units in stock  
In the field: Before OCR-B font cards are to be used.

**CORRECTS THE ERROR:** OCR-B font cards do not work..

**TOOLS NEEDED:**

- IC extractor.
- screwdriver.

**DESCRIPTIONS:**

New firmware for Facit E950/9010 printer, that will handle OCR-B font cards. This version, R6B requires Engine CPU D1000 version R4A.

**SERVICE KIT:** Stock No. 95140780 contains:

Two 27C1001 PROMs, labelled:

21001064-05
E000 R6B
9010 D23 244

21001065-05
C800 R6B
9010 D20 244

**ESTIMATED REPAIR TIME:** 20 minutes

**NOTE:** Sites with immediate requirements has already been serviced directly by oje/BW

lea/BA



CHANGES IN THE PROGRAM COMPARED TO REV R5B:

GENERAL

- Fault when changing between two font cards corrected.
- The backward paper feed when powering up the printer in Tear Off mode is reduced.
- It is now possible to use LQ print quality from a font card without tilting the print head. The text will be printed in two passes with 1/144" paper feed between passes. This feature is designed for OCR printing and requires a specially made font card.
- To make colour printing better, printing always starts with print direction left-to-right when print colour is changed from black to red.
- To make sure that the ribbon does not catch in the form aligner during colour initialization the print head is always moved to a fixed position when the colour ribbon is initialized.
- To make it easier to remove fanfold paper from the printer a Park function has been introduced. If the NO-key is depressed with the printer OFF-LINE reverse paper feed will be made. When the top edge of the paper is sensed the printer will signal Paper End. It is now easy to remove the paper.
- In earlier revisions the Tear Off movement only worked if the movement to TOF was made with a Form Feed command. Now any feed command (LF, FF, etc.) causing the paper to be placed at TOF will give the Tear Off movement after the usual time out period.
- The TOF position can now be adjusted with the Adj. Arrows up and down.

COMMUNICATION

- Serial ready/busy signal is changed so that the busy signal is synchronized with the stopbit of received data. This makes the interface compatible with older ICL systems.

SET UP

- New form length, 16 inch, added.
- Parameter for left margin added. Values in 1/10" can be selected. Valid in IBM, Epson, and 5162 emulations.
- Parameter for TOF added. TOF position can be selected in values of 1/6". Valid in IBM, Epson and 5162 emulations.
- To be able to get the same width of variable size strings as in the 4542 printer there is a new set up parameter introduced. When selecting 5162 emulation the horizontal resolution in variable size/barcode strings can be set to D960 (72 dpi) or 4542 (70 dpi). Note that when 4542 (70 dpi) is selected the variable size/barcode strings will be printed unidirectionally and with a lower print quality which can effect the readability of barcodes.
- A fault in the parameter "Print head gap adjust" is corrected. The values +6 and higher were wrong.

5162 EMULATION:

## Added commands:

- ESC % v (1B 25 56) Select Font Extension Table II SI. This gives 12.7 cpi font (4542 multi-pitch char. gen.)
- GS (1D) Underline
- ESC 8 / ESC 9 (1B 38 / 1B 39) Set/Cancel Unidirectional printing
- ESC Q N y (1B 51 N 79) Set end of form position
- ESC Q N r (1B 51 N 72) Set left margin
- ESC Q r (1B 51 72) Clear left margin
- ESC g / ESC h (1B 67 / 1B 68) Set / Cancel 15 cpi

## Changed commands:

- ESC Q N x (1B 51 N 78) Set form length.  
The range is now 1 - 249. Note that max form length is 22"
- ESC Q N w (1B 51 N 77) Set vertical tab stop.  
The value of N is always set in 6 LPI regardless of selected line spacing.
- ESC Q N t / ESC Q N u (1B 51 N 74 / 1B 51 N 75) Set LF value forward/backward.  
If N = 0 the value selected in the Set Up is valid.
- DEL (7F) is now ignored.
- LF (0A): Auto CR is now performed only if this is selected in the set up.
- HT (09): If receiving more HT commands than the number of set tab stops each excessive HT will result in a space movement.

## Changes in Set Up:

To be able to get the same width of variable size strings as in the 4542 printer there is a new set up parameter introduced. When selecting 5162 emulation the horizontal resolution in variable size/barcode strings can be set to D960 (72 dpi) or 4542 (70 dpi). Note that when 4542 (70 dpi) is selected the variable size/barcode strings will be printed unidirectionally and with a lower print quality which can effect the readability of barcodes.

### IBM EMULATION

- Master Select (1B 21 n) added. This is the same command as in the E/E-line printers and is beyond the standard IBM proprinter commands.
- Reset command (1B 40) added. This is the same as the Epson Init command and is beyond the standard IBM proprinter commands.
- A bug is corrected which caused the printer to block when switching between character sets after a string of spaces.
- 16-pin graphics commands are added. The new commands are:

ESC + K (1B 2B 4B)  
ESC + L (1B 2B 4C)  
ESC + Y (1B 2B 59)  
ESC + Z (1B 2B 5A)

See also the Programming Manual about graphics commands.  
Note that this does not double the graphics throughput but the speed is increased by about 20%.

### EPSON EMULATION

- 16-pin graphics command is added. The new command is:

ESC u m nl n2 V1...Vx (1B 75 m nl n2 V1...Vx).

For a more detailed explanation of the parameters please, refer to the Programming Manual description of 9-pin graphics.

- The TOF and Tear Off positions are corrected after a reset command Esc É (1B 40).
- In command Master Select a bug is fixed so that the parameter value 80h (underline) is ignored if command MSB=0 (ESC = <1B 3D>) has been received.
- Command ESC x n (1B 78 n) is changed:  
n=0 gives DQ1 if DQ1 is selected in Set Up (Default DQ2)  
n=1 gives NLQ  
n=2 gives LQ
- Command ESC k n (1B 6B n) is changed:  
n=0 gives resident font Courier in LQ  
n=1 gives resident font Letter Gothic in LQ  
n=2 selects font card 1  
n=3 selects font card 2

### DEC EMULATION

- No form feed is performed when changing between IBM and DEC emulations if paper is already positioned at TOF.

TPP Field Change Notice No. 77

(final)

DATE: 23.10.92

MODULE: DDE 70/Facit E950 (TMN 397)

**CATEGORY:**

production change : none

In the field: add to TMN 397 & TMN 398

**CORRECTS THE ERROR:** see each SB

**TOOLS NEEDED:** none

**DESCRIPTIONS:** Various Facit Service Bulletins:

SB No.: 462      Maintenance advice.

SB No.: 463      Print Head Cable.

See also previous collection, TPP FCN 076.

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** 10 min.

lea/BNA

# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: Sept 1992

SB No.: 462

Info No.: 13

Sheet No.: 1 (1)

Handled by: Olle Sandström

### **MAINTENANCE ADVICE**

**Main shaft:** The main shaft must not be oiled. There are graphite bushings in the carriage and they do not require any further lubrication. Oil on the shaft will together with paper dust cause binding of the carriage and also cause severe wear of the bushings. The only maintenance necessary on the main shaft is to clean it periodically with a soft cloth moistened in alcohol.

**Print head:** The print head must never be opened. Even though it seems to be quite a simple operation to open the print head e.g. for cleaning it may cause irreparable damage.

The parts are mounted in the factory in fixtures and with such extremely high demands on exactness that it is impossible to assemble in the field.

It is also of interest for us to find out why a print head has failed and this may be impossible if the head has been tampered with in some way.

**Print bar adjustment:** In the Service Manual section 6.5 it is stated that the maximum deviation from 0 is +/- 10 us. Later experience have shown that the internal measurement method is not accurate enough to make such a statement. The readings on the display should instead be used as guidance only and the print result is what counts.

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# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: Sept 1992

SB No.: 463

Info No.: 14

Sheet No.: 1 (1)

Handled by: Olle Sandström

### **PRINT HEAD CABLE**

There have been some problems with the flat cable connection in the print head. Some times the cable can come loose from the connector.

In order to overcome this we have now fixed a special tape to the cable to increase the thickness of the cable and also to improve the friction against the print head connector.

If the tape is obtained locally it must have the following properties:

Material	Polypropen
Thickness	0.08 mm
Temperature	Up to +120 degrees C

The tape we are using in production is called TESA 4287.

Modification is only necessary in case of problem.

All cables in our stock are taped.

The taped cables are introduced in production from serial number 9227 0001.

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0120 140 05

**DATE:** 02.10.92

**MODULE:** DDE 70/Facit E950 (TMN 397)

**CATEGORY:**

production change : none

In the field: add to TMN 397 & TMN 398

**CORRECTS THE ERROR:** see each SB

**TOOLS NEEDED:** none

**DESCRIPTIONS:** Various Facit Service Bulletins:

SB No.: 414	Service Memory Card available.
SB No.: 415	New program revisions announced.
SB No.: 420	Improved ribbon feed mechanism.
SB No.: 422	New program revisions announced.
SB No.: 432	Rear Cover and Power On push bar.
SB No.: 437	Transparant Front replacement.
SB No.: 438	Corrections to Spare parts list (DDE TMN 398)
SB No.: 443	New program revisions announced.
SB No.: 446	Emulation board in 9062 system module.
SB No.: 451	Paper feed
SB No.: 452	New program revisions announced.

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** 10 min.

lea/BNA

# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: December 1991

SB No.: 414

Info No.: 2

Sheet No.: 1 (1)

Handled by: Olle Sandström

### **SERVICE MEMORY CARD**

The Service memory card as described in the E950/D960 Service Manual is now available both programmed and ready to use and as an "empty" component.

The part numbers are:

Programmed memory card: 2100 13 63-00  
"Empty" card 64kx8            2100 62 53-20

#### **IMPORTANT NOTICE**

If program revision R3A/145 is installed in the printer the function "Adjustment of PH gap" will not work with the service card. This adjustment is then made from the control panel with the printer in Soft Set Up mode:

Go to menu heading **SYSTEM OPER ADJ**

Go to sub menu heading **PH GAP ADJUST**

Here values from -2 to +5 can be selected where each step represents 0.02 mm and default value for 0 is a PH gap of 0.20 mm.

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# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: December 1991

SB No.: 415

Info No.: 3

Sheet No.: 1 (3)

Handled by: Olle Sandström

### PROGRAM REVISION

### PART NUMBERS FOR SYSTEM CIRCUIT BOARDS

New program revisions for the control units 9010, 9075 and the slave CPU on the Engine board have been released. The part numbers, location, checksums and rev. levels are as follows:

#### Control module 9010:

System circuit board 119 68 10-10

D23 2100 10 64-05 Check sum 1900 Rev. level R3A/145

D20 2100 10 65-05 Check sum 8900 Rev. level R3A/145

#### Control module 9075:

System circuit board 119 68 10-10

D23 2100 10 64-06 Check sum 2600 Rev. level R3A/145

D20 2100 10 65-06 Check sum 1100 Rev. level R3A/145

#### Control module 9062:

System circuit board 119 68 10-20

D23 2100 10 64-01

D20 2100 10 65-01

5162 Emulation board 2100 13 04-00

U1 2100 14 28-00

U2 2100 14 29-00

If a 9062 control unit is to be updated it is necessary to replace all 4 PROMs to assertion correct operation.

Note that the rev. levels for the 9062 boards are not yet finalized.

Engine board slave CPU 2100 10 52-00 Rev. R4A

The above PROM-revisions are introduced in production from serial number approx 9148 xxxxx.

Note that if a control module is to be updated with a new program revision both PROMs must be replaced and the following procedure carried out:

Before replacement make a print out of Current Values.  
After replacement the display will show "EEROM ERROR" at Power On.  
Press the key "CLEAR/EXIT".  
Press the key "ENTER/YES" to enter the Soft Set Up mode.  
Select "DEFAULT" in the menu.  
Select "Load factory values".  
Save these values and return to the Soft set up mode again to restore the original values again.

CHANGES ON THE CONTROL UNIT PROGRAM COMPARED TO REVISION R2A/124:

Paper jam detector introduced. A Set up parameter is used to set the paper jam function valid or not valid.

A new main menu heading is introduced. The name is SYSTEM OPERATOR ADJ. Under this heading various adjustments and trimmings are collected. The headings are: Vertical alignment adjustment (Vert align adj), Position for print head adjustment (Pos for ph adj), Print head gap adjust (Ph gap adj), Graphics print.

The fixed gap between the print head and the paper can be adjusted in the Set up menu. The Main menu heading is "System Oper Adj". Under this heading is "Ph gap adjust" and the values -2 to +5. The default value 0 gives a print head gap of 0.20 mm. Each step represents 0.02 mm which gives an adjustment range from 0.16 to 0.30 mm.

The program PROM is now neutral relative the circuit board. This means that PROMs for 9010 can be mounted in a 9075 control unit and vice versa.

The texts for multipart paper types are changed to: ORIGINAL ONLY, MULTIPART NORMAL and MULTIPART HEAVY.

The text PRINT QUALITY ADJ is changed to VERTICAL ALIGN ADJ.

The busy pin on the serial interface is set high when Xon/Xoff protocol is selected. This will make the interface compatible with B-line and other E-line printers.

The command for double height is implemented in EPSON emulation.

The character tables for IBM can be selected from Set up if Epson emulation is active.

Problems with the printer blocking in some systems when parallel interface was used have been corrected.

The status report in DEC emulation is now valid only if serial interface is used.

Paper position error that occurred at a new paper load, after paper end during printing, is corrected.

Wrong paper end position after manual TOF is corrected.

Problem that the printer blocked when it received faulty data on the serial interface i.e. parity error wrong baud rate or framing error is corrected.

CHANGES ON THE ENGINE PROGRAM COMPARED TO REVISION R3A:

If cover is open at power on no movements of carriage and paper is performed. The cover must be closed to initialize the printer.

Improved paper jam function.

# FACIT Service Bulletin

Product: E950/D960

Date: January 1992

SB No.: 420

Info No.: 4

Sheet No.: 1 (1)

Handled by: Olle Sandström

## IMPROVED RIBBON FEED MECHANISM

In order to improve the life span of the ribbon feed gear housing a change in the design has been made. The new gear housing is secured to the motor bracket with two screws to make sure that no play in the gears occur.

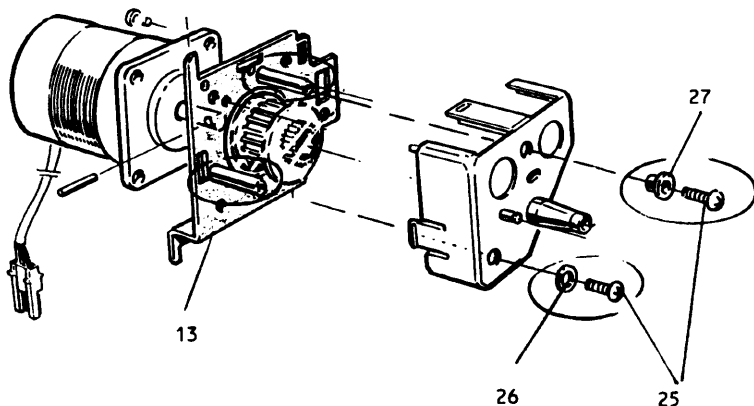
The new gear housing can be mounted the same way as the old one using the snap locks only.

If the improved design is to be fully utilized the following details must be replaced or added at the same time:

See fig. below from page 16 in the Spare Parts List.

Item	Part No.	Description	Quantity
13	2100 11 60-00	Motor bracket	1 changed
25	0724 12 22-01	Screw	2 added
26	0734 11 24-01	Washer	1 added
27	2100 11 62-00	Washer	1 added

The new design was introduced in production approx. from serial number: 9138 xxxxx.



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# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: February 1992

SB No.: 422

Info No.: 5

Sheet No.: 1 (3)

Handled by: Olle Sandström

### **PROGRAM REVISION**

New program revisions for the 9062 Control Module are now released:

System circuit board:

D20 R3C/203 check sum EC00

D23 R3C/203 check sum 7800

5162 Emulation board:

U1 R2A/203 check sum 1957

U2 R2A/203 check sum CECB

A Rev. C of the emulation board has also been released. If this Rev. of the board is used, the two 27256 program PROMs have been changed into one 27512 PROM. The part number, Rev. level and check sum for this PROM is:

U1 R2A/203 check sum A720 part number 2100 14 52-00.

The Rev. level of the board is etched on the soldering side of the board.

See next page for a list of program changes.

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CHANGES IN THE PROGRAM COMPARED TO REV. R3A

There has also been an intermediate Rev. R3B for a short period. This Rev. contained a few of the changes listed below.

GENERAL

- Problem with missed parts of the printing corrected. In the earlier versions parts of printouts could be missing if the parallel port was used or the serial port at high baudrate.
- Bug in ETX/ACK and ENQ/ACK protocol fixed.
- Xon/Xoff protocol changed so that when the buffer is full one Xoff character is transmitted for each received character.

IBM EMULATION

- In command "Double height print" the parameter  $m$  can now be excluded from the command string. In this case parameter  $n$  must be changed to 03H. In previous revisions this was not possible.
- Command "Select print mode" (1B 49 n) hex is changed as follows:

<u>n</u>	<u>Print Mode</u>
0	DQ 10cpi
1	DQ 12cpi
2	NLQ 10cpi
3	LQ 10cpi
4	DQ Download 10cpi
6	LQ Download 10cpi (algor)

- The following commands did cause rubbish to be printed but are now ignored:  
Esc [ (1B 5B) hex followed by any of the following: F I K Q S T \ h i j l m w  
(46 49 4B 51 53 54 5C 68 69 6A 6C 6D 77) hex.
- New commands: Esc g (1B 67) hex: select 15 cpi.  
This command works as Elite (12cpi). Only the pitch differs.  
Esc H (1B 68) hex: select 10cpi

EPSON EMULATION

- The command Esc J n (1B 4A n) is changed so that it now works correctly also when TOF is passed.
- A fault when format length >12 inches was selected is now corrected.

SET UP

- Serial parameter "7 bits no parity" added to the Set Up.
- The following format lengths are added in the Set Up:  
7, 9, 10, and 17 inches.
- A fault when format length >12 inches was selected is now corrected.

## 4542 COMMANDS

- In Rev. R3B the following new 4542 commands where added:

Set format length in lines:	Esc Q nnn x (1B 51 nnn 78) hex
Colour shift	1C hex
Elongated character	1E hex

The commands 1C and 1E where in Rev. R3B reset to normal on Carriage return. This is changed in Rev. R3C so that they remain valid until the command 1F hex is received.

- New command in Rev. R3C: Return to normal 1F hex.

## THE FOLLOWING CHANGES HAVE BEEN MADE ON THE 5162-EMULATION PROGRAM:

- Bug in Barcode 39 fixed.
- Bug in the size commands for danger symbols is fixed.
- Vertical or horizontal positioning errors could occur if variable size strings without printable data where sent or if a string where terminated with a string of several termination codes. This is now corrected.

# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: March 1992

SB No.: 432

Info No.: 6

Sheet No.: 1 (1)

Handled by: Olle Sandström

### **REAR COVER**

It has been decided that the rear plastic cover will not be mounted on the printers as standard any more. Instead the metal plate holding the engine board is made better looking by closing the holes.

Printers with serial number over 9142 ~~xxxx~~ will be without plastic cover in the rear. Covers are however still available on request. The part number is: 108 11 60-00.

### **POWER ON PUSH BAR**

The power on push bar through the control unit is running through an oblong hole in the control unit base. This can sometimes make it difficult to fit the control unit in place. A change will be made so that the push bar will fit directly on the power on switch. In the mean time, for easiest possible assembly, place the bar towards the front of the control unit before it is placed in the printer.

# Service Bulletin

Product: E950/D960

Date: April 1992

SB No: 437

Info No: 7

Sheet No: 1 (1)

Handled by: Olle Sandström

## TRANSPARENT FRONT 108 11 61-00

There has been problems with the revers paper feed because some papers could catch against the sharp angle in this front. The fault is more frequent when the printer is in Tear Off mode when the paper is pulled back to print position after the tearing.

This can be solved by adding or removing a mylar strip inside the transparent front. Which measure is necessary is depending on the type of paper used. Ususally a stiff paper works better with the mylar and a soft paper without. It is also possible to make a support so that the cover lid is held 1-2 mm higher to get a wider paper path.

The front is now redesigned and has a smoother paper path then before. The above mentioned methods to improve the operation is not necessary any more.

The new front can be mounted on old cover lids but this is only necessary in case of problems.

The new front was introduced in production from serial number approx. 9205 xxx.

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# **FACIT** **Service Bulletin**

Product: E950/D960

Date: April 1992

SB No.: 438

Info No.: 8

Sheet No.: 1 (1)

Handled by: Olle Sandström

## **CORRECTIONS AND ADDITIONS TO THE SPARE PARTS LIST**

Please enter the following changes and additions in your Spare Parts List:

Page 5 Item 4 108 11 58-00 Cover lid E950  
108 11 58-10 Cover lid D960

Page 5 Item 9 2100 11 36-00 is removed.

Page 13 Item 5 2100 01 91-00 is changed to 2100 05 39-00

Page 15 Item 13 2100 04 10-00 Compression spring is added  
(these are the compressions springs on the print head)

Page 25 Item 2 119 68 10-10 System circuit board compl. 9010, 9075  
119 68 10-20 System circuit board compl. 9062

Item 3 119 66 71-10 Control panel circuit board 9010, 9075  
119 66 71-30 Control panel circuit board 9062

Item 10 138 00 79-10 Key board overlay for 9062

Item 18 2100 13 04-00 5162 Emulation board for 9062

Underlined text is added in the Spare Parts List.

### **Program**

PROM's: 9010: D20 2100 10 65-05 9075: D20 2100 10 65-06  
D23 2100 10 64-05 D23 2100 10 64-06

9062 System board: D20 2100 1065-01  
D23 2100 10 64-01

5162 Emulation board Rev. A and B 2 x PROM 27256:  
U1 2100 14 28-00  
U2 2100 14 29-00

5162 Emulation board Rev. C 1 x PROM 27512:  
U1 2100 14 52-00

Others: Test memory card 2100 13 63-00  
"Empty" card 64k x 8 2100 62 53-00

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# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: May 1992

SB No.: 443

Info No.: 9

Sheet No.: 1 (5)

Handled by: Olle Sandström

### **PROGRAM REVISION**

New program revisions for all three system modules are now released:

9010 system module:

D20 2100 10 65-05 R5A/217 checksum B600

D23 2100 10 64-05 R5A/217 checksum 9900

9075 system module:

D20 2100 10 65-06 R5A/217 checksum A500

D23 2100 10 64-06 R5A/217 checksum 9300

9062 system module:

D20 2100 10 65-01 R5A/217 checksum DD00

D23 2100 10 64-01 R5A/217 checksum BE00

Emulation board in 9062

U1 2100 14 52-00 R4A/216 checksum D3D5

The changes are introduced from system module number. 9218 ~~xxxx~~

#### IMPORTANT NOTICE ABOUT FROM SIZE

Until now two versions of the emulation program has been supported i.e. 2 x 27256 in circuit board Revs. A and B and 1 x 27512 in circuit board Rev C. It has now been decided that the 27256 version will no longer be supported. In order to update a circuit board with Rev. A or B the PAL circuit U6 must be replaced and a 27512 FROM mounted in pos. U1. The following component numbers are then valid:

U1 Program FROM 2100 14 52-00

U6 PAL circuit 2100 14 65-00

See the following pages for a list of program changes.

2 (5)

9010/9075 SYSTEM MODULE REVISION R5A/217

CHANGES IN THE PROGRAM COMPARED TO REV. R3A

GENERAL

- Xon/Xoff protocol is changed so that when the buffer is full one Xoff character is transmitted for each received character.
- An Xoff character is sent earlier than before at Power On.
- Bug in ETX/ACK and ENQ/ACK protocol fixed.
- To reduce the risk for paper jam in Tear Off mode the time out for print head parking is changed from 1 second to 2 seconds.
- A bug in the TOF memory is fixed so that the TOF position after an automatic paper load is now correct.
- The handling of the paper feed sensor is changed so that the new Negative Form Feed command in 5162 mode can be handled properly by the sensor.
- It is now possible to use all print qualities from a font card. Earlier only LQ was possible.

SET UP

- Serial parameter "7 bits no parity" added.
- Changed text for word length/parity.
- The following format lengths are added: 7, 9, 10 and 17 inches.
- A fault when format length >12 inches was selected is now corrected.
- New parameters for print quality on font cards added.
- Increased range for print head gap adjust. The new range is -2 to +10.

INCREASED THROUGHPUT

- New resident character generator used when print quality DQ1 and pitch 15 cpi or higher is selected. This will give a momentary print speed of up to 900 cps with 15 and 20 cpi. At 16.7 cpi the speed will be 750 cps and at 17 cpi 770 cps.
- The printer can now perform dual line printing also when closer vertical pitches than 6 lpi is selected. A restriction is that the selected pitch must be in 1/72 inch steps.
- Dual line printing can also be performed on lines starting with Horizontal Tab.
- Improved handling of lines with trailing Spaces for increased throughput.

## IBM EMULATION

- In command "Double height print" the parameter m4 can now be excluded from the command string. In this case parameter n1 must be changed to 03h. In previous Rev.s this was not possible.
- Command "Select print mode" (1B 49 n)hex is changed as follows:

<u>n</u>	<u>Print Mode</u>
0	DQ
1	DQ 12cpi
2	NLQ
3	LQ
4	DQ Download
6	LQ Download (algor.)

- The following commands caused rubbish to be printed but are now ignored:  
Esc ( (1B 5B)hex followed by any of the following: F I K Q S T \ h i j l m w  
(46 49 4B 51 53 54 5C 68 69 6A 6C 6D 77)hex.
- New commands: Esc g (1B 67)hex: select 15 cpi.  
This command works as Elite (12cpi). only the pitch differs.  
Esc h (1B 68)hex: select 10cpi

## DEC EMULATION

- The command Esc c (1B 63)hex: reset is changed so that it does not perform a form feed if the current position is TOF.

## EPSON EMULATION

- The command Esc J n (1B 4A n) is changed so that it now works correctly also when TOF is passed.
- A fault when format length >12 inches was selected is now corrected.

9062 SYSTEM MODULE REVISION R4A/207

Rev. R4A/207 has been used from system module nr. 9207 xxxxx

Changes in program compared to revision R3C.

## GENERAL

- To reduce the risk for paper jam in Tear Off mode the time out for print head parking is changed from 1 second to 2 seconds.
- A bug in the TOF memory is fixed so that the TOF position after an automatic paper load is now correct.



**IBM EMULATION**

The selection of pitch from Set Up was not valid in Rev. R3C. This is fixed in Rev. R4A.

**5162 EMULATION**

The command SI (OF hex) is no longer valid in text mode. This is an Epson command for compressed printing. Compressed printing must be selected by command Esc SI (1B OF hex).

- When a reverse paper feed is made an extra reverse movement followed by normal feed is made to tension the paper properly.

**BC+VS PROGRAM ON THE EMULATION BOARD**

- Fault when receiving 7F hex in text mode is corrected.
- Fault causing "twisted lines" to be printed is corrected.

**REVISION R5A/217 USED FROM SYSTEM MODULE NR. 9218 xxxx**

Changes from Rev. R4A/207:

The IBM and Epson emulations are the same as described above.

4542/5162 emulation:

Error causing reset during Power On in Tear off mode is rectified.

The reset command Esc @ (1B 40)h is now working correct.

The following 4542 commands have been added:

<u>Hex</u>	<u>ASCII</u>	<u>Description</u>
11	DC1	Negative form feed
13	DC3	Set horizontal tab stop
14	DC4	Clear all horizontal tab stops
1B 51 N 77	Esc Q N w	Set vertical tab stop N lines below TOF
1B 36	Esc 6	Clear all vertical tab stops
1B 51 N 74	Esc Q N t	Set LF value forward
1B 51 N 75	Esc Q N u	Set LF value backward
1B 7A	Esc Z	Reset
SI	OF	Activate character table
1B 28 42	Esc ( B	US char. table
1B 28 47	Esc ( G	Swedish I char. table
1B 28 48	Esc ( H	Swedish II/Finnish char. table
1B 25 50	Esc % P	Danish char. table
1B 28 4B	Esc ( K	German char. table
1B 28 41	Esc ( A	English char. table
1B 25 52	Esc % R	Dutch char. table
1B 28 59	Esc ( Y	Italian char. table
1B 28 52	Esc ( R	French char. table
1B 28 5A	Esc ( Z	Spanish char. table
1B 28 49	Esc ( I	Japanese char. table
FF	DEL	Ignored

The following changes have been made on the emulation program:

- New barcode type "Code 39 with check digit" introduced.
- Possibility to patch user defined control codes instead of sending them from host.
- Bug when using vertical tab within VS/BC strings fixed.
- CR could cause extra line feeds within VS/BC strings if Auto LF was selected in Set Up.
- It is now possible to use other line spacings than 6LPI when changing from VS/BC mode to text mode.
- Bug when selecting light print and colour fixed.

# FACIT Service Bulletin

Product: E950/D960

Date: May 1992

SB No.: 446

Info No.: 10

Sheet No.: 1 (1)

Handled by: Olle Sandström

## EMULATION BOARD IN 9062 SYSTEM MODULE

There has been a ripple in the +5V supply to the emulation board. This has caused a disturbance in the printing in Variable size and Barcode modes.

In order to overcome this the capacitor C4 is changed from 47uF to 470uF. See fig. 1 below.

A suitable capacitor is an electrolyte 470uF min 16 V rating. See fig. 2 below.

If it is difficult to obtain locally we can supply one with part number: 1061 4115 08

FIG. 1

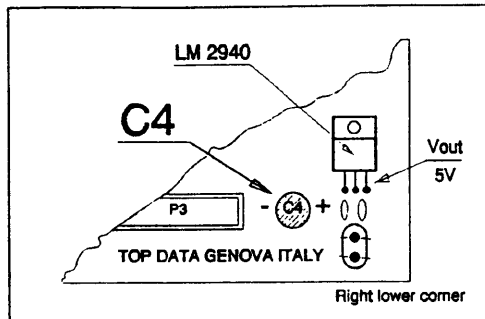
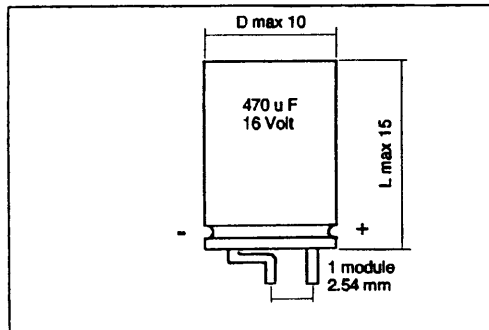


FIG. 2



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# Service Bulletin

Product: E950/D960

Date: June 1988

SB No.: 451

Info No.: 11

Sheet No.: 1 (2)

Handled by: Olle Sandström

## PAPER FEED

In order to overcome the problems we have had with the paper feed, we have made the following changes in the paper module:

- The rear pinch rollers are changed so that they are active pulling.
- The rollers are soft to increase the pulling force.
- The paper guide 2100 01 08-00 is changed to make the outgoing rear paper path wider.
- The engine CPU program is changed to match the operation of the new pinch rollers.
- The firmware for the main CPU is changed so that the paper thickness sensing is made one inch (6 lines) from the top edge of the paper.

### Modification Kit:

A modification kit with part number 2100 15 82-00 will be put together at the factory. It consists of the following articles:

- Complete modified friction feed unit SXX 103 0145
- Modified paper guide 2100 01 08-00
- Engine CPU 2100 10 52-20 Rev. R5A

Note that the firmware PROMs must be ordered separately. This is because we otherwise must keep three different kits in stock. Also you only need to order one set of PROMs and can then copy locally.

It is important to note that the Engine CPU Rev. 2100 10 52-20 can only be used in printers with modified paper feed. All printers with old paper feed must use CPU 2100 10 52-00 Rev. R4A.

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**Necessary parts:**

2100 15 82-00 Mechanical parts and engine CPU for paper feed modification.

PROMs for 9010 system module:

D20 2100 10 65-05 R5B

D23 2100 10 64-05 R5B

PROMs for 9062 system module:

D20 2100 10 65-01 R5B

D23 2100 10 64-01 R5B

PROMs for 9075 system module:

D20 2100 10 65-06 R5B

D23 2100 10 64-06 R5B

**Ordering procedure:**

When the kit is ordered it will be shipped with the normal parts shipment unless otherwise specified by you. You will be charged the full price but you will get MRA papers with the shipment. When you return the old friction feed unit with the MRA papers you will be credited so that your total cost will be SEK 100:- plus the cost for the PROMs. It is not necessary to return the paper guide.

NOTE that no credit will be issued against feed units which have been stripped for spare parts or are otherwise damaged by for example bad packaging. It is recommended that the factory package is used for the return.

**Rebuilding procedure:**

Remove and replace the paper guide as described in the Service Manual section 5.2.15.

Remove and replace the friction feed unit as described in the service manual section 5.2.17.

Adjust the print bar as described in the service manual section 5.3.1.

Remove and replace the CPU D1000 on the engine board.

Remove and replace the PROMs D20 and D23 in the system unit.

**Modification priority:**

Only necessary in case of paper feed problems.

**Serial numbers affected:**

The modified paper feed is introduced in production from serial number 9224 0001.

# **FACIT**

## **Service Bulletin**

Product: E950/D960

Date: June 1992

SB No.: 452

Info No.: 12

Sheet No.: 1 (1)

Handled by: Olle Sandström

### **PROGRAM REVISION**

New program revisions for all three system modules are now released:

9010 system module:

D20 2100 10 65-05 R5B/220 checksum DA00  
D23 2100 10 64-05 R5B/220 checksum 1800

9075 System module:

D20 2100 10 65-06 R5B/220 checksum CB00  
D23 2100 10 64-06 R5B/220 checksum 5800

9062 System module:

D20 2100 10 65-01 R5B/220 checksum FD00  
D23 2100 10 64-01 R5B/220 checksum 6C00

**CHANGES IN THE PROGRAM COMPARED TO REV. R5A:**

Epson and 5162 emulation:

An error in the TOF handling is corrected.  
If the printer had been ON LINE between two paper loadings with separate TOF settings the TOF position became wrong the second time.  
This only happened in Epson and 5162 Emulation.

Communication:

An error message is displayed if faulty serial data, e.g. parity error, is received.

Print head gap adjustment:

The paper thickness sensing is now performed one inch down from the top edge of the paper. This is to make sure that the thickness is measured on the part of the form on which printing will be made.

TPP Field Change Notice No. 72

DATE: 02.10.92

MODULE: DDE 58/Citizen CEM-720

CATEGORY:

production change : repackageing  
In the field: replacing the cable.

CORRECTS THE ERROR:

New generations of PCs loose setup, when connected to DDE 58.

TOOLS NEEDED: none

DESCRIPTIONS: (Translation of a danish note from Adcom data)

1) Signal PIN 13 is directly connected to the 5V power supply in the printer. A standard printer cable will connect this pin to PIN 13 on the PC, called Select. The PC will not like this. If the printer is without power, then the low impedance to ground will be a problem, or if the printer is on, differences in the 5V from both powersupplies will lead to temporary "short curcuits" in the multifunction IC (in the PC).

DOS will not test Select to our knowlegde, so the connection can be avoide under normal software conditions.

2) Signal PIN 31 (-Reset) is seldom or never used on a PC, but it will often cause a printer to beep and signal "Alarm" during the Power on sequence on a PC. [end of translation]

A new parallel cable without those to connections has been made, and the stock no. is 88304030. This note covers escalation no. 62486 and error report no. 4648.

SERVICE KIT: Stock No. 95140720 contains:

1 special Parallel cable, DDE stock no.: 88304030

ESTIMATED REPAIR TIME: 10 min.

lea/BNA

TPP Field Change Notice No. 70

DATE: 01.09.92

MODULE: DDE 28/29 - NEC P20/30

CATEGORY:

For information only

CORRECTS THE ERROR: Paper detection failures

TOOLS NEEDED: none

DESCRIPTIONS:

This is an information about production changes to improve paper detection. Order new revisions of MDL LEVER, COLLAR and FEED ROLLER STAY, as shown in attachment, when servicing printers with paper detection problems.

SERVICE KIT: none

ESTIMATED REPAIR TIME: none

NOTE: NEC change order CO-T-3533, rev.1 is attached.

lea/BNA



<b>NEC</b>	<b>CHANGE ORDER</b>	NUMBER <b>CO-T-3533</b>	REV. SHEET <b>1 1/2</b>
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SUBJECT  <b>Improvement Paper detection.</b>	PRODUCT NAMES/IDENTIFIERS  <b>Priwriter P20/P30 ,P3200/P3300</b>
<b>PRELIMINARY</b>	
SYSTEM AFFECTED	

SHEET _____	SHEET _____	SHEET _____
_____ PROBLEM STATEMENT	_____ INSTALLATION	_____ IMPLEMENTATION PLAN
_____ SOLUTION	_____ CHECKOUT INSTRUCTIONS	_____ REMARKS
_____ HW/FW/T&SW COMPATIBILITY	_____ SPARE PARTS EFFECT	_____ MATERIAL & DOCUMENT LIST

**1. Change purpose.**  
To improve Paper detection.

**2. Change Items**  
Refer to sheet 2/2

- MDL LEVER (136-850772-A) Rev.8A → Rev.13A
- COLLER(A) (136-850770-A) Rev.6A → Rev.8A
- FEED ROLLER STAY(W) (136-850766-501-A) Rev.7A → Rev.8A

**3. Implementation**

MDL LEVER and COLLAR(A)  
 P20/P30 : From beginning of April.1992 production at NEC Tech U.K.  
 P3200/P3300 : From beginning of April.1992 production at NEC Tech Hong Kong.  
 FEED ROLLER STAY(W)  
 Running change at P30 and P3300.

**4. Mechanism unit REV**

When MDL LEVER is applied, Mechanism Rev. is changed as follows.  
 P20/P30 → A7G  
 P3200/P3300 → A7L

**5. Compatibility**

Compatible.

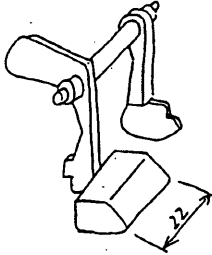
**6. How to adjust Load Position**

Please change Load Position by Short-Adjust, When you need adjust Load Position.  
 (described in User's Guide.)

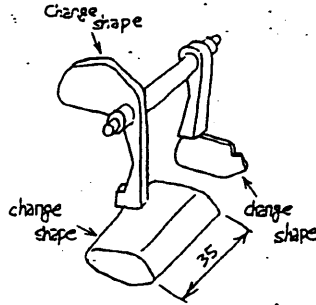
DIVISION  <b>Printer Division</b>	DEPARTMENT  <b>1st Engineering Department</b>	NEC INTERNAL USE
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PREPARED BY  <b>S. Terasawa</b> S. TERASAWA (NINEC)	MANAGER APPROVAL  <i>S. Kikkawa</i> S. KIKKAWA (NINEC)	CO APPROVAL  <i>Y. Hirama</i> Y. HIRAMA <i>M. Ishihara</i> M. ISHIHARA (NINEC)	ISSUED BY
PHONE 8.516.770	DATE APRIL 27, 1992		DATE

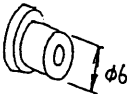
MDL LEVER (136-850772-A)  
OLD (Rev.8A)



NEW (Rev.13A)



COLLAR(A) (136-850770-A)  
OLD (Rev.6A)

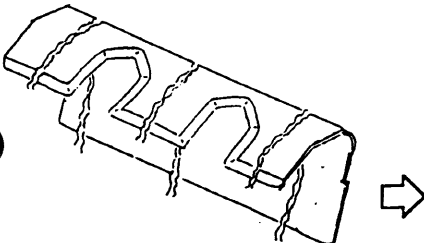


NEW (Rev.8A)

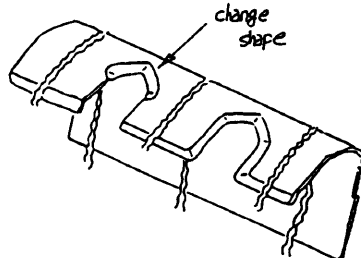


vertical dimension line

FEED ROLLER STAY(W) (136-850766-501-A)  
OLD (Rev.6A)



NEW (Rev.8A)



TPP Field Change Notice No. 69

**DATE:** 01.09.92

**MODULE:** Canon manufactured laserprinters

**CATEGORY:** For information only

**CORRECTS THE ERROR:** TMN updates

**TOOLS NEEDED:** none

**DESCRIPTIONS:**

Attachments are:

LBP-228.rev 1	LBP-8II/III	Fixing Assembly/20T gear
LBP-229	LBP-4	Drive assembly/drive plate
LBP-230	LBP-CX	DC Controller P.C.B
LBP-231	LBP-4/+	Substitute Ceramic capacitor
LBP-232	LBP-8II/III	Laser/Scanner assembly

**SERVICE KIT:** none

**NOTE:** Service Bulletins attached.

lea/BNA

L B P

Number **LBP-232**  
(RF-11-0357)  
Date **03.04.1992**

Model **LBP-SX,**  
**LBP-8II,**  
**LBP-8III**

**SUBJECT : LASER/SCANNER ASSEMBLY**

To increase the reliability of the Laser/Scanner Assembly, the "circuit constant" has been changed.

### SERVICE PART

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
LASER/SCANNER ASSEMBLY	RG0-0050-070	RG0-0050-090	1	NY	400*1 400*2 340-44*3

### Notes:

- \*1. Refer to the Parts Catalogue for model LBP-SX, with part number RY8-3114-020, dated May 1990.
- \*2. Refer to the Parts Catalogue for model LBP-8II, with part number RY8-3113-010, dated July 1987.
- \*3. Refer to the Parts Catalogue for model LBP-8III/8III PLUS, with part number RY8-3174-000, dated July 1991.

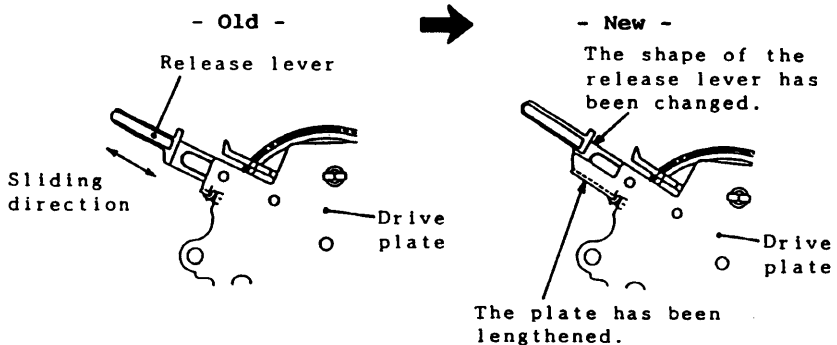
LBP

Number **LBP-229**  
 (RQ-11-0122)  
 Date **28.02.1992**

Model **LBP-4**

**SUBJECT : DRIVE ASSEMBLY/DRIVE PLATE**

The release lever may come off from the front cover unit. To prevent this, the drive plate has been changed as shown in figure 1.



**Figure 1**

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
DRIVE PLATE	RF1-2393-000	RF1-2393-040	1	YY	240-7

**Note:**

\*1. Revision-0, dated Aug. 1991.

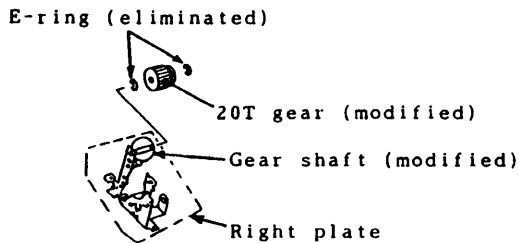
LBP

Number **LBP-228 Rev. 1** ←  
(RF-11-0364)  
Date **03.04.1992**

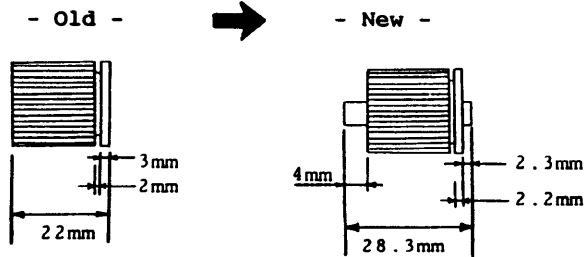
Model **LBP-SX, LBP-8II,  
LBP-8III, LBP-8III PLUS,  
LBP-8IIIT**

**DESTROY : SERVICE BULLETIN LBP-228**  
**SUBJECT : FIXING ASSEMBLY/20T GEAR**

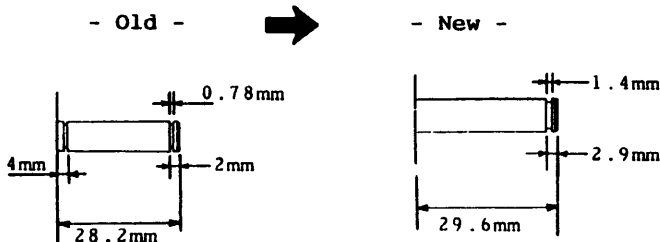
The 20T gear in the Fixing Assembly was secured to the gear shaft with two E-rings. The gear and shaft have been modified and the E-rings have been eliminated. Refer to figures 1, 2 and 3.



**Figure 1**



**Fig. 2: Gear (20T)**



**Fig. 3: Gear shaft**

LBP

Number **LBP-230**  
(RY-11-0186)  
Date **03.04.1992**

Model **LBP-CX**

**SUBJECT : DC CONTROLLER P.C.B. ASSEMBLY**

The HAL, used on the DC Controller P.C.B. Assembly, has been changed as indicated in this bulletin.

### SERVICE PART

#### INTERCHANGEABILITY

CODE

"Former" and "new" parts are fully interchangeable. YY  
"Former" and "new" parts are not interchangeable. NN  
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN  
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY  
Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
HAL	RH4-0026-000*2	RH4-0026-030*3	1	YY	931-IC207

#### Note:

- \*1. Refer to the Parts Catalogue for model LBP-CX, with part number RY8-8101-060, dated Nov. 1988.
- \*2. PAL10L8-2CN (MMI)
- \*3. PALCE16V8H-25PC (AMP)

**L B P**

Number **LBP-231**  
(RQ-11-0345)  
Date **03.04.1992**

Model **LBP-4,**  
**LBP-4 PLUS**

**SUBJECT : SUBSTITUTIVE CERAMIC CAPACITOR**

To secure parts supply, a substitutive ceramic capacitor has been added for the one currently mounted on the H.V. Power Supply P.C.B. Assembly.

	<b>Current</b>	<b>Substitute</b>
<b>Manufacturer</b>	Murata Seisakusho	Murata Seisakusho
<b>Model Name</b>	DE0707-B331K2K	DE0707-B331K3K
<b>Part Number</b>	VC5-5700-331	---



TPP Field Change Notice No. 65

DATE: 12.06.92

MODULE: Canon manufactured laserprinters

CATEGORY: For information only

CORRECTS THE ERROR: TMN updates

TOOLS NEEDED: none

DESCRIPTIONS:

Attachments are:

LBP-223	LBP-4/+	Cassette
LBP-224	LBP-4/+	DC controller PCB (new)
LBP-225	LBP-4/+	Front Cover
LBP-226	LBP-4/+	Drum Drive
LBP-227	LBP-4/+	Corr. to parts catalogue.

Further you will find:

Service Bulletin Indexes (all Canon laserprinters)  
FAX regarding LBP-SX/RX/TX Fixing Gear 20T

SERVICE KIT: none

NOTE: Service Bulletins attached.

lea/ENA

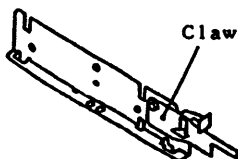
LBP

Number **LBP-223**  
(RQ-11-0306)  
Date **10.01.1992**

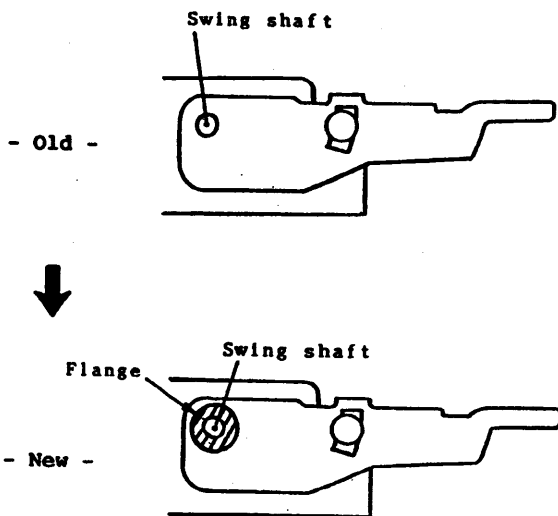
Model **LBP-4,**  
**LBP-4 PLUS**

**SUBJECT : CASSETTES (A4/LTR/LGL/EKE)**

To improve the movement of the claw of the size plate, the swing shaft of the claw has been modified. Refer to figures 1 and 2.



**Fig. 1: Size plate**



**Figure 2**

**SERVICE PART****INTERCHANGEABILITY**

CODE

"Former" and "new" parts are fully interchangeable. YY  
 "Former" and "new" parts are not interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. NY in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. NY in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SIZE PLATE	RF1-2426-050	RF1-2426-060	1	NY	F30-15 F31-15

**Note:**

- \*1. Refer to the Parts Catalogue of model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.



Model **LBP-4,  
LBP-4 PLUS**

Number **LBP-224  
(RQ-11-0309)**  
Date **10.01.1992**

**SUBJECT : DC CONTROLLER P.C.B. ASSEMBLY**

A substitute DC Controller P.C.B. Assembly has been assigned as a service spare part and added to the Parts Catalogue\* as figure 930B. The current and substitute DC Controller P.C.B. Assemblies are fully interchangeable.

\*Note: Refer to the Parts Catalogue for model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.

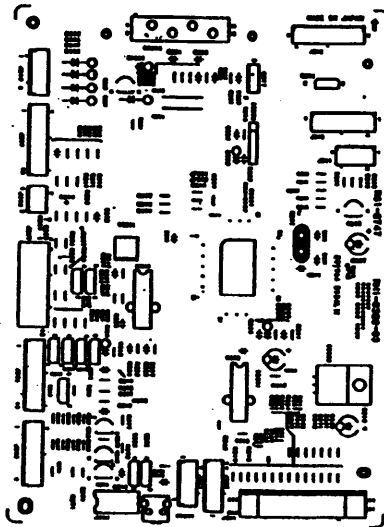


FIGURE & KYE NO.	PART NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS
930B -	RG1 - 2747 - 000		1	DC CONTROLLER PCB ASSEMBLY DC コントローラ カイロ キバシ	
C201	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C202	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C204	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C205	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C206	VC5 - 1720 - 180		1	CAPACITOR, 18PF, 50V コンデンサ	
C207	VC5 - 1720 - 180		1	CAPACITOR, 18PF, 50V コンデンサ	
C208	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C209	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C210	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C211	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C212	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C214	VC8 - 0680 - 107		1	CAPACITOR, 100UF, 16V コンデンサ	
C215	VC8 - 0680 - 107		1	CAPACITOR, 100UF, 16V コンデンサ	
C217	VC5 - 1730 - 101		1	CAPACITOR, 100PF, 50V コンデンサ	
C218	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C219	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C220	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C221	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C222	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C223	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C224	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
C225	VC5 - 5970 - 222		1	CAPACITOR, 2200PF, 16V コンデンサ	
C228	VC5 - 5970 - 222		1	CAPACITOR, 2200PF, 16V コンデンサ	
C227	VC8 - 0680 - 107		1	CAPACITOR, 100UF, 16V コンデンサ	
C228	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C229	VC5 - 1730 - 102		1	CAPACITOR, 1000PF, 50V コンデンサ	
C232	VC8 - 3000 - 104		1	CAPACITOR, 0.1UF, 50V コンデンサ	
D201	WA1 - 0474 - 000		1	DIODE, 555888 ダイオード	
D202	WA1 - 0332 - 000		1	IC, UPPA 63H (DIODE ARRAY) ダイオード	

FIGURE & KEY NO.	PART NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS
D203	WA1-0332-000		1	IC, UPPA 63H (DIODE ARRAY) ダイオード	
D204	WA1-0332-000		1	IC, UPPA 63H (DIODE ARRAY) ダイオード	
D205	WA1-0919-000		1	DIODE, DSM1A2 ダイオード	
D206	WA1-0919-000		1	DIODE, DSM1A2 ダイオード	
D207	WA1-0919-000		1	DIODE, DSM1A2 ダイオード	
D208	WA1-0919-000		1	DIODE, DSM1A2 ダイオード	
IC201	RM4-0109-000		1	IC, TMC73C88PJ IC	
IC202	WA4-0828-000		1	IC, MS19S3BL IC	
IC203	WA4-0534-000		1	IC, HA17324 IC	
IC204	WA3-0829-000		1	IC, HD74LS08P IC	
IC205	WA4-1121-000		1	IC, HA178MOBA IC	
IC206	WA4-0830-000		1	IC, BCN1310SP1 IC	
J201	VS1-0746-020		1	PIN ASSY, 20P ピン アセンブリ	
J202	VS1-1028-007		1	PIN ASSY, 7P ピン アセンブリ	
J203	VS1-1028-006		1	PIN ASSY, 8P ピン アセンブリ	
J204	WG3-5008-000		1	PHOTO DIODE 4-174134-1 フォト ダイオード	
J205	VS1-1028-009		1	PIN ASSY, 9P ピン アセンブリ	
J206	VS1-1028-010		1	PIN ASSY, 10P ピン アセンブリ	
J207	VS1-0830-012		1	CONNECTOR, 12P コネクタ	
J208	VS1-1028-003		1	PIN ASSY, 3P ピン アセンブリ	
J209	VS1-1028-010		1	PIN ASSY, 10P ピン アセンブリ	
J210	VS1-1028-008		1	PIN ASSY, 8P ピン アセンブリ	
J211	VS1-1028-005		1	CONNECTOR, 5P コネクタ	
J212	VS1-0571-009		1	CONNECTOR, 9P コネクタ	
J213	VS1-1028-009		1	PIN ASSY, 9P ピン アセンブリ	
Q201	WA2-0796-000		1	TRANSISTOR, RN1201 トランジスタ	
Q202	WA2-0796-000		1	TRANSISTOR, RN1201 トランジスタ	
Q203	WA2-5106-000		1	TRANSISTOR, 2SD2213 トランジスタ	
Q204	WA2-0796-000		1	TRANSISTOR, RN1201 トランジスタ	
Q205	WA2-5106-000		1	TRANSISTOR, 2SD2213 トランジスタ	

FIGURE & KYE NO.	PART NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS
Q208	WA2-0798-000		1	TRANSISTOR, RN1201 トランジスタ	
Q207	WA2-0798-000		1	TRANSISTOR, RN1201 トランジスタ	
Q208	WA2-0798-000		1	TRANSISTOR, RN1201 トランジスタ	
Q209	WA2-0798-000		1	TRANSISTOR, RN1201 トランジスタ	
Q210	WA2-0798-000		1	TRANSISTOR, RN1201 トランジスタ	
Q211	WA2-0798-000		1	TRANSISTOR, RN1201 トランジスタ	
Q213	WA2-0798-000		1	TRANSISTOR, RN1201 トランジスタ	
Q214	WA2-0058-000		1	TRANSISTOR, 28C1815-GR トランジスタ	
Q215	WA2-0135-000		1	TRANSISTOR, 28A1015Y トランジスタ	
Q216	WA2-0135-000		1	TRANSISTOR, 28A1015Y トランジスタ	
Q217	WA2-1357-000		1	TRANSISTOR, 28D1376K トランジスタ	
R201	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R202	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R203	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R206	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R207	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R208	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R209	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R210	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R211	VR5-6170-101		1	RESISTOR, 100 OHM, 1/4W テイコウ	
R212	VR5-6170-101		1	RESISTOR, 100 OHM, 1/4W テイコウ	
R213	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R214	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R215	VR5-6170-332		1	RESISTOR, 3.3KOHM, 1/4W テイコウ	
R216	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R217	VR5-6170-332		1	RESISTOR, 3.3KOHM, 1/4W テイコウ	
R218	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R219	VR5-6170-332		1	RESISTOR, 3.3KOHM, 1/4W テイコウ	
R220	VR5-6170-101		1	RESISTOR, 100 OHM, 1/4W テイコウ	
R221	VR5-6170-101		1	RESISTOR, 100 OHM, 1/4W テイコウ	

FIGURE & KYE NO.	PART NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS
R222	VR5-6170-101		1	RESISTOR, 100 OHM, 1/4W テイコウ	
R223	VR5-6170-101		1	RESISTOR, 100 OHM, 1/4W テイコウ	
R224	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R225	VR5-6170-332		1	RESISTOR, 3.3KOHM, 1/4W テイコウ	
R226	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R227	VR5-6170-332		1	RESISTOR, 3.3KOHM, 1/4W テイコウ	
R228	VR5-6170-101		1	RESISTOR, 100 OHM, 1/4W テイコウ	
R229	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R230	VR5-6170-332		1	RESISTOR, 3.3KOHM, 1/4W テイコウ	
R231	VR5-6170-222		1	RESISTOR, 2.2KOHM, 1/4W テイコウ	
R232	VR5-6170-222		1	RESISTOR, 2.2KOHM, 1/4W テイコウ	
R233	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R234	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R235	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R236	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R237	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R238	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R239	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R240	VR5-6170-223		1	RESISTOR, 22KOHM, 1/4W テイコウ	
R241	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R242	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R243	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R244	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R245	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R246	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R247	VR5-6414-021		1	RESISTOR, 4.02KOHM, 1/4W テイコウ	
R248	VR5-6413-001		1	RESISTOR, 3KOHM, 1/4W テイコウ	
R249	VR5-6411-001		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R250	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R251	VR5-6413-161		1	RESISTOR, 3.16KOHM, 1/4W テイコウ	

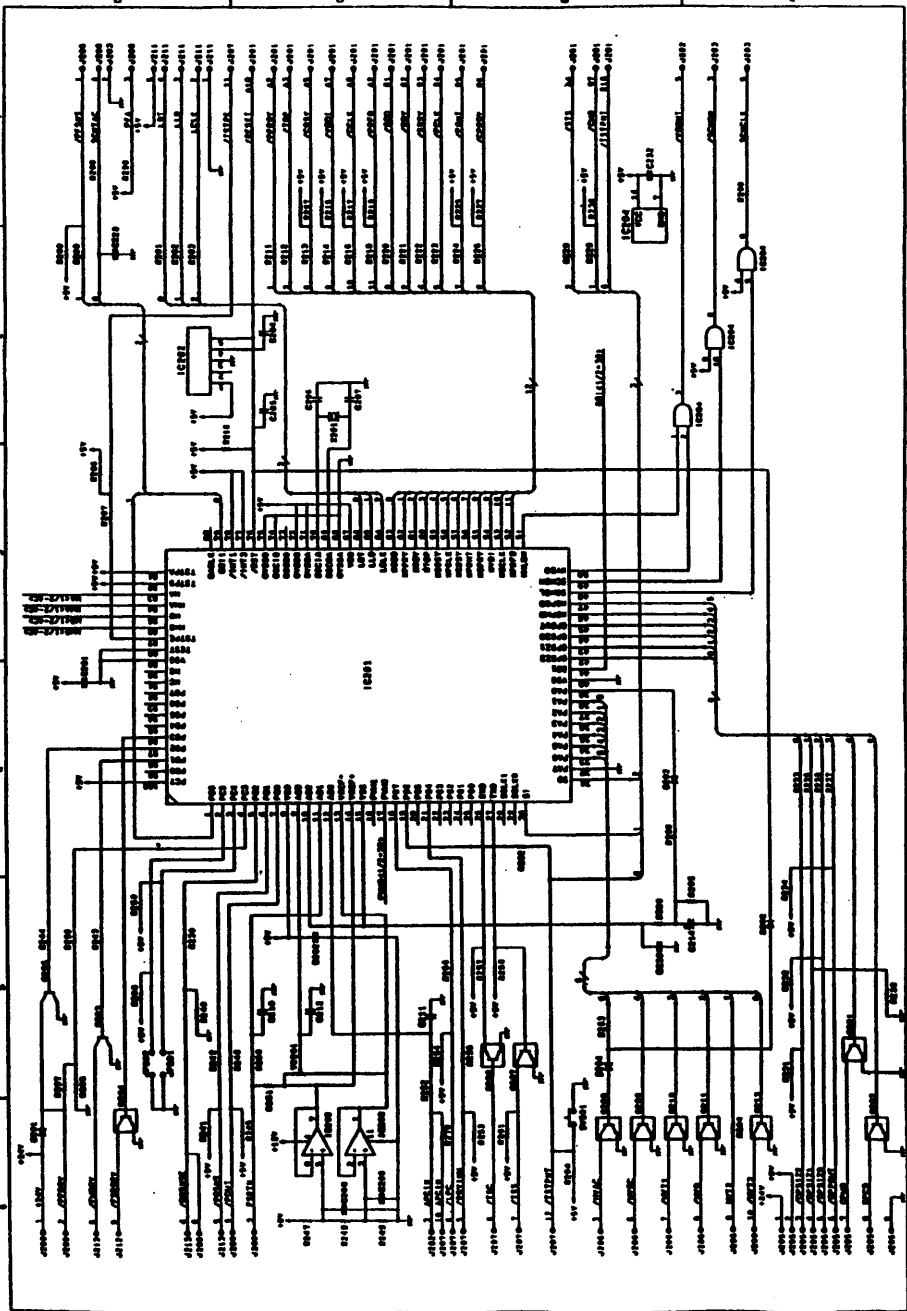


FIGURE & KYE NO.	PART NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS
R252	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R253	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R254	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R255	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R258	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R257	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R258	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R259	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R260	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R261	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R262	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R263	VR5-6170-222		1	RESISTOR, 2.2KOHM, 1/4W テイコウ	
R264	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R265	VR5-6170-105		1	RESISTOR, 1MOHM, 1/4W テイコウ	
R266	VR5-6170-222		1	RESISTOR, 2.2KOHM, 1/4W テイコウ	
R267	VR5-6170-332		1	RESISTOR, 3.3KOHM, 1/4W テイコウ	
R268	VR5-6170-471		1	RESISTOR, 470 OHM, 1/4W テイコウ	
R269	VR5-6170-103		1	RESISTOR, 10KOHM, 1/4W テイコウ	
R270	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R271	VR5-6170-471		1	RESISTOR, 470 OHM, 1/4W テイコウ	
R272	VR5-6170-122		1	RESISTOR, 1.2KOHM, 1/4W テイコウ	
R273	VR5-6170-471		1	RESISTOR, 470 OHM, 1/4W テイコウ	
R274	VR5-6170-473		1	RESISTOR, 47KOHM, 1/4W テイコウ	
R275	VR5-6170-473		1	RESISTOR, 47KOHM, 1/4W テイコウ	
R276	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R277	VR5-6170-821		1	RESISTOR, 820 OHM, 1/4W テイコウ	
R278	VR5-6170-821		1	RESISTOR, 820 OHM, 1/4W テイコウ	
R279	VR5-6170-222		1	RESISTOR, 2.2KOHM, 1/4W テイコウ	
R280	VR5-6170-104		1	RESISTOR, 100KOHM, 1/4W テイコウ	
R281	VR5-6170-221		1	RESISTOR, 220 OHM, 1/4W テイコウ	

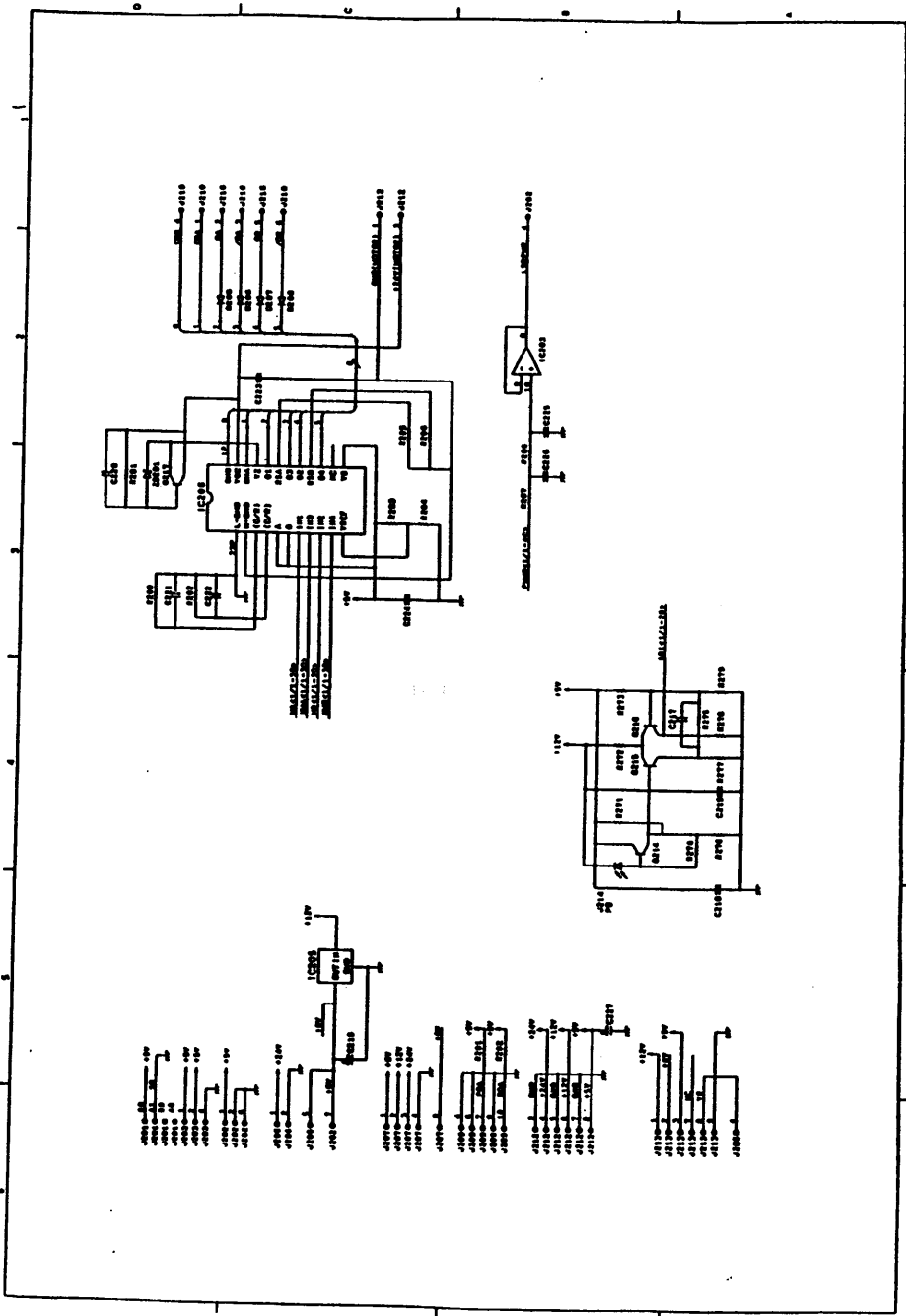
FIGURE & KYE NO.	PART NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS
R282	VR5-6170-104		1	RESISTOR, 100KOHM, 1/4W テイコウ	
R283	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R284	VR5-6170-622		1	RESISTOR, 6.2KOHM, 1/4W テイコウ	
R285	VR7-0760-209		1	RESISTOR, 2 OHM, 1/4W テイコウ	
R286	VR7-0760-209		1	RESISTOR, 2 OHM, 1/4W テイコウ	
R287	VR5-6170-104		1	RESISTOR, 100KOHM, 1/4W テイコウ	
R288	VR5-6170-104		1	RESISTOR, 100KOHM, 1/4W テイコウ	
R289	VR5-6170-105		1	RESISTOR, 1MOHM, 1/4W テイコウ	
R290	VR5-6170-221		1	RESISTOR, 220 OHM, 1/4W テイコウ	
R291	VR5-6170-221		1	RESISTOR, 220 OHM, 1/4W テイコウ	
R292	VR5-6170-221		1	RESISTOR, 220 OHM, 1/4W テイコウ	
R294	VR5-6170-222		1	RESISTOR, 2.2KOHM, 1/4W テイコウ	
R297	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
R298	VR5-6170-102		1	RESISTOR, 1KOHM, 1/4W テイコウ	
R299	VR5-6170-472		1	RESISTOR, 4.7KOHM, 1/4W テイコウ	
SW201	WC2-0141-000		1	SWITCH, PUSH プッシュ スイッチ	
VR201	VR5-3520-502		1	RESISTOR, VARIABLE, 6KOHM カヘン テイコウ	
X201	RH5-0042-000		1	CRYSTAL, OSCILLATOR スィッシュウ シンドウウ	
XD201	WA1-0949-000		1	DIODE, ZENER, HZS24-2 ツェナー ダイオード	

CIRCUIT DIAGRAM OF DC CONTROLLED FWD ASSEMBLY (NAS-2171) (4/64)

1133-1 (2/12/64) 17



Circuit Diagram of DC controller PCB assy (RCI-2747) (2/2)



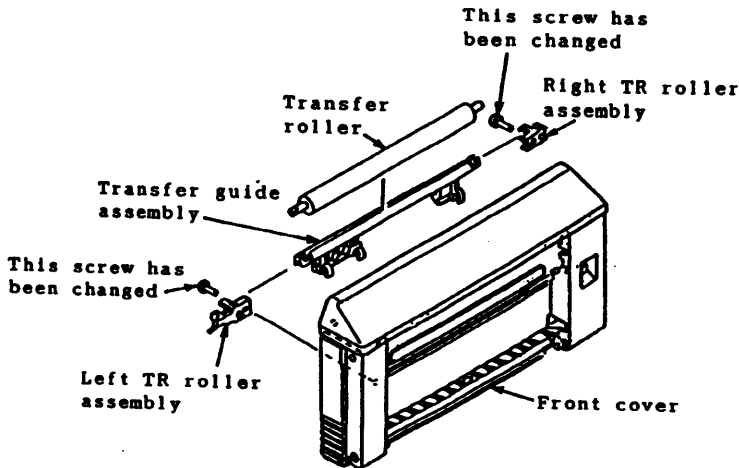


Model **LBP-4,  
LBP-4 PLUS**

Number **LBP-225  
(RQ-11-0307)**  
Date **10.01.1992**

**SUBJECT : FRONT COVER ASSEMBLY**

The screws fixing the right and left TR Roller Mount Assemblies have been changed. Refer to figure 1.



**Figure 1**

**INTERCHANGEABILITY**

	CODE
"Former" and "new" parts are <del>RY8</del> interchangeable.	YY
"Former" and "new" parts are <del>RY8</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>RY8</del> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>RY8</del> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SCREW	XB1-2300-807	XB1-2300-607	2	YY	101-...

**Note:**

\*1. Refer to the Parts Catalogue for model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.

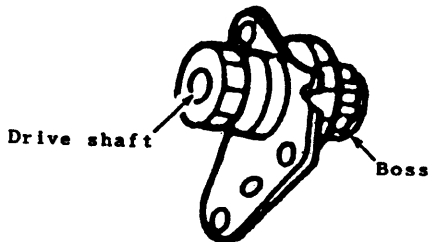


Model **LBP-4,  
LBP-4 PLUS**

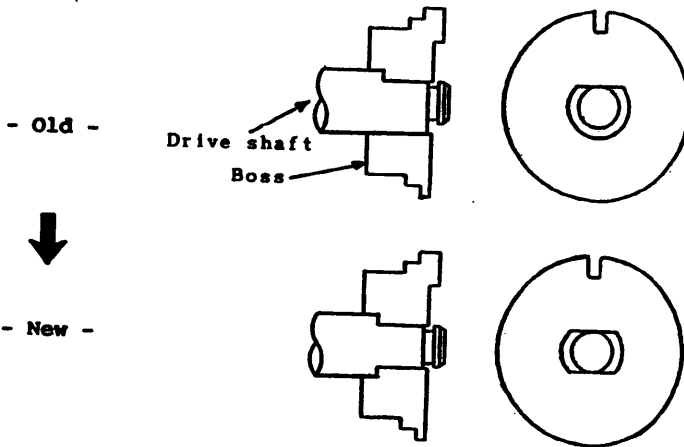
Number **LBP-226  
(RQ-11-0314)**  
Date **10.01.1992**

**SUBJECT : DRUM DRIVE ASSEMBLY**

To secure the joint of the drive shaft and drive clutch, the joint of these two parts has been changed as shown in figures 1 and 2.



**Fig. 1: Drum Drive Assembly**



**Fig. 2: Joint**

**INTERCHANGEABILITY**

CODE

"Former" and "new" parts are **interchangeable**. YY  
 "Former" and "new" parts are **interchangeable**. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **in "original" machines**. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **in "modified" machines**. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
DRUM DRIVE ASS'Y	RG1-1777-090	RG1-1777-100	1	NY	104-10

**Note:**

- \*1. Refer to the Parts Catalogue for model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.

Model **LBP-4,  
LBP-4 PLUS**

Number **LBP-227  
(RQ-11-0319)**  
Date **10.01.1992**

**SUBJECT : CORRECTION OF PARTS CATALOGUE**

Although a retaining ring is not used, it is shown in the Parts Catalogue for model LBP-4/4 PLUS (figure 1). Please correct the Parts Catalogue as indicated.

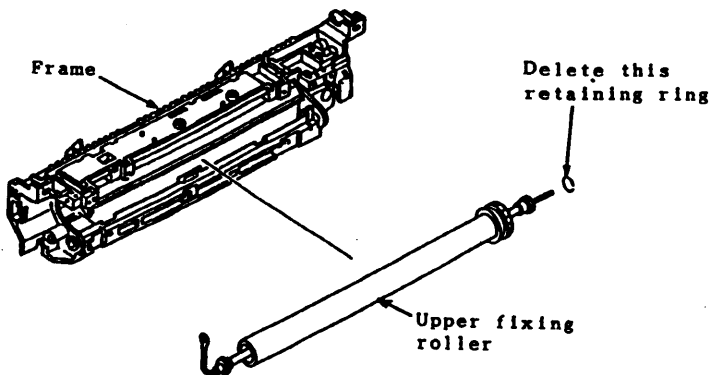


Figure 1

**SERVICE PART**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
RETAINING RING	RA1-8620-000	-----	1+0	--	810-65

**Note:**

- \*1. Refer to the Parts Catalogue for model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.



**SERVICE BULLETIN**  
**INDEXES**

**MODEL: LBB**

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-206	Fixing Assembly	LBP-RX/ TX/8IIR/ 8IIT/ 8IIIR/ 8IIIT	
LBP-206A	Fixing Assembly	LBP-SX/ 8II/8III	
LBP-207	Fixing Assembly	LBP-SX/ 8II/8III	
LBP-208	Front Cover Assembly/Sensor mount	LBP-4	
LBP-209	Fixing Assembly/Cable plate	LBP-4	
LBP-210	Feeder Assembly/Paper feed roller	LBP-4	
LBP-211	Interface P.C.B. Assembly	LBP-4	
LBP-212	CPU/Video Controller P.C.B. Assembly	LBP-4	
LBP-213	Face-up Cover Assembly	LBP-4	
LBP-213A	Face-up Cover Assembly	LBP-4	
LBP-214	Drum Drive Assembly	LBP-4	
LBP-215	Cleaning of primary corona wire	EP-S cartridge	
LBP-216	Upper Cover Assembly/Modification of slider	LBP-4	
LBP-217	Fixing Assembly/U-bushing	LBP-4	
LBP-218	Multiple Feed Tray Assembly	LBP-4 PLUS	
LBP-219	Modification of cable cover	LBP-4/4 PLUS	
LBP-220	Fixing Assembly	LBP-4/4 PLUS	
LBP-221	H.V. Power Supply P.C.B. Assembly	LBP-4	
LBP-222	Substitute photo IC	LBP-4	
LBP-223	Cassettes (A4/LTR/LGL/EXE)	LBP-4/4 PLUS	
LBP-224	DC Controller P.C.B. Assembly	LBP-4/4 PLUS	
LBP-225	Front Cover Assembly	LBP-4/4 PLUS	

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INDEXES

MODEL: LBP

.B. NUMBER	DESCRIPTION	MODEL	NOTE
BP-189C	Cassette/Top Cover Assembly	LBP-8IIIR LBP-8IIIT	
BP-190	AC Driver P.C.B. Assembly	LBP-SX/ 8II	
BP-190A	AC Driver P.C.B. Assembly	LBP-RX/ 8IIR/TX/ 8IIT	
BP-190B	AC Driver P.C.B. Assembly	LBP-8III	
BP-190C	AC Driver P.C.B. Assembly	LBP-8IIIR LBP-8IIIT	
BP-191	Video Controller P.C.B. Assembly	LBP-8II	
BP-191A	Video Controller P.C.B. Assembly	LBP-8IIR/ 8IIT	
BP-192	DC Controller P.C.B. Assembly	LBP-RX/TX	
BP-192A	DC Controller P.C.B. Assembly	LBP-8IIIR LBP-8IIIT	
BP-193	Rubber feet/Bottom case	LBP-8IIR/ 8IIT	
BP-194	Duplexing Upper Guide Assembly 1	LBP-RX/ 8IIR/ 8IIIR	
BP-195	Sensor mounting plate	LBP-4	
BP-196	Adding ribs on face-up tray	LBP-4	
BP-197	Front Cover Assembly	LBP-4	
BP-198	Front Cover Assembly/27T gear	LBP-4	
BP-199	Laser Assembly	LBP-4	
BP-200	Fixing Assembly/Grounding leaf spring	LBP-4	
BP-201	Front panel	LBP-4	
BP-202	Size plate of cassette	LBP-4	
BP-203	Cassette feeder	LBP-4	
BP-204	Fixing Assembly/Mounting the leaf spring	LBP-4	
BP-205	Transfer Corona Assembly	LBP-RX/ TX/8IIR/ 8IIT/ 8IIIR/ 8IIIT	
BP-205A	Transfer Corona Assembly	LBP-SX/ 8II/8III	

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MODEL: ~~LBP~~

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-170	ROD Assembly	LBP-4	
LBP-171	Front Cover Assembly	LBP-4	
LBP-172	Video Controller P.C.B. Assembly	LBP-4	
LBP-173	ROM P.C.B. Assembly	LBP-4	
LBP-174	Upper Cover Assembly	LBP-4	
LBP-175	Upper Cover Assembly	LBP-4	
LBP-176	Machine bottom plate	LBP-4	
LBP-177	Main Body Block Assembly/Leaf spring	LBP-SX/ 8II	
LBP-178	Main Body Block Assembly/Leaf spring	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-179	ROM P.C.B. Assembly	LBP-4	
LBP-180	Pick-up Roller Assembly	LBP-4	
LBP-181	DC Controller P.C.B. Assembly	LBP-4	
LBP-182	Instruction for ozone filter	LBP-SX/ 8II/8III	
LBP-182A	Instruction for ozone filter	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-182B	Instruction for ozone filter	LBP-8IIIR LBP-8IIIT	
LBP-183	X1 cassette/Sensor support arm	LBP-SX/ 8II/8III	
LBP-184	Fixing DC P.C. Board/Cable Assembly	LBP-4	
LBP-185	Elimination of magnet blocking plate on left panel	LBP-4	
LBP-186	Modification of separation pad	LBP-4	
LBP-187	Drum Drive Assembly	LBP-4	
LBP-188	Right TR Roller Mount Assembly	LBP-4	
LBP-189	Cassette/Top Cover Assembly	LBP-SX/ 8II	
LBP-189A	Cassette/Top Cover Assembly	LBP-8III	
LBP-189B	Cassette/Top Cover Assembly	LBP-RX/ 8IIR/TX/ 8IIT	

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MODEL: ~~800~~  
800

B. NUMBER	DESCRIPTION	MODEL	NOTE
P-153A	EP-S cassettes	LBP-RX/ 8IIR/TX 8IIT	
P-153B	EP-S cassettes/Correction of Parts Catalogue	LBP-SX/ 8II	
P-153C	EP-S cassettes/Correction of Parts Catalogue	LBP-RX/ 8IIR/TX 8IIT	
P-154-1	EP-S cassettes	LBP-8III	
P-154A-1	EP-S cassettes	LBP-8IIIR LBP-8IIIT	
P-155	Elimination of ROM P.C.B. Assembly	LBP-8III	
P-155A	Elimination of ROM P.C.B. Assembly	LBP-8IIIR	
P-155B	Elimination of ROM P.C.B. Assembly	LBP-8IIIT	
P-156	Video Controller P.C.B. Assembly	LBP-8III	
P-156A	Video Controller P.C.B. Assembly	LBP-8IIIT	
P-157	Preventing OHP film from offsetting	LBP-4	
P-157A	3 Diode modification procedure	LBP-4	
P-158-1	Fixing Assembly/Change of 32T gear	LBP-8III/ 8IIIT	VIB
P-159	Shutter arm	LBP-8III	
P-160	Shutter arm	LBP-SX/ 8II	
P-161	Shutter arm	LBP-RX/ 8IIR/TX/ 8IIT	
P-162	Transfer Guide Assembly/Separation pad	LBP-SX/ 8III	
P-162A	Transfer Guide Assembly/Separation pad	LBP-SX/ 8III	
P-163	AC Controller P.C.B. Assembly/Switch cover	LBP-4	
P-164	Tray stopper plate	LBP-4	
P-165	Paper guide plate	LBP-4	
P-166	Photo-interrupter in Internal Cover Assembly	LBP-4	
P-167	Face-down Delivery Assembly	LBP-4	
P-168	Drive Assembly	LBP-4	
P-169	Front Cover Assembly/Front cord cover	LBP-4	

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MODEL: LBP

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-139	Lower Size Sensor Assembly	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-140	Paper Pick-up Roller Assembly	LBP-SX/ 8II	
LBP-140A	Paper Pick-up Roller Assembly Cover	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-141	Inverter Assembly/Preventing paper jam	LBP-RX/ 8IIR	
LBP-141A	Inverter Assembly/Static charge eliminator	LBP-RX/ 8IIR	
LBP-142	Inverter Assembly	LBP-RX/ 8IIR	
LBP-143 LBP-143A	Service Plan for LBP-4 Laser Beam Printer Service Plan for LBP-4 Plus	LBP-4 LBP-4 Plus	
LBP-144	Fixing Assembly	LBP-SX/ 8II	
LBP-144A	Fixing Assembly	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-145 LBP-145A	Interface P.C.B. Assembly Interface P.C.B. Assembly	LBP-8III LBP-8III R/T	VIB VIB
LBP-146	Various modifications	LBP-8III R/T	
LBP-147	Change of oscillator crystals	LPB-4	
LBP-148	Laser Shutter Assembly	LBP-4	
LBP-149	Final orders of service parts for old models	LBP-10	VIB
LBP-150	Installation of cartridge	LBP-SX, 8II/8III	
LBP-151	Error codes AO-FF	LBP-8III/ 8IIR/T/4	
LBP-152	Duplexing Unit Upper Guide Assembly 2	LBP-RX/ 8IIR	
LBP-153	EP-S cassettes	LBP-SX/ 8II	

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MODEL: LBP

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-123	AC Driver P.C.B. Assembly	LBP-SX/ 8II	
LBP-123A	AC Driver P.C.B. Assembly	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-124	Modification of electrical components cover	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-125	Duplexing Unit Upper Guide Assembly 2	LBP-RX/ 8IIR	
LBP-126	Video Controller P.C.B. Assembly	LBP-8IIR/ 8IIT	
LBP-127	Mirror Assembly	LBP-SX/ 8II	
LBP-128	Mirror Assembly	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-129	Modification of panels	LBP-8II	
LBP-130	Modification of panels	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-131	Electrical Components Assembly	LBP-SX/ 8II	
LBP-132-1	Transfer Guide Assembly/Torsion springs	LBP-SX/ 8II	
LBP-133	AC Driver P.C.B. Assembly/EI standard	LBP-SX/ 8II	
LBP-134-1	Display Panel Assembly	LBP-8II	
LBP-135	Interface signal tester	LBP-SX/ RX/TX	
LBP-136	Fixing Heater Safety P.C.B. Assembly	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-137	Lower pick-up roller	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-138	LBP-8II LPS	LBP-8II	
LBP-138A	LBP-8III LPS	LPB-8III	

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MODEL: ~~LBP~~

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-108-2	AC Driver P.C.B. Assembly/EI standard	LBP-RX/ 8IIR/TX 8IIT	
LBP-109	Various changes/EI and NEMKO standard	LBP-8II	
LBP-110	Printer Upper Assembly	LBP-RX/ 8IIR	
LBP-111	Removal of jammed paper	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-112	Fixing Assembly/Connection of thermoswitch	LBP-CX/ CXD/8/8D	
LBP-113	Fixing Assembly/Preventing blurred images	LBP-RX/ 8IIR/TX 8IIT	
LBP-114-1	Solenoid/sensor P.C.B. Assembly/ Fixing P.C.B. Assembly	LBP-SX/ 8II	
LBP-115	Fixing Assembly/Reducing noise	LBP-RX/ 8IIR/TX 8IIT	
LBP-116	Driver/sensor P.C.B. Ass'y & Fixing Ass'y	LBP-RX/ 8IIR/TX 8IIT	
LBP-117	Modification of panel support A	LBP-SX/ 8II	
LBP-118-1	Duplexing Unit Upper Guide Assembly 1/ Preventing jams	LBP-RX/ 8IIR	
-119	EI standards	LBP-RX/ 8IIR/TX 8IIT	
LBP-119A	EI standards	LBP-SX/ 8II	
LBP-120	Correction of Parts Catalogue	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-121-1	Inverter Assembly/Lower guide	LBP-RX/ 8IIR	
LBP-122	Modification of bottom cover	LBP-RX/ 8IIR/TX/ 8IIT	

**SERVICE BULLETIN  
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MODEL: **LBP**

B. NUMBER	DESCRIPTION	MODEL	NOTE
P-093-1	Inverter Assembly/Solenoid SL7	LBP-RX/ 8IIR	
P-094	Duplexing Unit Lower Guide Assembly	LBP-RX/ 8IIR	
P-094A	Paper Alignment Guide Drive Assembly	LBP-RX/ 8IIR	
P-095	Feeder Assembly and Main Motor Assembly	LBP-SX/ 8II	
P-096-1	Fixing Assembly/Paper sensing lever	LBP-SX/ 8II	
P-097	Correction of Parts Catalogue	LBP-SX/ 8II	
P-098	Heater cover	LBP-RX/ 8IIR/TX 8IIT	
P-099-1	Right lock plate	LBP-RX/ 8IIR/TX 8IIT	
P-100	Preventing paper sensing arm from slipping off	LBP-RX/ 8IIR/TX 8IIT	
P-101	Video Controller P.C.B. Ass'y/EI standard	LBP-8IIR/ 8IIT	
P-102	Introduction of tool	LBP-RX/ 8IIR/SX/ 8II/TX/ 8IIT	
P-103	AC Driver P.C.B. Assembly	LBP-SX/ 8IIT	
P-104-1	Optical fiber cable	LBP-RX/ 8IIR/TX 8IIT	
P-105-1	DC Controller P.C.B. Assembly	LBP-RX/ 8IIR/TX 8IIT	
P-106-1	Upper Pick-up Roller Assembly	LBP-RX/ 8IIR/TX 8IIT	
P-107	DC Power Supply P.C.B. Assembly	LBP-RX/ 8IIR/TX 8IIT	



SERVICE BULLETIN  
INDEXES

MODEL: **600**

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-077	Correction of Parts Catalogue	LBP-8II R/T/RX/TX	
LBP-078-1	Preventing paper sensing arm from slipping off	LBP-SX/ 8II	
LBP-079	Improving paper pick-up from <u>lower</u> cassette	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-080	Changing the heater cover	LBP-SX/ 8II	
LBP-081	Equivalent components	LBP-SX/ 8II	
LBP-082	Periodic replacement of ozone filters	LBP	
LBP-083-1	Ozone filter	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-083A-1	Ozone filter	LBP-SX/ 8II	
LBP-083B	Power Inlet Assembly/Filter case	LBP-SX/ 8II	
LBP-083C	Power Inlet Assembly/Filter case	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-084	Equivalent components	LBP-TX/ 8IIT	
LBP-085	Equivalent components	LBP-RX/ 8IIR	
LBP-086	DC Controller P.C.B. Assembly	LBP-RX/ 8IIR/TX/ 8IIT	
LBP-087	EI standard	LBP-8II	
LBP-088-1	IEC label	LBP-SX/ 8II	
LBP-089	Left and right Hinge Assemblies	LBP-SX/ 8II	
LBP-090	Modification of lever cover	LBP-SX/ 8II	
LBP-091	Inverter Drive Assembly	LBP-RX/ 8IIR	
LBP-092	Paper Inlet Assembly	LBP-SX/ 8II	

SERVICE BULLETIN  
INDEXES

MODEL: **LBP**

.B. NUMBER	DESCRIPTION	MODEL	NOTE
3P-057	AC Driver P.C.B. Assembly	LBP-SX/ 8II	
3P-058-1	Delivery Coupler Assembly	LBP-SX/ 8II	
3P-059	Right Hinge Assembly	LBP-SX/ 8II	
3P-060	High-voltage Transformer Assembly	LBP-SX/ 8II	
3P-061	DC Power Supply P.C.B. Assembly	LBP-SX/ 8II	
3P-062	Preventing temperature rise	LBP-SX	
3P-063	Equivalent components	LBP-SX/ 8II	
3P-064-1	DC Controller P.C.B. Assembly/Optical fiber cable	LBP-SX/ 8II	
3P-065	Main Motor Assembly/Reducing noise	LBP-SX/ 8II	
3P-066-1	Display Panel Assembly	LBP-8II	
3P-067	Fan blades interfering with screws	LBP-SX/ 8II	
3P-068	Correction of Service Manual	LBP-SX	
3P-069	High-voltage Power Supply P.C.B. Assembly	LBP-SX/ 8II	
3P-070	P.C. Board support plates	LBP-SX	
3P-071-1	Fixing Assembly/Change of tension spring	LBP-SX/ 8II	
3P-072	Ultrax connector made by AMP	General	
3P-073	Cracks in left and right panel	LBP-SX/ 8II	
3P-074	Hinge Assembly	LBP-SX/ 8II	
3P-075-1	Transfer Guide Assembly/Separation pad	LBP-SX/ 8II	
3P-076	Feeding of envelopes	LBP-SX/ 8II	

SERVICE BULLETIN  
INDEXES

MODEL: 088

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-039	Video Controller P.C.B. Assembly	LBP-CX/8	
LBP-040	DC power supply/Main Motor Driver P.C.B. Assembly	LBP-CX/8	
LBP-041	High voltage power supply	LBP-CX/8	
LBP-042	DC Controller P.C.B. Assembly	LBP-8/8D, CX/CXD	
LBP-043	Cassette Pick-up Assembly	LBP-8/CX	
LBP-044	Display Panel Assembly	LBP-8/8D, CX/CXD	
LBP-045-1	Video Controller P.C.B. Assembly	LBP-8II	
LBP-045A	Video Controller P.C.B. Assembly	LBP-8II	
LBP-045B	Video Controller P.C.B. Assembly	LBP-8II	
LBP-046	Power Supply P.C.B. Assembly/Changed capacitors	LBP-8II	
LBP-047	Changed transistors	LBP-8II	
LBP-048-2	Filaments of static charge eliminator from coming off	LBP-8II	
LBP-049-2	Transfer Guide Assembly	LBP-8II/ SX	
LBP-050-1	Fixing Assembly/Heater contacts	LBP-CX/ CXD, 8/8D	
LBP-051-1	DC Controller P.C.B. Assembly	LBP-SX/ 8II	
LBP-052-1	Transfer Corona Assembly	LBP-SX/ 8II	
LBP-053-2	Blurred image at trailing edge	LBP-SX/ 8II	
LBP-053A	Fixing Ass'y/Preventing blurred images	LBP-SX/ 8II	
LBP-054-1	Black spots on prints	LBP-SX/ 8II	
LBP-055-1	Change of FG terminals	LBP-SX/ 8II	
LBP-055A	Change of FG terminal 2	LBP-SX/ 8II	
LBP-056	High-voltage Transformer Assembly	LBP-SX/ 8II	

**SERVICE BULLETIN  
INDEXES**

MODEL: **008**

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-016	Additional installation instructions	LBP-CX	
LBP-017	Fixing Assembly/Leaf spring of heater terminal	LBP-CX	
LBP-018	Preventing fusible resistor from melting	LBP-CX	VIB
LBP-019	Cassette/Instruction label	LBP-CX	
LBP-020-2	Video Controller P.C. Board/Program ROMs	LBP-CX/8	
LBP-020A-1	Video Controller P.C.B Assembly (new type)	LBP-CX/8	
LBP-020B	Video Controller P.C.B Assembly (old type)	LBP-8/CX	
LBP-021	Shape of blanking plate	LBP-CX/8	
LBP-021A	Shape of blanking plate	LBP-CX/ CXD LBP-8/8D	
LBP-022	Cable RS Assembly	LBP-CX/8	
LBP-023	Movement of laser shutter	LBP-CX	
LBP-024	Fixing Assembly securing screws	LBP-CX	
LBP-025	Changing grounding plate	LBP-CX	
LBP-026	Correction of Parts Catalogue	LBP-CX/8	
LBP-027	Font cartridge	LBP-8	VIB
LBP-028	Correction of Service Manual	LBP-8 DA1	
LBP-029	Preventing skew feed	LBP-8/CX	RO1
LBP-030	Replacing Tungsten Halogen Heater/Fixing Assembly	LBP-8/CX	VIB
LBP-031	Font cartridge/Fixing the cartridge cases	LBP-8/CX	
LBP-032	Preventing cable from being pinched	LBP-8/CX	
LBP-033	Improving assembly procedures	LBP-CX	
LBP-034	Correction of Service Manual	LBP-CX	
LBP-035	Video Controller P.C.B./Generating rectangular image drawing	LBP-8 A2/ CX A2	
LBP-036	Adding contact plates to base plate	LBP-8/CX	
LBP-037-1	Power Interlock Assembly	LBP-8D/ CXD	
LBP-038	Assembling procedure of Laser Scanning Unit	LBP-CX/8	

**SERVICE BULLETIN**

**INDEXES**

MODEL: ~~LBP~~

S.B. NUMBER	DESCRIPTION	MODEL	NOTE
LBP-001	Video Interface Manual/Corrections	LBP-10	
LBP-002	Cassette holder	LBP-10	
LBP-003	Developing Assembly/Electrode roller	LBP-10	
LBP-004	How to change the voltage from 220VAC to 240VAC	LBP-10	
LBP-005	Corrections of Parts Catalogue	LBP-10II	
LBP-006	Developing Assembly/Secondary scraper	LBP-10II	
LBP-007-2	Ranking list for model LBP-8 (A1 & A2)	LBP-8	
LBP-007A	Ranking list for model LBP-CX	LBP-CX	
LBP-007B	Ranking list for model LBP-8D A1	LBP-8D A1	
LBP-007C	Ranking list for model LBP-CXD	LBP-CXD	
LBP-007D	Ranking list for model LBP-8II	LBP-8II	
LBP-007E	Ranking list for model LBP-SX	LBP-SX	
LBP-007F	Ranking list for model LBP-8III/8IIIT	LBP-8III/ 8IIIT	
LBP-007G	Ranking list for model LBP-8IIIR	LBP-8IIIR	
LBP-007H	Ranking list for model LBP-4	LBP-4	
LBP-007I	Ranking list for model LBP-DX	LBP-DX	
LBP-007J	Ranking list for model LBP-RX	LBP-RX	
LBP-008	Correction of Service Manual	LBP-8	VIB
LBP-009	Service Plan for LBP-8 Printers	LBP-8	
LBP-009A-1	Service Plan for LBP-8II	(A1 & A2)	
LBP-009B-1	Service Plan for LBP-8III series	LBP-8II	
LBP-009C	Service Plan for LBP-8III Plus	LBP-8III Plus	
LBP-010	Correction of Service Manual	LBP-CX	VIB
LBP-011	Replacement procedure for Interface Cable Unit	LBP-8	
LBP-012-1	Laser Scanning Unit	LBP-8	
LBP-013-1	Service Part Change List (SPCL)	LBP-8/CX	
LBP-013A	Service Part Change List (SPCL)	LBP-8II/ SX	
LBP-013B	Service Part Change List (SPCL)	LBP-8II	
LBP-013C	Service Parts Change List	R/T/RX/TX	
LBP-013D	Service Parts Change List	LBP-8III LBP-4	
LBP-014	DC Controller P.C. Board/Laser Unit	LBP-8	
LBP-015	AC Driver P.C. Board/Fixing Roller Heater Safety P.C. Board	LBP-8	

**SERVICE BULLETIN  
INDEXES**

**MODEL: LBP**

<b>S.B. NUMBER</b>	<b>DESCRIPTION</b>	<b>MODEL</b>	<b>NOTE</b>
SP-226	Drum Drive Assembly	LBP-4/4 PLUS	
SP-227	Correction of Parts Catalogue	LBP-4/4 PLUS	

# CANON FACSIMILE MESSAGE VIA CANON FAX

0001

CANON EUROPA N.V., PO Box 2262, 1180 EG Amstelveen, the Netherlands

DATE : February 17, 1992  
TO : BRUHN SERVICE A/S  
ATTN : Mr. A. Gronbeck

REF. NO : CIR 2021-E  
FROM : Canon Europa N.V.  
SENDER : S. Kavanagh

NO. OF PAGES : 1

TEL. NO : 31 20 545 8031  
FAX. NO : 31 20 545 8260

SUBJECT: LBP-SX/RX/TX Fixing Assy Gear 20T Part Number Change

Dear Mr. Gronbeck,

Please be advised that two types of 20T Gear will be available in future and these gears are interchangeable. In order to reduce manufacturing cost, the e-rings securing the original gear have been deleted and a snap-in type gear will be used instead. However, the right side plate has been modified to accommodate the new gear i.e. the new gear will not fit on the original gear shaft. Replacing the right side shaft requires much disassembly and time. Therefore, the original gear, modified gear and also the modified right side plate, will be available as separate parts.

Description	Part Number	Availability
Original 20T Gear	RS1-0116-000	24/01/92
Modified 20T Gear	RS1-0116-020	Available
Modified Right Plate	RF1-0922-040	Unknown
Fixing Assembly	RG1-0940-450	Available

The original and modified Fixing Assemblies are fully interchangeable, therefore its' part number is unchanged. Engineering Change Notice RF-11-0364 is attached for your reference. Service Bulletin will be issued.

The original 20T Gear will be available next week but it can be ordered now. Please keep the modified 20T Gear on stock as it should be used on modified machines and fixing assemblies.

Best Regards,  
Canon Europa N.V.

*Shane*

Shane Kavanagh  
Support Engineer  
System Products Support Department  
Business Machines Technical Service Group

*Order 5823*

*Be with till NTS*

*262*

*214037*



# ENGINEERING CHANGE NOTICE

Issued by Peripheral Products Quality Assurance Center, Canon Inc.

MODEL: LBP-SX, LBP-SX PCB  
LBP-8II, LBP-8III

03 FEB. 1992

NO. : RF-11-0364

DATE: January 16, 1992

LOCATION

FIXING ASSEMBLY

SUBJECT

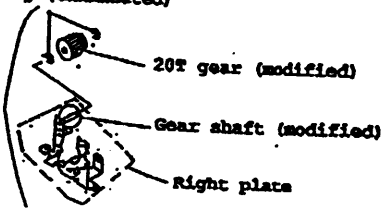
CHANGING MEANS OF SECURING 20T GEAR

### DETAIL

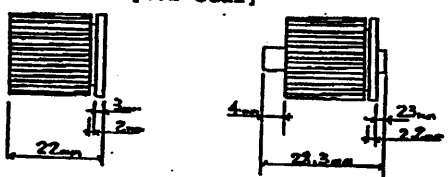
In the past, the 20T gear was secured to the gear shaft with two E rings. To increase productivity, the gear has been snapped in the gear shaft and the E rings have been eliminated.

Along with this change, the 20T gear and the gear shaft have been modified.

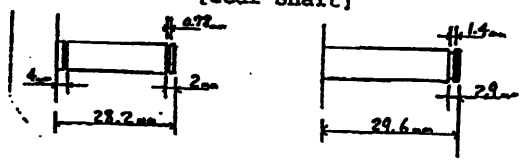
E ring (eliminated)



[20T Gear]



[Gear Shaft]



- Old -

- New -

### SERVICE PARTS

Old New	Description	Part Number	Assembly Number	Q'ty	Stock	Interchange- ability
0	20T GEAR	RS1-0116-000	RF1-0922-000	1- 0	Yes	Note
1	20T GEAR	RS1-0116-020	RF1-0922-040	0- 1	Yes	
0	RIGHT PLATE	RF1-0922-000	RG1-0939-450	1- 0	Yes	Note
2	RIGHT PLATE	RF1-0922-040	RG1-0940-450	0- 1	Yes	

Note: These parts are interchangeable when replaced together. Since the old and new fixing units are interchangeable, the affix number is not advanced.

### IMPLEMENTATION DATE

November, 1991



TPP Field Change Notice No. 59

DATE: 21.02.92

MODULE: Bonprinter 58/Citizen CEM-720.

CATEGORY:

production change : Check all in stock.  
In the field: Replace, when installing VTI-table.

CORRECTS THE ERROR: Previous versions do not have ISO 8859/1.

TOOLS NEEDED:

IC extractor.  
Screwdriver.

DESCRIPTIONS:

Bonprinter 58 has so far been delivered only to be used in connection with retail POS systems that do not require VTI-tables. With the release of the serial version of DDE 58, a table has been developed (prt/dde58.t), using the now implemented ISO 8859/1 character set. This firmware upgrade will allow already delivered printers to use the distributed standard table.

The upgrade is not mandatory, except if the table are to be used. The upgrade will spoil part of the CP 865, but not the danish letters, as that part is still present in the printer.

We recommend that the applications are converted till VTI use where practical, in order to allow future upgrades to other printers.

Remove the bottom plate, and replace the PROM with the one from the kit. Assemble and run Power On test. The printout should read:

\* CEM-7x0CASH-200mS  
DK-PC/8bitISO38u

SERVICE KIT: Stock No. 95140590 contains:

- A PROM, Type 27128, labelled:

C6CASH V.3.8U
------------------

ESTIMATED REPAIR TIME:

15 mins.

lee/ENA

TPP Field Change Notice No. 56

**DATE:** 07.02.92

**MODULE:** Canon manufactured laserprinters

**CATEGORY:** For information only

**CORRECTS THE ERROR:** TMN updates

**TOOLS NEEDED:** none

**DESCRIPTIONS:**

**Attachments are:**

LBP-157A	LBP-4	Static charge elim.
LBP-202	LBP-4	Cassette
LBP-203	LBP-4	Cassette feeder
LBP-204	LBP-4	Leaf spring
LBP-205	LBP-RX/TX	Transfer Corona
	LBP-8IIR/T	
	LBP-8IIIIR/T	
LBP-205A	LBP-SX	Transfer Corona
	LBP-8II/III	
LBP-206	LBP-RX/TX	Fixing Assembly
LBP-206A	LBP-SX	Fixing Assembly
LBP-207	LBP-SX	Fixing Assembly
LBP-208	LBP-4	Front cover/sensor
LBP-209	LBP-4	Fixing Assembly
LBP-210	LBP-4	Feeder & Paper roller
LBP-211	LBP-4	Interface P.C.B.
LBP-212	LBP-4	CPU/Video P.C.B.

**SERVICE KIT:** none

**NOTE:** Service Bulletins attached.

lea/BNA



Model LBP-4

Number LBP-157A  
(RQ-12E-0001)  
Date 28.06.1991

REFER TO : SERVICE BULLETIN LBP-157  
SUBJECT : 3 DIODE MODIFICATION PROCEDURE

This modification eliminates the following static charge problem symptoms:

- a. Error 41 appears on the display.
- b. Error 50 appears on the display.
- c. Incorrect fixing temperature control by DC Controller.
- d. Offset toner when printing on OHP film.

When a print passes between the fixing rollers of the 2 Diode type in conditions of low temperature and humidity, the lower roller may acquire a static charge due to friction, which will discharge through the Connector P.C.B. Assembly. If this discharge goes to ground, no problem occurs. If this discharge occurs via the DC Controller signal lines, the DC Controller may malfunction and one of the above symptoms will occur. Note that symptom c. occurs when R227 in the Thermistor Control circuit has been damaged by discharge, therefore it must also be replaced when performing this modification.

To eliminate this problem, a third diode (D503) has been added to allow the lower fixing roller to discharge to ground (see figures 1 and 2). To simplify installation, a "3 Diode Upgrade Kit" has been assigned as a service part.

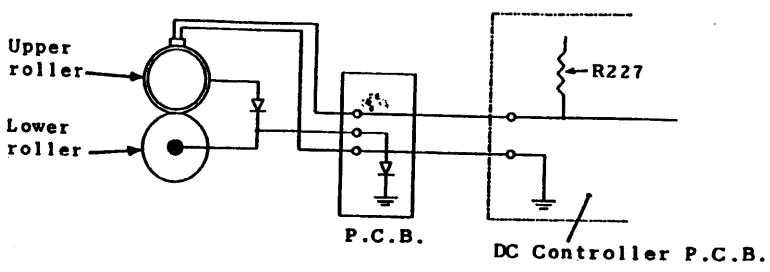


Fig. 1: Circuit diagram of 2D Fixing Assembly

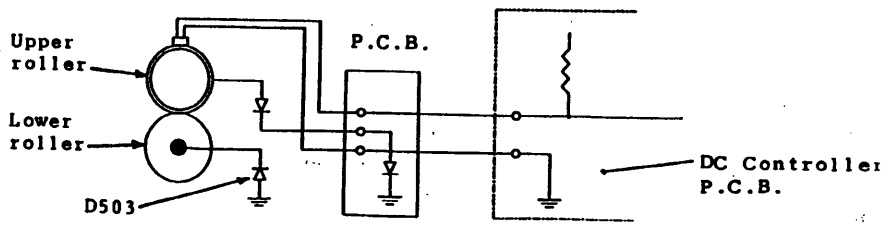


Figure 2: Circuit diagram of 3D Fixing Assembly

Upgrading from 2D-type to 3D-type

1. The "three diode upgrade kit" consists of the two parts shown in figure 3.
2. Cut a part of the 3D upgrading plate as shown in figure 3.

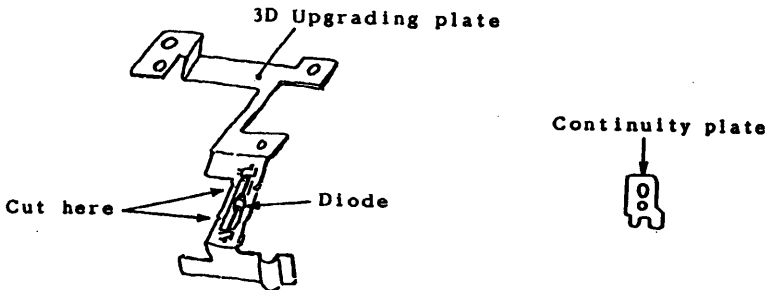


Figure 3

3. Remove the wire cover of the Fixing Assembly (figure 4).
4. Remove four screws (figure 4).
5. Disconnect the torsion spring (figure 4).

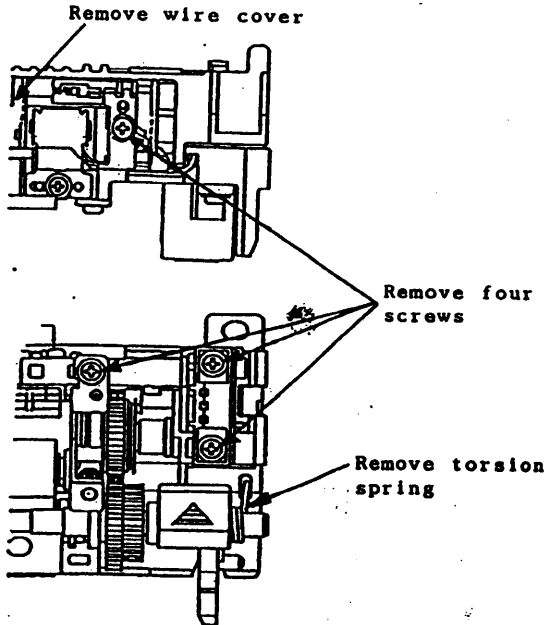


Figure 4

Upgrading from 2D-type to 3D-type (continued)

6. Remove the continuity plate from the Fixing Assembly.



Figure 5

7. Mount the modified continuity plate with a screw.

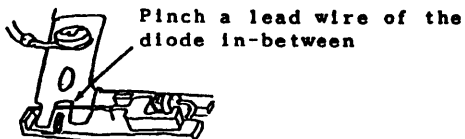


Figure 6

8. Mount the 3D upgrading plate in the Fixing Assembly. Place the thermistor cable under the 3D upgrading plate.

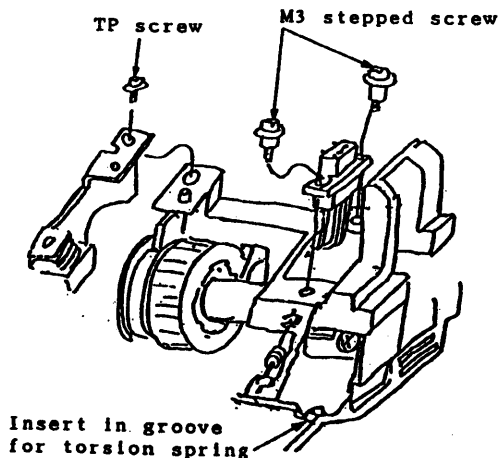
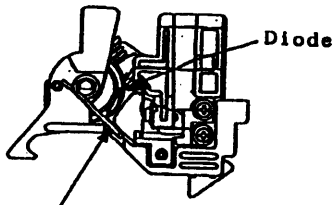


Figure 7

Upgrading from 2D-type to 3D-type (continued)

9. Fit the torsion spring in the groove.



Fit spring in 3D upgrading plate securely

Figure 8

10. Cut the 3D upgrading plate as shown in figure 9.

Note: The 3D upgrading plate may be cut before being mounted in the Fixing Assembly.

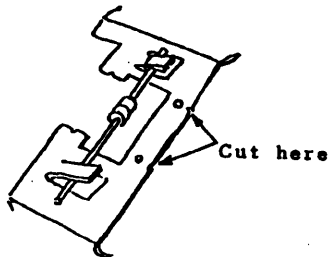


Figure 9

11. Check continuity of the heat roller as shown in figure 10.

Upper roller  
(ground ring)



Blue lead wire  
(screw)

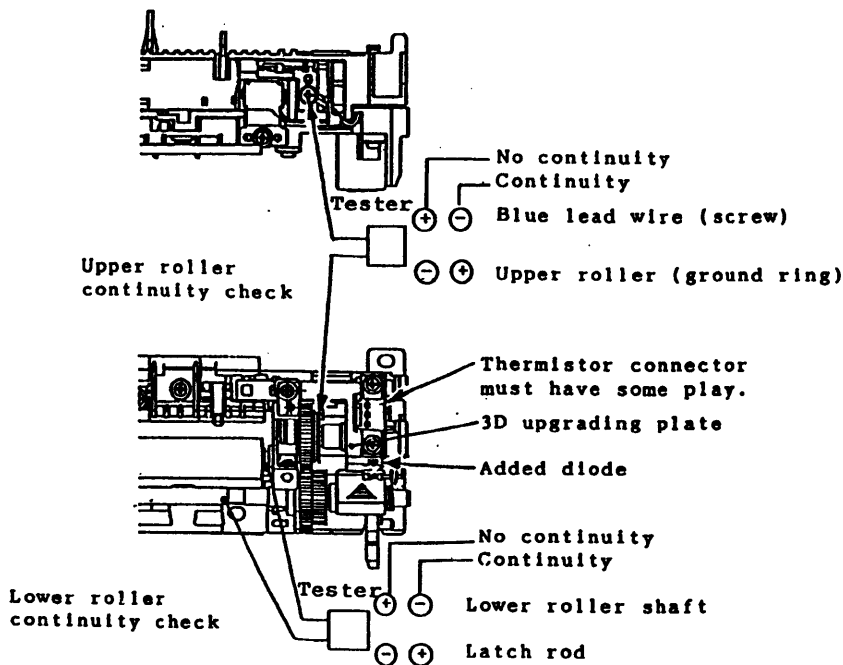
12. Check continuity of the pressure roller as shown in figure 10.

Lower roller  
(shaft)



Latch rod

Note: Since the diode of the upper roller has a high breakdown voltage, use a high resistance voltmeter or equivalent.

Upgrading from 2D-type to 3D-type (continued)Figure 10

13. The thermistor connector must be fixed with a stepped screw and have some play.

SERVICE PART

Description	Part number	Q'ty
3D UPGRADE KIT	RY7-0017-000	1

Model **LBP-4**

Number **LBP-202**  
(RQ-11-0231)  
Date **31.05.1991**

**SUBJECT : SIZE PLATE OF CASSETTE**

To ease the movement of the claw plate of the cassette, the cassette size plate has been modified. Refer to figures 1 and 2.

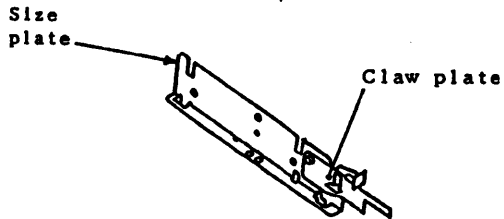


Figure 1

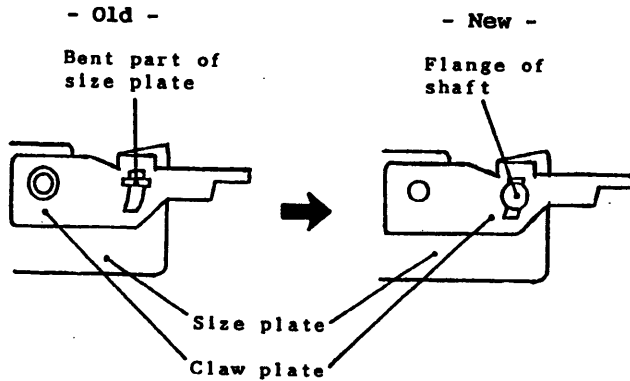


Figure 2



**SERVICE PART****INTERCHANGEABILITY**

CODE

"Former" and "new" parts are **RF1** interchangeable. YY  
 "Former" and "new" parts are **RY** interchangeable. NY  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **RG** in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **RH** in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SIZE PLATE	RF1-2426-000	RF1-2426-050	1	YY	F30-15, F31-15

**Note:**

\*1. Revision-1, dated Sep. 1990.



Model LBP-4

Number LBP-203  
(RQ-11-0242)  
Date 28.06.1991

**SUBJECT : CASSETTE FEEDER**

When the cassette feeder is installed in the machine, the Pin Assembly (9P) may topple down. To prevent this, the P.C.B. mount has been modified. Refer to figure 1.

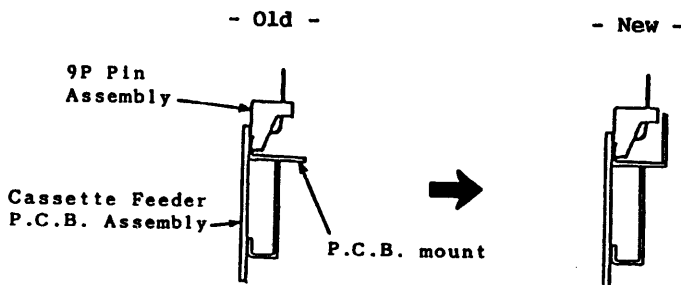


Figure 1

**SERVICE PART**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are ~~not~~ interchangeable. YN  
 "Former" and "new" parts are ~~not~~ interchangeable. NY  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
P.C.B. MOUNT	RA1-7663-000	RA1-7663-020	1	NY	F10-10

Note:

\*1. Revision-1, dated Sep. 1990.

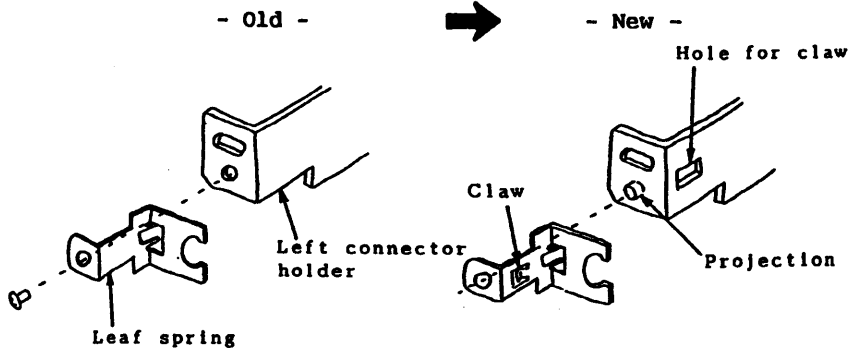
**LBP**

Number **LBP-204**  
(RQ-11-0232)  
Date **28.06.1991**

Model **LBP-4**

**SUBJECT : FIXING ASSEMBLY/MOUNTING THE LEAF SPRING**

The leaf spring was mounted to the left connector holder with a binding head screw. This mounting method has been changed. Refer to figure 1.



**Figure 1**

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <del>not</del> interchangeable.	YY
"Former" and "new" parts are <del>not</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>not</del> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>not</del> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
LEAF SPRING	RA1-7585-000	RA1-7585-020	1	C*2	810-5
LEFT CONNECTOR HOLDER	RA1-7596-000	RA1-7596-040	1	C*2	810-15
BINDING HEAD SCREW	XB1-2300-607	-----	1+0	C*2	810-E20

**Notes:**

- \*1. Revision-1, dated Sep. 1990.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

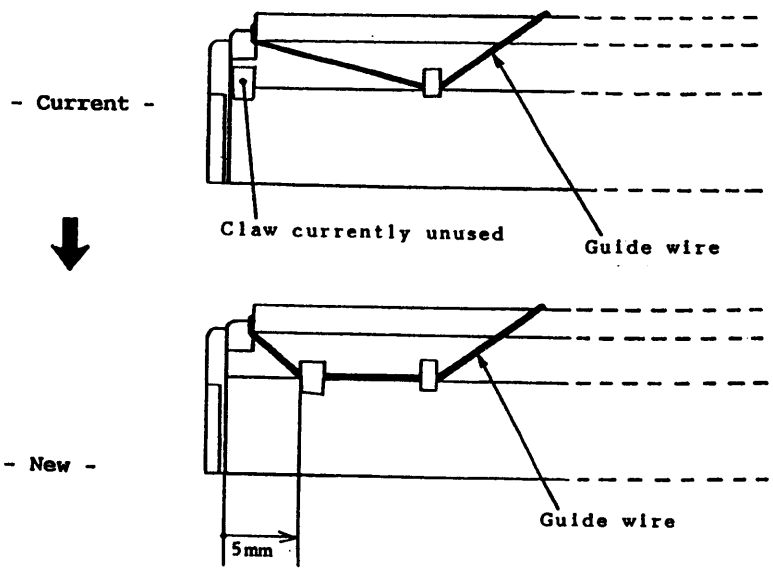


Model **LBP-RX/TX,  
LBP-SIIR/SIIT,  
LBP-SIIR/SIIIT**

Number **LBP-205  
(RM-11-0171)**  
Date **28.06.1991**

**SUBJECT : TRANSFER CORONA ASSEMBLY**

To prevent the guide wire from coming off the claw on the static charge eliminator, unused claws at both ends are now also used as shown in figure 1.



**Figure 1**

**SERVICE PARTS****INTERCHANGEABILITY****CODE**

"Former" and "new" parts are **NY** interchangeable. **YY**  
 "Former" and "new" parts are **NY** interchangeable. **NY**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **NY** in "original" machines. **YY**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NY** in "modified" machines. **YY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
STATIC CHARGE ELIMINATOR	RF1-0916-000	RF1-0916-040	1	NY	580-4
TRANSFER CORONA ASSEMBLY	RG1-0933-060	RG1-0933-120	1	NY	580

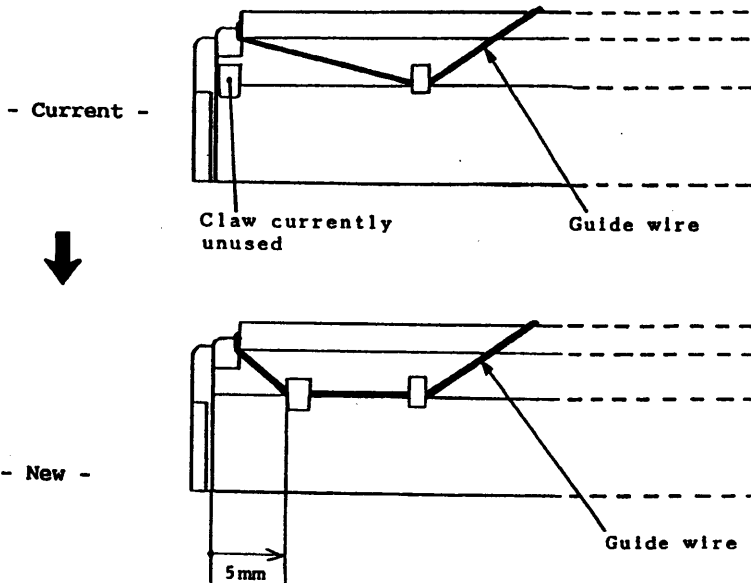
**Note:****\*1. Refer to:**

- The Parts Catalogue for model LBP-RX, with part number RY8-3119-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-TX, with part number RY8-3122-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-8IIR, with part number RY8-3123-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-8IIT, with part number RY8-3124-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-8IIIR, with part number RY8-3149-000, dated July 1989.
- The Parts Catalogue for model LBP-8IIIT, with part number RY8-3148-000, dated May 1989.

LBP-205A

Number **LBP-205A**  
(RF-11-0348)  
Date **28.06.1991**Model **LBP-SX,**  
**LBP-8II, LBP-8III****SUBJECT : TRANSFER CORONA ASSEMBLY**

To prevent the guide wire from coming off the claw on the static charge eliminator, unused claws at both ends are now also used as shown in figure 1.

Figure 1

**SERVICE PARTS****INTERCHANGEABILITY**

CODE

"Former" and "new" parts are **100%** interchangeable. YY  
 "Former" and "new" parts are **80%** interchangeable. NY  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **80%** in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **80%** in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
STATIC CHARGE ELIMINATOR	RF1-0916-000	RF1-0916-040	1	NY	580-4
TRANSFER CORONA ASSEMBLY	RG1-0933-060	RG1-0933-120	1	NY	580

**Note:****\*1. Refer to:**

- The Parts Catalogue for model LBP-SX, with part number RY8-3114-020, dated May 1990.
- The Parts Catalogue for model LBP-8II, with part number RY8-3113-010, dated July 1987.
- The Parts Catalogue for model LBP-8III, with part number RY8-3140-000, dated Apr. 1989.

Model **LBP-RX/TX,  
LBP-8IIR/8IIT,  
LBP-8IIR/8IIT**

Number **LBP-206  
(RM-11-0170)**  
Date **28.06.1991**

**SUBJECT : FIXING ASSEMBLY**

Stepped screws (indicated by arrows in figure 1) have been changed. Refer to figure 2.

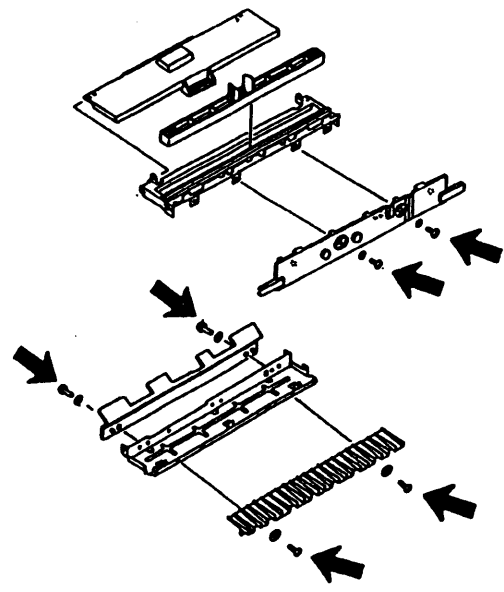


Figure 1

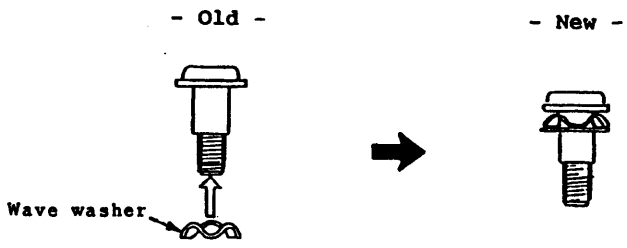


Fig. 2: Stepped screw



**SERVICE PARTS****INTERCHANGEABILITY**

CODE

"Former" and "new" parts are ~~fully~~ interchangeable. YY  
 "Former" and "new" parts are ~~not~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
STEPPED SCREW, M3 X 6	RA9-0621-000	UNCHANGED	8→2	C*2	810-36
STEPPED SCREW, with washer, M3 X 6	-----	RF9-0843-000	0→6	C*2	810-...
WAVE WASHER	XD9-0079-000	-----	6→0	C*2	810-38

**Notes:****\*1. Refer to:**

- The Parts Catalogue for model LBP-RX, with part number RY8-3119-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-TX, with part number RY8-3122-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-8IIR, with part number RY8-3123-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-8IIT, with part number RY8-3124-010, dated Apr. 1989.
- The Parts Catalogue for model LBP-8IIIR, with part number RY8-3149-000, dated July 1989.
- The Parts Catalogue for model LBP-8IIIT, with part number RY8-3148-000, dated May 1989.

- \*2.** The "former" and "new" parts are interchangeable if the marked items are replaced together.



Number **LBP-206A**  
(RF-11-0347)  
Date **28.06.1991**

Model **LBP-SX,  
LBP-8II,  
LBP-8III**

**SUBJECT : FIXING ASSEMBLY**

Stepped screws (indicated by arrows in figure 1) have been changed. Refer to figure 2.

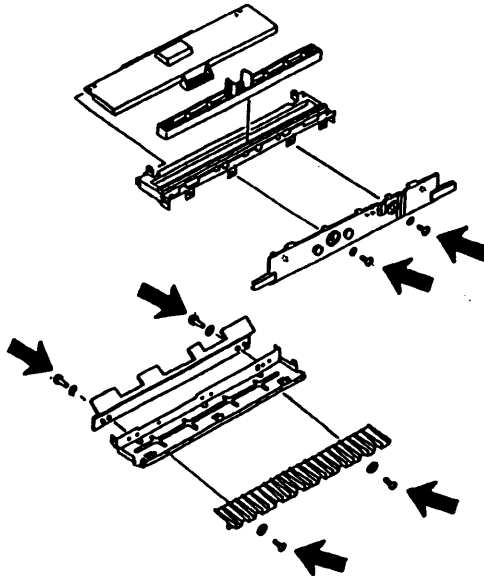


Figure 1

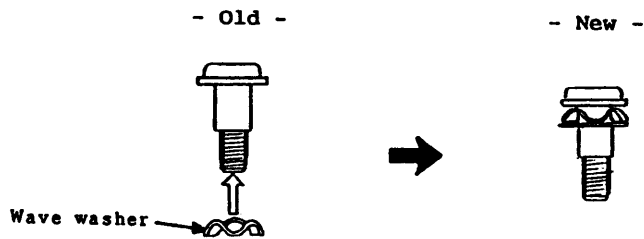


Fig. 2: Stepped screw

**SERVICE PARTS****INTERCHANGEABILITY**

CODE

"Former" and "new" parts are ~~YY~~ interchangeable. YY  
 "Former" and "new" parts are ~~NN~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~YN~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~NY~~ in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
STEPPED SCREW, M3 X 6	RA9-0621-000	UNCHANGED	8→2	C*2	810-36
STEPPED SCREW, with washer, M3 X 6	-----	RF9-0843-000	0→6	C*2	810-...
WAVE WASHER	XD9-0079-000	-----	6→0	C*2	810-38

**Notes:****\*1. Refer to:**

- The Parts Catalogue for model LBP-SX, with part number RY8-3114-020, dated May 1990.
- The Parts Catalogue for model LBP-8II, with part number RY8-3113-010, dated July 1987.
- The Parts Catalogue for model LBP-8III, with part number RY8-3140-000, dated Apr. 1989.

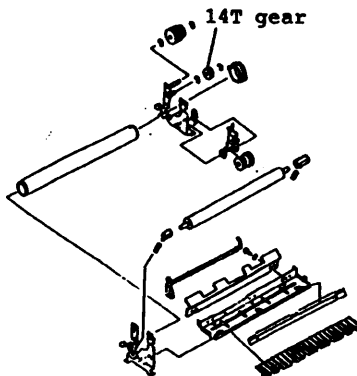
**\*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.**

Model **LBP-SX,  
LBP-8II,  
LBP-8III**

Number **LBP-207  
(RF-11-0349)**  
Date **26.07.1991**

**SUBJECT : FIXING ASSEMBLY**

The inner diameter of the 14T gear shown in figure 1 has been changed: 6mm → 6.1mm.



**Figure 1**

**SERVICE BULLETIN**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are **100%** interchangeable. **YY**  
 "Former" and "new" parts are **80%** interchangeable. **NN**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **20%** in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **80%** in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
14T GEAR	RS1-0132-000	RS1-0132-020	1	YY	810-23
FIXING ASSEMBLY	RG1-0940-370	RG1-0940-450	1	YY	810

**Note:**

**\*1. Refer to:**

- The Parts Catalogue for model LBP-SX, with part number RY8-3114-020, dated May 1990.
- The Parts Catalogue for model LBP-8II, with part number RY8-3113-010, dated July 1987.
- The Parts Catalogue for model LBP-8III, with part number RY8-3140-000, dated Apr. 1989.

LBP

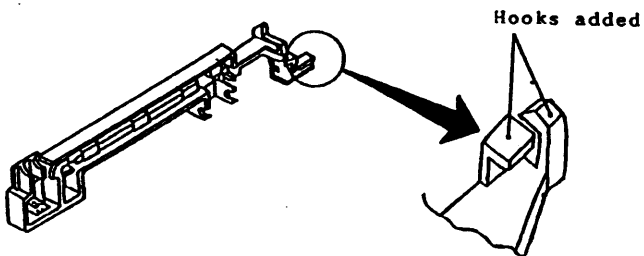
Number **LBP-208**  
**(RQ-11-0268)**  
 Date **26.07.1991**

Model **LBP-4**

**SUBJECT : FRONT COVER ASSEMBLY/SENSOR MOUNT**

The sensor mount has been modified, so that it fixes the assembly cable at (added) hooks. Along with this modification, a cable band\* has been eliminated.

*\*Note: The cable band was not available as a service spare part.*



**Fig. 1: Sensor mount**

**Service Part**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are **YY** interchangeable. **YY**  
 "Former" and "new" parts are **NY** interchangeable. **NY**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **YN** in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NY** in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SENSOR MOUNT	RA1-7570-000	RA1-7570-060	1	YY	101-27B

**Note:**

\*1. Revision-1, dated Sep. 1990.

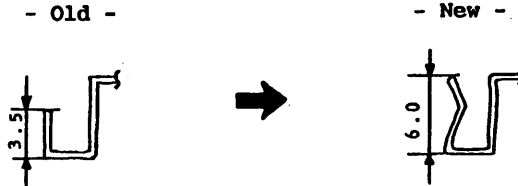
**LBP**

Number **LBP-209**  
**(RQ-11-0253)**  
 Date **26.07.1991**

Model **LBP-4**

**SUBJECT : FIXING ASSEMBLY/CABLE PLATE**

The cable plate has been modified as shown in figure 1.



**Fig. 1: Cable plate**

**SERVICE DATA**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <b>fully</b> interchangeable.	YY
"Former" and "new" parts are <b>not</b> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <b>not</b> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <b>not</b> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
CABLE, plate	RA1-8263-000	RA1-8263-020	1	YY	810-61

**Note:**

\*1. Revision-1, dated Sep. 1990.



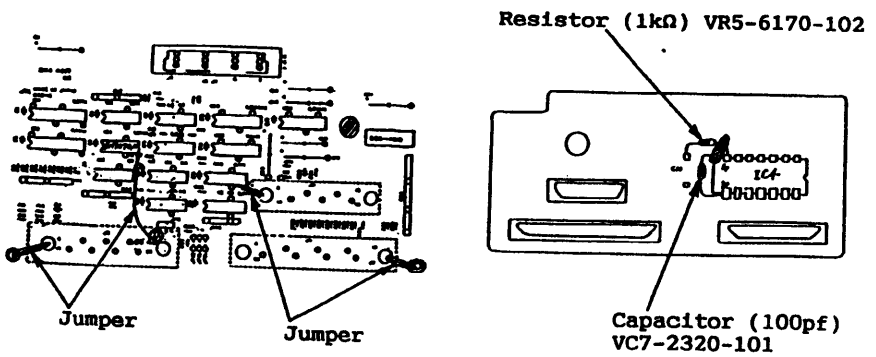
LBP-4

Model LBP-4

Number LBP-211  
(RQ-11-0272)  
Date 26.07.1991

**SUBJECT : INTERFACE P.C.B. ASSEMBLY**

To increase the margin for electrostatic discharge, IC4 and R10 on the Interface P.C.B. Assembly have been changed. Along with this change, jumpers, a resistor (1k $\Omega$ ) and a capacitor (100pF) have been added. Refer to figure 1.



**Fig. 1: Interface P.C.B. Assembly**



**SERVICE PARTS****INTERCHANGEABILITY**

CODE

"former" and "new" parts are **NYNY** interchangeable. YY  
 "former" and "new" parts are **NYN** interchangeable. NY  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **NYN** in "original" machines. NY  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NYN** in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
INTERFACE ASSEMBLY	RG1-1823-000	RG1-1823-050	1	YY	934
INTERFACE P.C.B. ASSEMBLY	SG5-4010-000	SG5-4010-040	1	YY	935
TTL IC (SN74LS74AN → SN7474AN)	WA3-1513-000	X65-7256-000	1	NY	935-IC4
RESISTOR (470Ω, 1/4W 680Ω, 1/4W)	VR1-3145-471	VR1-3145-681	1	NY	935-R10
RESISTOR, 1KΩ, 1/4W	-----	VR5-6170-102	0→1	--	935-...
CAPACITOR, 100pF, 50V	-----	VC7-2320-101	0→1	--	935-...

**Note:**

\*1. Revision-1, dated Sep. 1990.

**LBP-4**

Model **LBP-4**

Number **LBP-212**  
 (RQ-11-0250)  
 Date **26.07.1991**

**SUBJECT : CPU/VIDEO CONTROLLER P.C.B. ASSEMBLY**

The CPU of the Video Controller P.C.B. Assembly was also used in other models. A new part number has now been assigned for the CPU used in the LBP-4.

**SERVICE PART**

**INTERCHANGEABILITY**

	CODE
"Former" and "new" parts are <b>ANY</b> interchangeable.	YY
"Former" and "new" parts are <b>NO</b> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <b>NO</b> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <b>NO</b> in "modified" machines.	NY

Interchangeable on condition; a note provides additional information. c

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
CPU	WA3-3905-000	SH8-4356-000	1	NY	931-IC8

**Note:**

\*1. Revision-1, dated Sep. 1990.

TPP Field Change Notice No. 54

DATE: 29.01.92

MODULE: Canon manufactured laserprinters

CATEGORY: For information only

CORRECTS THE ERROR: TMN updates

TOOLS NEEDED: none

DESCRIPTIONS:

Attachments are:

LBP-162A	LBP-SX/-8III	Transfer Guide
LBP-189B	LBP-RX/-8IIR	Cassette
	LBP-TX/-8IIT	
LBP-189C	LBP-8IIR/T	Cassette
LBP-192A	LBP-8IIR/T	DC Controller
LBP-195	LBP-4	Sensor mounting
LBP-196	LBP-4	Face-up tray (impr)
LBP-197	LBP-4	Front Cover
LBP-198	LBP-4	Front Cover/27T gear
LBP-199	LBP-4	Laser Assembly
LBP-200	LBP-4	Fixing/Ground leaf
LBP-201	LBP-4	Front Panel
LBP-213	LBP-4	Face-up Cover
LBP-213A	LBP-4	Face-up Cover (cont.)
LBP-214	LBP-4	Drum Drive
LBP-215	EP-S cartr.	Cleaning Primary Corona
LBP-216	LBP-4	Upper Cover/Slider
LBP-217	LBP-4	Fixing/U-bushing
LBP-218	LBP-4 Plus	Multiple Feed Tray
LBP-219	LBP-4/Plus	Cable Cover mods.
LBP-220	LBP-4/Plus	Fixing
LBP-221	LBP-4	H.V. Power Supply.
LBP-222	LBP-4	Photo IC subst.

SERVICE KIT: none

NOTE: Service Bulletin attached.

lea/MUDV



Model **LBP-SX,  
LBP-8III**

Number **LBP-162A  
(RF-11-0266-1)**  
Date **25.10.1991**

**SUBJECT : TRANSFER GUIDE ASSEMBLY/SEPARATION PAD**

The separation pad in the Transfer Guide Assembly has been modified. Refer to figures 1 and 2.

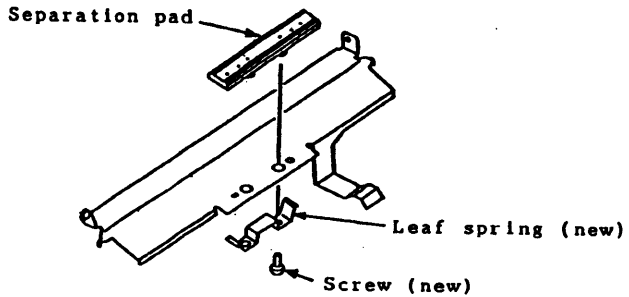


Figure 1

- Old -



- New -

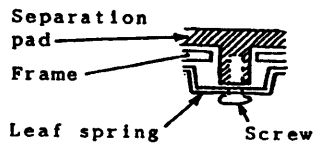


Figure 2

**SERVICE PARTS****INTERCHANGEABILITY****CODE**

"Former" and "new" parts are ~~RY11~~ interchangeable. YV  
 "Former" and "new" parts are ~~RY11~~ interchangeable. NV  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~RY11~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~RY11~~ in "modified" machines. NV  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SEPARATION PAD	RF1-2581-000	RF1-1145-020	1	C*2	351-1
LEAF SPRING	-----	RA1-3872-000	0-1	C*2	351-6
SELF-TAPPING SCREW	-----	XB4-7400-809	0-2	C*2	351-G25

**Notes:**

- \*1. Refer to the Parts Catalogue for model LBP-SX (with part number RY8-3114-020, dated May 1990) and to the Parts Catalogue for model LBP-8III (with part number RY8-3140-000, dated Apr. 1989).
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

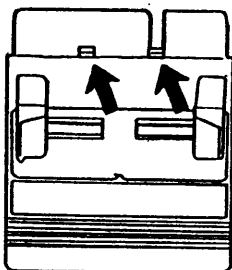
**LBP**

Model **LBP-RX/LBP-8IIR,  
LBP-TX/LBP-8IIT**

Number **LBP-189B  
(RM-11-0152)**  
Date **15.02.1991**

**SUBJECT : CASSETTE/TOP COVER ASSEMBLY**

To increase the margin in manual feed, two ribs have been added to the top cover. Refer to figure 1.



**Fig. 1: Top Cover Assembly**

**SERVICE PARTS**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are **YY** interchangeable. **YY**  
 "Former" and "new" parts are **NY** interchangeable. **NY**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **NY** in "original" machines. **NY**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NY** in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
TOP COVER ASS'Y, S (English)	RG1-1118-040	RG1-1118-070	1	YY	301-11
TOP COVER ASS'Y, L (English)	RG1-1119-040	RG1-1119-070	1	YY	301-11

**Note:**

- \*1. Refer to the following Parts Catalogues:

Model	Part number	Date
LBP-8IIR	RY8-3123-010	Apr. 1989
LBP-8IIT	RY8-3124-010	Apr. 1989
LBP-RX	RY8-3119-010	Apr. 1989
LBP-TX	RY8-3122-010	Apr. 1989

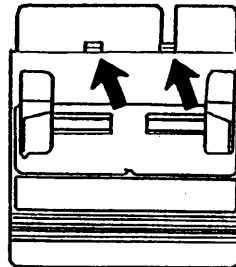


Modell **LBP-8IIIR,**  
**LBP-8IIIT**

Number **LBP-189C**  
**(RM-11-0152)**  
Date **15.02.1991**

**SUBJECT : CASSETTE/TOP COVER ASSEMBLY**

To increase the margin in manual feed, two ribs have been added to the top cover. Refer to figure 1.



**Fig. 1: Top Cover Assembly**

**SERVICE PARTS**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are ~~not~~ interchangeable. **YY**  
 "Former" and "new" parts are ~~not~~ interchangeable. **NN**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat.
	Former	New			
TOP COVER ASS'Y, L	RG1-1889-000	RG1-1889-040	1	YY	320-11*1 320-11*2
TOP COVER ASS'Y, S	RG1-1890-000	RG1-1890-040	1	YY	320-11*1 320-11*2

**Notes:**

- \*1. Refer to the Parts Catalogue for model LBP-8IIIR, with part number RY8-3149-000, dated July 1989.
- \*2. Refer to the Parts Catalogue for model LBP-8IIIT, with part number RY8-3148-000, dated May 1989.

**LBP**

Model **LBP-811IR,  
LBP-811IT**

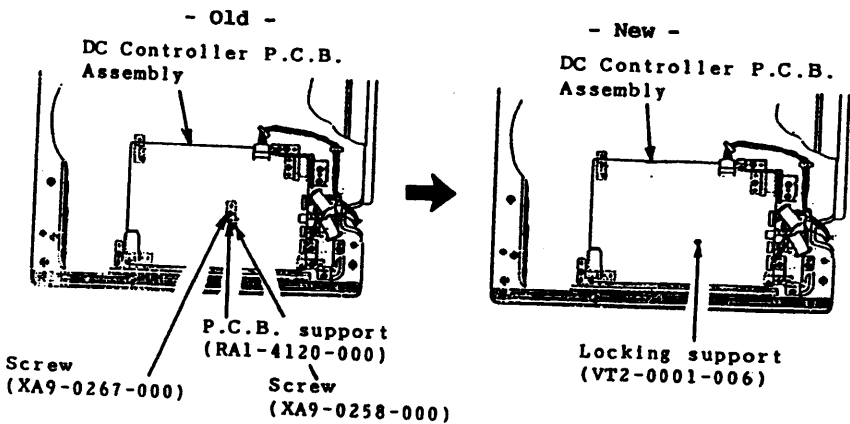
Number **LBP-192A  
(RM-11-0111)**  
Date **15.02.1991**

**SUBJECT : DC CONTROLLER P.C.B. ASSEMBLY**

Originally, three P.C.B. supports were used for fixing the DC Controller P.C.B. Assembly. A locking support is now used for the central hole in the Assembly, instead of a P.C.B. support.

The following modifications have also been made (figure 1):

1. The diameter of the hole in the DC Controller P.C.B. Assembly has been changed from 4.5mm to 4.0mm.
2. An additional hole (4.8mm) is made in the bottom plate.
3. Two screws have been eliminated.



**Figure 1**

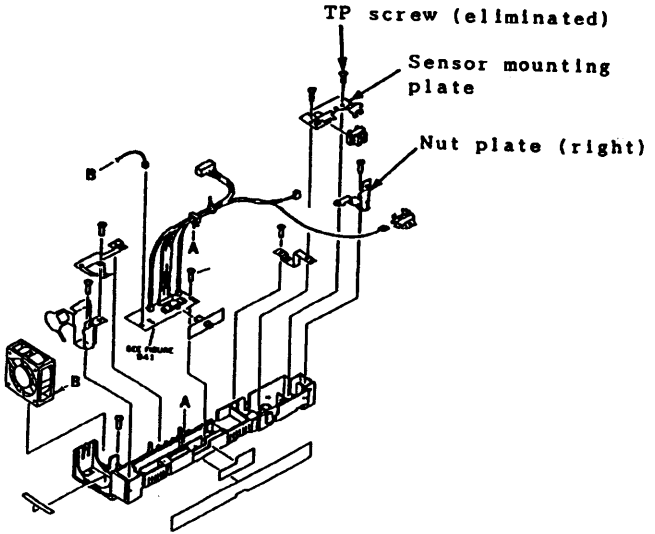


Model **LBP-4**

Number **LBP-195**  
**(RQ-11-0196)**  
Date **26.04.1991**

**SUBJECT : SENSOR MOUNTING PLATE**

The sensor mounting plate and right nut plate (figure 1) have been combined. Along with this change, a TP screw has been eliminated.



**Figure 1**

**LBP**

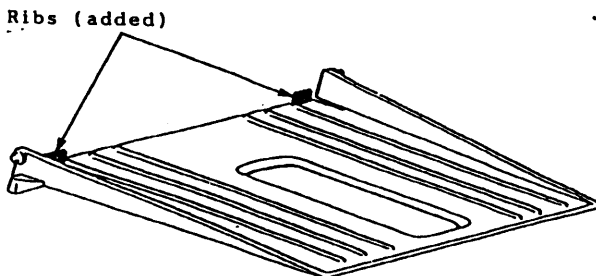
Model **LBP-4**

Number **LBP-196**  
**(RQ-11-0203)**  
 Date **26.04.1991**

**SUBJECT : ADDING RIBS ON FACE-UP TRAY**

Printed sheets may slip, in the face-up delivery mode, through the gap between the printer main body and the face-up tray.

To prevent this, ribs have been added to the tray. Refer to figure 1.



**Fig. 1: Face-up tray**

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are Fully interchangeable. **YY**  
 "Former" and "new" parts are NOT interchangeable. **NW**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. not in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. not in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FACE-UP TRAY	RA1-7630-080	RA1-7630-110	1	NY	100-4

**Note:**

\*1. Revision-1, dated Sep. 1990.

**LBP**

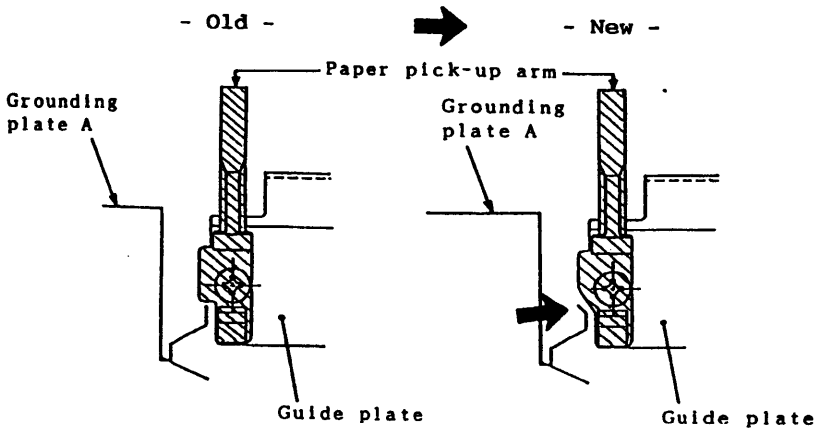
Model **LBP-4**

Number **LBP-197**  
**(RQ-11-0201)**  
 Date **26.04.1991**

**SUBJECT : FRONT COVER ASSEMBLY**

When the guide plate is attached to the front cover, the paper pick-up arm may catch grounding plate A.

To prevent this, the paper pick-up arm and grounding plate A have been modified. Refer to figure 1.



**Figure 1**

**SERVICE PARTS**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are <u>fully</u> interchangeable.	YY
"Former" and "new" parts are <u>NOT</u> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <u>NOT</u> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <u>not</u> in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PAPER PICK-UP ARM	RA1-7629-000	RA1-7629-050	2	YY	101-4
GROUNDING PLATE A	RA1-7565-000	RA1-7565-040	1	YY	101-15

**Note:**

\*1. Revision-1, dated Sep. 1990.



Model **LBP-4**

Number **LBP-198**  
**(RQ-11-0210)**  
 Date **26.04.1991**

**SUBJECT : FRONT COVER ASSEMBLY/27T GEAR**

To prevent axial slippage of the 27T gear on the transfer roller, the flange of the gear has been lengthened. Refer to figures 1 and 2.

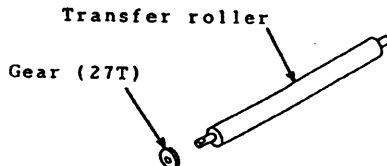


Figure 1

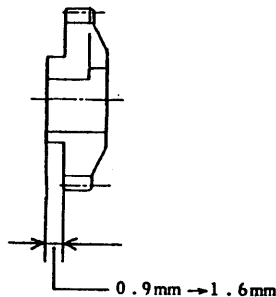


Fig. 2: Gear (27T)

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are fully interchangeable. **YY**  
 "Former" and "new" parts are **Not** interchangeable. **NN**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
GEAR, 27T	RS1-0292-000	RS1-0292-030	1	YY	101-31

**Note:**

\*1. Revision-1, dated Sep. 1990.

**LBP**

Number **LBP-199**  
**(RQ-11-0212)**  
 Date **26.04.1991**

Model **LBP-4**

**SUBJECT : LASER ASSEMBLY**

The part number of the Laser Assembly has been revised.

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are **YY** interchangeable. **YY**  
 "Former" and "new" parts are **WN** interchangeable. **WN**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **YN** in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NY** in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
LASER ASSEMBLY	RG1-1769-000	RG1-1769-020	1	YY	104-13

**Note:**

\*1. Revision-1, dated Sep. 1990.



Model **LBP-4**

Number **LBP-200**  
**(RQ-11-0225)**  
 Date **26.04.1991**

**SUBJECT : FIXING ASSEMBLY/GROUNDING LEAF SPRING**

A contact of the grounding leaf spring (contact with the upper fixing roller) may generate noise. To reduce this, the material of the contact has been changed. Refer to figure 1.

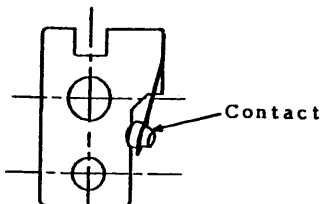


Fig. 1: Grounding leaf spring

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are <del>Y</del> <del>Y</del> interchangeable.	YY
"Former" and "new" parts are <del>NO</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <del>NO</del> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <del>NO</del> in "modified" machines.	NY
Interchangeable on condition: a note provides additional information. C	

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
GROUNDING LEAF SPRING	RA1-7604-020	RA1-7604-030	1	YY	810-23

**Note:**

\*1. Revision-1, dated Sep. 1990.

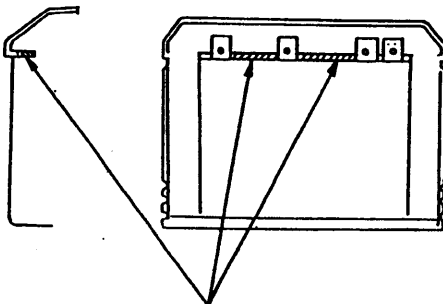
**LBP-4**

Number **LBP-201**  
 (RQ-11-0229)  
 Date **26.04.1991**

Modell **LBP-4**

**SUBJECT : FRONT PANEL**

The ribs on the rear side of the front panel have been lengthened.



Ribs (shaded parts) have been lengthened by 4mm.

**Fig. 1: Front panel**

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are ~~not~~ interchangeable. **YY**  
 "Former" and "new" parts are ~~not~~ interchangeable. **MM**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~Not~~ in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~Not~~ in "modified" machines. **MY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FRONT PANEL	RF1-2487-000	RF1-2487-090	1	YY	101-20

**Note:**

\*1. Revision-1, dated Sep. 1990.

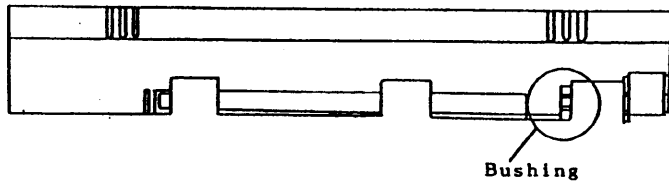
**SB**

Number **LBP-213**  
(RQ-11-0248)  
Date **30.08.1991**

Model **LBP-4**

**SUBJECT : FACE-UP COVER ASSEMBLY**

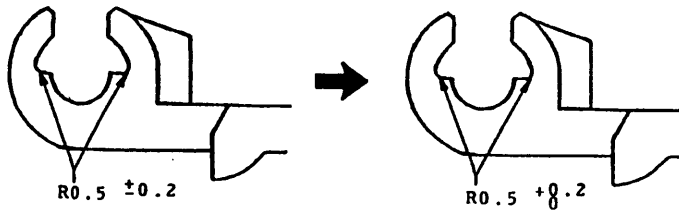
The front upper cover bushing has been strengthened as illustrated in figures 1 and 2.



**Fig. 1: Front upper cover (top view)**

- Old -

- New -



**Fig. 2: Front upper cover bushing\***

**\*Note: Refer to figure 1.**



SERVICE PARTSINTERCHANGEABILITYCODE

"Former" and "new" parts are ~~fully~~ interchangeable. YY  
 "Former" and "new" parts are ~~not~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FACE-UP COVER ASS'Y	RG1-1832-000	RG1-1832-130	1	NY	101-28
FRONT UPPER COVER	RA1-7721-000	RA1-7721-080	1	NY	101-28A

Note:

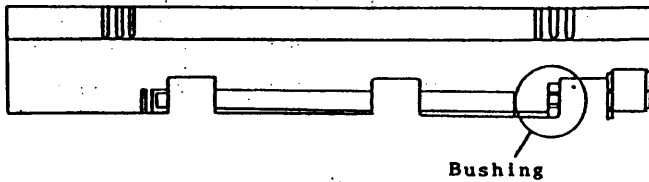
\*1. Revision-1, dated Sep. 1990.

Model **LBP-4**

Number **LBP-213A**  
(RQ-11-0252)  
Date **30.08.1991**

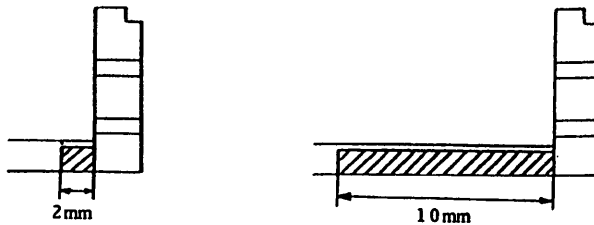
**SUBJECT : FACE-UP COVER ASSEMBLY**

The front upper cover bushing has been strengthened as illustrated in figures 1, 2a & 2b.



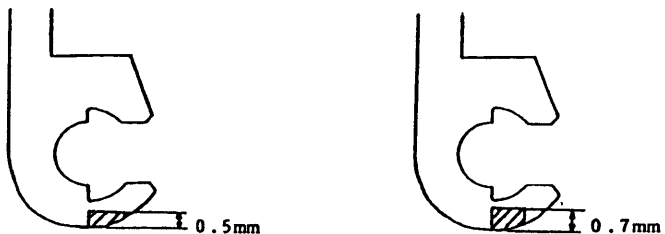
**Fig. 1: Front upper cover (top view)**

- Old -                      →                      - New -



**Fig. 2a: Front upper cover bushing\***

- Old -                      →                      - New -



**Fig. 2b: Front upper cover bushing\***

**\*Note: Refer to figure 1.**

**SERVICE PARTS****INTERCHANGEABILITY****CODE**

"Former" and "new" parts are fully interchangeable. YY  
 "Former" and "new" parts are not interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. not in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. not in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FACE-UP COVER ASS'Y	RG1-1832-130*2	RG1-1832-140	1	NY	101-28
FRONT UPPER COVER	RA1-7721-080*2	RA1-7721-090	1	NY	101-28A

**Notes:**

- \*1. Revision-1, dated Sep. 1990.
- \*2. Refer to Service Bulletin LBP-213.



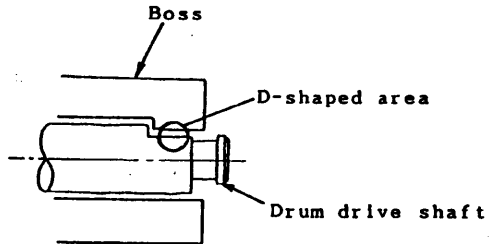
FIN-0023 M.2

Number **LBP-214**  
(RQ-11-0281)  
Date **30.08.1991**

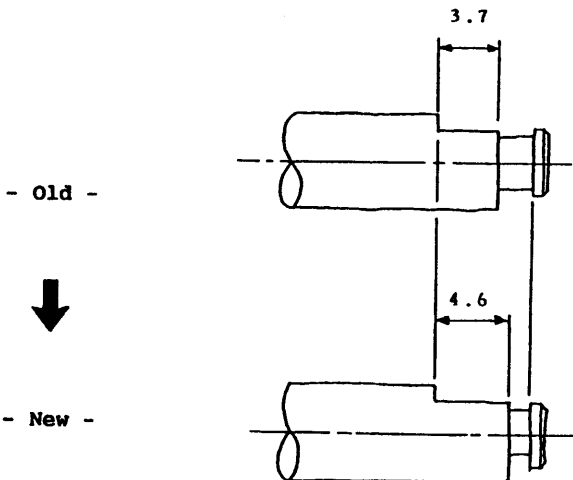
Model **LBP-4**

**SUBJECT : DRUM DRIVE ASSEMBLY**

The flat D-shaped area of the drum drive shaft has been lengthened by 0.9mm. Refer to figures 1a & 1b.



**Fig. 1a: Drum Drive Assembly**



**Figure 1b**

**SERVICE PART**

INTERCHANGEABILITY

CODE

Former and new parts are NOT interchangeable.  
 Former and new parts are NOT interchangeable.  
 The "former" parts are interchangeable; the "new" parts can be used in modified machines only. NY in original machines.  
 The "new" parts are interchangeable; the "former" parts can be used in original machines only. NY in modified machines.  
 Interchangeable on condition: a note provides additional information. C

Description	Part number		Qty	IC	P. Cat#1
	Former	New			
DRUM DRIVE ASSEMBLY	RG1-177-000	UNCHANGED	1	Y	104-10

Note:

\*1. Revision-1, dated Sep. 1990.

**ACCESSORIES**

Model (Product code)	Serial number	Rating
LBP-4 (R62-0015-000)	GMK40046 and Later	220/240V 50HZ
LBP-4 (R62-0015-001)	GMK40830 and Later	220/240V 50HZ



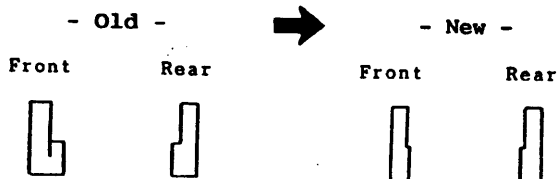
Model **EP-S CARTRIDGE**

Number **LBP-215**  
(ZF-11-0007)  
Date **30.08.1991**

## SUBJECT : CLEANING OF PRIMARY CORONA WIRE

Toner stains on the primary corona wire may cause black streaks at the right edge of the printed image. To prevent this, the following modifications have been implemented:

1. Changing the material and size of seals (front and rear) at the end of cleaning blade (figure 1).



Material: Urethane foam S60

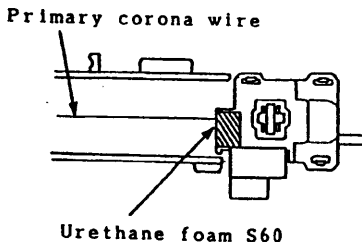
Thickness: 3.0mm

Non-woven (front side),  
Urethane foam (reverse side)

0.8mm (front side),  
2.0mm (reverse side)

Figure 1

2. Adding a strip of urethane foam in the Primary Corona Assembly (rear side/figure 2).



Size: 4mm x 6.5mm  
Thickness: 3mm

Figure 2

3. Modification of the grid spacer (figure 3).

- Old -

- New -

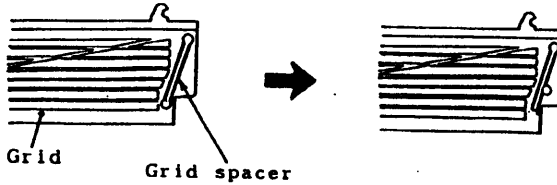


Figure 3

4. The primary corona wire access window has been lengthened (figure 4).

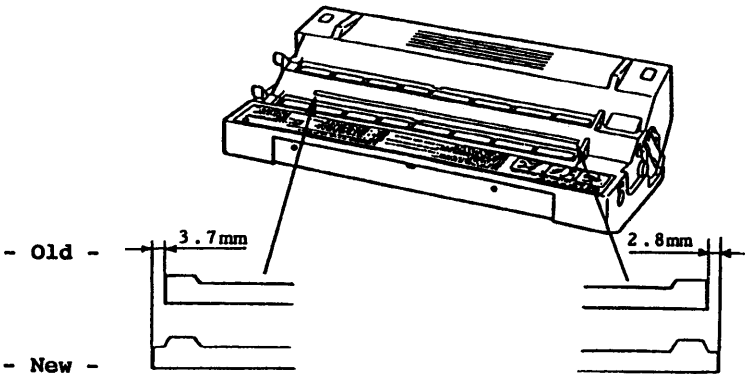


Figure 4

5. Three types of embossing have been added, to indicate:

- position of primary corona
- wire cleaner inserting direction
- wire cleaner insertion slot

**AFFECTED MACHINES**

The above modifications have been implemented from the following lot numbers:

Canon Japan : 1C31T, 0L28S, 1C01H

CBSA : 1D15C

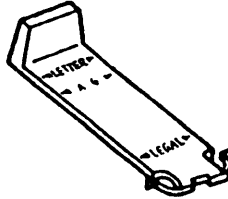


Model **LBP-4**

Number **LBP-216**  
**(RQ-11-0284)**  
 Date **25.10.1991**

**SUBJECT : UPPER COVER ASSEMBLY/MODIFICATION OF SLIDER**

The colour of the slider has been changed.



**Fig. 1: Slider**

**SERVICE PART**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are ~~fully~~ interchangeable. YY  
 "Former" and "new" parts are ~~not~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SLIDER	RA1-7548-000*2	RA1-9785-000*3	1	YY	102-10

**Notes:**

- \*1. Revision-1, dated Sep. 1990.
- \*2. Colour: smoke-grey.
- \*3. Colour: art-grey.



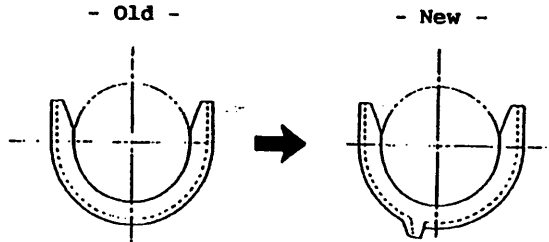


Model **LBP-4**

Number **LBP-217**  
**(RQ-11-0186)**  
 Date **25.10.1991**

**SUBJECT : FIXING ASSEMBLY/U-BUSHING**

To prevent the "U-bushing" in the Fixing Assembly from rotating together with the upper roller, a projection has been added. Refer to figure 1.



**Fig. 1: U-bushing**

**SERVICE/PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are ~~not~~ interchangeable. **YY**  
 "Former" and "new" parts are ~~not~~ interchangeable. **NN**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. **NY**  
 Interchangeable on condition: a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
BUSHING	RA1-7587-000	RA1-7587-020	1	NY	810-7

**Notes:**

\*1. Revision-1, dated Sep. 1990.

**LBP****LBP-4 PLUS****LBP-218  
(RQ-11-0293)  
29.11.1991****SUBJECT : MULTIPLE FEED TRAY ASSEMBLY**

The part number of the Multiple Feed Tray Assembly has been corrected as indicated below.

**SERVICE PART**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
MULTIPLE FEED TRAY ASSEMBLY	RG1-1796-000	RG1-0795-000	1	--	100-5

**Note:**

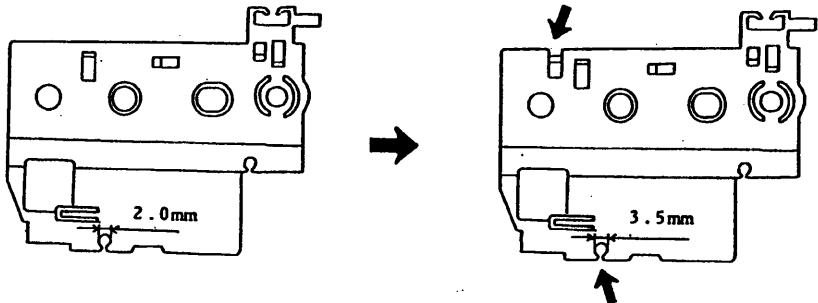
- \*1. Refer to the Parts Catalogue for model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.

**LBP**LBP-4,  
LBP-4 PLUSLBP-219  
(RQ-11-0297)  
29.11.1991**SUBJECT : MODIFICATION OF CABLE COVER**

The cable cover has been modified as shown in figure 1.

- Old -

- New -

**Fig. 1: Cable cover****SERVICE PART**

INTERCHANGEABILITY

CODE

"former" and "new" parts are **YY** interchangeable.

YY

"former" and "new" parts are **NN** interchangeable.

NN

The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **YN** in "original" machines.

YN

The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NY** in "modified" machines.

NY

Interchangeable on condition; a note provides additional information. c

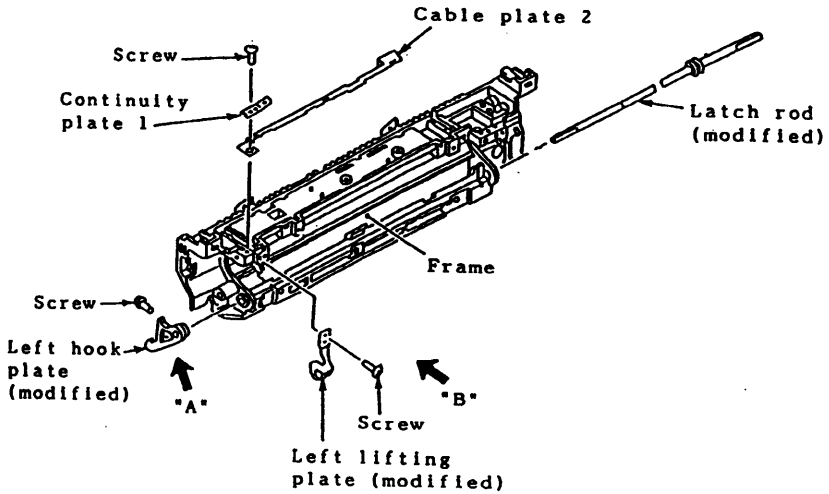
Description	Part number		Qty	IC	P.Cat*1
	Former	New			
CABLE COVER	RA1-7502-000	RA1-7502-030	1	YY	104-11A

**Note:**

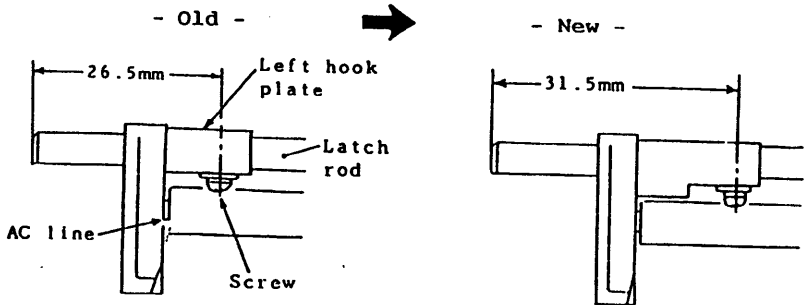
- \*1. Refer to the Parts Catalogue for model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.

**SUBJECT : FIXING ASSEMBLY**

The positions of the screws fixing the left hook plate and left lifting plate have been changed, in order to increase the distance between these screws and the AC line of the halogen heater. For further details, refer to figures 1, 2 and 3.



**Fig. 1: Fixing Assembly**



**Fig. 2: View "A" (refer to fig. 1)**

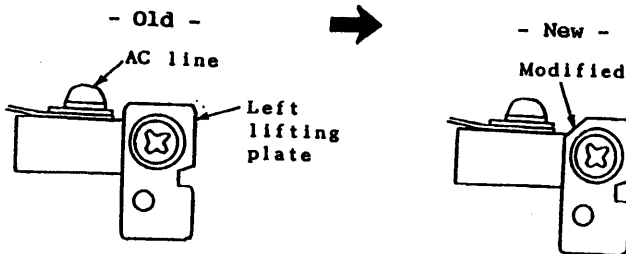


Fig. 3: View "B" (refer to fig. 1)

**SERVICE PARTS**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are **YY** interchangeable. YY  
 "Former" and "new" parts are **NN** interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **YN** in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NY** in "modified" machines. NY  
 Interchangeable on condition: a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
LEFT HOOK PLATE	RA1-7593-000	RA2-0767-000	1	NN	810-12
LATCH ROD	RA1-7603-000	RA2-0766-000	1	NN	810-22
LEFT LIFTING PLATE	RA1-7598-000	RA1-7598-040	1	NY	810-17

**Note:**

- \*1. Refer to the Parts Catalogue for model LBP-4/4 PLUS, with part number RY8-3175-000, dated Aug. 1991.



LBP-4

LBP-221  
(RQ-11-0303)  
29.11.1991

**SUBJECT : H.V. POWER SUPPLY P.C.B. ASSEMBLY**

The part number of capacitors C2 and C20 in the H.V. Power Supply P.C.B. Assembly has been changed.

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are **YY** interchangeable. YY  
 "Former" and "new" parts are **NN** interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. **YN** in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. **NY** in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FILM CAPACITOR, 1µF 100V	VC6-3690-105	VC9-5034-000	2	YY	980-C2, 980-C20

**Note:**

\*1. Revision-1, dated Sep. 1990.



LBP-4.

LBP-222  
(RQ-11-0305)  
29.11.1991

SUBJECT : SUBSTITUTE PHOTO IC

To secure parts supply, a fully compatible substitute is now being used in the factory for the photo ICs shown in figures 1 and 2.

	Current	Substitute
Manufacturer	Toshiba	Kohdenshi
Type	TLP1230	SG-203
Part No	WG8-0291-000	-

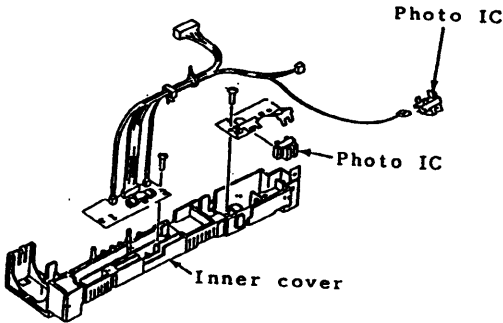


Fig. 1: Internal Cover Assembly

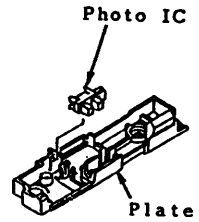


Fig. 2: Feeder Assembly

TPP Field Change Notice No. 53

DATE: 29.01.92

MODULE: DDE 1081/LBP-4 plus

CATEGORY:

For information only.

CORRECTS THE ERROR: Preventive

TOOLS NEEDED: none

DESCRIPTIONS:

Service Plan for LBP - 4 PLUS Laser Beam Printer

(Service Bulletin nr. LBP-143A/28.06.1991)

SERVICE KIT: none

ESTIMATED REPAIR TIME: none

NOTE: Service Bulletin attached

lea/MJDV





Number **LBP-143A**

Model **LBP-4 PLUS**

Date **28.06.1991**

REFER TO : SERVICE BULLETIN LBP-143  
SUBJECT :

## SERVICE PLAN

FOR

LBP-4 PLUS

LASER BEAM PRINTER

Model	Product code	Resolution	Rating
LBP-4 PLUS	R62-0195000	300DPI	220 ~ 240VAC/50Hz

SERVICE PLAN FOR LBP-4 PLUS SERVICE

This Service Plan contains basic information required for preparation of service activities for the LBP-4 PLUS Laser Beam Printer, during the "launching period".

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Note: Information in this Service Plan is subject to change.

**INTRODUCTION**

The LBP-4 PLUS laser printer is based on the LBP-4, with the following additional functions and improved specifications, to distinguish it from competing products:

**Additional functions**

1. **Line smoothing**  
A video signal dividing circuit has been added with increase video clock frequency. So the resolution of the printer is enhanced to 1200DPI (main-scanning direction) by 300DPI (sub scanning direction). As a result, the print quality is much higher than that of the LBP-4.
2. **Built-in emulation**  
Emulates the IBM XL24E Proprinter and the Epson LQ510/1050 dot matrix printer without any option.
3. **Automatic error skip**  
If an error such as 20 PAGE FULL or 21 COMPLEX DATA occurs, it is skipped automatically after about 10 seconds.
4. **Automatic form feed**  
If no data is received from the host computer for 30 seconds or more, the printer proceeds with the form feed function automatically.
5. **Selectable input-buffer memory**  
There are two sizes of input-buffer memory (1K and 64K). If the 64K buffer memory is selected, the host computer is released from the printer in the shorter time.
6. **Built-in Elite bitmapped fonts**  
Four types of font (Regular, Bold, Italic and Footnote) have been added for portrait and landscape printing.
7. **Turkish characters**  
Six Turkish characters have been added to the built-in Courier and Elite bitmapped fonts and to the built-in Swiss and Dutch scalable fonts.
8. **Shorter first print time**  
The first print time has been shortened by 1 to 10 seconds, because the firmware in the DC Controller ROM has been improved.

**Additional features**

1. **Higher print quality**  
The LBP-4 can make high quality printing using scalable fonts, but the LBP-4 PLUS provides higher quality printing because of its line smoothing function.
2. **Standard emulation function**  
The LBP-4 PLUS can be used with more computers, since it emulates the IBM XL24E and Epson LQ510/1050.

**SPECIFICATIONS**

The specifications are the same as those for the LBP-4, except for the following:

1. The LBP-4 PLUS emulates the IBM XL24E Proprinter and the Epson LQ510/1050 dot matrix printer.
2. Four types of built-in Elite bitmapped font (Regular, Bold, Italic and Footnote) have been added for portrait and landscape printing.

*Hush like P&S*

**3. ORIGIN AND DISTRIBUTION**

The printer model LBP-4 PLUS is of Japanese origin and is distributed from Amstelveen.

**4. SUPPLIES (sold through LBP Sales Department)****A. EP-L cartridge (black) (R64-1002050)**

The average number of A4-size prints that can be made with one EP-L cartridge is 3,300 (with an average of 4% image in the effective printing area).

**B. Cassettes (Canon EP-L)**

Legal	- R63-2021700
A4	- R63-2022700
Letter	- R63-2023700
Envelope	- R63-2025700
Paper Feeder PF-1 (A4)	- R63-9003000

**C. Font Cards**

Font Card BM-1	- S63-2290000
Font Card BM-2	- S63-2300000
Font Card BM-3	- S63-2310000
Font Card SC-1	- S63-2330000
Private Card PC-1	- S63-2450000
Private Card PC-2	- S63-2460000
ROM Writer Adapter	- SSR-DL007

*Note: The above-mentioned Font Cards are also used for the LBP-8III Series Laser Beam Printers.*

**D. Expansion Memory Boards**

RAM Board B 1MB	- S63-2230000
RAM Board B 1MB-E	- S63-2240000

**E. Emulation Cards**

Emulation Card GL-1 (HP 7475A plotter Emulation Card)	- S63-2430-000
Emulation Card FX-1 (Epson FX-85 printer Emulation Card)	- S63-2690-000
Emulation Card PR-1 (IBM Proprinter, 9-pin, Emulation Card)	- S63-2700-000
Emulation Card PS-2 (Postscript product Emulation Card)	- S63-2380-000

**F. Operator's Manuals**

Operator's Manuals are available in various languages from our Technical Documentation Division (via your Sales Department).

**5. DURABILITY****A. Machine**

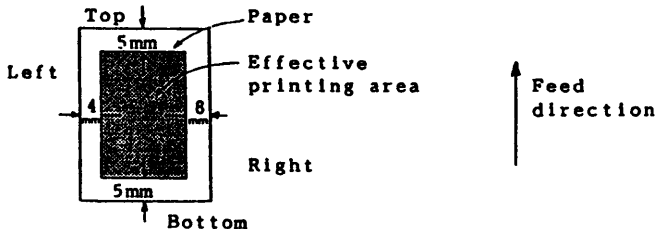
The durability of the printer is expected to be five (5) years or 150,000 prints (whichever comes first).

**B. EP-L cartridge**

If the EP-L cartridge is stored and handled correctly, the usable lifetime is estimated to be 2½ years from the date of manufacture.

The number of prints that can be made with one EP-L cartridge depends on various factors, such as type of prints and image density.

The average number of A4-size prints that can be made with an average of 4% image in the effective printing area (shown below) is 3,300.

**Effective printing area**

**Note:** A "soft counter" registers the number of prints made in the NV-RAM. This number is printed on the "Test Print A".

## **6. INSTALLATION**

Each printer is packaged and shipped with:

- a face-up print tray
- a power cord

Notes: \*1. Operator's Manuals are shipped separately.  
\*2. When installing the printer, an EP-L cartridge must be inserted into the printer. The EP-L cartridge is sold and shipped separately.

The location of the printer should meet the following requirements:

- The printer should be located near a single phase wall socket (220VAC ~ 240VAC) provided with a ground connection.
- The line voltage should not vary more than  $\pm 10\%$  from the voltage marked on the printer nameplate.
- The temperature should be between  $10^{\circ}\text{C} \sim 32.5^{\circ}\text{C}$  and the relative humidity  $20\% \sim 80\%$  R.H.
- The printer should not be installed near water faucets, boilers, humidifiers, refrigerators, etc. and should not be put in a location where the temperature changes abruptly, such as near air conditioners.
- The printer should not be exposed to direct sunlight, open flames, dust, ammonia fumes or any other harmful fumes.
- The room should be well ventilated.
- The printer should be installed on the level surface of a sturdy support, such as a pedestal or desk.
- There should be sufficient space around the printer to permit unimpeded operation.

## **7. PRODUCT SUPPORT**

- A. The product should be serviced by trained technicians, either at the customer's premises or at the service workshop.
- B. Product support is given by the Business Machines Technical Service Group of Canon Europa N.V.: training, supply of service documentation, spare parts supply, technical support and assistance.

## **8. SERVICE SPARE PARTS (sold through Service Material Division)**

- A. Ranking lists indicate the necessary parts for the technicians, for the service stations and for the main stock.
- B. All purchase policies and rules for "business machines" spare parts are valid.

## **9. SERVICE TRAINING**

Technical training courses on model LBP-4 PLUS will not be given by the Business Machines Technical Service Group of Canon Europa N.V.

General information on training is given in Service Bulletin PR-005 Rev. 3.

**10. SERVICE DOCUMENTATION****A. Service Manual for LBP-4 PLUS (RY8-1351-000)**

The Service Manual contains technical information for the after-sales service that is required to maintain the print quality of the machines.

Contents of the chapters:

1. Product specification
2. Theory of operation
3. Unpacking and installation instructions
4. Disassembly and reassembly instructions
5. Maintenance and servicing information
6. Troubleshooting guides

**B. Parts Catalogue for LBP-4 PLUS (RY8-3175-000)**

The Parts Catalogue contains listings of all parts and assemblies used in the printer. Diagrams are provided with the listings, to aid the service technician in identifying the various parts. Whenever ordering parts, this Parts Catalogue should be consulted for all information pertaining to each item: full description, part number, quantity etc.

**C. Service Bulletin**

Information in the Service Manual and Parts Catalogue is subject to change, as machine elements are improved and/or more effective procedures are developed. All relevant information in such cases will be supplied in Service Bulletins.

**11. SERVICE TOOLS AND TEST EQUIPMENT****A. Special tools**

No.	Description	Part number	Application
1	Printer driver tester	RY9-0066	Used to check the operation of the printer or laser diode.

**B. Regular tools**

Tools for servicing the printer are listed below.

No.	Description	Part number	Remark
1	Tool case	TKN-0001	
2	Lead wire	TKN-0069	
3	Thickness gauge	CK-0057	
4	Spring scale	CK-0058	Measures the strength of cassette springs (0 ~ 600g)
5	Phillips screwdriver	CK-0101	M4, M5
6	Phillips screwdriver	CK-0104	M3, M4
7	Phillips screwdriver	CK-0105	M4, M5
8	Phillips screwdriver	CK-0106	M4, M5
9	Flat-blade screwdriver	CK-0111	
10	Precision flat-blade screwdriver set	CK-0114	
11	Allen wrench set	CK-0151	
12	File, fine	CK-0161	
13	Allen (hex) screwdriver	CK-0170	M4



**14. SERVICE TOOLS AND TEST EQUIPMENT** (continued)**B. Regular tools** (continued)

Tools for servicing the printer are listed below.

No.	Description	Part number	Remark
14	Diagonal cutting pliers	CK-0201	
15	Needle-nose pliers	CK-0202	
16	Pliers	CK-0203	
17	Retaining ring pliers, ext., 19 ~ 30mm	CK-0205	
18	Crimper	CK-0218	
19	Tweezers	CK-0302	
20	Ruler	CK-0303	
21	Mallet, plastic head	CK-0314	
22	Brush	CK-0315	
23	Penlight	CK-0327	
24	Bottle, plastic, 100cc	CK-0328	
25	Solder, 1.5mm x 1m	CK-0329	
26	Desoldering wick, 1.5mm	CK-0330	
27	Oiler, 30cc	CK-0349	
28	Jar, plastic, 30cc	CK-0351	
29	Logic tester	CK-0400	
30	Multimeter, digital	CK-0436	Measuring the output of the laser power checker (TKN-0198), etc.
31	Soldering iron	CK-0309	

**12. CUSTOMER MAINTENANCE****A. Replacing consumables**

Each EP-L cartridge contains enough toner to make 3,300 A4-size prints (4% image in the effective printing area). However, if many prints with high image ratios are made, toner is used up faster and white stripes may appear on the prints.

The EP-L cartridge can be replaced by the customer.

**B. Maintenance**

The customer should make the following maintenance, to maximize printer performance:

Item	Maintenance
Fixing roller	Clean the lower fixing roller (with dry lint-free paper) when the cartridge is replaced.
EP-L cartridge	Rock the EP-L cartridge when necessary, as described in the instructions.

**RE SERVICE ORGANIZATION**

The figures, specified in this chapter, are based on a Monthly Print Volume of 750 (A4-size copies).

**A. Unpacking, Receiving Inspection and Instruction**

The machine can be unpacked at the customer's location. Checking and receiving inspection should be done in accordance with the instructions in the Service Manual. The time required for unpacking and installation is estimated at 20 minutes.

The customer should be instructed how to replace and handle the EP-L cartridge, and how to carry out simple cleaning and maintenance jobs.

Total instruction time is estimated at 30 minutes.

**B. Preventive Maintenance**

Preventive maintenance is not necessary. However, it is noted that the service lives of four parts differ from the specified expected durability of the printer (which is five years or 150,000 prints). These parts, listed below, must be replaced after the specified number of prints have been made, even though they may be functioning properly and show no signs of wear.

No.	Description	Part number	Q'ty	Service life (prints)
1	Fixing Assembly	RG1-1789-000	1	150,000
2	Pick-up Roller Unit*	RG1-1792-000	1	100,000
3	Separation Pad Unit*	RG1-1912-000	1	100,000
4	Transfer charging roller	RA1-7627-000	1	150,000

*\*Note: Replace marked items at the same time.*

**C. Corrective Maintenance (C.M.)**

This is repair upon customer's request. The expected duration of a C.M. visit is 30 minutes. The number of prints between C.M. visits, P.B.C.M., depends on the average total number of prints made in a month per machine (Monthly Print Volume). Please refer to the table below:

<u>Monthly Print Volume</u>	<u>P.B.C.M.</u>
750	20,000

**13. SERVICE ORGANIZATION (continued)****D. Travel Time**

Machines should be sold at such distance from each other, that the service network is economical. Since the estimated Maintenance Interval is relatively long, the frequency of maintenance visits is low. This results in a relatively long average travel time, which is estimated at 45 minutes.

**E. Manpower Requirement & "Maintainability"**

Following calculations are based on a period of one year, presuming that a technician works on average 40 hours a week, 40 weeks per year. These figures result in an average of 133 hours effective working time per month. The number of machines that can be serviced by one technician can be calculated as follows:

$$\text{Number of machines} = \frac{133 \times 60 \text{ (minutes)}}{N}$$

$$N = \frac{\text{Monthly Print Volume}}{\text{P.B.C.M.}} \times (\text{repair time} + \text{travel time})$$

Note: Factor *N* is expressed in minutes/per machine/per month.

"Maintainability" of a printer is defined as the number of prints that can be "serviced" in a month by a technician. It is calculated by multiplying the average total number of prints made in a month (Monthly Print Volume) by the total number of machines that can be serviced by one technician:

$$\begin{aligned} \text{"Maintainability"} &= \text{Number of prints} \\ &= \text{Monthly Print Volume} \times \text{Number of Machines} \end{aligned}$$

**Example:**

Based on an average total number of prints made in a month (Monthly Print Volume) of 750 and the maintenance figures given in section 13.C, one technician can service a total of 2,837 machines and 2,128k prints (k=1,000), if the average travel time between visits is 45 minutes.

**14. MODIFICATION**

Only factory authorized modifications and changes should be made. These modifications or changes will be announced by means of Service Bulletins and should be carried out during service visits, unless required otherwise.

Modifications on customer's request should be approved by Canon Europa N.V.

Canon Europa N.V. accepts no responsibility for problems which are caused, either directly or indirectly, by unauthorized modifications of the machine.

**15. REPORTING****A. Flash Report**

Technical problems are preferably reported by means of Flash Reports. Refer to Service Bulletin PR-001.

A claim can, in principle, only be dealt with after a properly filled in report, with full description of the problem, has been received by Canon Europa N.V.

In case the problem has been solved, the corrective measure should also be described. Consumed parts must be specified in detail. Small defective parts must be attached to the report. Larger defective parts are to be returned on request only.

The report must be accompanied with print samples if the problem is connected with print quality. These samples must clearly show the problem (and the final result after completion of the technical measures).

Problems with machines which are subjected to a "receiving inspection" must be reported by means of this Flash Report too.

**B. Monthly Service Status Report**

As requested for other products, we expect to receive regular service reports. The "Monthly Service Status Report" should be used for this purpose. For further details refer to Service Bulletin PR-002.

**Note:** *The above reporting forms can be obtained from the Business Machines Technical Service Group of Canon Europa N.V., free of charge.*

TPP Field Change Notice No. 52

DATE: 29.01.92

MODULE: DDE 1051/Canon LBP-8III plus

CATEGORY:

For information only.

CORRECTS THE ERROR: Preventive

TOOLS NEEDED: none

DESCRIPTIONS:

Service Plan for Canon LBP-8III PLUS Laser Beam Printer.

(Service Bulletin nr. LBP-009C/28.06.1991)

SERVICE KIT: none

ESTIMATED REPAIR TIME: none

NOTE: Service Bulletin attached.

lea/MUDV

**LBP**Number **LBP-009C**Model **LBP**Date **28.06.1991**

**REFER TO : SERVICE BULLETIN LBP-009B Rev. 1**  
**SUBJECT :**

## SERVICE PLAN

FOR

**LBP-8III PLUS**  
**LASER BEAM PRINTER**

Model	Product code	Resolution	Rating
LBP-8III Plus	R61-0335000	300DPI	220 ~ 240VAC/50Hz

**SERVICE PLAN FOR LBP-8III PLUS**

This Service Plan contains basic information required for preparation of service activities for the LBP-8III PLUS Laser Beam Printer, during the "launching period".

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15. MODIFICATION
16. REPORTING

**Note:** Information in this Service Plan is subject to change.



**INTRODUCTION****General**

The LBP-8III PLUS laser printer is based on the LBP-8III, with the following additional functions and improved specifications:

**Additional Functions**

1. **A.I.R. (Automatic Image Refinement)**  
A video signal dividing circuit has been added with increase video clock frequency. So, the resolution of the printer is enhanced to 1200 DPI (main-scanning direction) by 300DPI (sub-scanning direction). As a result, the print quality is much higher than that of the LBP-8III.
2. **Built-in emulation**  
Emulates the IBM XL24E Proprinter and the Epson LQ510/1050 dot matrix printer without any options.
3. **Automatic error skip**  
If an error such as 20 PAGE FULL or 21 COMPLEX DATA occurs, it is skipped automatically after about 10 seconds.
4. **Automatic form feed**  
If no data is received from the host computer for 30 seconds or more, the printer proceeds with the form feed function automatically.
5. **Selectable input-buffer memories**  
There are two sizes of input-buffer memory (1K and 64K). If the 64K buffer memory is selected, the host computer is released from the printer in the shorter time.
6. **Built-in Elite bitmapped fonts**  
Four types of font (Regular, Bold, Italic and Footnote) have been added for portrait and landscape printing.
7. **Turkish characters**  
Six Turkish characters have been added to the built-in Courier and Elite bitmapped fonts and to the built-in Swiss and Dutch scalable fonts.
8. **Toner-low stop**  
If the level of the toner in the EP-S cartridge falls below the predetermined level, the printer goes off-line. Then it stops automatically.

**Additional Features**

1. **Higher print quality**  
The LBP-8III can make high quality printing using scalable fonts, but the LBP-8III PLUS provides higher quality printing because of its A.I.R. function.
2. **Standard emulation function**  
The LBP-8III PLUS can be used with more computers, since it emulates the IBM XL24E and Epson LQ510/1050.

**2. SPECIFICATIONS**

The specifications are the same as those for the LBP-8III, except for the following:

1. The LBP-8III PLUS emulates the IBM XL24E Proprinter and the Epson LQ510/1050 dot matrix printer.
2. Four types of built-in Elite bitmapped font (Regular, Bold, Italic and Footnote) have been added for portrait and landscape printing.

**3. ORIGIN AND DISTRIBUTION**

The printer model LBP-8III PLUS is of Japanese origin and is distributed from Amstelveen.

**4. SUPPLIES (sold through LBP Sales Department)****A. EP-S cartridge (black) (R64-0002050)**

The average number of A4-size prints that can be made with one EP-S cartridge is 4,000 (with an average of 5% image in the effective printing area).

**B. Cassettes (Canon EP-S)**

Legal	- R63-0051000
A4	- R63-0052000
Letter	- R63-0054000
Envelope	- R63-0055000

**C. Font Cards**

Font Card BM-1	- S63-2290000
Font Card BM-2	- S63-2300000
Font Card BM-3	- S63-2310000
Font Card SC-1	- S63-2330000
Private Card PC-1	- S63-2450000
Private Card PC-2	- S63-2460000
ROM Writer Adapter	- SSR-DL007

**D. Expansion Memory Boards**

RAM Board A 1MB	- S63-2340000
RAM Board B 2MB	- S63-2350000
RAM Board C 3MB	- S63-2360000

**E. Interface Board**

Video Interface VD-1	- S63-2390000
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**F. Emulation Cards**

Emulation Card GL-1 (HP 7475A plotter Emulation Card)	- S63-2430-000
Emulation Card FX-1 (Epson FX-85 printer Emulation Card)	- S63-2690-000
Emulation Card PR-1 (IBM Proprinter, 9-pin, Emulation Card)	- S63-2700-000
Emulation Card PS-1 (Step 2, Postscript product Emulation Card)	- S63-2670-000

**4. SUPPLIES** (continued)**G. Operator's Manuals**

Operator's Manuals are available in various languages from our Technical Documentation Division (via your Sales Department).

**5. DURABILITY****A. Machine**

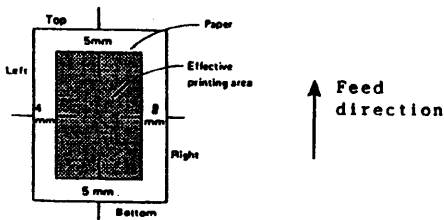
The durability of the printer is expected to be five (5) years or 300,000 prints (whichever comes first).

**B. EP-S cartridge**

If the EP-S cartridge is stored and handled correctly, the usable lifetime is estimated to be 2½ years from the date of manufacture.

The number of prints that can be made with one EP-S cartridge depends on various factors, such as type of prints and image density.

The average number of A4-size prints that can be made with an average of 5% image in the effective printing area (shown below) is 4,000.

**Effective printing area**

**Note:** A "soft counter" registers the number of prints made in the NV-RAM. This number is printed on the "Test Print A".

## 6. STORAGE OF SUPPLIES

### A. Paper

After paper has been removed from its package, wrap the remaining paper in the original packing, to protect it from humidity.

### B. EP-S cartridge

The photosensitive drum of the EP-S cartridge uses an organic photosensitive coating which deteriorates when exposed to ultra-violet or bright light. The toner in the EP-S cartridge can also be affected by the environmental conditions.

The EP-S cartridge is affected by the storage conditions, regardless whether the seal is intact or has been removed. When the cartridge is installed in the printer, it can be similarly affected (regardless of whether it is being used or not).

There is, however, a very large difference in the effect of time, depending on how the cartridge is stored. If the cartridge is stored and handled correctly, the life time is estimated to be 2½ years from the date of manufacture. Pay careful attention to the following points for storing and handling cartridges.

#### 1. Conditions for storage with intact packing seal:

When storing the EP-S cartridge in a warehouse or workshop, be sure that the following conditions are met:

- temperature : 0°C ~ 35°C
- relative humidity : 35% ~ 85% R.H.

Application of air conditioning systems may be required to meet the above environmental conditions.

However, fluctuations do not cause noticeable adverse effects on the quality of the EP-S cartridges if lasting no longer than 2% of the total storage period:

- extreme temperature limits : -20°C ~ 40°C,  
(2% of total storage time)
- extreme relative humidity limits : 10% ~ 95% R.H.  
(2% of total storage time)

Note: The above figures differ slightly from the machine specifications. This is to ensure optimum quality of the EP-S cartridges supplied to the end-users.

#### 2. Storing and handling the cartridge after the packing seal has been removed:

- a. Do not place cartridges in ultra-violet or bright light, in direct sunlight or near a window. Also, do not leave them inside an automobile for a longer period in warm weather, because the temperature may rise to an unacceptable level.
- b. In addition to avoiding areas with high or low temperature or high or low relative humidity, avoid any place that has abrupt changes in either temperature or humidity (such as close to an air conditioner, etc.).
- c. Do not place cartridges in dusty locations and avoid places where they might be exposed to ammonia fumes or organic solvent vapours.
- d. Do not expose cartridges to excessive vibrations or shocks.

**8. INSTALLATION**

Each printer is packaged and shipped with:

- a cassette (A4-size) with cover
- a power cord

**Note:** When installing the printer, an EP-S cartridge must be inserted into the printer. The EP-S cartridge is sold and shipped separately from the printer.

The location of the printer should meet the following requirements:

- The printer should be located near a single phase wall socket (220VAC ~ 240VAC) provided with a ground connection.
- The line voltage should not vary more than  $\pm 10\%$  from the voltage marked on the printer nameplate.
- The temperature should be between  $10^{\circ}\text{C} \sim 32.5^{\circ}\text{C}$  and the relative humidity  $20\% \sim 80\%$  R.H.
- The printer should not be installed near water faucets, boilers, humidifiers, refrigerators, etc. and should not be put in a location where the temperature changes abruptly, such as near air conditioners.
- The printer should not be exposed to direct sunlight, open flames, dust, ammonia fumes or any other harmful fumes.
- The room should be well ventilated.
- The printer should be installed on the level surface of a sturdy support, such as a pedestal or desk.
- There should be sufficient space around the printer to permit unimpeded operation.

**9. PRODUCT SUPPORT**

- A. The product should be serviced by trained technicians, either at the customer's premises or at the service workshop
- B. Product support is given by the Business Machines Technical Service Group of Canon Europa N.V.: training, supply of service documentation, spare parts supply, technical support and assistance.

**9. SERVICE SPARE PARTS** (sold through Service Material Division)

- A. Ranking lists indicate the necessary parts for the technicians, for the service stations and for the main stock
- B. All purchase policies and rules for "business machines" spare parts are valid.

**10. SERVICE TRAINING**

Technical training courses on model LBP-8III PLUS will not be scheduled by the Business Machines Technical Service Group of Canon Europa N.V.

General information on training is given in Service Bulletin PR-005 Rev. 3.

**11. SERVICE DOCUMENTATION****A. Service Manual for LBP-8III PLUS (RY8-1350-000)  
Circuit Diagram Attachment P.C. Boards (RY8-9312-000)**

These Service Manuals contain technical information for the after-sales service that is required to maintain the print quality of the machines.

Contents of the chapters:

1. Product specification
2. Theory of operation
3. Unpacking and installation instructions
4. Disassembly and reassembly instructions
5. Maintenance and servicing information
6. Troubleshooting guides

**B. Parts Catalogue for LBP-8III PLUS (RY8-3174-000)  
Parts Catalogue for Expansion Memory Board (RY8-3150-000)  
Parts Catalogue for Video Interface VD-1 (RY8-3151-000)**

These Parts Catalogues contain listings of all parts and assemblies used in the printers. Diagrams are provided with the listings, to aid the service technician in identifying the various parts. Whenever ordering parts, these Parts Catalogues should be consulted for all information pertaining to each item: full description, part number, quantity etc.

**C. Service Bulletin**

Information in the Service Manuals and Parts Catalogues is subject to change, as machine elements are improved and/or more effective procedures are developed. All relevant information in such cases will be supplied in Service Bulletins.

**SERVICE TOOLS AND TEST EQUIPMENT****A. Special tools**

No.	Description	Part number	Application
1	Laser power checker	TKN-0198	Used with printer driver and laser driver checker (RY9-0024), for checking or adjusting laser power.
2	Printer driver and laser driver checker	RY9-0024	Checks printer function and laser power. For checking laser power, use this tool with the laser power checker (TKN-0198).
3	Laser shorting connector	RY9-0025	Protects the laser chip from being damaged by static electricity.
4	SX adapter	RY9-0019	Added to the printer driver and laser driver checker RY9-0002 (for LBP-8), it makes the checker suitable for the LBP-8II and LBP-8III.

**12. SERVICE TOOLS AND TEST EQUIPMENT (continued)****B. Regular tools**

Tools for servicing the printer are listed below.

No.	Description	Part number	Remark
1	Tool case	TKN-0001	
2	Lead wire	TKN-0069	
3	Thickness gauge	CK-0057	
4	Spring scale	CK-0058	Measures the strength of cassette springs (0 ~ 600g)
5	Phillips screwdriver	CK-0101	M4, M5
6	Phillips screwdriver	CK-0104	M3, M4
7	Phillips screwdriver	CK-0105	M4, M5
8	Phillips screwdriver	CK-0106	M4, M5
9	Flat-blade screwdriver	CK-0111	
10	Precision flat-blade screwdriver set	CK-0114	
11	Allen wrench set	CK-0151	
12	File, fine	CK-0161	
13	Allen (hex) screwdriver	CK-0170	M4
14	Diagonal cutting pliers	CK-0201	
15	Needle-nose pliers	CK-0202	
16	Pliers	CK-0203	
17	Retaining ring pliers, ext., 19 ~ 30mm	CK-0205	
18	Crimper	CK-0218	
19	Tweezers	CK-0302	
20	Ruler	CK-0303	
21	Mallet, plastic head	CK-0314	
22	Brush	CK-0315	
23	Penlight	CK-0327	



**12. SERVICE TOOLS AND TEST EQUIPMENT** (continued)**B. Regular tools** (continued)

Tools for servicing the printer are listed below.

No.	Description	Part number	Remark
24	Bottle, plastic, 100cc	CK-0328	
25	Solder, 1.5mm x 1m	CK-0329	
26	Desoldering wick, 1.5mm	CK-0330	
27	Oiler, 30cc	CK-0349	
28	Jar, plastic, 30cc	CK-0351	
29	Logic tester	CK-0400	
30	Multimeter, digital	CK-0436	Measuring the output of the laser power checker (TKN-0198), etc.
31	Soldering iron	CK-0309	

**13. CUSTOMER MAINTENANCE****A. Replacing consumables**

Each EP-S cartridge contains enough toner to make 4,000 A4-size prints (5% image in the effective printing area). However, if many prints with high image ratios are made, toner is used up faster and white stripes may appear on the prints.

Status message "16 TONER LOW" will be displayed on the control panel when the toner has almost been used up; a new cartridge should be kept ready for use in the very near future.

The EP-S cartridge can be replaced by the customer.

**13. CUSTOMER MAINTENANCE (continued)****B. Maintenance**

The customer should make the following maintenance, to maximize printer performance:

Item	Maintenance
Fixing assembly cleaning felt	Replace the cleaning felt together with the EP-S cartridge.
Fixing Assembly	Clean the Fixing Assembly when the EP-S cartridge is replaced.
Transfer Corona Ass'y	Clean the corona wire and Transfer Corona Assembly when necessary.
Primary Corona Ass'y	Clean the corona wire when necessary.
Transfer guide	Clean the transfer guide when necessary.
EP-S cartridge	Rock the EP-S cartridge when necessary, as described in the instructions.
Ozone filter	Replace the filter when necessary.

**14. SERVICE ORGANIZATION**

The figures, specified in this chapter, are based on a Monthly Print Volume of 750 ~ 3,000 (A4-size copies).

**A. Unpacking, Receiving Inspection and Instruction**

The machine can be unpacked at the customer's location. Checking and receiving inspection should be done in accordance with the instructions in the Service Manual. The time required for unpacking and installation is estimated at 20 minutes.

The customer should be instructed how to replace and handle the EP-S cartridge, to clear paper jams, to clean the corona wire, to fill the cassette, to carry out simple cleaning and maintenance jobs.

Total instruction time is estimated at 30 minutes.

**4. SERVICE ORGANIZATION** (continued)**B. Preventive Maintenance**

Preventive maintenance is not necessary. However, it is noted that the service lives of four parts differ from the specified expected durability of the printer (which is five years or 300,000 prints). These parts, listed below, must be replaced after 100,000 prints have been made, even though they may be functioning properly and show no signs of wear.

No.	Description	Part number	Q'ty	Service life (prints)
1	Fixing Assembly	RG1-0940-000	1	100,000
2	Pick-up rollers (Pick-up Roller Unit)	RA1-3851-000	1	100,000
3	Separation pad (Transfer Guide Unit)	RF1-1145-000	1	100,000
4	Ozone filter	RF1-2130-000	1	100,000 (max.) or one year

**C. Corrective Maintenance (C.M.)**

This is repair upon customer's request. The expected duration of a C.M. visit is 30 minutes. The number of prints between C.M. visits, P.B.C.M., depends on the average total number of prints made in a month per machine (Monthly Print Volume). Please refer to the table below:

<u>Monthly Print Volume</u>	<u>P.B.C.M.</u>
750	20,000
1,500	30,000
3,000	38,000

**D. Travel Time**

Machines should be sold at such distance from each other, that the service network is economical. Since the estimated Maintenance Interval is relatively long, the frequency of maintenance visits is low. This results in a relatively long average travel time, which is estimated at 45 minutes.

**14. SERVICE ORGANIZATION (continued)****E. Manpower Requirement & "Maintainability"**

Following calculations are based on a period of one year, presuming that a technician works on average 40 hours a week, 40 weeks per year. These figures result in an average of 133 hours effective working time per month. The number of machines that can be serviced by one technician can be calculated as follows:

$$\text{Number of machines} = \frac{133 \times 60 \text{ (minutes)}}{N}$$

$$N = \frac{\text{Monthly Print Volume}}{\text{P.B.C.M.}} \times (\text{repair time} + \text{travel time})$$

**Note:** Factor *N* is expressed in minutes/per machine/per month.

"Maintainability" of a printer is defined as the number of prints that can be "serviced" in a month by a technician. It is calculated by multiplying the average total number of prints made in a month (Monthly Print Volume) by the total number of machines that can be serviced by one technician:

$$\begin{aligned} \text{"Maintainability"} &= \text{Number of prints} \\ &= \text{Monthly Print Volume} \times \text{Number of} \\ &\quad \text{Machines} \end{aligned}$$

**Example 1:**

Based on an average total number of prints made in a month (Monthly Print Volume) of 750 and the maintenance figures given in section 14.C, one technician can service a total of 2,837 machines and 2,128k prints ( $k=1,000$ ), if the average travel time between visits is 45 minutes.

**Example 2:**

Based on an average total number of prints made in a month (Monthly Print Volume) of 1,500 and the maintenance figures given in section 14.C, one technician can service a total of 2,128 machines and 3,192k prints ( $k=1,000$ ), if the average travel time between visits is 45 minutes.

**Example 3:**

Based on an average total number of prints made in a month (Monthly Print Volume) of 3,000 and the maintenance figures given in section 14.C, one technician can service a total of 1,348 machines and 4,044k prints ( $k=1,000$ ), if the average travel time between visits is 45 minutes.

**15. MODIFICATION**

Only factory authorized modifications and changes should be made. These modifications or changes will be announced by means of Service Bulletins and should be carried out during service visits, unless required otherwise.

Modifications on customer's request should be approved by Canon Europa N.V.

Canon Europa N.V. accepts no responsibility for problems which are caused, either directly or indirectly, by unauthorized modifications of the machine.

**16. REPORTING****A. Flash Report**

Technical problems are preferably reported by means of Flash Reports. Refer to Service Bulletin PR-001.

A claim can, in principle, only be dealt with after a properly filled in report, with full description of the problem, has been received by Canon Europa N.V.

In case the problem has been solved, the corrective measure should also be described. Consumed parts must be specified in detail. Small defective parts must be attached to the report. Larger defective parts are to be returned on request only.

The report must be accompanied with print samples if the problem is connected with print quality. These samples must clearly show the problem (and the final result after completion of the technical measures).

Problems with machines which are subjected to a "receiving inspection" must be reported by means of this Flash Report too.

**B. Monthly Service Status Report**

As requested for other products, we expect to receive regular service reports. The "Monthly Service Status Report" should be used for this purpose. For further details refer to Service Bulletin PR-002.

Note: The above reporting forms can be obtained from the Business Machines Technical Service Group of Canon Europa N.V., free of charge.

TPP Field Change Notice No. 43

**DATE:** 03.07.91

**MODULE:** DDE 1080/Canon LBP-4

**CATEGORY:** Service Manual updates

**CORRECTS THE ERROR:** See each bulletin

**TOOLS NEEDED:** See each bulletin

**DESCRIPTIONS:**

LBP-195 :        Sensor Mounting Plate.  
LBP-196 :        Adding ribs on Face-Up tray.  
LBP-197 :        Front Cover Assembly  
LBP-198 :        Front Cover Assembly/27T gear.  
LBP-199 :        Laser Assembly.  
LBP-200 :        Fixing Assembly/Grounding leaf spring.  
LBP-201 :        Front Panel.

**SERVICE KIT:** none.

lea/MJDV

LBP

Model **LBP-4**

Number **LBP-195**  
**(RQ-11-0196)**  
Date **26.04.1991**

**SUBJECT : SENSOR MOUNTING PLATE**

The sensor mounting plate and right nut plate (figure 1) have been combined. Along with this change, a TP screw has been eliminated.

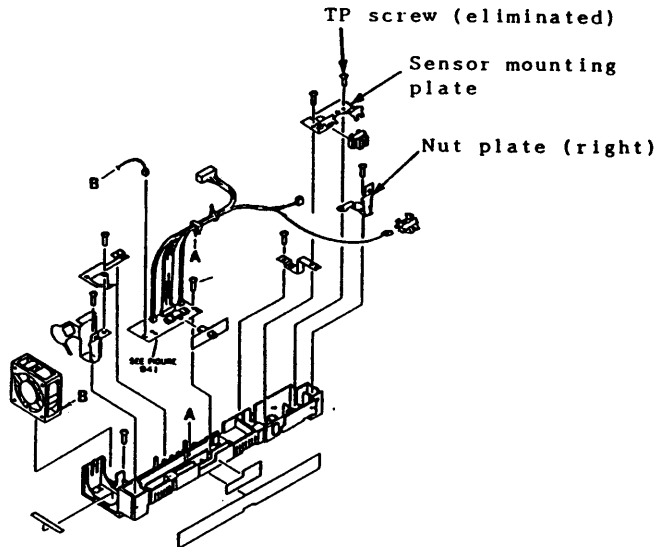


Figure 1

**LBP**

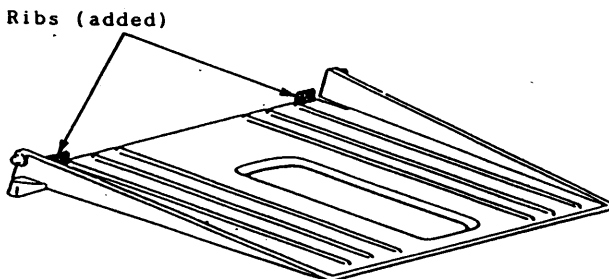
Number **LBP-196**  
 (RQ-11-0203)  
 Date **26.04.1991**

Model **LBP-4**

**SUBJECT : ADDING RIBS ON FACE-UP TRAY**

Printed sheets may slip, in the face-up delivery mode, through the gap between the printer main body and the face-up tray.

To prevent this, ribs have been added to the tray. Refer to figure 1.



**Fig. 1: Face-up tray**

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <u>fully</u> interchangeable.	YY
"Former" and "new" parts are <u>not</u> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. <u>not</u> in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. <u>not</u> in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FACE-UP TRAY	RA1-7630-080	RA1-7630-110	1	NY	100-4

**Note:**

\*1. Revision-1, dated Sep. 1990.



LBP

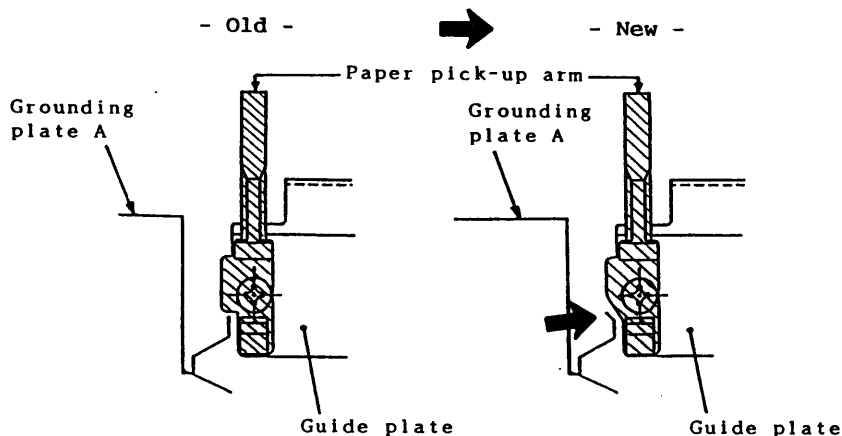
Number **LBP-197**  
**(RQ-11-0201)**  
 Date **26.04.1991**

Model **LBP-4**

**SUBJECT : FRONT COVER ASSEMBLY**

When the guide plate is attached to the front cover, the paper pick-up arm may catch grounding plate A.

To prevent this, the paper pick-up arm and grounding plate A have been modified. Refer to figure 1.



**Figure 1**

**SERVICE PARTS**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are fully interchangeable. YY  
 "Former" and "new" parts are NOT interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, NOT in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, NOT in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PAPER PICK-UP ARM	RA1-7629-000	RA1-7629-050	2	YY	101-4
GROUNDING PLATE A	RA1-7565-000	RA1-7565-040	1	YY	101-15

**Note:**

\*1. Revision-1, dated Sep. 1990.

LBP

Number **LBP-198**  
 (RQ-11-0210)  
 Date **26.04.1991**

Model **LBP-4**

**SUBJECT : FRONT COVER ASSEMBLY/27T GEAR**

To prevent axial slippage of the 27T gear on the transfer roller, the flange of the gear has been lengthened. Refer to figures 1 and 2.

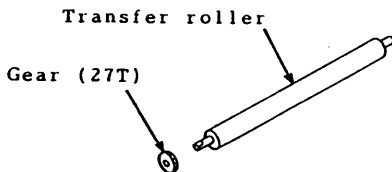


Figure 1

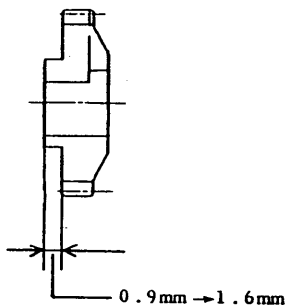


Fig. 2: Gear (27T)

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are <del>fully</del> interchangeable.	YY
"Former" and "new" parts are <del>not</del> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
GEAR, 27T	RS1-0292-000	RS1-0292-030	1	YY	101-31

**Note:**

\*1. Revision-1, dated Sep. 1990.

**LBP**

Number **LBP-199**  
**(RQ-11-0212)**  
 Date **26.04.1991**

Model **LBP-4**

**SUBJECT : LASER ASSEMBLY**

The part number of the Laser Assembly has been revised.

**SERVICE PART**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are fully interchangeable. YY  
 "Former" and "new" parts are not interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
LASER ASSEMBLY	RG1-1769-000	RG1-1769-020	1	YY	104-13

**Note:**

\*1. Revision-1, dated Sep. 1990.

LBP

Number **LBP-200**  
 (RQ-11-0225)  
 Date **26.04.1991**

Model **LBP-4**

**SUBJECT : FIXING ASSEMBLY/GROUNDING LEAF SPRING**

A contact of the grounding leaf spring (contact with the upper fixing roller) may generate noise. To reduce this, the material of the contact has been changed. Refer to figure 1.

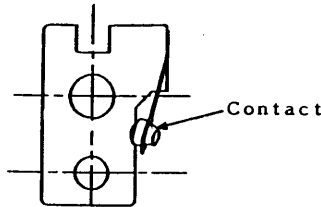


Fig. 1: Grounding leaf spring

**SERVICE/PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are <u>fully</u> interchangeable.	YY
"Former" and "new" parts are <u>not</u> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, <u>not</u> in "original" machines.	YM
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, <u>not</u> in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
GROUNDING LEAF SPRING	RA1-7604-020	RA1-7604-030	1	YY	810-23

**Note:**

\*1. Revision-1, dated Sep. 1990.

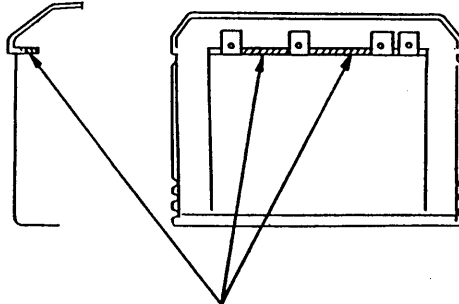
LBP

Number **LBP-201**  
**(RQ-11-0229)**  
 Date **26.04.1991**

Model **LBP-4**

**SUBJECT : FRONT PANEL**

The ribs on the rear side of the front panel have been lengthened.



Ribs (shaded parts) have been lengthened by 4mm.

**Fig. 1: Front panel**

**SERVICE PART**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are fully interchangeable. **YY**  
 "Former" and "new" parts are NOT interchangeable. **NN**  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. **YN**  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. **NY**  
 Interchangeable on condition; a note provides additional information. **C**

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FRONT PANEL	RF1-2487-000	RF1-2487-090	1	YY	101-20

**Note:**

\*1. Revision-1, dated Sep. 1990.

TPP Field Change Notice No. 34

**DATE:** 13.05.91

**MODULE:** All Canon laserprinters

**CATEGORY:**

production change : For info only  
In the field: For info only.

**CORRECTS THE ERROR:** Changes in productions.

**TOOLS NEEDED:** none

**DESCRIPTIONS:** See each Service Bulletin:

LBP-083 dated 19.10.90 and LBP-159 to LBP-178 dated 30.11.90.

**SERVICE KIT:** none

**ESTIMATED REPAIR TIME:** none

**NOTE:** The first Service Bulletins ever from Canon!

lea/MUDV

**LBP**

Number

**LBP-083 Rev. 1** ←

Model

**LBP-RX/LBP-8IIR,  
LBP-TX/LBP-8IIT**

Date

**(RM-11-0012)  
19.10.1990**

**DESTROY : SERVICE BULLETIN LBP-083  
SUBJECT : OZONE FILTER**

To reduce ozone emission, the ozone filter has been changed. Along with this change the ozone filter case, duct and hood have been modified, so that the ozone filter can easily be replaced. Refer to figure 1.

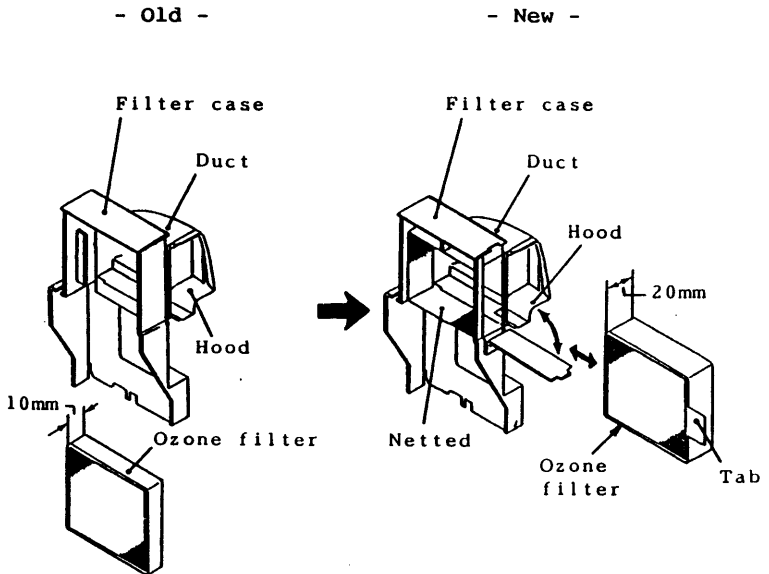


Figure 1

## SERVICE PARTS

## INTERCHANGEABILITY

CODE

"Former" and "new" parts are fully interchangeable. YY

"Former" and "new" parts are not interchangeable. NN

The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN

The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY

Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P. Cat.
	Former	New			
OZONE FILTER	RA1-4081-030	RF1-2130-000	1	C*1	110-3*2. *3. *4. *5
FILTER CASE	RA1-4082-000	RF1-2133-000	1	C*1	110-2*2. *3. *4. *5
DUCT	RA1-4083-000	RA1-7361-000	1	C*1	110-10*2. *3. *4. *5
HOOD	RA1-5402-000	RA1-7362-000	1	C*1	110-11*2. *3. *4. *5
HOOD CLIP	-----	RA1-5424-000	0+1	C*1	110-12*2. *3. *4. *5
INSTRUCTION LABEL (for filter replacement)	-----	RS1-8714-000	0+1	--	110-2A*2. *3. *4. *5
OZONE FILTER ASSEMBLY	-----	RG1-1753-000	0+1	--	110-..*2. *3. *4. *5

## Notes:

- \*1. The "former" and "new" parts are interchangeable if the marked items are replaced together.

Note	Model	Part number	Date
*2.	LBP-8IIR	RY8-3123-000	Feb. 1988
*3.	LBP-8IIT	RY8-3124-000	Feb. 1988
*4.	LBP-RX	RY8-3119-000	Feb. 1988
*5.	LBP-TX	RY8-3122-000	Feb. 1988



**AFFECTED MACHINES**



Model (Product code)	Serial number	Rating
LBP-8IIR (R61-5035000)	GJE05956 and later	220/240V 50Hz
LBP-8IIT (R61-8035000)	GJJ06576 and later	220/240V 50Hz
LBP-RX (R61-5015000) (R61-5025000)	GJA00059 and later GJD00053 and later	220/240V 50Hz 220/240V 50Hz
LBP-TX (R61-8015000) (R61-8016000) (R61-8025000)	GJF00054 and later GJG00001 and later GJH00271 and later	220/240V 50Hz 220/240V 50Hz 220/240V 50Hz

LBP

Number **LBP-159**  
 (RF-11-0246)  
 Date **19.10.1990**

Model **LBP-8III**

**SUBJECT : SHUTTER ARM**

The shutter arm has been modified. It is no longer secured using left and right E-rings.

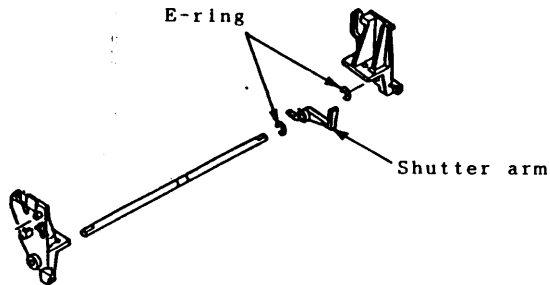


Figure 1

### SERVICE PARTS

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat
	Former	New			
SHUTTER ARM	RA1-3827-000	RA1-3827-020	1	C*2	340-7
E-RING	XD2-1100-502	-----	2+0	C*2	340-V12

### Notes:

- \*1. Refer to the Parts Catalogue for model LBP-8III, with part number RY8-3140-000, dated Apr. 1989.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

**LBP**

Number **LBP-160**  
 (RF-11-0246)  
 Date **19.10.1990**

Model **LBP-SX,**  
**LBP-8II**

**SUBJECT : SHUTTER ARM**

The shutter arm has been modified. It is no longer secured using left and right E-rings.

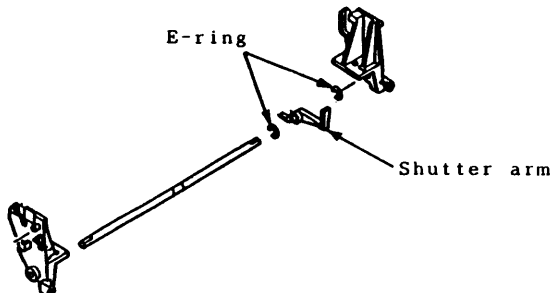


Figure 1

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YW
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SHUTTER ARM	RA1-3827-000	RA1-3827-020	1	C*2	320-7
E-RING	XD2-1100-502	-----	2→0	C*2	320-V12

**Notes:**

- \*1. Refer to the Parts Catalogue for model LBP-SX (with part number RY8-3114-020, dated May 1990) and to the Parts Catalogue for model LBP-8II (with part number RY8-3113-010, dated July 1987).
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

LBP

Model **LBP-RX/LBP-8IIR,  
LBP-TX/LBP-8IIT**

Number **LBP-161  
(RM-11-0096)**  
Date **19.10.1990**

**SUBJECT : SHUTTER ARM**

The shutter arm has been modified. It is no longer secured using left and right E-rings.

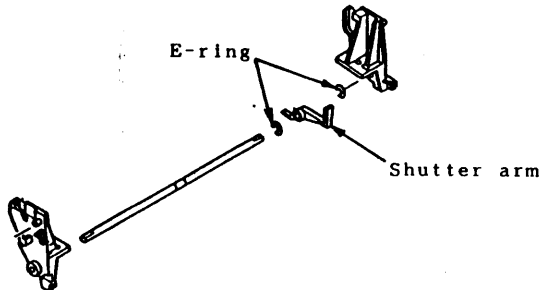


Figure 1

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are NOT interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, NOT in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, NOT in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*
	Former	New			
SHUTTER ARM	RA1-3827-000	RA1-3827-020	1	C*2	320-7
E-RING	XD2-1100-502	-----	2+0	C*2	320-V12

**Notes:**

- \*1. Refer to the following Parts Catalogues:

Model	Part number	Date
LBP-8IIR	RY8-3123-010	Apr. 1989
LBP-8IIT	RY8-3124-010	Apr. 1989
LBP-RX	RY8-3119-010	Apr. 1989
LBP-TX	RY8-3122-010	Apr. 1989

- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

**LBP**

Number **LBP-162**  
(RF-11-0266)  
Date **19.10.1990**

Model **LBP-SX,**  
**LBP-8111**

**SUBJECT : TRANSFER GUIDE ASSEMBLY/SEPARATION PAD**

The separation pad in the Transfer Guide Assembly has been modified. Refer to figures 1 and 2.

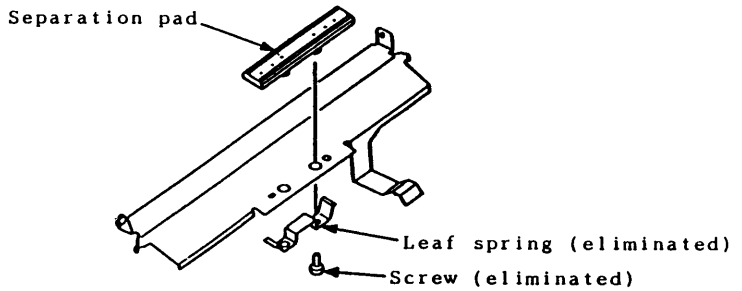


Figure 1

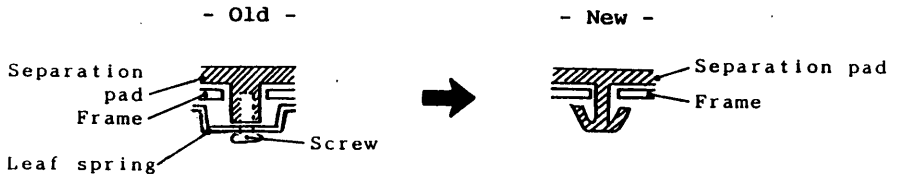


Figure 2

## SERVICE PARTS

## INTERCHANGEABILITY

## CODE

"Former" and "new" parts are ~~fully~~ interchangeable. YY  
 "Former" and "new" parts are ~~not~~ interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only. ~~not~~ in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only. ~~not~~ in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SEPARATION PAD	RF1-1145-020	RF1-2581-000	1	C*2	351-
LEAF SPRING	RA1-3872-000	-----	1-0	C*2	351-6
SELF-TAPPING SCREW	XB4-7400-809	-----	2-0	C*2	351-G25

## Notes:

- \*1. Refer to the Parts Catalogue for model LBP-SX (with part number RY8-3114-020, dated May 1990) and to the Parts Catalogue for model LBP-8III (with part number RY8-3140-000, dated Apr. 1989).
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

LBP

Number **LBP-163**  
(RQ-11-0039)  
Date **30.11.1990**

Model **LBP-4**

**SUBJECT : AC CONTROLLER P.C.B. ASSEMBLY/SWITCH COVER**

The switch cover on the AC Controller P.C.B. Assembly has been changed as illustrated in figure 1.

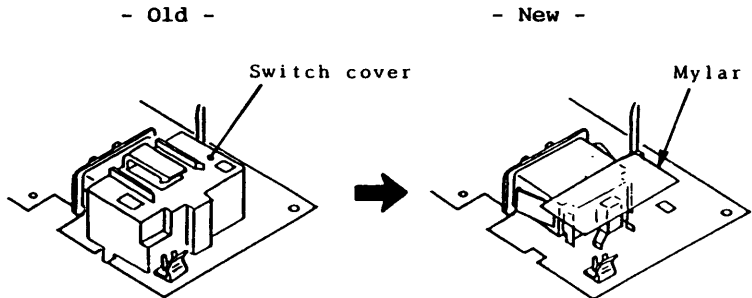


Figure 1

### SERVICE PART

#### INTERCHANGEABILITY

#### CODE

"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are <u>not</u> interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
SWITCH COVER	RA1-7503-000	RA2-0763-000	1	YY	960-3

#### Note:

\*1. Revision-0, dated Sep. 1989.

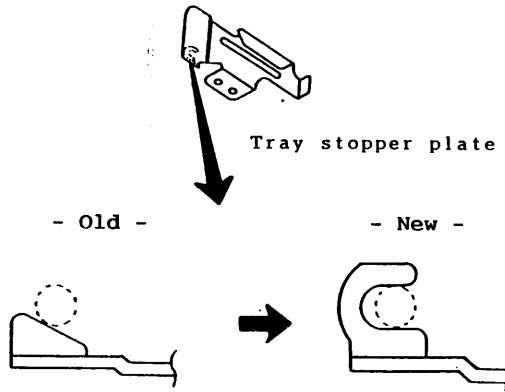
LBP

Number **LBP-164**  
 (RQ-11-0090)  
 Date **30.11.1990**

Model **LBP-4**

**SUBJECT : TRAY STOPPER PLATE**

The tray stopper plate has been modified to prevent it from shifting. Refer to figure 1.



**Figure 1**

**SERVICE PART**

INTERCHANGEABILITY

CODE

"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
TRAY STOPPER PLATE	RA1-7507-000	RA1-7507-040	1	YY	104-3

**Note:**

\*1. Revision-0, dated Sep. 1989.



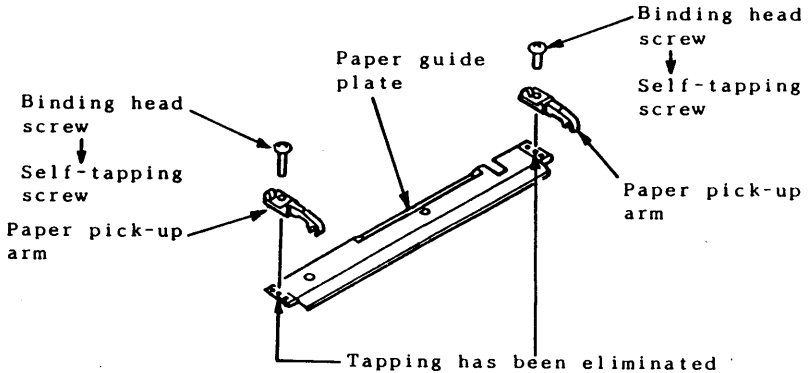
LBP

Number **LBP-165**  
(RQ-11-0092)  
Date **30.11.1990**

Model **LBP-4**

**SUBJECT : PAPER GUIDE PLATE**

The screws securing the paper pick-up arms to the paper guide plate have been changed from binding head screws to self-tapping screws. Refer to figure 1.



**Figure 1**

**SERVICE PARTS**

**INTERCHANGEABILITY**

**CODE**

"Former" and "new" parts are fully interchangeable. YY  
 "Former" and "new" parts are not interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PAPER GUIDE PLATE	RF1-2400-000	RF1-2400-050	1	C*2	101-7
SCREW	XB1-2300-609	X51-2300-609	2	C*2	101-...

**Notes:**

- \*1. Revision 0, dated Sep. 1989.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

LBP

Number **LBP-166**  
(RQ-11-0093)  
Date **30.11.1990**

Model **LBP-4**

**SUBJECT : PHOTO-INTERRUPTER IN INTERNAL COVER ASSEMBLY**

The photo-interrupter in the Internal Cover Assembly has been changed.

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PHOTO-INTERRUPTER	WG8-0323-000	WG8-0291-000	2	YY	103-10

**Note:**

\*1. Revision-0, dated Sep. 1989.

L B P

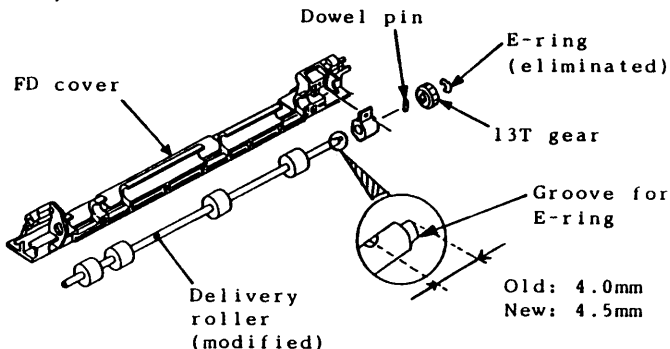
Number **LBP-167**  
**(RQ-11-0094)**  
 Date **30.11.1990**

Model **LBP-4**

**SUBJECT : FACE-DOWN DELIVERY ASSEMBLY**

The delivery roller has been modified:

1. The E-ring and the groove for this E-ring in the delivery roller have been eliminated (figure 1).
2. The position of the dowel pin in the delivery roller has been changed (figure 1).



**Figure 1**

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
DELIVERY ROLLER	RA1-7708-000	RA1-7708-040	1	C*2	370-4
E-RING	XD2-1100-322	-----	1+0	C*2	370-V08
FACE-DOWN DELIVERY ASS'Y	RG1-1791-000	RG1-1791-070	1	YY	370

**Notes:**

- \*1. Revision-0, dated Sep. 1989.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

LBP

Number **LBP-168**  
 (RQ-11-0095)  
 Date **30.11.1990**

Model **LBP-4**

**SUBJECT : DRIVE ASSEMBLY**

The screw securing the grounding plate has been changed from a washer head machine screw to a self-tapping screw. Refer to figure 1.

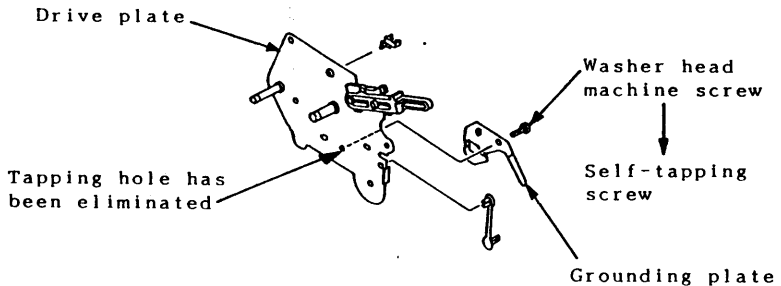


Figure 1

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
DRIVE PLATE	RF1-2393-000	UNCHANGED	1	C*2	240-7
TP SCREW	XA9-0397-000	XB5-6300-509	1	C*2	240-...

**Notes:**

- \*1. Revision-0, dated Sep. 1989.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

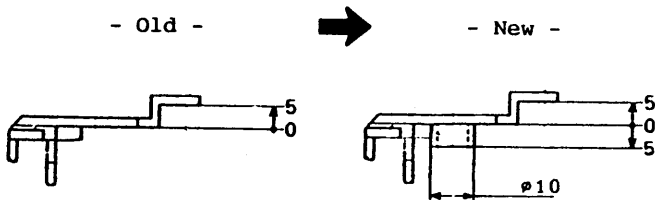
LBP

Number **LBP-169**  
(RQ-11-0099)  
Date **30.11.1990**

Model **LBP-4**

**SUBJECT : FRONT COVER ASSEMBLY/FRONT CORD COVER**

The cord might be caught by the front cord cover. To prevent this, the shape of this cover has been changed as shown in figure 1.



**Fig. 1: Front cord cover**

**SERVICE PART**

**INTERCHANGEABILITY**

**CODE**

- "Former" and "new" parts are fully interchangeable. YY
- "Former" and "new" parts are not interchangeable. NN
- The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN
- The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY
- Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
FRONT CORD COVER	RA1-7632-000	RA1-7632-020	1	YY	101-19

**Note:**

\*1. Revision-0, dated Sep. 1989.

LBP

Number **LBP-170**  
 (RQ-11-0101)  
 Date **30.11.1990**

Model **LBP-4**

**SUBJECT : ROD ASSEMBLY**

The separate metallic pin, which was originally attached to the rod (figure 1), is now incorporated into the molded assembly.

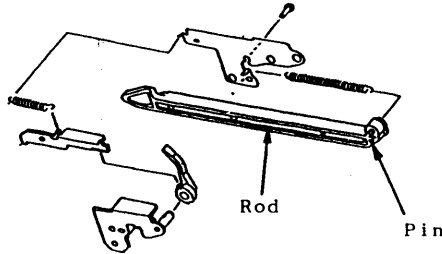


Fig. 1: Rod Assembly

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
ROD	RF1-2502-000	RA1-7481-000	1	YY	250-1

**Note:**

\*1. Revision-0, dated Sep. 1989.

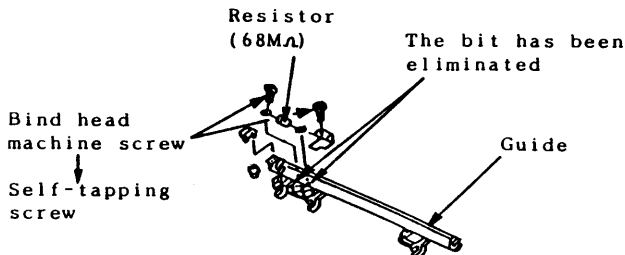
LBP

Number **LBP-171**  
 (RQ-11-0103)  
 Date **30.11.1990**

Model **LBP-4**

**SUBJECT : FRONT COVER ASSEMBLY**

The bit where the 68MΩ resistor is fixed has been eliminated. Along with this change, the screws to fix the resistor have been changed from bind head machine screws to self-tapping screws. Refer to figure 1.



**Figure 1**

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YM
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
GUIDE	RF1-2496-000	RF1-2496-060	1	C*2	101-2E
SCREW	XB1-2300-607	XB4-7300-807	2	C*2	101-..

**Notes:**

- \*1. Revision-0, dated Sep. 1989.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

LBP

Number **LBP-172**  
**(RQ-11-0108)**  
 Date **30.11.1990**

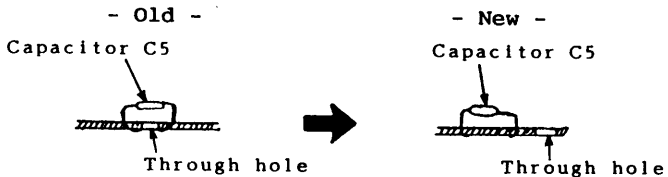
Model **LBP-4**

**SUBJECT : VIDEO CONTROLLER P.C.B. ASSEMBLY**

### A. Position of "through hole"

Since a "through hole" is right under capacitor C5, the lead wire of this capacitor and the hole might cause a short-circuit.

To prevent this, the position of the "through hole" has been changed. Refer to figure 1.



**Figure 1**

### B. Connector

Connector J1 has been changed.

### SERVICE PARTS

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
CONNECTOR (20P)	VS1-1040-020	VS1-1051-020	1	YY	931-J1
VIDEO CONTROLLER P.C.B. ASSEMBLY	SG5-4003-020	SG5-4003-030	1	YY	931

**Note:**

\*1. Revision-0, dated Sep. 1989.



LBP

Number **LBP-173**  
 (RQ-11-0111)  
 Date **30.11.1990**

Model **LBP-4**

**SUBJECT : ROM P.C.B. ASSEMBLY**

PROMs IC1 and IC2 on the ROM P.C.B. Assembly have been changed to MASK ROM IC3. IC sockets IC1 and IC2, and capacitors C1 and C2, have been eliminated at the same time.

**SERVICE PARTS**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NW
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
PROM, μPD27C2001D-20	SF5-4168-000	-----	1→0	C*2	932-IC2
PROM, μPD27C2001D-20	SF5-4169-000	-----	1→0	C*2	932-IC1
IC SOCKET	WA9-0245-000	-----	2→0	C*2	932-IC1, 932-IC2
CAPACITOR, 33μF 16V	VC6-4250-335	-----	2→0	C*2	932-C1, 932-C2
MASK ROM, HN6240PZ60	-----	SH8-4292-000	0→1	C*2	932-IC3
ROM P.C.B. ASS'Y	SG5-4115-000	SG5-4115-020	1	YY	932
VIDEO CONTROLLER P.C.B. ASS'Y	SG5-4003-000	SG5-4003-020	1	YY	931

**Notes:**

- \*1. Revision-0, dated Sep. 1989.
- \*2. The "former" and "new" parts are interchangeable if the marked items are replaced together.

LBP

Model **LBP-4**

Number **LBP-174**  
**(RQ-11-0112)**  
Date **30.11.1990**

**SUBJECT : UPPER COVER ASSEMBLY**

The control panel cable is now directly soldered to the Control Panel P.C. Board.  
The cable is, therefore, no longer available as a separate service spare part. Refer to figure 1.

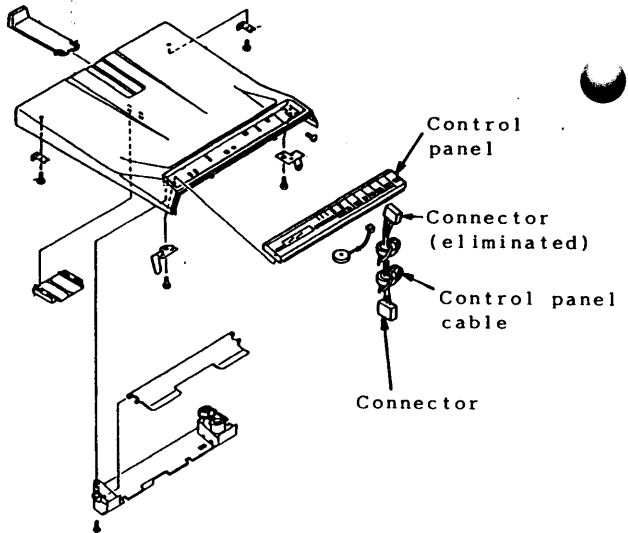


Figure 1

**L B P**

Number **LBP-175**  
 (RQ-11-0119)  
 Date **30.11.1990**

Model **LBP-4**

**SUBJECT : UPPER COVER ASSEMBLY**

The TP screw of the upper cover has been changed to "double sems".

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
TP SCREW → DOUBLE SEMS	XA9-0495-000	XA9-0535-000	2	--	102-12

Note:

\*1. Revision-0, dated Sep. 1989.

LBP

Number **LBP-176**  
(RQ-11-0097)  
Date **30.11.1990**

Model **LBP-4**

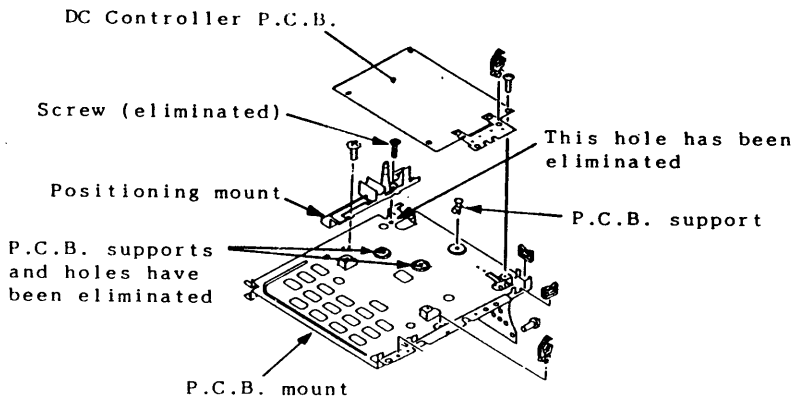
**SUBJECT : MACHINE BOTTOM PLATE**

**A. Positioning mount**

The positioning mount has been modified, so that a screw could be eliminated. Along with this, one tapping screw hole in the P.C.B. mount has also been eliminated. Refer to figure 1.

**B. P.C.B. support**

Two of the three P.C.B. supports for the DC Controller P.C. Board have been eliminated. Along with this, the two holes for these P.C.B. supports in the P.C.B. mount have also been eliminated. Refer to figure 1.



**Figure 1**

**SERVICE PARTS**

## INTERCHANGEABILITY

## CODE

"Former" and "new" parts are fully interchangeable. YY  
 "Former" and "new" parts are not interchangeable. NN  
 The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines. YN  
 The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines. NY  
 Interchangeable on condition; a note provides additional information. C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
POSITIONING MOUNT	RA1-7552-000	RA1-7552-020	1	YY	105-12
P.C.B. MOUNT	RA1-7533-000	RA1-7533-030	1	YY	105-11
P.C.B. SUPPORT	VT2-0002-004	UNCHANGED	3→1	YY	105-15

Note:

\*1. Revision-0, dated Sep. 1989.

LBP

Number **LBP-177**  
(RF-11-0273)  
Date **30.11.1990**

Model **LBP-SX,**  
**LBP-8II**

**SUBJECT : MAIN BODY BLOCK ASSEMBLY/LEAF SPRING**

- A. To prevent the leaf spring from interfering with the main body block, its shaded part has been eliminated. Refer to figure 1.

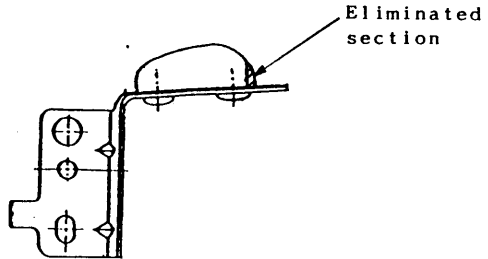


Fig. 1: Leaf spring

- B. The leaf spring may come in contact with the paper sensing arm and restrict its movement. To prevent this, the shaded part of the spring (figure 2) has been eliminated.

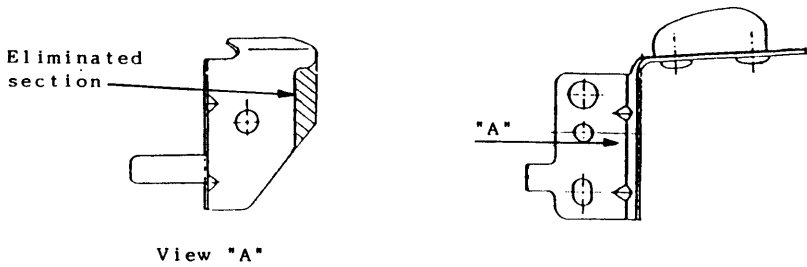


Fig. 2: Leaf spring

**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NM
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat.
	Former	New			
LEAF SPRING	RF1-2129-000	RF1-2129-020	1	NY	320-9*1 320-9*2

**Notes:**

- \*1. Refer to the Parts Catalogue for model LBP-SX, with part number RY8-3114-020, dated May 1990.
- \*2. Refer to the Parts Catalogue for model LBP-8II, with part number RY8-3113-010, dated July 1987.

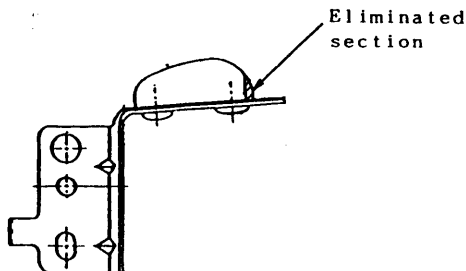
L B P

Model **LBP-RX/LBP-811R,  
LBP-TX/LBP-811T**

Number **LBP-178**  
(RM-11-0102)  
Date **30.11.1990**

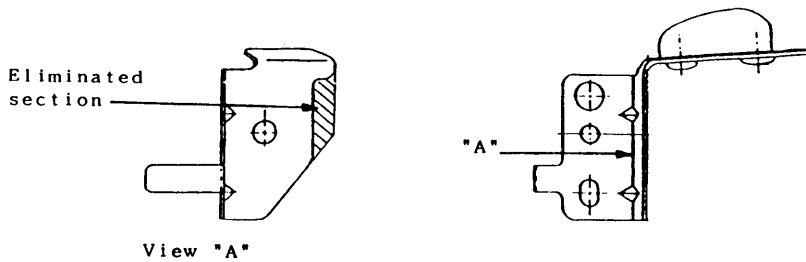
**SUBJECT : MAIN BODY BLOCK ASSEMBLY/LEAF SPRING**

- A. To prevent the leaf spring from interfering with the main body block, its shaded part has been eliminated. Refer to figure 1.



**Fig. 1: Leaf spring**

- B. The leaf spring may come in contact with the paper sensing arm and restrict its movement. To prevent this, the shaded part of the spring (figure 2) has been eliminated.



**Fig. 2: Leaf spring**



**SERVICE PART**

INTERCHANGEABILITY	CODE
"Former" and "new" parts are fully interchangeable.	YY
"Former" and "new" parts are not interchangeable.	NN
The "former" parts are interchangeable; the "new" parts can be used in "modified" machines only, not in "original" machines.	YN
The "new" parts are interchangeable; the "former" parts can be used in "original" machines only, not in "modified" machines.	NY
Interchangeable on condition; a note provides additional information.	C

Description	Part number		Qty	IC	P.Cat*1
	Former	New			
LEAF SPRING	RF1-2129-000	RF1-2129-020	1	NY	320-9

**Note:**

- \*1. Refer to the following Parts Catalogues:

Model	Part number	Date
LBP-SIIR	RY8-3123-010	Apr. 1989
LBP-SIIT	RY8-3124-010	Apr. 1989
LBP-RX	RY8-3119-010	Apr. 1989
LBP-TX	RY8-3122-010	Apr. 1989

TPP Field Change Notice No. 67

DATE: 03.07.92

MODULE: EconoModem 3/JAI 2400 F/W upgrade

CATEGORY:

production change : Check all in stock.  
In the field: change at first opportunity.

CORRECTS THE ERROR: Wrong Power on initialisation.

TOOLS NEEDED: hex screwdriver and IC extractor.

DESCRIPTIONS:

This upgrade contains both a new PROM and a new setup-guide. The PROM corrects a minor bug or feature, that caused the modem to a factory default instead of the programmed default at power on. The setup guide contains additional information, and one important correction to the setup string. Use &D3 instead of &D2!

Check all modems for correct firmware version, and replace if wrong. Replace the setup guide. Many modems has been delivered with the correct F/W, but not the setup guide.

As usual: You can use the setup guide for all Hayes-compatible modems without buffers. But beware, that some uses different factory defaults, i.e ATB is 0 or 1.

SERVICE KIT: Stock No. 95140670 contains:

A 27256 PROM with label:

Modem 11-211 FW 910716 • E-C Data A/S
---

ESTIMATED REPAIR TIME: 15 minutes

NOTE: Make ekstra copies of the attached setup guide (920626/UK/EconoModem3) and leave them with the customer.

lea/BNA

## Setup Guide

*In order to ensure proper connection to DDE equipment with a minimum of effort, the following setup will be programmed into the modem. Please skip this guide unless you for some reason or other have lost the setup.*

(EconoModem is a registered trademark for E-C Data, Denmark)

### 1. Setup

Connect a DDE terminal to the modem with a suitable cable (880050xx or 880051xx depending on terminal port) setup for 2400 baud, 8 bit, no parity and 1 stop bit. On terminals with MODEM option in the setup, DO NOT USE IT HERE. Switch on the modem. Verify that the LEDs TR and MR is ON. Type:

ATZ <Return>

a few times, until the modem respond OK. (if it does not, see below for possible causes). The HS LED should be ON.

If the command you type is not echoed on the screen, type:

AT&F <Return>

Now program the modem by typing the following line:

AT&F S0=1 6S1 6D3 6W <Return>

(Correct mistakes by using Backspace, CTRL/H). The modem should respond with OK, and the AA LED should be ON.

Now you can check the F/W version:

ATI3 <CR>

The current version will respond:

E-C 11-0211 (910716)

If the date shown above is 881219 or 900818, the modem needs an upgrade (TPP-FCN 087), so contact DDE.

### 1.1 For your information:

The changes in the setup compared to factory default, invoked by "&F", are:

- Autoanswer (AA) enabled ("S0=1").
- DSR follows line state ("&S1").
- Should reset on DTR low ("&D3") and
- save it all permanent ("&W").

The factory defaults can be found in "Technical Section" of "User Manual". Note that the programming will change the content of some of the S-registers.

### 2. Terminal Use:

If you want to use the modem connected to a terminal, note the following:

Set the terminal for the baudrate, parity and character width (7 or 8 bit) the remote modem uses (i.e. 2400 baud or lower). The modem will automatically adjust itself to the terminal the first time you type AT.

Do not select the MODEM option in the terminal setup, if it exist.

On some DDE terminals (DDE 400a, DDE 410, 420) you will not get a response from the ATZ command, but you will observe that RX and TX LED's are flashing. Change the default setup by the command (typed blind):

AT&C <Return>

and redo the programming, adding &C0 just before &W in the standard line above. The CD LED should now be ON all the time.

### 3. PC use:

The modem setup needs no change to work with the DDETERM or PCTERM packages. Install DDETERM as per instructions, and select the HAYES.MOD dial script.

Other PC software should also work with a HAYES setting. You might have to change the setup slightly, but check with the software manual.

(Turn over)

#### 4. Supermax Host use:

On the host side, modem operation is controlled by H/W, F/W and application programs. H/W and F/W requires no setup, with exception of the NTC2 (See Systemadministrators Manual for the NTC2)

#### 4.1 SMOS (basic utility)

The basic SMOS distribution can support simple modem operation. Prober operation is not default. You must change system files yourself. Sysadm package can not do that currently.

#### 4.1.1 gettydefs file

Add the following line to the /etc/gettydefs file from a superuser login:

```
2408M# E2400 CS8 HUPCL # E2400
SANE8 DDE CTL DIOFF ECHOE TAEG
HUPCL #Modem Login:#2408M
```

or something like it. The above line is added automatic when you install the Modem Logon package (see 4.2), but it has been improved by replacing SANE8 with CS8 in the second field. The line is for 8 bit operation. The key fields are the presence of HUPCL and XOFF, and the absence of CLOCAL.

NOTE: the Supermax does not support speed changes by BREAK during login. You must use a gettydefs-entry with a single baudrate, as shown.

#### 4.1.2 Inittab file

Insert a line in /etc/inittab for the modemline (assumed here to be /dev/tty00):

```
00:234:respawn:/etc/getty -h -u
-i -r tty00 2408M none IDISC1
```

The key parameters are -u, -i, -r and 2408M. -u is for compatibility with other modem programs, i.e. BNU. -i removes the issue text, and -r controls the prober reaction to the modems DSR signal. -r works only with -u (or ugetty). 2408M points to the line in /etc/gettydefs, that we added in 4.1.1.

You can find more information about getty in the System Administrators Manual.

#### 4.1.3 init g

To make the changes current, use the command

`init g`

issued from a superuser login.

#### 4.1.4 Modem setup

Better modem behavior will follow, if you add the No-Echo parameter ("E0") to the setup in chapter 1, right before "&W".

#### 4.2 Other modem packages

Other modem packages, i.e. Modem Logon, BNU and TTY/VT100 emulators from DDE have their own installation guides.

If you add the No-Echo parameter in 4.1.4, note that you must modify the dial-scripts accordingly. All the default scripts require command echoing.

Dial-out from many versions of BNU and TTY/VT100 is not possible, the operation will hang indefinitely. Future versions will correct this, but in the mean time, you can work around it, by changing the DSR control in the setup to "&S0". This work around should not be used on in-going lines for security reasons, because the port will not detect and signal HUPCL.

#### 5. Other Hosts

The setup above might not work on other hosts, UNIX compatible or not, so please refer to their systems manuals and the attached "The EconoModem 3 user's Manual" in that case.

UK/920626

#### 4. Supermax Host use:

On the host side, modem operation is controlled by H/W, F/W and application programs. H/W and F/W requires no setup, with exception of the NTC2 (See Systemadministrators Manual for the NTC2)

#### 4.1 SMOS (basic utility)

The basic SMOS distribution can support simple modem operation. Prober operation is not default. You must change system files yourself. Sysadm package can not do that currently.

#### 4.1.1 gettydefs file

Add the following line to the `/etc/gettydefs` file from a superuser login:

```
2408M# B2400 CS8 HUPCL # B2400
SANE8 DDE CTL DDOFF ECHOE TAB3
HUPCL. #Modem Login:#2408M
```

or something like it. The above line is added automatic when you install the Modem Logon package (see 4.2), but it has been improved by replacing SANE8 with CS8 in the second field. The line is for 8 bit operation. The key fields are the presence of HUPCL and DDOFF, and the absence of CLOCAL.

NOTE: the Supermax does not support speed changes by BREAK during login. You must use a gettydefs-entry with a single baudrate, as shown.

#### 4.1.2 inittab file

Insert a line in `/etc/inittab` for the modemline (assumed here to be `/dev/tty00`):

```
00:234:respawn:/etc/getty -h -u
-1 -r tty00 2408M none LDISC1
```

The key parameters are `-u`, `-l`, `-r` and `2408M`. `-u` is for compatibility with other modem programs, f.ex. BNU. `-l` removes the issue text, and `-r` controls the prober reaction to the modems DSR signal. `-r` works only with `-u` (or `ugetty`). `2408M` points to the line in `/etc/gettydefs`, that we added in 4.1.1.

You can find more information about getty in the System Administrators Manual.

#### 4.1.3 init g

To make the changes current, use the command

```
init g
```

Issued from a superuser login.

#### 4.1.4 Modem setup

Better modem behavior will follow, if you add the No-Echo parameter ("E0") to the setup in chapter 1, right before "&W".

#### 4.2 Other modem packages

Other modem packages, i.e. Modem Logon, BNU and TTY/VT100 emulators from DDE have their own installation guides.

If you add the No-Echo parameter in 4.1.4, note that you must modify the dial-scripts accordingly. All the default scripts require command echoing.

Dial-out from many versions of BNU and TTY/VT100 is not possible, the operation will hang indefinitely. Future versions will correct this, but in the mean time, you can work around it, by changing the DSR control in the setup to "&S0". This work around should not be used on in-going lines for security reasons, because the port will not detect and signal HUPCL.

#### 5. Other Hosts

The setup above might not work on other hosts, UNIX compatible or not, so please refer to their systems manuals and the attached "The EconoModem 3 user's Manual" in that case.

UK/920628

TPP Field Change Notice No. 55

DATE: 31.01.92

MODULE: Concorde Data Systems V.22bis Series II modem

CATEGORY:

production change : Check all in stock.

In the field: Replace on first given occasion.

CORRECTS THE ERROR: Erratic (strange) behavior with DDETERM.

TOOLS NEEDED:

IC extractor.

Screwdriver.

DESCRIPTIONS:

During platform testing it has been noted, that DDETERM often hang during dialing through this modem, when firmware is older than REV 3.19-DENMARK. Other, non confirmed, reports from internal users about erratic behavior of the modem, has also been connected with old F/W.

Thus it has been decided, that all modems of this type under service contract, or in internal DDE use, should be upgraded to REV 3.19-DENMARK.

Error reports from previous firmware releases will not be accepted from now on.

Disassemble the modem and replace the PROMs. The one marked DENMARK 1 goes into U24, and DENMARK 2 into U25. Do not discard the old PROM before new PROM has been verified in production. (Some customers might have made workarounds or direct programming, which can no longer be used). Assemble again, and program the DDE default into the modem. See attached installation sheet (920123/UK Concord 224 Modem).

Add any customer made changes, as required.

cont..

**SERVICE KIT:** Stock No. 95140550 contains:

- Two PROMs, Type 27256, labelled:

MEMOTEC  
DENMARK 1  
B819 REV 3.19

and

MEMOTEC  
DENMARK 2  
A19B REV 3.19

**ESTIMATED REPAIR TIME:**

15 mins. (excluding customer modifications)

**NOTE:** A few very old modems do not use 27256 PROMs. They should be discarded as soon as possible. They do not carry PTT approval!

lea/ENA

TPP Field Change Notice No. 31

DATE: 17.04.91

MODULE: EconoModem2

CATEGORY:

production change : Check modems still in stock.  
In the field: Check, if problems are reported.

CORRECTS THE ERROR: DSR is not dropped, when line is disconnected.

TOOLS NEEDED:

- Screwdriver.

DESCRIPTIONS:

The EconoModem2 (1200 baud) that has been sold by DDE has a special F/W in it. The modem either have a DDE prefix on the serial number, or a label with "DDE PROM", "DSR drop" or eqv. These modem will drop DSR for a few seconds after a connection has been lost. In order to do so, the jumper J4 must be in position A. Factory default for non-DDE modems are position B. DDE modems with the jumper in the wrong position has been found (manufactured in january 1990).

In some manuals that jumper is also designated J0.

SERVICE KIT: none

ESTIMATED REPAIR TIME: 15 min.

NOTE:

lea/MJDV



TPP Field Change Notice No. 27

DATE: 211290

MODULE: EconoModem 3

**CATEGORY:**

production change : To all already in stock.

In the field: To be made without further delay<sup>1</sup>

**CORRECTS THE ERROR:** DDE Error Report No. 3148

Modem seemed to hang in a state where it would not accept dial-up, even though the AA LED was on.

It would happen every time a previous user had used the Hayes '+++<sup>1</sup>' escape sequence to cause a hang-up on his (remote) modem, with an active shell or other program in echo mode.

**TOOLS NEEDED:**

Small Philips screwdriver.

IC extractor tool.

A terminal (for verification and programming).

The DDE EconoModem3 Setup Guide (see below).

**DESCRIPTIONS:**

Firmware version with problems is 881219.

The modem seemed to be confused when it was forced into command mode by the escape-sequence (as echoed by the application) followed by a remote hang up. The only way out was to give an AT command, but no SMOS application can do that.

The new firmware 900816 corrects this problem, and at the same time improves noise immunity. Noise suppression now seems to be much better than other non-MNP modems, where as before it was just marginally better.

Replace the 27256 PROM with the PROM from the service kit. After assembly, reprogram the modem as described in "DDE EconoModem3 Setup Guide". Leave a copy of the guide for the system administrator.

**SERVICE KIT: 95140270**

**Contains:**

a 27256 PROM marked "EC3 900816"

a copy of "DDE EconoModem3 Setup Guide"

**ESTIMATED REPAIR TIME: 10 min. pr. modem.**

**NOTE:**

A copy of the "DDE EconoModem3 Setup Guide" is attached. Future deliveries from Klokkerholm of the EC3 will include this guide.

lea/MUDV

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<sup>1</sup>You should concentrate on modems attached to hosts, and maybe leave terminal modems to later, if you are pressed for time.

# DDE EconoModem<sup>®</sup> 3 Setup Guide

lea/21.12.90

*In order to ensure proper connection to DDE equipment with a minimum of effort, the following setup will be programmed into the modem. Please skip this guide unless you for some reason or other have lost the setup.*

(EconoModem is a registered trademark for E-C Data, Denmark)

## 1. Setup

Connect a DDE terminal to the modem with a suitable cable (880050xx or 880051xx depending on terminal port) setup for 2400 baud, 8 bit, no parity and 1 stop bit. On terminals with MODEM option in the setup, DO NOT USE IT HERE. Switch on the modem. Verify that the LEDs TR and MR is ON. Type:

ATZ <Return>

a few times, until the modem respond OK. (If it does not, see below for possible causes). The HS LED should be ON.

If the command you type is not echoed on the screen, type:

AT&F <Return>

Now program the modem by typing the following line:

AT&F S0=1 &S1 &D2 &W <Return>

(Correct mistakes by using Backspace, CTRL/H). The modem should respond with OK, and the AA LED should be ON.

Now you can check the F/W version:

ATI3 <CR>

The current version will respond:

E-C 11-0211 (900816)

If the date shown above is 881219, the modem needs an upgrade (TPP-FCN 027), so contact DDE.

### 1.1 For your information:

The changes in the setup compared to factory default, invoked by "&F", are:

- Autoanswer (AA) enabled ("S0=1").
- DSR follows line state ("&S1").
- Should react to DTR ("&D2") og
- save it all permanent ("&W").

The factory defaults can be found in "Technical Section" of "User Manual". Note that the programming will change the content of some of the S-registers.

## 2. Terminal Use:

If you want to use the modem connected to a terminal, note the following:

Set the terminal for the baudrate, parity and character width (7 or 8 bit) the remote modem uses (i.e. 2400 baud or lower). The modem will automatically adjust itself to the terminal the first time you type AT.

Do not select the MODEM option in the terminal setup, if it exist.

On some DDE terminals (DDE 400a, DDE 410, 420) you will not get at response from the ATZ command, but you will observe that RX and TX LED's are flashing. Change the default setup by the command (typed blind):

```
AT&C <Return>
```

and redo the programming, adding &C0 just before &W in the standard line above. The CD LED should now be ON all the time.

## 3. PC use:

The modem setup needs no change to work with the DDETERM or PCTERM packages. Install DDETERM as per instructions, and select the HAYES.MOD dial script.

Other PC software should also work with a HAYES setting. You might have to change the setup slightly, but check with the software manual.

## 4. Supermax Host use:

On the host side, modem operation is controlled by H/W, F/W and application programs. H/W and F/W requires no setup, with exception of the NTC2 (See Systemadministrators Manual for the NTC2)

### 4.1 SMOS (basic utility)

The basic SMOS distribution can support simple modem operation. Prober operation is not default. You must change system files yourself. Sysadm package can not do that currently.

#### 4.1.1 gettydefs file

Add the following line to the `/etc/gettydefs` file from a superuser login:

```
2408M# B2400 SANE8 HUPCL # B2400 SANE DDE CTL IXOFF  
ECHOE TAB3 HUPCL #Modem Login:#2408M
```

or something like it. The above line is added automatic when you install the Modem Logon package (see 4.2). The line is for 8 bit operation (SANE8). The key fields are the presence of HUPCL and IXOFF, and the absence of CLOCAL.

#### 4.1.2 inittab file

Insert a line in `/etc/inittab` for the modemline (assumed here to be `/dev/tty00`):

```
00:234:respawn:/etc/getty -h -u -i -r tty00 2408M LDISC1
```

The key parameters are `-u`, `-i`, `-r` and `2408M`. `-u` is for compatibility with other modem programs, f.ex. BNU. `-i` removes the issue text, and `-r` controls the proper reaction to the modems DSR signal. `2408M` points to the line in `/etc/gettydefs`, that we added in 4.1.1.

You can find more information about `getty` in the System Administrators Manual.

#### 4.1.3 init q

To make the changes current, use the command

```
init q
```

issued from a superuser login.

#### 4.2 Other modem packages

Other modem packages, i.e Modem Logon, BNU and TTY/VT100 emulators from DDE have their own installation guides.

#### 5. Other Hosts

The setup above might not work on other hosts, UNIX compatible or not, so please refer to their systems manuals and the attached "The EconoModem 3 user's Manual" in that case.

TPP Field Change Notice No. 11

DATE: 270989

MODULE: CDS V.22bis Series II modem

**CATEGORY:**

Change of setup when required. (Temporary fix - an error-report is being sent to the supplier of the modem).

**CORRECTS THE ERROR:**

When using CDS V.22 modem together with a PC running PCNet-Term, the danish character 'æ' will be lost. Problem may also arise if a printer (ex. DDE 32, 42, 60) is connected through the CDS modem.

**TOOLS NEEDED:**

A PC or a terminal connected to the modem. CU if the modem is connected to a Supermax port.

**DESCRIPTIONS:**

In the PC charactersets (Codepages 437, 850 and 865) 'æ' has the value 0x91. The lower 7 bits has the value 0x11, that is XON. When CDS parameter SMF1 is set, the modem will generate XON/XOFF flowcontrol for the remote modem. A sideeffect is the removal of 'æ' because the modem "thinks" 7 bit. It is a firmware error in the modem. The temporary fix below can be used safely when:

- \* Modem is connected to another CDS or MNP type modem.
- \* Terminal connected with speed at or above 2400 baud.

The only two cases, where problems may occur with the fix, is when:

1. Modem is connected to another 2400 baud and local terminal is running below 2400 on interface.
2. Modem is connected to ordinary modem (not MNP) and local terminal uses HW handshake (i.e. CDS SPFn parameter default has been changed.)

The Fix:

Connect to the CDS mode through a PC, a terminal or CU on Supermax. Type:

AT@SMFO

When an OK response is received, type:

AT@SAVE

And disconnect.

**A GENERAL NOTE:**

It is not only with the Concorde modem this behavior has been noted. Older versions of the DDE NTC had the same problem. Please keep this in mind when debugging non-DDE equipment also. Note too, that the current DDE printers 32, 42 and 60 uses IBM character set to build ISO characters, and future versions might have to use Codepage 850, when ISO 8859/1 is not available.

lea/MUDV-TPP

TPP Field Change Notice No. 61

DATE: 16.03.92

MODULE: ScanTeam T1100 Barcode controller.

CATEGORY:

production change : Mandatory - check new shipments!  
In the field: Mandatory.

CORRECTS THE ERROR: Problems in logging out from SMOS systems.

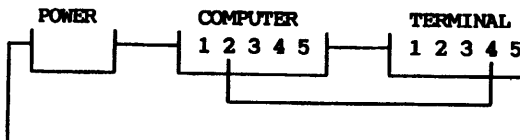
TOOLS NEEDED: Screwdriver, Soldering Iron and Plyers.

DESCRIPTIONS:

SMOS getty-program requires DSR signaling in order to process logout or Power-OFF on a terminal on some ports (SIOC and NTC-2). The DSR signal is not defined on the ScanTeam T1100 box, and this patch will pass DTR through from the terminal:

Disassemble the T1100. Look at the back of the COMPUTER and TERMINAL connector. There are 5 connections to the PCB accessible (the other 4 are hidden). Count those five from the POWER connector side: Cut the 2nd connection on COMPUTER close to the PCB. Solder a wire to the 4th connection on the TERMINAL port.

Component side:



SERVICE KIT: None.

ESTIMATED REPAIR TIME: 15 min.

NOTE: This FCN replaces the previous TPP-FCN 060. Please remove that from your files.

lea/BNA



TPP Field Change Notice No. 60

DATE: 25.02.92

MODULE: ScanTeam T1100 Barcode controller.

CATEGORY:

production change : Mandatory - check new shipments!  
In the field: Mandatory.

CORRECTS THE ERROR: Problems in logging out from SMOS systems.

TOOLS NEEDED:

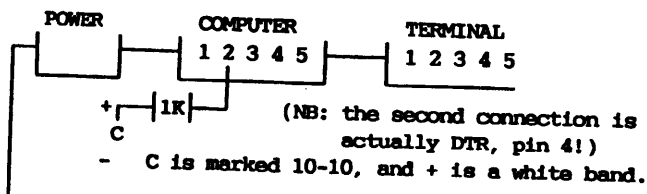
Screwdriver, soldering Iron and plyers.

DESCRIPTIONS:

SMOS getty-program requires DSR signal high in order to process logout on a terminal on some ports (SIOC and NTC-2). The DSR signal is not defined on the ScanTeam T1100 box, and this patch will set DTR high permanent, thus raising DSR on the SMOS port:

Disassemble the T1100. Look at the back of the COMPUTER connector. There are 5 connections to the PCB accessible (the other 4 are hidden). Cut the second connection, counted from the Power-connector, close to the PCB. Solder a 1K resistor between the cut connection and + on the closest SMD-capacitor.

Component side:



SERVICE KIT: None.

ESTIMATED REPAIR TIME: 15 min.

lea/ENA

TPP Field Change Notice No. 9.

DATE: 040989

MODULE: VEGA videocontroller from Video-7

CATEGORY:

production change : none.

In the field: To be made when problem is reported

CORRECTS THE ERROR:

There are instances where the above mentioned controller refuses to boot with a CTRL+ALT+DEL sequence from the keyboard.

TOOLS NEEDED:

Pen or small screwdriver.

DESCRIPTIONS:

A few PC's we have sold with colormonitors was delivered with the Video-7 VEGA adapter. The problem occurs on alle types of PC's, but the board is primarily mounted in NCR 810s. The problem occurs because of wrong settings of the SW1 switch at the back of the board.

Contrary to what manual says, switch SW1-5 should be set to OFF at all times.

If you doubt if a VEGA card is mounted, listen for a long and 3 short beeps with medium pitch during power on. If during warmboot you hear 4 short highpitched beeps, the switch is wrongly set. You must have run programs that used grafic modes prior to warmboot to have the problem occur.

LEA/MUDV-TPP