

Terminals

rev. 01.09.94

1.0.1.1

DDE-type

Product name

System

dde-	Datagraph 8002 (DK)	-
dde-	PERICOM/MG 200 (DK)	UNIX V (IPL)
dde-	Wyse / Wy50 (DK)	UNIX V & SPC/1
dde-	VT200	UNIX V
dde-	Alfaskop A320B	UNIX V
dde200	TVI / 920 C (DK)	UNIX V & SPC/1
dde300	DTI/GENIUS 7.1 (DK)	UNIX V & SPC/1
dde400	Ampex / D 80 (DK)	UNIX V & SPC/1
dde400	Ampex / D 150 (DK)	UNIX V & SPC/1
dde400a	Ampex / D 230 (DK)	UNIX V & SPC/1
dde410	Wyse 60	SPC/1
dde410Dk	Wyse 60	UNIX V
dde420	Wyse 65 (Dk)	UNIX V
dde440 Dk	Versal VAT300	UNIX V
dde440 Swe	Versal VAT300	UNIX V
dde440 USA	Versal VAT300	UNIX V
dde450	Wyse 95 (Dk)	UNIX V & III
dde460 DK	Wyse 185	UNIX V
dde460 Swe	Wyse 185	UNIX V
dde460 USA	Wyse 185	UNIX V
dde460 Nor	Wyse 185	UNIX V
dde460 UK	Wyse 185	UNIX V
dde460 French	Wyse 185	UNIX V
dde460 Flam	Wyse 185	UNIX V
dde460 Spanish	Wyse 185	UNIX V

Terminals

rev. 01.09.94

1.0.1.2

DDE-type	Product name	System
dde470 DK	Wyse WY-285ES	UNIX V
dde470 UK	Wyse WY-285ES	UNIX V
dde470 French	Wyse WY-285ES	UNIX V
dde470 Swe	Wyse WY-285ES	UNIX V
dde470 Spanish	Wyse WY-285ES	UNIX V
dde470 Flemish	Wyse WY-285ES	UNIX V
dde470 Nor	Wyse WY-285ES	UNIX V
dde480	Facit A2400 (DK)	UNIX V
dde480g	Facit G2400 (DK)	UNIX V
dde490	RC45 (DK)	UNIX V & III
dde500	Tandberg / TDV 2200 (DK)	UNIX V & SPC/1
dde520 / dde520g DK	Tandberg TDV1200/14	UNIX V
dde520 / dde520g USA	Tandberg TDV1200/14	UNIX V
dde530 DK	Tandberg TDV1200/14S	UNIX V
dde530 USA	Tandberg TDV1200/14S	UNIX V
dde530 Swe	Tandberg TDV1200/14S	UNIX V
dde530 Nor	Tandberg TDV1200/14S	UNIX V
dde550	Tandberg TDV2400 Topaz (DK)	UNIX V
dde550	Tandberg TDV2400 Topaz (DK)	UNIX V & III
dde700	Facit A3400 (DK)	UNIX V
dde710 / dde710g DK	Facit A3400 SCS R10A/R3A	UNIX V
dde710 / dde710g Swe	Facit A3400 SCS R10A/R3A	UNIX V
dde710 / dde710g USA	Facit A3400 SCS R10A/R3A	UNIX V
dde800 DK	Wyse 370	UNIX V
dde800 Swe	Wyse 370	UNIX V
dde800 USA	Wyse 370	UNIX V
sgd	1.8, 2.2, & 3.0	UNIX V

TERMINAL / DDE type : dde520/dde520g with danish keyboard
Based on the Tandberg TDV1200/14

910419

Terminology-table : /etc/types/int/dde520.t
/etc/types/int/dde520.i
/etc/types/int/dde520g.t
/etc/types/int/dde520g.i

Datatable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Fast.
Repeat Delay : Fast.
Mouse Resolution : Fast. (only on the dde520g)
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : Permanent.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : Ascii.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode : VT200 8 bits.
ID VT100 : DVT220. (on the dde520)
ID VT100 : DVT240. (on the dde520g)
User Defined Keys : Unlocked.
User features : Unlocked.
Character Set Mode : Multinational.
Nat. Char. Set = Keyb. Nat: Yes.
Keypad : Numeric.
Cursor Keys : Normal.
New Line : CR.

Comm. menus/SYSTEM MENU.

Baud Rate Table : Table 2.
Communication Channel : Channel A.
Printer Channel : None.
Mouse Channel : Channel B. (only on the dde520g)
Online Key : Online.
DMA Receiver : Channel A.
Debug Mode : Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed : 19200 Baud.
Receive Speed : 19200 Baud.
Com. Code Parity : None.
Com. Code Stop-Bit(s) : 1 bit.
Com. Code Length : 8 bits.
Echo On Transmitted Codes : External.
Channel A Interface Select : Internal.
Handshake on Transmit : XON/XOFF.
Handshake on Receive : XON/XOFF.
Modem : Inhibit.
Transmission Delay : None.
Handshake Threshold : 1/16 Buffer.
Inverted Busy Signal : No.

KEYBOARD MENU.

TD Cursor Pad : Off.
Keyboard Nationality : Danish.
DEC Compatible Keyb. : Yes.
Keys : Typewriter.
Enable Break : Yes.
Answerback : None.
Two Stroke Compose : Off.
<X>-Key : Delete.

Graphics menus. (only on the dde520g)

ReGIS MENU.

Macrograph Reports : Off.

Graphics Cursor : On.

4010/14 MENU.

CR Processing : CR.

LF Processing : LF.

GIN Terminator : None.



TERMINAL / DDE type : dde470 with Danish keyboard .

Based upon the Wyse WY-285ES with firmware »DDE Version 171192«

Stock Number:

950619

99208017

VTI-table:

/etc/types/int/dde470.t
/etc/types/int/dde470.i
/usr/share/lib/vti/int/dde470.t
/usr/share/lib/vti/int/dde470.i

└─ Supermax SVR4
Platform

Dataable:

88002150

Remarks:

Hold Screen: <Alt> <F1>

Print Screen: <Alt> <F2>

Setup: <Alt> <F3>

Session switch: <Alt> <F4>

Full-screen/Split-screen switch: <Ctrl> <Alt> <F4>

Break: <Alt> <F5>

The listed factory default setup, can be obtained
by selecting the »DEFAULT« entry in the main menu,
except for the setup parameter 'VT400 Mode, 7-bit Controls'
in relation to the Supermax SVR4 Platform, which has to be
set manually.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5×25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit = 19200

COMM1: Receive = Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

GENERAL MENU

VT400 Mode, 8-bit Controls

VT400 Mode, 7-bit Controls

(Supermax SVR4 Platform)

DECSCL = VT400

Multinational Mode

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<XJ BS/DEL

Local Compose

Ignore Alt

< Fkeys, Definitions >

F1 = Fkey

F2 = Fkey

F3 = Fkey

F4 = Fkey

F5 = Fkey

, < Key

. > Key

< > Key

`` Key

< Program Function Keys >

Danish Keyboard

PRINTER MENU

Speed = 19200

8 Bits, No Parity

1 Stop Bit

XON-XOFF

No Printer To Host

Normal Print Mode

Print Full Page

Print National Only

Terminator = FF

Nulls Not Suppressed

GLOBAL MENU

S1 = Comm1

Screen Saver

Comm1 = RS 232

Printer Shared

Setup = English

TERMINAL / DDE type : dde470 with Spanish keyboard

Based upon the Wyse WY-285ES with firmware »DDE Version 171192«

Stock Number:

950619

99208021

VTI-table:

/etc/types/int/dde470.t

/etc/types/int/dde470.i

/usr/share/lib/vti/int/dde470.t

/usr/share/lib/vti/int/dde470.i

└─ Supermax SVR4
Platform

Databable:

88002150

Remarks:

Hold Screen: <Alt> <F1>

Print Screen: <Alt> <F2>

Setup: <Alt> <F3>

Session switch: <Alt> <F4>

Full-screen/Split-screen switch: <Ctrl> <Alt> <F4>

Break: <Alt> <F5>

The listed factory default setup, can be obtained
by selecting the »DEFAULT« entry in the main menu,
except for the setup parameter 'VT400 Mode, 7-bit Controls'
in relation to the Supermax SVR4 Platform, which has to be
set manually.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5×25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit=19200

COMM1: Receive=Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

GENERAL MENU

VT400 Mode, 8-bit Controls

VT400 Mode, 7-bit Controls

(Supermax SVR4 Platform)

DECSCL = VT400

Multinational Mode

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<X> BS/DEL

Local Compose

Ignore Alt

<Fkeys, Definitions>

F1 = Fkey

F2 = Fkey

F3 = Fkey

F4 = Fkey

F5 = Fkey

, < Key

. > Key

< > Key

`` Key

<Program Function Keys>

Spanish Keyboard

PRINTER MENU

Speed = 19200

8 Bits, No Parity

1 Stop Bit

XON-XOFF

No Printer To Host

Normal Print Mode

Print Full Page

Print National Only

Terminator = FF

Nulls Not Suppressed

GLOBAL MENU

S1 = Comm1

Screen Saver

Comm1 = RS 232

Printer Shared

Setup = English

TERMINAL / DDE type : dde470 with Flemish keyboard

Based upon the Wyse WY-285ES with firmware »DDE Version 171192«

950619

Stock Number:

99208022

VTI-table:

/etc/types/int/dde470.t

/etc/types/int/dde470.i

/usr/share/lib/vti/int/dde470.t

/usr/share/lib/vti/int/dde470.i

88002150

Supermax SVR4
Platform

Data cable:

Remarks:

Hold Screen: <Alt> <F1>

Print Screen: <Alt> <F2>

Setup: <Alt> <F3>

Session switch: <Alt> <F4>

Full-screen/Split-screen switch: <Ctrl> <Alt> <F4>

Break: <Alt> <F5>

The listed factory default setup, can be obtained by selecting the »DEFAULT« entry in the main menu, except for the setup parameter 'VT400 Mode, 7-bit Controls' in relation to the Supermax SVR4 Platform, which has to be set manually.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5×25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit = 19200

COMM1: Receive = Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

GENERAL MENU

VT400 Mode, 8-bit Controls

VT400 Mode, 7-bit Controls

(Supermax SVR4 Platform)

DECSCL = VT400

Multinational Mode

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<X> BS/DEL

Local Compose

Ignore Alt

<Fkeys, Definitions>

F1 = Fkey

F2 = Fkey

F3 = Fkey

F4 = Fkey

F5 = Fkey

, < Key

. > Key

< > Key

`` Key

<Program Function Keys>

Flemish Keyboard

PRINTER MENU

Speed = 19200

8 Bits, No Parity

1 Stop Bit

XON-XOFF

No Printer To Host

Normal Print Mode

Print Full Page

Print National Only

Terminator = FF

Nulls Not Suppressed

GLOBAL MENU

S1 = Comm1

Screen Saver

Comm1 = RS 232

Printer Shared

Setup = English

TERMINAL / DDE type : dde470 with Norwegian keyboard
Based upon the Wyse WY-285ES with firmware »DDE Version 171192«

950619
99208023

Stock Number:

VTI-table:

/etc/types/int/dde470.t
/etc/types/int/dde470.i
/usr/share/lib/vti/int/dde470.t
/usr/share/lib/vti/int/dde470.i

└ Supermax SVR4
Platform

Data cable:

88002150

Remarks:

Hold Screen: <Alt> <F1>
Print Screen: <Alt> <F2>
Setup: <Alt> <F3>
Session switch: <Alt> <F4>
Full-screen/Split-screen switch: <Ctrl> <Alt> <F4>
Break: <Alt> <F5>

The listed factory default setup, can be obtained
by selecting the »DEFAULT« entry in the main menu,
except for the setup parameter 'VT400 Mode, 7-bit Controls'
in relation to the Supermax SVR4 Platform, which has to be
set manually.

Factory default from DDE :

DISPLAY MENU

80 Columns
Width Change = Clear
Interpret Controls
Autowrap
Jump Scroll
Light Screen
Cursor
Cursor Blink Block
No Status Display
5×25 Pages
24 Lines/Screen
Vertical Coupling
Page Coupling
Auto Resize Screen

User-Defined Keys Unlocked
User-Features Unlocked
Numeric Keypad
Normal Cursor Keys
No Newline
UPSS ISO Latin-1
VT420 ID
When Available Update

COMMUNICATIONS MENU

COMM1: Transmit = 19200
COMM1: Receive = Transmit
COMM1: XOFF at 64
COMM1: 8 Bits, No Parity
COMM1: 1 Stop Bit
No Local Echo
Data Leads Only
Disconnect, 2 s Delay
Unlimited Transmit
No Auto Answerback
Modem High Speed = Ignore
Modem Low Speed = Ignore
On Line

GENERAL MENU

VT400 Mode, 8-bit Controls
VT400 Mode, 7-bit Controls
(Supermax SVR4 Platform)

DECSCL = VT400
Multinational Mode

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<XJ BS/DEL

Local Compose

Ignore Alt

< Fkeys, Definitions >

F1 = Fkey

F2 = Fkey

F3 = Fkey

F4 = Fkey

F5 = Fkey

, < Key

. > Key

< > Key

`` Key

< Program Function Keys >

Norwegian Keyboard

PRINTER MENU

Speed = 19200

8 Bits, No Parity

1 Stop Bit

XON-XOFF

No Printer To Host

Normal Print Mode

Print Full Page

Print National Only

Terminator = FF

Nulls Not Suppressed

GLOBAL MENU

S1 = Comm1

Screen Saver

Comm1 = RS 232

Printer Shared

Setup = English

TERMINAL / DDE type : dde470 with Swedish keyboard

Based upon the Wyse WY-285ES with firmware »DDE Version 171192«

950619

Stock Number:

99208020

VTI-table:

/etc/types/int/dde470.t

/etc/types/int/dde470.i

/usr/share/lib/vti/int/dde470.t

/usr/share/lib/vti/int/dde470.i

└ Supermax SVR4
Platform

Datacabl:

88002150

Remarks:

Hold Screen: <Alt> <F1>

Print Screen: <Alt> <F2>

Setup: <Alt> <F3>

Session switch: <Alt> <F4>

Full-screen/Split-screen switch: <Ctrl> <Alt> <F4>

Break: <Alt> <F5>

The listed factory default setup, can be obtained by selecting the »DEFAULT« entry in the main menu, except for the setup parameter 'VT400 Mode, 7-bit Controls' in relation to the Supermax SVR4 Platform, which has to be set manually.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5×25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit=19200

COMM1: Receive=Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

GENERAL MENU

VT400 Mode, 8-bit Controls

VT400 Mode, 7-bit Controls

(Supermax SVR4 Platform)

DECSCL = VT400

Multinational Mode

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<X> BS/DEL

Local Compose

Ignore Alt

<Fkeys, Definitions>

F1 = Fkey

F2 = Fkey

F3 = Fkey

F4 = Fkey

F5 = Fkey

, < Key

. > Key

< > Key

` ` Key

<Program Function Keys>

Swedish Keyboard

PRINTER MENU

Speed = 19200

8 Bits, No Parity

1 Stop Bit

XON-XOFF

No Printer To Host

Normal Print Mode

Print Full Page

Print National Only

Terminator = FF

Nulls Not Suppressed

GLOBAL MENU

S1 = Comm1

Screen Saver

Comm1 = RS 232

Printer Shared

Setup = English

TERMINAL / DDE type : dde470 with English/North American keyboard
Based upon the Wyse WY-285ES with firmware »DDE Version 171192«

950619

Stock Number:

99208018

VTI-table:

/etc/types/int/dde470.t
/etc/types/int/dde470.i
/usr/share/lib/vti/int/dde470.t
/usr/share/lib/vti/int/dde470.i

J Supermax SVR4
Platform

Databable:

88002150

Remarks:

Hold Screen: <Alt> <F1>

Print Screen: <Alt> <F2>

Setup: <Alt> <F3>

Session switch: <Alt> <F4>

Full-screen/Split-screen switch: <Ctrl> <Alt> <F4>

Break: <Alt> <F5>

The listed factory default setup, can be obtained
by selecting the »DEFAULT« entry in the main menu,
except for the setup parameter 'VT400 Mode, 7-bit Controls'
in relation to the Supermax SVR4 Platform, which has to be
set manually.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5 × 25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit = 19200

COMM1: Receive = Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

GENERAL MENU

VT400 Mode, 8-bit Controls

VT400 Mode, 7-bit Controls

(Supermax SVR4 Platform)

DECSCL = VT400

Multinational Mode

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<X> BS/DEL

Local Compose

Ignore Alt

<Fkeys, Definitions>

F1 = Fkey

F2 = Fkey

F3 = Fkey

F4 = Fkey

F5 = Fkey

, < Key

. > Key

< > Key

` ` Key

<Program Function Keys>

British or North American Keyboard

PRINTER MENU

Speed = 19200

8 Bits, No Parity

1 Stop Bit

XON-XOFF

No Printer To Host

Normal Print Mode

Print Full Page

Print National Only

Terminator = FF

Nulls Not Suppressed

GLOBAL MENU

S1 = Comm1

Screen Saver

Comm1 = RS 232

Printer Shared

Setup = English

TERMINAL / DDE type : dde470 with French/Belgian keyboard

Based upon the Wyse WY-285ES with firmware »DDE Version 171192«

Stock Number:

950619

99208019

VTI-table:

/etc/types/int/dde470.t

/etc/types/int/dde470.i

/usr/share/lib/vti/int/dde470.t

/usr/share/lib/vti/int/dde470.i

88002150

└ Supermax SVR4
Platform

Databac:

Remarks:

Hold Screen: <Alt> <F1>

Print Screen: <Alt> <F2>

Setup: <Alt> <F3>

Session switch: <Alt> <F4>

Full-screen/Split-screen switch: <Ctrl> <Alt> <F4>

Break: <Alt> <F5>

The listed factory default setup, can be obtained by selecting the »DEFAULT« entry in the main menu, except for the setup parameter 'VT400 Mode, 7-bit Controls' in relation to the Supermax SVR4 Platform, which has to be set manually.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5×25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit = 19200

COMM1: Receive = Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

GENERAL MENU

VT400 Mode, 8-bit Controls

VT400 Mode, 7-bit Controls

(Supermax SVR4 Platform)

DECSCL = VT400

Multinational Mode

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<XJ BS/DEL

Local Compose

Ignore Alt

< Fkeys, Definitions >

F1 = Fkey

F2 = Fkey

F3 = Fkey

F4 = Fkey

F5 = Fkey

, < Key

. > Key

< > Key

` ` Key

< Program Function Keys >

French/Belgian Keyboard

PRINTER MENU

Speed = 19200

8 Bits, No Parity

1 Stop Bit

XON-XOFF

No Printer To Host

Normal Print Mode

Print Full Page

Print National Only

Terminator = FF

Nulls Not Suppressed

GLOBAL MENU

S1 = Comm1

Screen Saver

Comm1 = RS 232

Printer Shared

Setup = English

TERMINAL / DDE type : dde520/dde520g with USA keyboard
Based on the Tandberg TDV1200/14

910419

Terminology-table : /etc/types/int/dde520.t
/etc/types/int/dde520.i
/etc/types/int/dde520g.t
/etc/types/int/dde520g.i

Datatable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Fast.
Repeat Delay : Fast.
Mouse Resolution : Fast. (only on the dde520g)
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : Permanent.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : Ascii.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode : VT200 8 bits.
ID VT100 : DVT220. (on the dde520)
ID VT100 : DVT240. (on the dde520g)
User Defined Keys : Unlocked.
User features : Unlocked.
Character Set Mode : Multinational.
Nat. Char. Set = Keyb. Nat.: Yes.
Keypad : Numeric.
Cursor Keys : Normal.
New Line : CR.

Comm. menus/SYSTEM MENU.

Baud Rate Table : Table 2.
Communication Channel : Channel A.
Printer Channel : None.
Mouse Channel : Channel B. (only on the dde520g)
Online Key : Online.
DMA Receiver : Channel A.
Debug Mode : Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed : 19200 Baud.
Receive Speed : 19200 Baud.
Com. Code Parity : None.
Com. Code Stop-Bit(s) : 1 bit.
Com. Code Length : 8 bits.
Echo On Transmitted Codes : External.
Channel A Interface Select : Internal.
Handshake on Transmit : XON/XOFF.
Handshake on Receive : XON/XOFF.
Modem : Inhibit.
Transmission Delay : None.
Handshake Threshold : 1/16 Buffer.
Inverted Busy Signal : No.

KEYBOARD MENU.

TD Cursor Pad : Off.
Keyboard Nationality : North Am.
DEC Compatible Keyb. : Yes.
Keys : Typewriter.
Enable Break : Yes.
Answerback : None.
Two Stroke Compose : Off.
<X>-Key : Delete.

Graphics menus. (only on the dde520g)

ReGIS MENU.

Macrograph Reports : Off.

Graphics Cursor : On.

4010/14 MENU.

CR Processing : CR.

LF Processing : LF.

GIN Terminator : None.



TERMINAL / DDE type : dde530 with Danish keyboard

Based on the Tandberg TDV1200/14S with firmware release 1.1

921204

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Datatable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Medium.
Repeat Delay : Short.
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : Danish/ Norweg.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : ASCII.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode : VT200 8 bits.
ID VT100 : DVT220.
User Defined Keys : Unlocked.
User features : Unlocked.
Character Set Mode : Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off (On, if the TD Cursor Pad Set is installed).
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: Danish.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<XJ>-Key	: Delete.

Note that the terminal is put into Restricted mode by the VTI-table. In Restricted mode the operator can only access setup switches in the Convenience menu.

TERMINAL / DDE type : dde530 with English/North American keyboard

Based on the Tandberg TDV1200/14S with firmware release 1.1

921204

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Datatable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language	: English.
Cursor Type	: Block.
Cursor Blink	: On.
Cursor Update	: Slow.
Key Click	: Off.
Margin Bell	: Off.
Warning Bell	: On.
Sound Level	: Medium.
Auto Repeat	: Medium.
Repeat Delay	: Short.
Scroll Type	: Jump.
Video Timeout	: On.
Soft Key Nationality	: English.
Caps/Shift-Lock	: Caps Lock.
Default Soft Key Level	: FUNC. KEYS.
Status Line	: Off.

DISPLAY MENU.

Columns	: 80.
Auto Wrap	: On.
VT100	: ASCII.
Representation of Bold	: Bold.
25 Lines Display	: On.

GENERAL MENU.

Mode	: VT200 8 bits.
ID VT100	: DVT220.
User Defined Keys	: Unlocked.
User features	: Unlocked.
Character Set Mode	: Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off (On, if the TD Cursor Pad Set is installed).
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: British.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<XJ>-Key	: Delete.

Note that the terminal is put into Restricted mode by the VTI-table. In Restricted mode the operator can only access setup switches in the Convenience menu.

TERMINAL / DDE type : dde530 with Swedish keyboard

Based on the Tandberg TDV1200/14S with firmware release 1.1

921204

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Databable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Medium.
Repeat Delay : Short.
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : Swedish.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : ASCII.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode : VT200 8 bits.
ID VT100 : DVT220.
User Defined Keys : Unlocked.
User features : Unlocked.
Character Set Mode : Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off (On, if the TD Cursor Pad Set is installed).
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: Swedish.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<X]-Key	: Delete.

Note that the terminal is put into Restricted mode by the VTI-table. In Restricted mode the operator can only access setup switches in the Convenience menu.

TERMINAL / DDE type : dde530 with Norwegian keyboard

Based on the Tandberg TDV1200/14S with firmware release 1.1

921204

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Databable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Medium.
Repeat Delay : Short.
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : Danish/ Norweg.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : ASCII.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode : VT200 8 bits.
ID VT100 : DVT220.
User Defined Keys : Unlocked.
User features : Unlocked.
Character Set Mode : Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off (On, if the TD Cursor Pad Set is installed).
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: Norwegian.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<X>-Key	: Delete.

Note that the terminal is put into Restricted mode by the VTI-table. In Restricted mode the operator can only access setup switches in the Convenience menu.

TERMINAL / DDE type : dde460 with danish keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t

/etc/types/int/dde460.i

Datatable : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On

Scroll=Jump Reverse Screen=On Cursor=Blinking Block

Status Line=Off Status Position=Top Width Change Clear=On

Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12

On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On

Screen Saver=On Newline=Off User Feature Lock=Off

Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None

Stop Bits=1 Local Echo=Off Handshake=XOFF at 128

Parity Check=Off Transmit Limit=None Host Port=RS-232C

Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1

Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off

Print=Full Screen Printer Data to Host=Off Print Mode=Normal

Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off

Margin Bell=Off Warning Bell=On Break key=On

Compose=Compose Char Shift, and . key=, and . <X> Key=BS/DEL

< and > Key=< and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off

Keyboard=Danish Keys=Typewriter National mode=Off



TERMINAL / DDE type : dde460 with swedish keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t
/etc/types/int/dde460.i
Databable : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On
Scroll=Jump Reverse Screen=On Cursor=Blinking Block
Status Line=Off Status Position=Top Width Change Clear=On
Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12
On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On
Screen Saver=On Newline=Off User Feature Lock=Off
Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None
Stop Bits=1 Local Echo=Off Handshake=XOFF at 128
Parity Check=Off Transmit Limit=None Host Port=RS-232C
Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1
Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off
Print=Full Screen Printer Data to Host=Off Print Mode=Normal
Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off
Margin Bell=Off Warning Bell=On Break key=On
Compose=Compose Char Shift, and . key=, and . <X> Key=BS/DEL
< and > Key=< and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off
Keyboard=Swedish Keys=Typewriter National mode=Off



TERMINAL / DDE type : dde460 with USA keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t
/etc/types/int/dde460.i
Databable : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On
Scroll=Jump Reverse Screen=On Cursor=Blinking Block
Status Line=Off Status Position=Top Width Change Clear=On
Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12
On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On
Screen Saver=On Newline=Off User Feature Lock=Off
Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None
Stop Bits=1 Local Echo=Off Handshake=XOFF at 128
Parity Check=Off Transmit Limit=None Host Port=RS-232C
Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1
Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off
Print=Full Screen Printer Data to Host=Off Print Mode=Normal
Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off
Margin Bell=Off Warning Bell=On Break key=On
Compose=Compose Char Shift, and . key=, and . <X> Key=BS/DEL
< and > Key=< and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off
Keyboard=North American Keys=Typewriter National mode=Off



TERMINAL / DDE type : dde460 with norwegian keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t
/etc/types/int/dde460.i
Data cable : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On
Scroll=Jump Reverse Screen=On Cursor=Blinking Block
Status Line=Off Status Position=Top Width Change Clear=On
Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12
On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On
Screen Saver=On Newline=Off User Feature Lock=Off
Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None
Stop Bits=1 Local Echo=Off Handshake=XOFF at 128
Parity Check=Off Transmit Limit=None Host Port=RS-232C
Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1
Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off
Print=Full Screen Printer Data to Host=Off Print Mode=Normal
Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off
Margin Bell=Off Warning Bell=On Break key=On
Compose=Compose Char Shift, and . key=, and . <X> Key=BS/DEL
< and > Key=< and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off
Keyboard=Norwegian Keys=Typewriter National mode=Off



TERMINAL / DDE type : dde460 with british keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t
/etc/types/int/dde460.i
Databable : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On
Scroll=Jump Reverse Screen=On Cursor=Blinking Block
Status Line=Off Status Position=Top Width Change Clear=On
Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12
On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On
Screen Saver=On Newline=Off User Feature Lock=Off
Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None
Stop Bits=1 Local Echo=Off Handshake=XOFF at 128
Parity Check=Off Transmit Limit=None Host Port=RS-232C
Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1
Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off
Print=Full Screen Printer Data to Host=Off Print Mode=Normal
Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off
Margin Bell=Off Warning Bell=On Break key=On
Compose=Compose Char Shift , and . key= , and . <X> Key=BS/DEL
< and > Key= < and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off
Keyboard=British Keys=Typewriter National mode=Off

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TERMINAL / DDE type : dde460 with french/belgian keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t
/etc/types/int/dde460.i
Databable : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On
Scroll=Jump Reverse Screen=On Cursor=Blinking Block
Status Line=Off Status Position=Top Width Change Clear=On
Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12
On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On
Screen Saver=On Newline=Off User Feature Lock=Off
Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None
Stop Bits=1 Local Echo=Off Handshake=XOFF at 128
Parity Check=Off Transmit Limit=None Host Port=RS-232C
Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1
Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off
Print=Full Screen Printer Data to Host=Off Print Mode=Normal
Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off
Margin Bell=Off Warning Bell=On Break key=On
Compose=Compose Char Shift, and . key=, and . <XJ Key=BS/DEL
< and > Key=< and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off
Keyboard=French/Belgian Keys=Typewriter National mode=Off



TERMINAL / DDE type : dde460 with flemish keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t
/etc/types/int/dde460.i
Databale : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On
Scroll=Jump Reverse Screen=On Cursor=Blinking Block
Status Line=Off Status Position=Top Width Change Clear=On
Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12
On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On
Screen Saver=On Newline=Off User Feature Lock=Off
Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None
Stop Bits=1 Local Echo=Off Handshake=XOFF at 128
Parity Check=Off Transmit Limit=None Host Port=RS-232C
Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1
Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off
Print=Full Screen Printer Data to Host=Off Print Mode=Normal
Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off
Margin Bell=Off Warning Bell=On Break key=On
Compose=Compose Char Shift , and . key = , and . <X> Key=BS/DEL
< and > Key=< and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off
Keyboard=Flemish Keys=Typewriter National mode=Off



TERMINAL / DDE type : dde460 with spanish keyboard

Based on the Wyse 185ES

920729

Terminology-table : /etc/types/int/dde460.t
/etc/types/int/dde460.i
Data cable : 88002150

Factory default from DDE :

DISP

Columns=80 Controls=Interpret Autowrap=On
Scroll=Jump Reverse Screen=On Cursor=Blinking Block
Status Line=Off Status Position=Top Width Change Clear=On
Page Format=2×25 Cursor Coupling=On Page Coupling=On

GENL

Personality=VT320, 8 Bit Terminal ID=VT320 Resolution=15×12
On-Line/Local=On-Line Char Set=ISO Latin-1 Recognize DEL=On
Screen Saver=On Newline=Off User Feature Lock=Off
Setup=English

COMM

Transmit Baud Rate=19200 Receive Baud Rate=Xmit Data/Parity Bits=8/None
Stop Bits=1 Local Echo=Off Handshake=XOFF at 128
Parity Check=Off Transmit Limit=None Host Port=RS-232C
Modem Control=Off Disconnect Delay=2 sec Auto Answerback=Off

PRNTR

Printer Speed=9600 Data/Parity Bits=8/None Stop Bits=1
Handshake=XON/XOFF Print Terminator=FF End Print at Cursor=Off
Print=Full Screen Printer Data to Host=Off Print Mode=Normal
Print Data=All

KBD 1

Lock=Caps Key Repeat=On Keyclick=Off
Margin Bell=Off Warning Bell=On Break key=On
Compose=Compose Char Shift, and . key=, and . <X> Key=BS/DEL
< and > Key=< and > ` and ~ Key=` and ~ Bell Volume=Medium

KBD 2

Keypad=Numeric Cursor Keys=Normal Fkey Definition Lock=Off
Keyboard=Spanish Keys=Typewriter National mode=Off



TERMINAL / DDE type : dde470 with English/North American keyboard

Based on the Wyse WY-285BS with firmware »DDE Version 171192«

930126

Terminology-table

Datatable

Remarks

: /etc/types/int/dde470.t

/etc/types/int/dde470.i

: 88002150

: Hold Screen : <Alt> <F1>

Print Screen : <Alt> <F2>

Setup : <Alt> <F3>

Session switch : <Alt> <F4>

Full-screen/Spit-screen switch : <Ctrl> <Alt> <F4>

Break : <Alt> <F5>

The listed factory default setup, can be obtained by selecting the »DEFAULT« entry in the main menu.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5x25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

GENERAL MENU

VT400 Mode, 8-bit Controls

DECSCL = VT400

Multinational Mode

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit = 19200

COMM1: Receive = Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<X> BS/DEL

Local Compose

Ignore Alt

Technology-tele

Database

Remarks

: /sco/typen/tns/dde470.i

: /sco/typen/tns/dde470.i

: 88002190

: Hold Screen : < AH > < F1 >

: Print Screen : < AH > < F2 >

: Setup : < AH > < F3 >

: Session switch : < AH > < F4 >

: Full-screen/Spill-screen switch : < Ctrl > < AH > < F4 >

: Break : < AH > < F5 >

The listed factory default setup, can be obtained

by selecting the >DEFAULT< entry in the main menu.

Factory default from DDE :

COMMUNICATIONS MENU

COMM1: Transmits = 19200

COMM1: Receive = Transmit

COMM1: XOFF = 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Loads Only

Disconnect, 2 = Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyboard Off

Language Bell Off

Warning Bell High

Character Mode

< X > BS/DEL

Local Compose

Ignore Alt

DISPLAY MENU

80 Columns

With Change = Clear

Interrupt Controls

Answerp

Keep Scroll

Light Screen

Cursor

Cursor Blank Block

No Status Display

5x25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Redraw Screen

GENERAL MENU

VT400 Mode, 8-bit Controls

DBCSCL = VT400

Mathematical Mode

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newlines

UPSS 190 Lath-1

VT420 ID

When Available Update

TERMINAL / DDE type : dde470 with Swedish keyboard Based on the Wyse WY-225ES with firmware »DDE Version 171192«

930126

Terminology-table

Datatable

Remarks

: /etc/types/int/dde470.t

: /etc/types/int/dde470.i

: 88002130

: Hold Screen : <Alt> <F1>

Print Screen : <Alt> <F2>

Setup : <Alt> <F3>

Session switch : <Alt> <F4>

Full-screen/Spit-screen switch : <Ctrl> <Alt> <F4>

Break : <Alt> <F5>

The listed factory default setup, can be obtained

by selecting the »DEFAULT« entry in the main menu.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5x25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

COMMUNICATIONS MENU

COMM1: Transmit=19200

COMM1: Receive=Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

GENERAL MENU

VT400 Mode, 8-bit Controls

DECSCL = VT400

Multistational Mode

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Latin-1

VT420 ID

When Available Update

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyclick Off

Margin Bell Off

Warning Bell High

Character Mode

<X> BS/DEL

Local Compose

Ignore Alt

TERMINAL / DDB type : ddb470 with Spanish keyboard
Based on the Wyse WY-285ES with firmware : DDB Version 171192.

Technology table

Detachable
Removable

: /usr/typset/asm/ddb470.i
: /usr/typset/asm/ddb470.i
: 88002130
: Hold Screen : <Alt> <F1>
: Print Screen : <Alt> <F2>
: Setup : <Alt> <F3>
: Session switch : <Alt> <F4>
Full-screen/Spill-screen switch : <Ctrl> <Alt> <F4>
Break : <Alt> <F5>
The listed factory default setup, can be obtained
by selecting the "DEFAULT" entry in the main menu.

Factory default from DDE :

DISPLAY MENU

80 Columns
Width Change = Clear
Interrupt Controls
Autowrap
Jump Scroll
Light Screen
Cursor
Cursor Blank Block
No Status Display
5x25 Pages
24 Lines/Screen
Vertical Coupling
Page Coupling
Auto Refresh Screen

GENERAL MENU

VT400 Mode, 8-bit Controls
DRCSC, = VT400
Mathematical Mode
User-Defined Keys Unlocked
User-Features Unlocked
Numeric Keypad
Normal Cursor Keys
No NewLine
UP33 ISO Lvl=1
VT420 ID
When Available Update

KEYBOARD MENU

Typewriter Keys
Caps Lock
Key Repeat
KeyClick Off
Mapping Bell Off
Warning Bell High
Character Mode
<X> RS/DRL
Local Compose
Ignore Alt

COMMUNICATIONS MENU

COMMI: Transm=19200
COMMI: Receive=Transmit
COMMI: XOFF = 64
COMMI: 8 Bks, No Parity
COMMI: 1 Stop Bk
No Local Echo
Data Lamps Only
Disconnect, 2 s Delay
Unlinked Transm
No Auto Answerback
Modem High Speed = Ignore
Modem Low Speed = Ignore
On Line

TERMINAL / DDE type : dde470 with Finnish keyboard Based on the Wyse WY-225ES with firmware »DDE Version 171192«

930126

Terminology-table

Datacable

Remarks

: /etc/types/int/dde470.i

/etc/types/int/dde470.i

: 88002150

: Hold Screen : <Alt> <F1>

Print Screen : <Alt> <F2>

Setup : <Alt> <F3>

Session switch : <Alt> <F4>

Full-screen/Split-screen switch : <Ctrl> <Alt> <F4>

Break : <Alt> <F5>

The listed factory default setup, can be obtained
by selecting the »DEFAULT« entry in the main menu.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5x25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Resize Screen

GENERAL MENU

VT400 Mode, 8-bit Controls

DECSCL = VT400

Multifunctional Mode

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Nowline

UPSS ISO Latin-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COMM1: Transmit = 19200

COMM1: Receive = Transmit

COMM1: XOFF at 64

COMM1: 8 Bits, No Parity

COMM1: 1 Stop Bit

No Local Echo

Data Leads Only

Disconnect, 2 s Delay

Unlimited Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

KEYBOARD MENU

Typewriter Keys

Cap Lock

Key Repeat

KeyClick Off

Margin Bell Off

Warning Bell High

Character Mode

<X> BS/DEL

Local Compose

Ignore Alt

Technology: velle

Detachable

Remarks

: /etc/ypserv/tm/dde70.1

: /etc/ypserv/tm/dde70.1

: Hold Screen : <Alt> <F1>

: Print Screen : <Alt> <F2>

: Setup : <Alt> <F3>

: Screen switch : <Alt> <F4>

: Full-screen/Spill-screen switch : <Ctrl> <Alt> <F4>

: Break : <Alt> <F5>

The listed factory default setup, can be obtained

by selecting the «DEFAULT» entry in the main menu.

Factory default from DDE :

DISPLAY MENU

80 Columns

Width Change = Clear

Interpret Controls

Autowrap

Jump Scroll

Light Screen

Cursor

Cursor Blink Block

No Status Display

5x25 Pages

24 Lines/Screen

Vertical Coupling

Page Coupling

Auto Redraw Screen

GENERAL MENU

VT400 Mode, 8-bit Controls

DECSCL = VT400

Metathetical Mode

User-Defined Keys Unlocked

User-Features Unlocked

Numeric Keypad

Normal Cursor Keys

No Newline

UPSS ISO Lmt-1

VT420 ID

When Available Update

COMMUNICATIONS MENU

COM041: Transmit = 19200

COM041: Receive = Transmit

COM041: XOFF at 64

COM041: 8 Bits, No Parity

COM041: 1 Stop Bit

No Local Echo

Data Loads Only

Disconnect, 2 s Delay

Unfiltered Transmit

No Auto Answerback

Modem High Speed = Ignore

Modem Low Speed = Ignore

On Line

KEYBOARD MENU

Typewriter Keys

Caps Lock

Key Repeat

Keyboard Off

Margin Bell Off

Warning Bell High

Character Mode

<X1> B9/DEL

Local Compose

Ignore Alt

TERMINAL / DDE type : Alfaskop A320B with Danish keyboard

920929

Terminology-table : /etc/types/int/icla320b.t
/etc/types/int/icla320b.i

Dataable : 88002150

Factory default from DDE :

User features.

SetUp Language : English.
Key Repeat : Medium.
Keyclick : Off.
Keyclick Duration : Medium.
Warning Bell : 3.
Warning Bell Tone : Low.
Margin Bell : Off.
Cursor Type : Blinking Block.
Normal Screen Background : White.
Screen Saver : 30 Min.
KeyLock Password : None.

General parameters.

Terminal Mode : VT300-8bit.
Terminal Identification : VT320.
Character Set Mode : 8 Bit Multinat.
Preferred 8 Bit Character Set : ISO Latin-1.
User Features : Unlocked.
Answerback Message : None.

Line parameters.

Connection : Online.
Port Assignment : RS232/D25.
Transmit Speed : 19200.
Receive Speed : 19200.
Host Signalling : Data Leads Only.
XON/XOFF Control : Enabled.
Flow Control Point : 2816.
Character Length : 8 Bits.
Parity Type : None.
Stop Bits : 1.
Local Echo : Off.
Transmit Rate Limiting : Disabled.

Local Editing.

Edit Mode : Disabled.

Keyboard parameters.

Keyboard Dialect : Danish.
Keyboard Emulation Mode : DEC/VT.
Keyboard Type : Typewriter.
Keypad Mode : Numeric.
Decimal Separator : Period.
Cursor Key Mode : Normal.
Enter Key Mode : CR.
Lock Key Type : Caps.
Escape Key : Disabled.
Backarrow Key : Delete.
Break Function : Enabled.

User Defined Keys.

DEC UDK Programming Level : Shift.
String Volatility : Volatile.
String Set : A.
DEC User Defined Keys : Unlocked.

Screen parameters.

Columns per Line : 80.
Display Controls : Interpret.
Auto Wrap : On.
Scroll Type : Jump.
Background : Normal.
Main Display Cursor : Visible.
Status Line Cursor : Invisible.
Status Line Type : Main 25th Line.
Indicator Line Type : Blank.

Printer Parameters.

Control Protocol : Minimal.
Available Character Set : ISO Latin-1.
Operating Mode : Normal.
Hard Copy Range : Full Screen.
Hard Copy Terminator : FF.
Double High Character Printing : Bottom only.
Printer to Host Communication : Disabled.
Baud Rate : 19200.
XON/XOFF Control : Enabled.
Character Length : 8 Bits.
Parity Type : None.
Stop Bits : 1.

TERMINAL / DDE type : dde530 with Danish keyboard
Based on the Tandberg TDV1200/14S

920709

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Databale : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language	: English.
Cursor Type	: Block.
Cursor Blink	: On.
Cursor Update	: Slow.
Key Click	: Off.
Margin Bell	: Off.
Warning Bell	: On.
Sound Level	: Medium.
Auto Repeat	: Medium.
Repeat Delay	: Short.
Scroll Type	: Jump.
Video Timeout	: On.
Soft Key Nationality	: Danish/ Norweg.
Caps/Shift-Lock	: Caps Lock.
Default Soft Key Level	: FUNC. KEYS.
Status Line	: Off.

DISPLAY MENU.

Columns	: 80.
Auto Wrap	: On.
VT100	: ASCII.
Representation of Bold	: Bold.
25 Lines Display	: On.

GENERAL MENU.

Mode	: VT200 8 bits.
ID VT100	: DVT220.
User Defined Keys	: Unlocked.
User features	: Unlocked.
Character Set Mode	: Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off.
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: Danish.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<XJ>-Key	: Delete.

TERMINAL / DDE type : dde530 with English/North American keyboard
Based on the Tandberg TDV1200/14S

920709

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Datatable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Medium.
Repeat Delay : Short.
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : English.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : ASCII.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode : VT200 8 bits.
ID VT100 : DVT220.
User Defined Keys : Unlocked.
User features : Unlocked.
Character Set Mode : Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off.
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: British.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<X>-Key	: Delete.

TERMINAL / DDE type : dde530 with Swedish keyboard

Based on the Tandberg TDV1200/14S

920709

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Datatable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language	: English.
Cursor Type	: Block.
Cursor Blink	: On.
Cursor Update	: Slow.
Key Click	: Off.
Margin Bell	: Off.
Warning Bell	: On.
Sound Level	: Medium.
Auto Repeat	: Medium.
Repeat Delay	: Short.
Scroll Type	: Jump.
Video Timeout	: On.
Soft Key Nationality	: Swedish.
Caps/Shift-Lock	: Caps Lock.
Default Soft Key Level	: FUNC. KEYS.
Status Line	: Off.

DISPLAY MENU.

Columns	: 80.
Auto Wrap	: On.
VT100	: ASCII.
Representation of Bold	: Bold.
25 Lines Display	: On.

GENERAL MENU.

Mode	: VT200 8 bits.
ID VT100	: DVT220.
User Defined Keys	: Unlocked.
User features	: Unlocked.
Character Set Mode	: Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off.
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: Swedish.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<X>-Key	: Delete.

TERMINAL / DDE type : dde530 with Norwegian keyboard

Based on the Tandberg TDV1200/14S

920709

Terminology-table : /etc/types/int/dde530.t
/etc/types/int/dde530.i

Databale : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language	: English.
Cursor Type	: Block.
Cursor Blink	: On.
Cursor Update	: Slow.
Key Click	: Off.
Margin Bell	: Off.
Warning Bell	: On.
Sound Level	: Medium.
Auto Repeat	: Medium.
Repeat Delay	: Short.
Scroll Type	: Jump.
Video Timeout	: On.
Soft Key Nationality	: Danish/ Norweg.
Caps/Shift-Lock	: Caps Lock.
Default Soft Key Level	: FUNC. KEYS.
Status Line	: Off.

DISPLAY MENU.

Columns	: 80.
Auto Wrap	: On.
VT100	: ASCII.
Representation of Bold	: Bold.
25 Lines Display	: On.

GENERAL MENU.

Mode	: VT200 8 bits.
ID VT100	: DVT220.
User Defined Keys	: Unlocked.
User features	: Unlocked.
Character Set Mode	: Multinational.

Nat. Char. Set = Keyb. Nat.	: Yes.
8 Bit Character Set	: ISO Latin.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Communication Channel	: Channel A.
Modem	: Inhibit.
Printer Channel	: Parallel.
Online Key	: Online.
DMA Receiver	: Channel A.
Transparent Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

PRINTER MENU.

Print Mode	: Normal.
Print Region	: Full Page.
Print Terminator	: FF.
Printed Data Type	: National Only.

KEYBOARD MENU.

TD Cursor Pad	: Off.
Power On Function Key Mode	: FunctionKey.
Keyboard Nationality	: Norwegian.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Compose Sequence	: Three Stroke.
<XJ>-Key	: Delete.

[illegible]

Selvtest : Ja, ved power up.

opsætning af menu 2

aux tx speed=9600 aux rx speed=9600 answerback=har ingen betydn.

C

B

L

C

C

 *
 * TERMINAL dde type: pericom.t navn/type: PERICOM / MG 200
 *
 ***** 861216 *

standard kabel : 8817

Selvtest : nej

Switch : Soft, tast ctrl. set-up, hvorved set-up directory fremkommer.
 For at komme ind i under-menu'er, brug da enter. Man bevæger sig i menu'erne ved hjælp af pilene eller det pågældende bogstav.

Set up directory:

- | | | |
|-------------------|------------------|------------------------|
| A) Display | B) General | C) Communication |
| D) Printer | E) Keyboard | F) Tab |
| G) On line | H) Clear display | I) Clear communication |
| J) Reset terminal | K) Recall | L) Save |
| M) Default | N) Graphics | |

A) Display :

- | | | |
|--------------------------|----------------------------|-----------------------|
| A) to next set-up | B) to directory | C) 80 columns |
| D) interpret controls | E) auto wrap | F) jump scroll |
| G) flashing cursor | H) cursor | I) block cursor style |
| J) high intensity screen | K) dark screen, light text | L) enable BS wrap |
| M) 80/132 leaves screen | N) enable screen save | |

B) General:

- | | | |
|---------------------------|---------------------------|----------------------|
| A) to next set-up | B) to directory | C) VT100 mode |
| D) user PF keys unlocked | E) user features unlocked | F) numeric keypad |
| G) normal cursor keys | H) no auto new line | I) edit mode setup |
| J) protected fields setup | K) char.interp setup | L) user PF key setup |
| M) reversed BS, DEL keys | N) VT100 terminal ID | |

C) Communication:

- | | | |
|-------------------------|--------------------------|------------------------|
| A) to next set-up | B) to directory | C) full duplex |
| D) xon/xoff protocol | E) 1024byte input buffer | F) 7 bit data |
| 2 stop bits | H) even parity | I) parity checked |
| J) transmit speed=19200 | K) receive speed=19200 | L) terminal hard reset |
| M) fast tx rate | N) xon/xoff response | |

D) Printer:

- | | | |
|-----------------------|------------------------|-------------------------|
| A) to next set-up | B) to directory | C) print full screen |
| D) 7 bit data | E) 1 stop bit | F) even parity |
| G) printer speed=9600 | H) print control codes | I) no printer term char |
| J) facit 4542 | | |

E) Keyboard:

- | | | |
|---------------------------|-----------------------|-------------------|
| A) to next set-up | B) to directory | C) caps lock |
| auto repeat | E) slow auto repeat | F) no keyclick |
| G) no margin bell | H) no warning bell | I) no break |
| J) insert key=insert char | K) normal back space | L) ctrl no scroll |
| M) no auto answerback | N) program answerback | O) not concealed |

F) Tab:

- | | | |
|-------------------------|-----------------|-------------------|
| A) to next set-up | B) to directory | C) clear all tabs |
| D) tabs every 8 columns | E) set tabs | |

L) User PF key set-up:

- | | | |
|---------------------|-----------------|----------------------|
| A) to next set-up | B) to directory | C) clear all PF keys |
| D) program a PF key | | |

I) Edit mode set-up:

- | | | |
|---------------------------|--------------------|-------------------------|
| A) to next set-up | B) to directory | C) character mode |
| D) transmit all | E) transmit page | F) transmit full page |
| G) transmit immediate | H) EOT char.= EOT | I) no space compression |
| J) no RS transmission | K) edit immediate | L) erase all |
| M) attributes not cleared | N) EOL char.= none | |

J) Protected fields set-up:

- | | | |
|--------------------------|----------------------------|--------------------------|
| A) to next set-up | B) to directory | C) alternate unprotected |
| D) underline unprotected | E) flashing unprotected | F) inverse unprotected |
| G) normal unprotected | H) invert protected fields | |

K) Char. interp set-up:

- | | | |
|--------------------------|------------------|----------------------|
| A) to next set-up | B) to directory | C) no auto line feed |
| D) shift 3= hash | E) accept nulls | F) accept deletes |
| G) error code suppressed | H) strip top bit | |

N) Graphics:

- | | | |
|---------------------|---------------------------|---------------------|
| A) to next set-up | B) to directory | C) graphics mode |
| D) graphics general | E) digitizer port | F) graphics cursor |
| G) reset to VDU | H) GS/can sets term+dsply | I) mark II joystick |

C) Graphics mode:

- | | | |
|--------------------------|-----------------|-----------------------|
| A) to next set-up | B) to directory | C) graphics directory |
| D) pericom 4014 graphics | | |

D) Graphics general:

- | | | |
|---------------------|--------------------------|------------------------|
| A) to next set-up | B) to directory | C) graphics directory |
| D) full keyboard | E) enable keyboard input | F) enable ALPHA mode |
| G) left margin only | H) no margin control | I) CR=CR |
| J) LF=LF | K) shift 3 = hash | L) ESC = ESC |
| M) eot status term | N) no status header | O) normal text spacing |

E) Digitizer port:

- | | | |
|---------------------------|--------------------------|-----------------------|
| A) to next set-up | B) to directory | C) graphics directory |
| D) port busy (RTS) | E) digitizer speed=9600 | F) bit-pad = GIN mode |
| G) summa MM1201 full area | H) PAD status bytes 1234 | |

F) Graphics cursor:

- | | | |
|-------------------------|---------------------|-----------------------|
| A) to next set-up | B) to directory | C) graphics directory |
| D) large GIN cursor | E) solid GIN cursor | F) no vector cursor |
| G) block cursor | H) cursor flash | I) no PAN lock |
| J) no GIN co-ords.shown | | |

 *
 * TERMINAL dde type: _____ navn/type: wyse / WY50 *
 *
 *
 *
 *

851031 *

dde varenummer: SPC/1:XXXX SUPERMAX:XXXX

Standard kabel: 8804

Selvtest : Ja, ved power up. Kan også vælges i menu, man skal da huske at kortslutte pin 2-3 både i MODEM og AUX portene. Der skal samtidigt gøres opmærksom på at alle indstillede parametre i div. menuer bliver sat til en default værdi, når man kører selvtesten fra menuen. Husk derfor at rette div. parametre efter selvtest fra menu. Man kommer ud af selvtest ved at taste shift setup (skal holdes nedtrykket et kort øjeblik).

Switch : Soft, tast shift setup, derefter fremkommer en linie i bund af skærm. Der er 5 linier i alt og man skifter mellem de enkelte, ved hjælp af pil ned/ pil op. På linien bevæger man sig med pil højre/ pil venstre. Ændring af punkterne på linien foregår med space tasten. Når alle linier er sat som man ønsker dem, taster shift setup igen, og der fremkommer nu en linie i top af skærmen. Hvis man taster Y eller A, er de ændrede parametre også gældende efter power up. De øvrige taster ændrer kun parametrene midlertidigt.

Følgende er standard:

- 1 HANDSHAKE = DTR (SPC/1) SCREEN = 80 CURSOR = BLOCK BLINK = ON MODE = FDX
 XONXOFF (SUPERMAX)
- 2 DATA BIT = 7 STOP BIT = 1 PARITY BIT = EVEN MODEM PORT BAUD RATE = 9600
- 3 BLK END = US / CR AUTO NL = ON CR = CR AUTO SCRL = ON AUX BAUD R = 9600
- 4 SCRL = JUMP STATUS = OFF S.SAVER = OFF PROT = DIM TEST = OFF
- 5 KEYS ? = DANISH RET/ENTER = CR / CR COMPATIBLE MODE = WY50 ENHANCE = OFF

Terminal

DDE type :

Based on VT200 terminal

910304

Firmware version :
Terminology-table : int/vt220.t
Cable : 8805 / 880020_0
Selftest :
Terminal setup : 9600, 8 bits, 1 stop bit, no parity
Multinational character code set
General setup : no newline

Supermax Func. keys

f1
f2
f3
f4
f5
f6
f7
f8
f9
f10
f11
f12
f13
f14
f15
f16

F1
F2
F3
.
.
.
F14
F15
F16

VT220 Func. keys

F6
F7
F8
F9
F10
F11
F12
F13
F14
Help
Execute
F17
F18
F19
F20
PF4

DEL+F6
DEL+F7
DEL+F8
.
.
.
DEL+F19
DEL+F20
PF3

Esc	PF1
Home	PF2
Esc	Find
f6	Insert2
F6	Delete2
Backtab	Select
Shift f16	PF3
Home	Prev
Tab	Next

(Very similar to dde700-table key-layout)

```

*****
*
*   TERMINAL   dde type: dde 200       navn/type:   TVI / 920 C
*
*                                                    851031
*****

```

```

dde varenummer:   SPC/1:XXXX           SUPERMAX:XXXX

```

```

Standard kabel:   8804

```

```

Selvtest       :   Ja, se OPERATOR'S MANUAL afsnit 7.9 (udskriver
                    karaktersæt normal, inverteret og med understreg)

```

```

Switch         :   Hard, switchbanks 1 & 2 tilgængelige fra bagside,
                    switchbank 3 & 5 sidder inde på printet

```

```

terminal baudrate
switchbank 1

```

```

printer baudrate
switchbank 3

```

```

*   *   *   *   *   *   *

```

```

1 2 3 4 5 6 7 8 9 10

```

```

samme funktion som for switchbank 1

```

```

uart/terminal options
switchbank 2

```

```

RS 232 C / current loop
switchbank 5

```

```

*   *   *   *   *

```

```

1 2 3 4 5 6 7 8 9 10

```

```

*   *   *   *   *

```

```

*   *

```

```

1 2 3 4 5 6 7

```

```

*   *   *   *   *

```

```

*=normal switch setting

```

```

sw 1

```

```

sw 2

```

```

sw 5

```

1 :	19200	bruges ikke	select DSR fra P3 pin 6
2 :	9600	dansk karakter	select DCD fra P3 pin 8
3 :	4800	full duplex	opsætning af DTR og RTS (3 og 4)
4 :	2400	refresh 50/60Hz	
5 :	1200	send paritet	sluttet=data på P3 og på P4
6 :	600	1 stop bit	opsætning af current loop/
7 :	300	7 data bit's	RS 232 C (6 og 7)
8 :	150	bruges ikke	
9 :	110	even paritet	
10 :	75	cursor non-blink	




```
*****
*
*   TERMINAL           dde type: dde 300           navn/type: DTI / GENIUS 7.1
*
*                                           851128
*****
```

```
dde varenummer:      SPC/1:7094a           SUPERMAX:9162
Standard kabel:      8804
Selvtest             :   Nej, kan dog skrive "BAD ROM", hvis fejl i eprom.
Switch               :   Hard, switchbank 1 og 2 findes bag på skærm, switch
                        1 er den der sidder nærmest RS 232C porten.
```

	<u>switchbank 2</u>	<u>switchbank 1</u>
	* 1)	(* 1
	2 *) Baudrate	(2 *
	3 *) 1 & 2	(3 *
	* 4)	(* 4
	(* 5	* 5 full / half duplex
word types(6 *		* 6 RS 232 C / current loop
(* 7		* 7 return=CR or CR/LF
spare 8 *		8 * on=auto new line
8-bit word (off=0/on=1) 9 *		* 9 x-off / x-on
cursor pos. efter reset 10 *		*10 no beep / beep col. 172
top / bund		

*=normal indstilling af switch (on)

<u>Word types:</u>	<u>switch on</u>	<u>data bits</u>	<u>stop bits</u>	<u>parity</u>
	none	7	2	even
	5	7	2	odd
	6	7	1	even
	5,6	7	1	odd
	7	8	2	none
	5,7	8	1	none
	6,7	8	1	even
	5,6,7	8	1	odd

<u>Baud rate setting:</u>	<u>switches on</u>	<u>baud rate</u>
	1 3 4	50
	1 4	110
	1 2 3	150
	1 2	300
	2	600
	1	1200
	3 4	1800
	3	2400
	1 2 3 4	3600
	1 3	4800
	4	7200
	2 3	9600
	ingen	19200

DTI SERVICE NOTE

3/5 84

ÅRSAG TIL ÆNDRING : BILLEDET KAN VARIERE PERIODISK I LYSSTYRKE.
ÆNDRING : BRIGHTNESS POTENTIOMETER R10 DEMONTERES, OG
EN FAST MODSTAND PÅ 220K MONTERES I DE 2
HULLER NÆRMEST KANTKONNEKTOREN. MIDTERBENET
KORTSLUTTES TIL DET 3. POTMETER HUL.

Serviceenke vedrørende DTI.

Nedenstående fejl er gengangere på DTI skærme, og skal derfor undersøges og rettes ved service på disse i alle tilfælde:

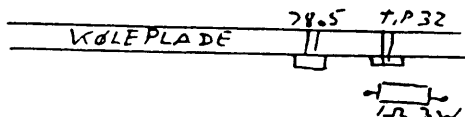
- 1: Promsokler undersøges eventuelt skiftes.
- 2: Dårlig lodning på videokort (yoke connector).
- 3: Rensning af kantconnector på logicboard.
- 4: 5V forsyning forbedres (se vedlagte servicebulletin).
- 5: Ved problemer med 12V undersøg da TIP 31.

MODIFICERING AF DTI TERMINAL.

Af hensyn til støjproblemer på DTI terminaler med serienummer mindre end 0781..., er følgende modificering nødvendig.

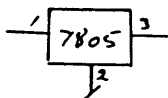
Power supply:

1. Regulatoren 7805 forsynes med glimmerisolator og plastisolator til skruen.
2. Stelstrap skal lægge stel på kølepladen.
3. TIP 32 monteres på print med isolering (passer med hul i kølepladen).
4. 1 3W modstand placeres i hullerne umiddelbart ud for TIP 32, se tegning. Print-banen under modstanden afbrydes.

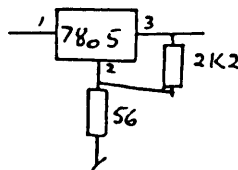


5. 2.2K 1/4W og 56 1/4W monteres, så diagramændringen bliver følgende.

før



efter



Blokering af BREAK-tast på DTI skærmterminal.

Problemet med at tryk på BREAK-tasten fx under WordWork blokerer en redigering, kan løses ved at spærre BREAK-tasten med medfølgende stykke låserør.

Spærningen sker på følgende måde:

1. Sluk for terminalen.
2. Stik forsigtigt en lille skruetrækker ned mellem BREAK-tasten og metalkassen. Se fig. 1.
3. Vip forsigtigt skruetrækkeren, således at tasten løftet, samtidig med at der hives i tasten.
4. Skub plastikrøret op i tasten, således at kassen inde i tasten kommer helt ind i røret. Nogle taster har en lille flig i hver side - i dette tilfælde, må man klippe et lille hak i hver side af plastikrøret svarende til fligene. Se fig 2.
5. Sæt tasten på plads igen - tryk forsigtigt fast, således at tasten ikke kan løftes af igen ved lige at hive i den. Tasten skal ligge plant med nabo tasten
6. Tænd terminalen, tryk på ESCAPE og forsøg at trykke på BREAK-tasten. Tasten skal virke hård og terminalen må ikke 'bibbe'.

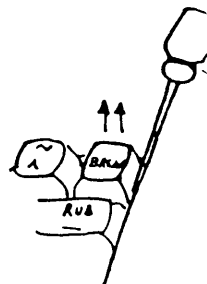


fig. 1



fig. 2



10



 *
 * TERMINAL dde type: dde 400 navn/type: Ampex / D 80 *
 * 851031 *

dde varenummer: SPC/1:XXXX SUPERMAX:XXXX

Standard kabel: 8804

Selvtest : Ja, ved power up

Switch : Hard, switch 1 & 2 tilgængelige fra bagside af skærm (sw1 nederst), switch 3, 4 & 5 sidder inde i skærm.

switch 1
 on * * * *
 1 2 3 4 5 6 7 8 9 10
 off * * * *

switch 2
 on * * * *
 1 2 3 4 5 6 7 8 9 10
 off * * * *

switch 3
 on * * * *
 1 2 3 4 5 6 7 8 9 10
 off * * * *

switch 4
 on * * * *
 1 2 3 4 5 6 7 8 9 10
 off * * * *

switch 5
 on * * * * *
 1 2 3 4 5 6 7 8 9 10
 off * * *

Forklaring til switch 1 og 2 (switch 3, 4 og 5 referer til manual):

switch 1		switch 2	
off	on	off	on
full duplex 1	half duplex	1)	
8 bit data 2	7 bit data	2) primary port	
50 Hz refresh 3	60 Hz refresh	3) baud rate	
even parity 4	odd parity	4)	
par. disabl. 5	par. enabl.	5 displ.char.set1	
bit 7=1 6	bit 7=0	6 displ.stat.line	
2 stop bits 7	1 stop bit	7)	
normal video 8	rev. video	8) printer port	
underl. cur. 9	block cur.	9) baud rate	
flash cur. 10	steady cur.	10)	

Baud rate	2-1 og 2-7	2-2 og 2-8	2-3 og 2-9	2-4 og 2-10
50	on	on	on	on
75	off	on	on	on
110	on	off	on	on
134.5	off	off	on	on
150	on	on	off	on
300	off	on	off	on
600	on	off	off	on
1200	off	off	off	on
1800	on	on	on	off
2000	off	on	on	off
2400	on	off	on	off
3600	off	off	on	off
4800	on	on	off	off
7200	off	on	off	off
9600	on	off	off	off



11



851031 ★

A=BLK	B=ON	C=Y	D=50	E=Y	F=ON	G=EVEN	H=1	I=7
J=Y	K=ESC	L=ESC-CODE-CR	M=N	N=Y	O=Y	P=N	Q=DAN	
R=DDE	S=1	T=1	U=NO-CODE	V=9600				



11



*
* TERMINAL *
*

dde type: dde 400a

navn/type: Ampex / 230

851031 *

dde varenummer:

SPC/1:7094ca

SUPERMAX:9164a

Standard kabel:

8804

Associeret printer kabel: 8823

Selvtest

: Ja, ved power up. Kan også startes fra keyboard.
Tast ctrl shift reset, hvilket vil resette skærm.
Tast derefter shift set-up 1, hvorefter selvtest
starter. Hvis der konstateres fejl vil fejlmed-
delelse komme på nederste skærnhalvdel. Hvis der
ikke er fejl tast ctrl shift reset og skærm bli-
ver reset igen.

Switch

: Soft, tast shift setup, derefter fremkommer en li-
nie i bund af skærm. Der er 7 linier i alt og man
skifter mellem de enkelte, ved hjælp af pil ned/
pil op. På linien bevæger man sig med pil højre/
pil venstre. Ændring af punkterne på linien fore-
går med space tasten. Når alle linier er sat som
man ønsker dem taster shift S, hvilket bevirker
at de nuværende parametre også er gældende efter
power up og reset. Hvis ændringen kun skal være
midlertidig taster shift set-up og ikke shift S.

Følgende er dde standard:

1 CONV FDX D150E DAN STAT OFF NOR VID BLK CUR 65 HZ

SAVE ON WRAP ON SCROLL ON JUMP ON FLIP OFF GRAPH OFF

3 DUPE KLIK ON RPT ON BELL OFF LWCS CR=CR KB ON

4 HOST XMIT 9600 RECIVE 9600 7BITS STOP 1 PAR EVEN PAR CHECK *DTR&XON

5 AUX BAUD 9600 7 BITS STOP 1 PAR EVEN DTR ONLY AUX OFF

6 FIELD= HEOL= STPROT= ENPROT= HEOM= ANSWER BACK=

7 Indikerer tabulator stop

* OBS !! Skal sættes til DTR ONLY når der køres på service-porten på
supermax'en

Fejl i rev 1 firmware:

Symptom:

Skærm blinker, der kommer cursor frem derefter forsvinder billedet med en lodret streg, skærm sort. Det lyder som om netdelen lukker.

Dette sker med en frekvens på ca 5 Hz.

Fejl:

Skærmen har rev 1. firmware og er sat til WY-50 emulering.

Afhjælpning:

Opdatering til firmware rev 2.

08.08.85

TERMINAL DDE type : dde410
Baseret på Wyse 60

891017

Firmware version : WYSE 60 STD 310389

Terminology-tabel : Ingen.

Kabel : 8804

Selvtest : Terminalen udfører en selvtest ved Power On.

Switch : Terminalen har kun software switche.
Start af setup : tryk shift setup.

Følgene er DDE standard : (SPC/1)

F1

DISP :

COLUMNS=80

STATUS LINE=OFF

BACKGROUND=DARK

LINES=24

SCRL SPEED=JUMP

SCRN SAVER=ON

PAGE LENGTH=1*LINES

CURSOR=BLINK BLOCK

DISPLAY CUSOR=ON

ATTRIBUTE=CHAR

ANSWERBACK MODE=OFF

ANSWERBACK CONCEAL=OFF

F2

GENERL :

PERSONALITY=WY 60

ENHANCE=ON

FONT LOAD=ON

COMM MODE=FULL DUPLEX

END OF LINE WRAP=ON

SEND ACK=OFF

DATA/PRINTER=MODEM/AUX

AUTO SCRL=ON

INIT TABS=OFF

RCVD CR=CR

MONITOR=OFF

WIDTH CHANGE CLEAR=ON

F3

KEYBRD :

KEYCLICK=OFF

KEYLOCK=CAPS

KEY REPEAT=ON

RETURN=CR

ENTER=CR

CORNER KEY=HOLD

XMT LIMIT=NONE

FKEY XMT LIMIT=NONE

BREAK=250MS

WYSEWORD=OFF

LANGUAGE=DANISH

MARGIN BELL=OFF

F4

COMM :

BAUD RATE=9600

DATA/STOP BITS=7/2

PARITY=EVEN

RCV HNDSHAKE=DTR

XMT HNDSHAKE=XON/XOFF

XPC HNDSHAKE=OFF

AUX BAUD RATE=9600

AUX DATA/STOP BITS=7/2

AUX PARITY=EVEN

AUX RCV HNDSHAKE=XON/XOFF

AUX XMT HNDSHAKE=XON/XOFF

F5

MISC :

BLOCK END=US/CR

LABELS=OFF

WPRT INTENSITY=NORMAL

AUTO PAGE=OFF

SAVE LABELS=OFF

WPRT REVERSE=ON

TVI955 ATTRIBUTE=NO SPACE

PAGE EDIT=OFF

WPRT UNDERLINE=OFF

VP60 BLK END=NONE

TEST=OFF



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TERMINAL / DDE type : dde410 with danish keyboard

Based on the Wyse 60

910129

Terminology-table : None.

Datatable : 88002050

Factory default from DDE :

F1

DISP :

COLUMNS=80 STATUS LINE=OFF BACKGROUND=DARK
LINES=24 SCRL SPEED=JUMP SCRIN SAVER=ON
PAGE LENGTH=1* LINES CURSOR=BLINK BLOCK DISPLAY CUSOR=ON
ATTRIBUTE=CHAR ANSWERBACK MODE=OFF ANSWERBACK CONCEAL=OFF

F2

GENEAL :

PERSONALITY=WY 60 ENHANCE=ON FONT LOAD=ON
COMM MODE=FULL DUPLEX END OF LINE WRAP=ON SEND ACK=OFF
DATA/PRINTER=MODEM/AUX AUTO SCRL=ON INIT TABS=OFF
RCVD CR=CR MONITOR=OFF WIDTH CHANGE CLEAR=ON

F3

KEYBRD :

KEYCLICK=OFF KEYLOCK=CAPS KEY REPEAT=ON
RETURN=CR ENTER=CR CORNER KEY=HOLD
XMT LIMIT=NONE FKEY XMT LIMIT=NONE BREAK=250MS
WYSEWORD=OFF LANGUAGE=DANISH MARGIN BELL=OFF

F4

COMM :

BAUD RATE=9600 DATA/STOP BITS=7/2 PARITY=EVEN
RCV HNDSHAKE=DTR XMT HNDSHAKE=XON/XOFF XPC HNDSHAKE=OFF
AUX BAUD RATE=9600 AUX DATA/STOP BITS=7/2 AUX PARITY=EVEN
AUX RCV HNDSHAKE=XON/XOFF AUX XMT HNDSHAKE=XON/XOFF

F5

MISC :

BLOCK END=US/CR LABELS=OFF WPRT INTENSITY=NORMAL
AUTO PAGE=OFF SAVE LABELS=OFF WPRT REVERSE=ON
TV1955 ATTRIBUTE=NO SPACE PAGE EDIT=OFF WPRT UNDERLINE=OFF
VP60 BLK END=NONE TEST=OFF




```
*****
*
*  TERMINAL   dde type : dde420  Baseret på WYSE 65  Version 300687  *
*                                           050188*
*****
```

Sløctabel : dde420.t (UNIX V)

Kabel : 8804

Selvtest : Terminalen laver en selvtest ved POWER ON og når sekvensen ESC c modtages. Hvis en fejl konstateres udskrives et fejl nummer.

Setup : Tast setup. Herefter skal pile-tasterne benyttes for at skifte menu og for at udpege funktion. Når der skal skiftes funktion benyttes SPACE eller ENTER tasten. Funktionstasterne kan også programmeres fra menuen, men normalt skal de forprogrammerede tegn beholdes. Dette betyder, at der IKKE må stå tegn i den pågældende funktionstast menu, da de forprogrammerede tegn vil blive ignoreret. For at komme ud af setup menuen tages SETUP, herefter kommer man tilbage til hovedmenuen. Flyt cursoren til feltet SAVE og tast ENTER, hvis konfigurationen ikke skal gemmes tages SETUP igen.

Følgene er DDE standard :

(UNIX V)

Display-1

Columns : 80 Controls : Interpret Autowrap : ON

Scroll : Jump Screen : Dark.

Display-2

Cursor : Blinking block CRT saver : ON Status line : OFF.

Display-3

Lines/Page : 25

General-1

Mode : VT200 8 bit Pound : # Fkey Lock : OFF Feature Lock : OFF

Newline : OFF Local : OFF.

General-2

Keypad : Numeric Cursor Keys : Normal Transfer Term : Cursor Test : OFF

Communications-1

Baud Rate : 19200 Data Bits : 8 Parity : None Parity Check : OFF Echo : OFF

Communications-2

Handshake : XOFF Stop bits : 1 Port : EIA Data

Disconnect : 2 sec XMT Limit : None.

Vend...

Printer-1

Speed : 9600 Data bits : 8 Parity : None Stop bits : 1
Handshake : XOFF Terminator : FF.

Printer-2

Print : Full Screen Print : ASCII Print mode : Normal
Aux Receive : OFF.

Keyboard-1

Lock : Caps Keyrepeat : ON Keyclick : OFF
Margin Bell : OFF Warning Bell : ON Break : OFF.

Keyboard-2

Keyboard : Danish National : OFF
Keys : Typewriter Compose : ON DEL : BS/DEL.

Send

FKeys : Remote Fkey Xmt : Unlim Send : All
Send Area : Full Screen Send Term : None.

*
* TERMINAL dde type : dde450 Baseret på WYSE 95 Version 300687 *
* 271187*

Siocetabel : dde450 (system 3)
dde450.t (system V)
Kabel : 8804

Sølvtest : Terminalen laver en sølvtest ved POWER ON og når sekvensen ESC c modtages. Hvis en fejl konstateres udskrives et fejl nummer.

Setup : Tast setup. Herefter skal pile-tasterne benyttes for at skifte menu og for at udpege funktion. Når der skal skiftes funktion benyttes SPACE eller ENTER tasten. Funktionstasterne kan også programmeres fra menuen, men normalt skal de forprogrammerede tegn beholdes. Dette betyder, at der IKKE må stå tegn i den pågældende funktionstast menu, da de forprogrammerede tegn vil blive ignoreret. For at komme ud af setup menuen tages SETUP, herefter kommer man tilbage til hovedmenuen. Flyt cursoren til feltet SAVE og tast ENTER, hvis konfigurationen ikke skal gemmes tages SETUP igen.

Følgene er DDE standard :

Display-1

Columns : 80 Controls : Interpret Autowrap : ON
Scroll : Jump Screen : Dark.

Display-2

Cursor : Blinking block CRT saver : ON Width Change Clear : OFF
Status line : OFF.

Display-3

Lines/Page : 24 (system 3) 25 (system V) Cell Size : 10x13
Margin Ctrl : 0 DEL=Low Y : OFF GIN Terminator : None.

General-1

Mode : VT200 7 bit (system 3) / VT200 8 bit (system V)
Pound : # FKey Lock : OFF Feature Lock : OFF
Newline : OFF Local : OFF.

General-2

Keypad : Numeric Cursor Keys : Normal
Transfer Term : Cursor Test : OFF.

Communications-1

Transmit : 19200 Receive : 19200
Data bits : 7 (system 3) / 8 (system V)
Parity : Even (system 3) / none (system V)
parity Check : ON (system 3) / off (system V) Echo : OFF.

Communications-2

Handshake : XOFF Stop bits : 1 Port : EIA Data
Disconnect : 2 sec XMT Limit : None.

Vend...

Printer-1

Speed : 9600 Data bits : 7 Parity : Even Stop bits : 1

Handshake : XOFF Terminator : FF.

Printer-2

Print : Full Screen Print : ASCII Print mode : Normal

Aux Receive : OFF.

Keyboard-1

Lock : Caps Keyrepeat : ON Keyclick : OFF

Margin Bell : OFF Warning Bell : ON Break : ON.

Keyboard-2

Keyboard : Danish National : ON (system 3)/ OFF (system V)

Keys : Typewriter Compose : ON DEL : BS/DEL.

Send

FKeys : Remote Fkey Xmt : Unlim Send : All

Send Area : Full Screen Send Term : FF.

TERMINAL DDE type : dde480
Baseret på Facit A2400

890728

Firmware version : R3M

Terminology-tabel : /etc/types/int/dde480.t

Kabler : 8805 (main port)
8844+8804 (aux port)
8844+printerlabel (printer port)

Selvtest : Terminalen udfører en selvtest ved »power on«.

Switch : Terminalen har kun software switche.
Tryk på setup tasten.

Følgene er DDE standard :

Set-Up Directory

On Line

Set-Up-English Danish Keyboard

Display Set-Up

80 Columns Interpret Controls

Auto Wrap Jump Scroll Dark Text, Light Screen Scrn Saver 9 Min.

Cursor Block Cursor Style 80/132: Clear Screen

General Set-Up

VDT200 Mode, 8 Bit Controls

User Defined Keys Unlocked User Features Unlocked Multinational

Numeric Keypad Normal Cursor Keys No New Line Host Paging

Communications Set-Up

Transmit=19200 Receive=Transmit

XOFF at 64 8 Bits, No Parity 1 stop Bit No Local Echo
EIA Port, Data Leads Only Disconnect, 2 s Delay Unlimited Transmit

Printer Set-Up

Speed=19200 No Printer to Host

Auxilliary Host XOFF at 64 8 Bits, No Parity 1 Stop Bit

Print Full Page Print Multinational Terminator = FF

Keyboard Set-Up

Typewriter Keys Caps Lock

Auto Repeat No Keyclick No Margin Bell Warning Bell Break

No Auto Answerback

Custom Set-Up

VDT ID: VDT200

Compose Key: Compose 25th Line Protocol From Host: XON-XOFF

Ctrl F15 => sub soh c cr <= Remote FK : Delete

Ctrl F16 => sub csi 1 9 ~

TERMINAL DDE type : dde480g
Baseret på Facit G2400

890728

Firmware version : R2N

Terminology-tabel : /etc/types/int/dde480g.t

Kabler : 8805 (main port)
8844+8804 (aux port)
8844+printerlabel (printer port)

Selvtest : Terminalen udfører en selvtest ved »power on«.

Switch : Terminalen har kun software switche.
Tryk på setup tasten.

Følgene er DDE standard :

Set-Up Directory

On Line

Set-Up=English Danish Keyboard

Display Set-Up

80 Columns Interpret Controls

Auto Wrap Jump Scroll Dark Text, Light Screen Scrn Saver 9 Min.

Text Cursor Block Cursor Style 80/132: Clear Screen

General Set-Up

VDT200 Mode, 8 Bit Controls

User Defined Keys Unlocked User Features Unlocked Multinational

Numeric Keypad Normal Cursor Keys No New Line Host Paging

Communications Set-Up

Transmit=19200 Receive=Transmit

XOFF at 64 8 Bits, No Parity 1 stop Bit No Local Echo

EIA Port, Data Leads Only Disconnect, 2 s Delay Unlimited Transmit

Printer Set-Up

Speed=19200 No Printer to Host

Auxilliary Host XOFF at 64 8 Bits, No Parity 1 Stop Bit

Print Full Page Print Multinational Terminator = FF

Keyboard Set-Up

Typewriter Keys Caps Lock

Auto Repeat No Keyclick No Margin Bell Warning Bell Break

No Auto Answerback

Main Graphics Set-Up

Graphics Cursor Macrograph Report

Compressed Print Aspect: Full

Custom Set-Up

VDF ID: VDF200

Compose Key: Compose 25th Line Protocol From Host: XON-XOFF

Ctrl F15 => sub soh c cr <= Remote FK : Delete

Ctrl F16 => sub csi 1 9 ~

Mouse Set-Up (fremkommer KUN ved tilslutning af Mus)

Left Button=> Hex: 0D Buttons Enabled: GIN mode only

Right Button=> Hex: 19


```

*****
*
*  TERMINAL   dde type : dde490  Baseret på RC45   Version 2.0   *
*                                                    100787*
*****

```

Siocetabel : rc45 (UNIX III)
rc45.t (UNIX V)

Kabel : 8804 med p. 4 og 8 forbundet sammen i stik nr. 2.

Selvtest : Terminalen laver en selvtest ved POWER ON, hvis en fejl konstateres udskrives en fejlmeddelelse.
Terminalen har et testprogram indbygget, der startes ved at trykke (ctrl clear) (test). Testproceduren er beskrevet i servicemanualen.

Setup : For at komme ind i den statiske setup trykkes (ctrl clear) (c), det konfigurerede gemmes ved at trykke (Send).

Følgene er DDE standard :

Skærm.

- | | | |
|----|---------------------------|-----------------|
| 1. | Skærmens lysstyrke | middel. |
| 2. | Skærmens kontrast | middel. |
| 3. | Markørens udseende | blinkende blok. |
| 4. | Skærmsluk | ja. |
| 5. | Tid før skærmsluk | 10 min. |
| 6. | Normal / inverteret skærm | inverteret. |

Tastatur.

- | | | |
|----|------------------------|-----------------|
| 1. | Alarms lydstyrke | middel. |
| 2. | Tastaturets klikstyrke | middel. |
| 3. | Tastatur klik | nej. |
| 4. | Tastatur option | ingen. |
| 5. | Bogstavrepræsentation | små og store. |
| 6. | Funktionstaster | programmerbare. |
| 7. | Tastatur kodeord | (tryk DEL). |

Kommunikation.

- | | | |
|----|---------------------------------|------------------|
| 1. | Kommunikations port | V.24. |
| 2. | Adresse for RcCircuit II | 0. |
| 3. | Transmissionshastighed for V.24 | 19200 bps. |
| 4. | Databit for V.24 | 7 (UNIX III). |
| | | 8 (UNIX V). |
| 5. | Paritetsbit for V.24 | lige (UNIX III). |
| | | ingen (UNIX V). |
| 6. | Stopbit for V.24 | 1. |
| 7. | Kommunikationskontrol | XON/XOFF. |
| 8. | Lokalt eldko | nej. |

Vend...

Tegnsæt.

- | | | |
|----|------------------------------|-------------------|
| 1. | Emulering | VT220. |
| 2. | Kontrol tegn | 7 bit (UNIX III). |
| 3. | Tegnsæt | 8 bit (UNIX V). |
| | | nationalt |
| | | (UNIX III). |
| | | multinationalt |
| | | (UNIX V). |
| 4. | Nationalitet | dansk. |
| 5. | Nationalt / US-ASCII tegnsæt | nationalt. |
| 6. | Tegnafsendelsesmåde | normal. |

Terminaltilstande.

- | | | |
|----|-------------------------|-------------|
| 1. | Antal tegn per linie | 80 tegn. |
| 2. | Blød rulning | nej. |
| 3. | Automatisk linieskift | ja. |
| 4. | Sideskift fortolkning | slet skærm. |
| 5. | Linefeed / newline mode | reset. |
| 6. | Returtast kode | 13 dec. |
| 7. | Auxiliary keypad mode | numeric. |
| 8. | Cursor key mode | normal. |

 *
 * TERMINAL dde type: dde 500 navn/type: Tandberg / TDV 2200 *
 * 851031 *

dde varenummer: SPC/1:7094b

SUPERMAX:9160

Standard kabel: 8805

Associeret printer kabel: 8824

Selvtest : Ja, ved power up

Switch : Soft, tast shift mode mode, derefter fremkommer set-up menu på skærm. Man vælger i menu'en ved hjælp af pil op/pil ned. Indgang til valgte menu sker ved at taste enter. Derefter befinder man sig i 1 af 4 menu'er, hvor man igen vælger ved hjælp af pil op/pil ned. Når man har fundet det parameter der skal ændres, tastes enter, og i bund af skærm fremkommer de muligheder der er for ændring. Ændring sker med pil højre/pil venstre, og sluttet med at taste enter. Når menu er tilrettet som man ønsker, tastes esc, hvorefter man befinder sig i set-up menu igen. Set-up menu forlades enten ved at taste esc eller pil ned. Til sidst vælges i "SWITCH CHANGE" menu ved hjælp af pil op/pil ned og man slutter med at taste enter.

opsætning af menu'er:

Switch menu 1: cursor=block key-click=off auto repeat=on

Switch menu 2: time-out=off lines per page=24 funct.keys=on backtab=on carriage return=CR beginning of line wrap=wrap end of line wrap=wrap roll/page mode=roll roll type=step clear lamps=both push-key prog.=allowed ext.crtrl.mode=on vertical editing mode=following printer mode=local/rem.

Switch menu 3: send recv.mode=simultaneous echo=external online=online comm.click=asy handshake=dtr(SPC/1)xon/xoff(supermax) modem=inhibit break=inhibit trans.code lenght=7 bit trans.code par.=even trans.code stop bits=1 bit trans.speed=9600 baud comm.mode=v24 printer handsh.=off printer code format=7 even printer speed=9600 baud

Switch menu 4: Programmering af push-key's, referer til manual.

ERROR CODES IN POWER-UP AND SELF TEST

dale 500 Tandberg / TDV 2200

02	The test of the RAM chip with ref. no. 2 on the Mainboard failed
03	The test of the RAM chip with ref. no. 3 on the Mainboard failed
04	The test of the RAM chip with ref. no. 4 on the Mainboard failed
05	The test of the RAM chip with ref. no. 5 on the Mainboard failed
06	The test of the SYSTEM RAM with ref. no. 6 on the Mainboard failed. This code should only be retrieved from the power up test. The self test is not supposed to test this area, and if so, there must be a configuration error
07	The test of the RAM chip with ref. no. 7 on the Memory Module or the dynamic RAM board failed
08	The test of the RAM chip with ref. no. 8 on the Memory Module or the dynamic RAM board failed
09	The test of the RAM chip with ref. no. 9 on the Memory Module failed
0A	The test of the RAM chip with ref. no. 10 on the Memory Module failed
0B	The test of the RAM chip with ref. no. 11 on the Memory Module failed
0C	The test of the RAM chip with ref. no. 12 on the Memory Module failed
0D	The test of the RAM chip with ref. no. 13 on the Memory Module failed
0E	The test of the RAM chip with ref. no. 14 on the Memory Module failed
0F	The display memory failed during the pattern test
11	The attribute memory failed during the pattern test
12	The SIO failed to report the expected status word
13	The SIO data was not correct
14	The SIO did not give interrupt
15	The keyboard ACIA failed to report the expected status word
16	The keyboard did not report the result of the internal Self Test
17	The keyboard reported error in the Checksum test
18	The keyboard reported error in the RAM test
19	The accumulated checksum for all ROMs/PROMs was not correct
1A	The memory configuration in the non-volatile memory is invalid

TERMINAL / DDE type : dde520/dde520g with danish keyboard

Based on the Tandberg TDV1200/14

910122

Terminology-table : /etc/types/int/dde520.t
/etc/types/int/dde520.i
/etc/types/int/dde520g.t
/etc/types/int/dde520g.i

Datatable : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Fast.
Repeat Delay : Fast.
Mouse Resolution : Fast. (only on the dde520g)
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : Permanent.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : Ascii.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode : VT200 8 bits.
ID VT100 : DVT240.
User Defined Keys : Unlocked.
User features : Unlocked.
Character Set Mode : Multinational.
Nat. Char. Set = Keyb. Nat. : Yes.
Keypad : Numeric.
Cursor Keys : Normal.
New Line : CR.

Comm. menus/SYSTEM MENU.

Baud Rate Table : Table 2.
Communication Channel : Channel A.
Printer Channel : None.
Mouse Channel : Channel B. (only on the dde520g)
Online Key : Online.
DMA Receiver : Channel A.
Debug Mode : Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed : 19200 Baud.
Receive Speed : 19200 Baud.
Com. Code Parity : None.
Com. Code Stop-Bit(s) : 1 bit.
Com. Code Length : 8 bits.
Echo On Transmitted Codes : External.
Channel A Interface Select : Internal.
Handshake on Transmit : XON/XOFF.
Handshake on Receive : XON/XOFF.
Modem : Inhibit.
Transmission Delay : None.
Handshake Threshold : 1/16 Buffer.
Inverted Busy Signal : No.

KEYBOARD MENU.

TD Cursor Pad : Off.
Keyboard Nationality : Danish.
DEC Compatible Keyb. : Yes.
Keys : Typewriter.
Enable Break : Yes.
Answerback : None.
Two Stroke Compose : Off.
<X]-Key : Delete.

Graphics menus. (only on the dde520g)

ReGIS MENU.

Macrograph Reports : Off.
Graphics Cursor : On.

4010/14 MENU.

CR Processing : CR.
LF Processing : LF.
GIN Terminator : None.

TERMINAL / DDE type : dde520/dde520g with USA keyboard
Based on the Tandberg TDV1200/14

910122

Terminology-table : /etc/types/int/dde520.t
/etc/types/int/dde520.i
/etc/types/int/dde520g.t
/etc/types/int/dde520g.i

Databale : 88002150

Factory default from DDE :

Config. menus.

CONV. MENU.

Menu Language : English.
Cursor Type : Block.
Cursor Blink : On.
Cursor Update : Slow.
Key Click : Off.
Margin Bell : Off.
Warning Bell : On.
Sound Level : Medium.
Auto Repeat : Fast.
Repeat Delay : Fast.
Mouse Resolution : Fast. (only on the dde520g)
Scroll Type : Jump.
Video Timeout : On.
Soft Key Nationality : Permanent.
Caps/Shift-Lock : Caps Lock.
Default Soft Key Level : FUNC. KEYS.
Status Line : Off.

DISPLAY MENU.

Columns : 80.
Auto Wrap : On.
VT100 : Ascii.
Representation of Bold : Bold.
25 Lines Display : On.

GENERAL MENU.

Mode	: VT200 8 bits.
ID VT100	: DVT240.
User Defined Keys	: Unlocked.
User features	: Unlocked.
Character Set Mode	: Multinational.
Nat. Char. Set = Keyb. Nat.	: Yes.
Keypad	: Numeric.
Cursor Keys	: Normal.
New Line	: CR.

Comm. menus/SYSTEM MENU.

Baud Rate Table	: Table 2.
Communication Channel	: Channel A.
Printer Channel	: None.
Mouse Channel	: Channel B. (only on the dde520g)
Online Key	: Online.
DMA Receiver	: Channel A.
Debug Mode	: Disabled.

Comm. menus/COMM.A MENU.

Transmit Speed	: 19200 Baud.
Receive Speed	: 19200 Baud.
Com. Code Parity	: None.
Com. Code Stop-Bit(s)	: 1 bit.
Com. Code Length	: 8 bits.
Echo On Transmitted Codes	: External.
Channel A Interface Select	: Internal.
Handshake on Transmit	: XON/XOFF.
Handshake on Receive	: XON/XOFF.
Modem	: Inhibit.
Transmission Delay	: None.
Handshake Threshold	: 1/16 Buffer.
Inverted Busy Signal	: No.

KEYBOARD MENU.

TD Cursor Pad	: Off.
Keyboard Nationality	: North Am.
DEC Compatible Keyb.	: Yes.
Keys	: Typewriter.
Enable Break	: Yes.
Answerback	: None.
Two Stroke Compose	: Off.
<X]-Key	: Delete.

Graphics menus. (only on the dde520g)

ReGIS MENU.

Macrograph Reports : Off.
Graphics Cursor : On.

4010/14 MENU.

CR Processing : CR.
LF Processing : LF.
GIN Terminator : None.



```
*****
*
*  TERMINAL   dde type : dde550  Baseret på Tandberg TDV2400 Topaz  *
*                                           130588*
*****
```

Slottabel : dde550.t UNIX V

Kabel : 8805

Selvtest : Terminalen udskriver et fejlsymptom, hvis den i setuppen sættes til "Diagnostics". Der er også mulighed for, selv at teste terminalen med et Topaz System Test printkort.

Setup : Tast setup. Herefter kommer der en linie nederst på skærmen. Med tasterne F9 til F16 kan lysstyrke og kontrast reguleres og der kan fortsættes til hovedmenuen med F11 eller setup tasten. Med piletasterne og Hometasten udpeges den ønskede funktion og denne vælges med CR eller ENTER tasten. Ved udgang fra hver undermenu kan det konfigurerede gemmes.

Følgene er DDE standard :

Alpha mode : UNIX V

Convenience Menu :

Underline cursor : NO Blinking cursor : YES Keyboard Click : NO
Keyboard Repeat : YES Key Rollover : YES CAPS on at Restart : NO

Functional Menu :

80/132 columns : 80 Auto Wrap : YES Scroll Enabled : YES
Margin Bell : NO VT52/100/200 : VT200 8 bit
VT100 Ch Set : ASCII National Ch Set : NO
User Defined Keys: Unlocked User Features : Unlocked Numeric Keypad: YES
Normal Cursor Keys: YES New line : NO Typewriter Keys : YES
Break Enabled : YES Answerback : None Nationality : Danish
Print Mode : Normal Print Region : Full Page Print Terminator : FF
Tab Left Key : Backspace

Communication Menu :

Transparent Mode : NO Local Mode : NO Local Echo : NO
7 bit Code : NO 1 Stop Bit : YES Parity : None
Transmission Speed : 9600 Inverted Busy signal : NO
Transmission Handshake: XON/XOFF Handshake Threshold : 1/16
Transmission Delay : 0 Modem Handling : None

Vend...

Supervisor Menu :

Diagnostics : YES

Windows with Headings : YES

Format Scaled Graphics : NO

Printer Characteristics :

Transparent Mode : NO

7 bit Code : YES

Parity : Even

Transmission Handshake : DTR

Transmission Delay : 0

Automatic Light Adjustment : YES

Video Time Out : YES

Bell Enabled : YES

Smooth Scroll : NO

*132-char Lines Enabled : YES

Local Mode : NO

Local Echo : NO

1 Stop Bit : YES

Inverted Busy Signal : NO

Handshake Threshold : 1/16

Modem Handling : None

Positive Display Mode : YES

Graphic mode : UNIX V

Tryk : Swap Setup Setup

Functional Menu :

GIN Terminator : CR-EOT

Line Feed : LF

Printer Format : Vertical

Carriage Return : CR

Printer : EPSON

Crosshair : Large

Density : Single

*
* **TERMINAL** dde type : dde550 Baseret på Tandberg TDV2400 Topaz *
* 271187*

Siocetabel : dde550 (system 3)
dde550.t (system V)
Kabel : 8805

Salvtest : Terminalen udskriver et fejlsymptom, hvis den i sætuppen sættes til "Diagnostics". Der er også mulighed for, selv at teste terminalen med et Topaz System Test printkort.

Setup : Tast setup. Herefter kommer der en linie nederst på skærmen. Med tasterne F9 til F16 kan lysstyrke og kontrast reguleres og der kan fortsættes til hovedmenuen med F11 eller setup tasten. Med piletasterne og Hometasten udpeges den ønskede funktion og denne vælges med CR eller ENTER tasten. Ved udgang fra hver undermenu kan det konfigurerede gemmes. Når nyt firmware installeres skal EEPROMen konfigureres. Dette gøres med det før omtalte Topaz System Test printkort.
Hvis terminalen har grafik skal communicationen i Alfa sætuppen og grafik sætuppen sættes ens. Der kan her skiftes mellem Alfa-mode og grafik-mode med SWAP tasten. Hvis terminalen er med Alfa firmware skal EEPROMen sættes til "MONO ALFA", og hvis det er en ALFA/GRAFIK firmware sættes den til "MONO GRAPHIC 2".

Følgene er DDE standard :

Convenience Menu :

Underline cursor : NO Blinking cursor : YES Keyboard Click : NO
Keyboard Repeat : YES Key Rollover : YES CAPS on at Restart : NO

Functional Menu :

80/132 columns : 80 Auto Wrap : YES Scroll Enabled : YES Margin Bell : NO
VT52/100/200 : VT200 7 bit (system III) VT200 8 bit (system V)
VT100 Ch Set : ASCII National Ch Set : YES (system III) NO (system V)
User Defined Keys : Unlocked User Features : Unlocked Numeric Keypad : YES
Normal Oursor Keys : YES New line : NO Typewriter Keys : YES
Break Enabled : YES Answerback : None Nationality : Danish
Print Mode : Normal Print Region : Full Page Print Terminator : FF
Tab Left Key : Backspace

Communication Menu :

Transparent Mode : NO Local Mode : NO Local Echo : NO
7 bit Code : YES (system III) NO (system V) 1 Stop Bit : YES
Parity : Even (system III) None (system V)
Transmission Speed : 19200 Inverted Busy signal : NO
Transmission Handshake : XON/XOFF Handshake Threshold : 1/16
Transmission Delay : 0 Modem Handling : None

Vend...

Supervisor Menu :

Diagnostics : YES Bell Enabled : YES Smooth Scroll : NO
Windows with Headings : YES *132-char Lines Enabled : YES
Format Scaled Graphics : NO

Printer Characteristics :

Transparent Mode : NO Local Mode : NO Local Echo : NO
7 bit Code : YES 1 Stop Bit : YES
Parity : Even Transmission Speed : 9600 Inverted Busy Signal : NO
Transmission Handshake : DTR Handshake Threshold : 1/16
Transmission Delay : 0 Modem Handling : None
Automatic Light Adjustment : YES Positive Display Mode : YES
Video Time Out : YES

TERMINAL dde type : dde700
Baseret på Facit A3400

890728

Firmware version : R8a

Terminology-tabel : /etc/types/int/dde700.t

Kabel : 8804

Selvttest : Terminalen udfører en selvttest ved POWER ON.

Setup : Terminalen har kun software setup.
Tryk på setup tasten.

Følgene er DDE standard :

1. General/F-keys.

Line Mode : On Line.
Emulation : Custom.
VDT100 ID : VDT200.
Character set : Multinational.
Session Mode : Single.
Screen Saver : 10 minutes.

2. Display/Tab.

Display : Dark Text on Light Screen.
Cursor : Slow Blink.
Cursor Type : Block.
Scroll Mode : Jump Scroll.
Screen/Page Width : Screen=80, Page=80.
Hor. Cursor Coupling : Disabled.
Vert. Cursor Coupling : Enabled.
Reference Page : 24 lines.
Page Format : 1 Ref Page.
Wrap : Enabled.
Margin Bell : Disabled.
Transparency Mode : Disabled.

3. Communication.

I/O 2 Speed Set : Set 2.
Transmit Speed : 19200.
Receive Speed : =Transmit.
Data Bits : 8 Bits.
Stop Bits : 1 Stop Bit.
Control Bits : 8 Bits.
Parity : None.
Protocol : XON/XOFF.
Duplex : Full.
XON-XOFF from Host : Protocol.
Data Rate to Host : Unlimited.
Local Echo : Disabled.

4. Keyboard.

→ Repetition : Enabled.
Keyboard Language : Danish.
Delete Key : Delete.
Lock Key : Caps Lock.
Key Click : Disabled.
New Line Mode : Disabled.
Edit Keys : Duplex.
Lock Mode : User Defined Keys Unlocked.
Keyboard Mode : Typewriter
Cursor Key Mode : Normal.
Numerical Keypad Mode : Normal.
Warning Bell : Enabled.
Compose Key : Enabled.

5. Printer.

Printer Speed Set : Set 2.
Transmit Speed : 19200.
Receive Speed : =Transmit.
Data Bits : 8 Bits.
Stop Bits : 1 Stop Bit.
Parity : None.
Protocol : XON-XOFF.
XON-XOFF from Printer : Protocol.
Print : All.
Print Mode : Active Page.
Print Extent : All.
Print Data Type : Multinational.
Print Terminator : Form Feed.
Print to Host : Disabled.
Print Emulation : EPSON JX/FX.

6. Block Send.

Send : To Cursor.
Send Mode : Page.
Send Request : Indirect.
Erasure Mode : All.
Guard. Area Tr. Mode : Unprotected only.
Space Compression : Disabled.
EOL Terminator : CR.
EOB Terminator : None.
Attributes Off Prot. : Disabled.
Bold Protected : Disabled.
Reverse Protected : Disabled.
Underline Protected : Disabled.
Blink Protected : Disabled.
Charblank Protected : Disabled.

7. Status.

Status Lines : Enabled.
Status Line Mode : 1 User.
Cursor Position : Disabled.
Time : Disabled.
Keypad Mode : Disabled.
Current Print : Disabled.
Line Transmit : Disabled.
Interface : Disabled.
Buffer : Disabled.



11



TERMINAL / DDE type : dde710/710g with danish keyboard

Based on the Facit A3400 SCS R10A / G3400 SCG R3A

910122

Terminology-table : /etc/types/int/dde710.t
/etc/types/int/dde710.i
/etc/types/int/dde710g.t
/etc/types/int/dde710g.i

Databable : 88002050

Factory default from DDE :

1. General/F-keys.

Line Mode : On Line.
Emulation : Custom.
VDT100 ID : VDT200.
Character set : Multinational.
Session Mode : Single.
Screen Saver : 10 minutes.
User Features : Unlocked.
Set-Up Language : English.

2. Display/Tab.

Display : Dark Text on Light Screen.
Cursor : Slow Blink.
Cursor Type : Block.
Scroll Mode : Jump Scroll.
Screen/Page Width : Screen=80, Page=80.
Hor. Cursor Coupling : Disabled.
Vert. Cursor Coupling : Disabled.
Reference Page : 24 lines.
Page Format : 1 Ref Page.
Wrap : Enabled.
Margin Bell : Disabled.
Transparency Mode : Disabled.
4010/14 Margin Control : None. (only on the dde710g)

3. Communication.

I/O 2 Speed Set	: Set 2.
Transmit Speed	: 19200.
Receive Speed	: =Transmit.
Data Bits	: 8 Bits.
Stop Bits	: 1 Stop Bit.
Control Bits	: 8 Bits.
Parity	: None.
Protocol	: XON/XOFF.
Duplex	: Full.
XON-XOFF from Host	: Protocol.
Data Rate to Host	: Unlimited.
Local Echo	: Disabled.
4010/14 Delete Implies	: Low Y. (only on the dde710g)
4010/14 CR Effect	: CR. (only on the dde710g)
4010/14 LF Effect	: LF. (only on the dde710g)

4. Keyboard.

Repetition	: Enabled.
Keyboard Language	: Danish.
Delete Key	: Delete.
Lock Key	: Caps Lock.
Key Click	: Disabled.
New Line Mode	: Disabled.
Edit Keys	: Duplex.
Lock Mode	: User Defined Keys Unlocked.
Keyboard Mode	: Typewriter.
Cursor Key Mode	: Normal.
Numerical Keypad Mode	: Normal.
Warning Bell	: Enabled.
Compose Key	: Enabled.
4010/14 GIN Terminator	: None. (only on the dde710g)

5. Printer.

Printer Speed Set	: Set 2.
Transmit Speed	: 9600.
Receive Speed	: =Transmit.
Data Bits	: 8 Bits.
Stop Bits	: 1 Stop Bit.
Parity	: None.
Protocol	: XON-XOFF.
XON-XOFF from Printer	: Protocol.
Print	: All.
Print Mode	: Active Page.
Print Extent	: All.
Print Data Type	: Multinational.
Print Terminator	: Form Feed.
Print to Host	: Disabled.
Print Emulation	: EPSON JX/FX.

6. Block Send.

Send	: To Cursor.
Send Mode	: Page.
Send Request	: Indirect.
Erasur Mode	: All.
Guard. Area Tr. Mode	: Unprotected only.
Space Compression	: Disabled.
EOL Terminator	: CR.
EOB Terminator	: None.
Attributes Off Prot.	: Disabled.
Bold Protected	: Disabled.
Reverse Protected	: Disabled.
Underline Protected	: Disabled.
Blink Protected	: Disabled.
Charblank Protected	: Disabled.

7. Status.

Status Lines	: Enabled.
Status Line Mode	: 1 User.
Cursor Position	: Disabled.
Time	: Disabled.
Keypad Mode	: Disabled.
Current Print	: Disabled.
Line Transmit	: Disabled.
Interface	: Disabled.
Buffer	: Disabled.



TERMINAL / DDE type : dde710/710g with swedish keyboard

Based on the Facit A3400 SCS R10A / G3400 SCG R3A

910129

Terminology-table : /etc/types/int/dde710.t
/etc/types/int/dde710.i
/etc/types/int/dde710g.t
/etc/types/int/dde710g.i

Datatable : 88002050

Factory default from DDE :

1. General/F-keys.

Line Mode : On Line.
Emulation : Custom.
VDT100 ID : VDT200.
Character set : Multinational.
Session Mode : Single.
Screen Saver : 10 minutes.
User Features : Unlocked.
Set-Up Language : English.

2. Display/Tab.

Display : Dark Text on Light Screen.
Cursor : Slow Blink.
Cursor Type : Block.
Scroll Mode : Jump Scroll.
Screen/Page Width : Screen=80, Page=80.
Hor. Cursor Coupling : Disabled.
Vert. Cursor Coupling : Disabled.
Reference Page : 24 lines.
Page Format : 1 Ref Page.
Wrap : Enabled.
Margin Bell : Disabled.
Transparency Mode : Disabled.
4010/14 Margin Control : None. (only on the dde710g)

3. Communication.

I/O 2 Speed Set : Set 2.
Transmit Speed : 19200.
Receive Speed : =Transmit.
Data Bits : 8 Bits.
Stop Bits : 1 Stop Bit.
Control Bits : 8 Bits.
Parity : None.
Protocol : XON/XOFF.
Duplex : Full.
XON-XOFF from Host : Protocol.
Data Rate to Host : Unlimited.
Local Echo : Disabled.
4010/14 Delete Implies : Low Y. (only on the dde710g)
4010/14 CR Effect : CR. (only on the dde710g)
4010/14 LF Effect : LF. (only on the dde710g)

4. Keyboard.

Repetition : Enabled.
Keyboard Language : Swedish.
Delete Key : Delete.
Lock Key : Caps Lock.
Key Click : Disabled.
New Line Mode : Disabled.
Edit Keys : Duplex.
Lock Mode : User Defined Keys Unlocked.
Keyboard Mode : Typewriter.
Cursor Key Mode : Normal.
Numerical Keypad Mode : Normal.
Warning Bell : Enabled.
Compose Key : Enabled.
4010/14 GIN Terminator : None. (only on the dde710g)

5. Printer.

Printer Speed Set : Set 2.
Transmit Speed : 9600.
Receive Speed : =Transmit.
Data Bits : 8 Bits.
Stop Bits : 1 Stop Bit.
Parity : None.
Protocol : XON-XOFF.
XON-XOFF from Printer : Protocol.
Print : All.
Print Mode : Active Page.
Print Extent : All.
Print Data Type : Multinational.
Print Terminator : Form Feed.
Print to Host : Disabled.
Print Emulation : EPSON JX/FX.

6. Block Send.

Send	: To Cursor.
Send Mode	: Page.
Send Request	: Indirect.
Erasure Mode	: All.
Guard. Area Tr. Mode	: Unprotected only.
Space Compression	: Disabled.
EOL Terminator	: CR.
EOB Terminator	: None.
Attributes Off Prot.	: Disabled.
Bold Protected	: Disabled.
Reverse Protected	: Disabled.
Underline Protected	: Disabled.
Blink Protected	: Disabled.
Charblank Protected	: Disabled.

7. Status.

Status Lines	: Enabled.
Status Line Mode	: 1 User.
Cursor Position	: Disabled.
Time	: Disabled.
Keypad Mode	: Disabled.
Current Print	: Disabled.
Line Transmit	: Disabled.
Interface	: Disabled.
Buffer	: Disabled.

TERMINAL / DDE type : dde710/710g with USA keyboard
Based on the Facit A3400 SCS R10A / G3400 SCG R3A

910122

Terminology-table : /etc/types/int/dde710.t
/etc/types/int/dde710.i
/etc/types/int/dde710g.t
/etc/types/int/dde710g.i

Datatable : 88002050

Factory default from DDE :

1. General/F-keys.

Line Mode : On Line.
Emulation : Custom.
VDT100 ID : VDT200.
Character set : Multinational.
Session Mode : Single.
Screen Saver : 10 minutes.
User Features : Unlocked.
Set-Up Language : English.

2. Display/Tab.

Display : Dark Text on Light Screen.
Cursor : Slow Blink.
Cursor Type : Block.
Scroll Mode : Jump Scroll.
Screen/Page Width : Screen=80, Page=80.
Hor. Cursor Coupling : Disabled.
Vert. Cursor Coupling : Disabled.
Reference Page : 24 lines.
Page Format : 1 Ref Page.
Wrap : Enabled.
Margin Bell : Disabled.
Transparency Mode : Disabled.
4010/14 Margin Control : None. (only on the dde710g)

3. Communication.

I/O 2 Speed Set	: Set 2.
Transmit Speed	: 19200.
Receive Speed	: =Transmit.
Data Bits	: 8 Bits.
Stop Bits	: 1 Stop Bit.
Control Bits	: 8 Bits.
Parity	: None.
Protocol	: XON/XOFF.
Duplex	: Full.
XON-XOFF from Host	: Protocol.
Data Rate to Host	: Unlimited.
Local Echo	: Disabled.
4010/14 Delete Implies	: Low Y. (only on the dde710g)
4010/14 CR Effect	: CR. (only on the dde710g)
4010/14 LF Effect	: LF. (only on the dde710g)

4. Keyboard.

Repetition	: Enabled.
Keyboard Language	: US ASCII.
Delete Key	: Delete.
Lock Key	: Caps Lock.
Key Click	: Disabled.
New Line Mode	: Disabled.
Edit Keys	: Duplex.
Lock Mode	: User Defined Keys Unlocked.
Keyboard Mode	: Typewriter.
Cursor Key Mode	: Normal.
Numerical Keypad Mode	: Normal.
Warning Bell	: Enabled.
Compose Key	: Enabled.
4010/14 GIN Terminator	: None. (only on the dde710g)

5. Printer.

Printer Speed Set	: Set 2.
Transmit Speed	: 9600.
Receive Speed	: =Transmit.
Data Bits	: 8 Bits.
Stop Bits	: 1 Stop Bit.
Parity	: None.
Protocol	: XON-XOFF.
XON-XOFF from Printer	: Protocol.
Print	: All.
Print Mode	: Active Page.
Print Extent	: All.
Print Data Type	: Multinational.
Print Terminator	: Form Feed.
Print to Host	: Disabled.
Print Emulation	: EPSON JX/FX.

6. Block Send.

Send	: To Cursor.
Send Mode	: Page.
Send Request	: Indirect.
Erase Mode	: All.
Guard. Area Tr. Mode	: Unprotected only.
Space Compression	: Disabled.
EOL Terminator	: CR.
EOB Terminator	: None.
Attributes Off Prot.	: Disabled.
Bold Protected	: Disabled.
Reverse Protected	: Disabled.
Underline Protected	: Disabled.
Blink Protected	: Disabled.
Charblank Protected	: Disabled.

7. Status.

Status Lines	: Enabled.
Status Line Mode	: 1 User.
Cursor Position	: Disabled.
Time	: Disabled.
Keypad Mode	: Disabled.
Current Print	: Disabled.
Line Transmit	: Disabled.
Interface	: Disabled.
Buffer	: Disabled.




```
*****
*
*   TERMINAL   navn/type: SGD/1.8 2.2 eller 3.0
*
*                                           0805089 *
*****
```

terminology tabel: int/sgd-ansi.t

Kabel : LAN eller 8812
 (8804 kan bruges uden hardware handshake)

Selvtest : Ved opstart. Udvidet selvtest kan opnås fra
 service porten (se SGD service manual)

Setup : Tast SETUP. Herefter bruges pil op og pil ned eller
 et bogstav til at udpege den ønskede linie. På
 linien bruges pil til højre eller venstre til at
 udpege det ønskede felt. Feltet vælges ved tryk på
 SPACE.

Følgende er DDE standard (med seriel forbindelse) :

```
A ( Communication )      : serial
B ( Transmission speed ) : 19.2
C ( Data Bits )          : 8
D ( Stop Bits )          : 1
E ( Parity )             : NONE
F ( Busy Handshake )     : XON/XOFF
G ( Transmission Mode )  : FDX
H ( Monitor Mode )       : OFF
I ( Emulation )          : ANSI
J ( Select Keyboard )    : Vælg US eller DK afhængigt af
                           leveret keyboard.
K ( International )      : ON
L ( Control Characters ) : 8 bit
M ( Keyclick Volume )    : OFF
N ( Bell Volume )        : 4
O ( Autorepeat )         : ON
P ( Status Line )        : ON
Q ( CRT Saver )          : ON
```

VEND

Følgende er DDE standard (med LAN forbindelse) :

A (Communication)	: LAN
F (Printer)	: OFF
G (Transmission Mode)	: FDX
H (Monitor Mode)	: OFF
I (Emulation)	: ANSI
J (Select Keyboard)	: Vælg US eller DK afhængigt af leveret keyboard.
K (International)	: ON
L (Control Characters)	: 8 bit
M (Keyclick Volume)	: OFF
N (Bell Volume)	: 4
O (Autorepeat)	: ON
P (Status Line)	: ON
Q (CRT Saver)	: ON

PC/AT/XT/PS

rev. 01.09.94

1.0.2.1

DDE-type

Product name

System

General:

Dos-commands (Still missing)

Edlin dos-commands description (DK)

PC-netcard:

General

PC-installation PCTERM

3com netcard

PC-Addresses PCTERM

WD netcards

Western Digital netcards Info.

EtherCard PLUS

Western Digital PLUS series

EtherCard PLUS BOOTP

Western Digital PLUS series

PC-types:

-

NCR PC6 XT (DK)

DDE WS333

WS333(DK)

DDE PC212

NCR PC286

DDE PC212 (DK)

NCR PC286 Danish

PC212/316/316L International Keyboards

DDE PC212 (E)

NCR PC286 Spanish

DDE PC212 (S)

NCR PC286 Swedish

DDE PC212 (UK)

NCR PC286 English

DDE PC316 series (DK)

NCR PC386SX/ISA-16

DDE PC316 series (S)

NCR PC386SX/ISA-16

DDE PC316 series (UK)

NCR PC386SX/ISA-16

DDE PC316 series (E)

NCR PC386SX/ISA-16

PC/AT/XT/PS

rev. 01.09.94

1.0.2.2

DDE-type	Product name	System
DDE PC316L	NCR EL PC386sx	
DDE PC316L (DK)	NCR EL PC386sx Danish PC212/316/316L International Keyboards	
DDE PC316L (E)	NCR EL PC386sx Spanish	
DDE PC316L (S)	NCR EL PC386sx Swedish	
DDE PC316L (UK)	NCR EL PC386sx English	
DDE PC316L School	NCR EL PC386sx School	
DDE PC316L-II	NCR EL PC386sx-II 16MHz	
DDE PC320	Acer 1100/20	
DDE PC320x series	NCR PC386sx ISA-20	
DDE PC425L	NCR EL PC486	
DeskTop 1 Series	Mitac 3060G	
FlatTop 1	NCR EL PC386sx-II 16MHz	

Software:

DOS 3.3	NCR MS-DOS V.3.30
Dos 5.0	NCR MS-DOS V.5.00

Peripherals unit:

Adaptec SCSI	Adaptec AHA-1540B
BOCARAM card	2Mb or 4Mb ram kit
40Mb ST506	40Mb disk, ST506 I/F
40Mb kit PC/XT	40Mb kit PC/XT
100Mb AT	100Mb AT disk
170Mb SCSI	170Mb SCSI-syst.PC/ISA
5¼" AT-Disk Kit	Conner/CP3044-CP3104
3½" 1.44Mb in 3½" frame	TEAC/FD-235HF
3½" 1.44Mb in 5¼" frame	NEC/FD5137H

PC/AT/XT/PS

rev. 01.09.94

1.0.2.3

DDE-type

Product name

System

Monitor:

Hires Mono.Adap.

EIZO MD-B09

Hires 21" Wh.Mon.

EIZO Flexscan 6500 Mk.II

PC212/316L VGA

PC212/316L VGA patch V.1.2

NoNoise PC320/WS333

NoNoise Kit PC320/WS333

Super VGA 1Mb Adaptor

Genoa Model 7900

TDV 5221 Monitor

Tandberg TDV5221

Other Equipment:

Scanner IX-30F

Canon IX-30F + SCSI adaptor



1 Edlin

DOS editoren er en linjeorienteret editor, dvs., at der arbejdes med een linje ad gangen. Edlin er ikke den bedste editor, som findes til DOS, men har den utrolige fordel, at alle PC installationer har den.

Edlin opstartes med filnavnet som parameter.

A:\>edlin \autoexec.bat

Herefter kan der arbejdes med editering af filen. Edlin giver en prompten "**", og der kan nu gives en kommando. Efter end editering af en linje tages F6 for at komme tilbage til kommandotilstand.

Kommando	Eksempel
----------	----------

(A)ppend (Tilføj)	*a
-------------------	----

(C)opy (Kopier)	*3,4,7c
	Kopierer linje 3 til 4 til linje 7.

(D)elete (Slet)	*3d
	Sletter linje 3.

(E)nd (Afslut)	*e
	Afslut edlin og gem ændringerne.

(I)nsert (Indsæt)	*i4
	Indsæt linjer fra linje 4 og fremefter.

(L)ist (List)	*2,4l
	List linje 2 til 4.

(M)ove (Flyt)	*3,4,7m
	Flyt linje 3 til 4 op til linje 7.

(P)age (Side)	*p
	List næste side.

(Q)uit (Slut)	*q
---------------	----

Afslut uden at gemme.

{ (R)eplace (Erstat) *lrIBM[F6]DDE
Ændre ordet IBM til DDE i linie1.

(S)earch (Find) *3,29shuggo
Find ordet huggo fra linje 3 til 29.

(T)ransfer(Overfør) *ttest.bat
Tilføj filen test.bat til teksten.

(W)rite (Skriv) *w
Skriv til disken uden at afslutte.

Et tal *4
Editor i linje 4
Brug piletasterene til at fremkalde teksten.

3. Hardware

3.1 PC Installation

3.1.1 Connection via NTC or SIOC

The asynchronous connection between the PC and the Supermax is established via a DDE cable, which is connected between the COM1 or COM2 port on the PC and a SIOC/NIOC port on Supermax. If the PC has a 25-pin serial plug, a cable of the type DDE 8805 should be used. If the PC has a 9-pin serial plug, either a DDE 8805 cable plus a 9-to-25 pin conversion plug, or a DDE 8831 cable should be used.

3.1.2 Connection via Modem

If an external modem is used, it must be connected to the PC via the cable which is supplied together with the modem.

The terminal emulation program PCTERM20 uses the RS-232C signal CD (Carrier Detect) to detect whether a network connection has been established, as well as the signal DTR (Data Terminal Ready) for disconnecting telephone connections. If the modem in question has a switch for changing the function of these signals, the switch must be adjusted in such a way that CD and DTR are active. A modem of the type Concord V22bis SERIES II, for instance, requires the dip switch SW1-5 to be turned to position ON in order for the signals to function as expected by PCTERM20.

3.1.3 Connection via LAN

In order to connect a PC to Supermax LAN, a PC Ethernet interface board must be mounted on one of the free bus positions of the PC.

If the PC is connected to Cheapernet, the built-in transceiver of the board can be used. However, if the PC is connected to the standard Ethernet, a drop cable and an external transceiver are needed.

The following is a description of how the board must be strapped in order to function. Since the board is already strapped and ready for use when delivered, it may be necessary to move

only one of the jumpers (a small clip), namely the one used for selecting internal or external transceiver.

Jumper Fields:

I/O ADDR	7 jumpers: 000011
MEM EN	1 jumper : 1
MEM ADDR	8 jumpers: 00110111

In these jumper fields each jumper consists of 3 pins and a jumper which can be placed around 2 of the pins. When the board is seen from the component side and the bus connector is turned downwards, a jumper is

in position 1 when the jumper is placed around the two upper pins

in position 0 when the jumper is placed around the two lower pins

Jumper Fields:

INTERRUPT	1 jumper in position 3
DMA ACK	1 jumper in position 1
DMA REQ	1 jumper in position 1

An additional jumper field is placed in the upper right-hand corner of the board (when the board is seen from the component side and the PC bus connector is turned downwards). The jumper consists of a 14-pin shorting strap which can be placed in 2 positions:

1. The PC is directly connected to the Cheapernet (BNC): Place the strap in such a way that it covers the name BNC. When using this method, no other transceiver is needed, since the transceiver is placed on the board.
2. The PC is connected via a drop cable and an external transceiver: Place the jumper in such a way that it does not cover the name BNC. In order to obtain final connection with the Ethernet cable an additional external transceiver and a drop cable are needed.

3. PC Addresses

3.1 Connection via NTC, SIOC or Modem

The asynchronous driver programs make use of the following interrupt vectors in the PC:

int	B0H-B1H	
int	0BH	Hardware interrupt identical with asynchronous devices connected to COM2.

It is possible to move the used interrupt vectors B0H-B1H to another place, as described in the installation guide.

TERM1DRV.EXE and MODM1DRV.EXE make use of the same interrupt vectors and I/O ports as COM1, i.e.:

I/O addresses	3F8H - 3FFH
interrupt	0CH

TERM2DRV.EXE and MODM2DRV.EXE make use of the same interrupt vectors and I/O ports as COM2, i.e.:

I/O addresses	2F8H - 2FFH
interrupt	0BH

3.2 Direct Connection via LAN

The ethernet protocol makes use of the following interrupt vectors in the PC in connection with the driver LANCTL.EXE

int	B0H-B6H	
int	0BH	which is identical with the hardware interrupt from COM2.

It is possible to move the used interrupt vectors B0H-B6H to another place, as described in the installation guide.

I/O ports 306H - 30FH are also used.



EtherLink[®]
Installation Guide

EtherLink[®]

3Com[®]

Chapter 1: Introduction

The EtherLink board (Model 3C501) is a printed circuit board with an advanced on-board transceiver. You install the EtherLink board in IBM personal computers, PC servers, and compatibles that you connect to an Ethernet network.

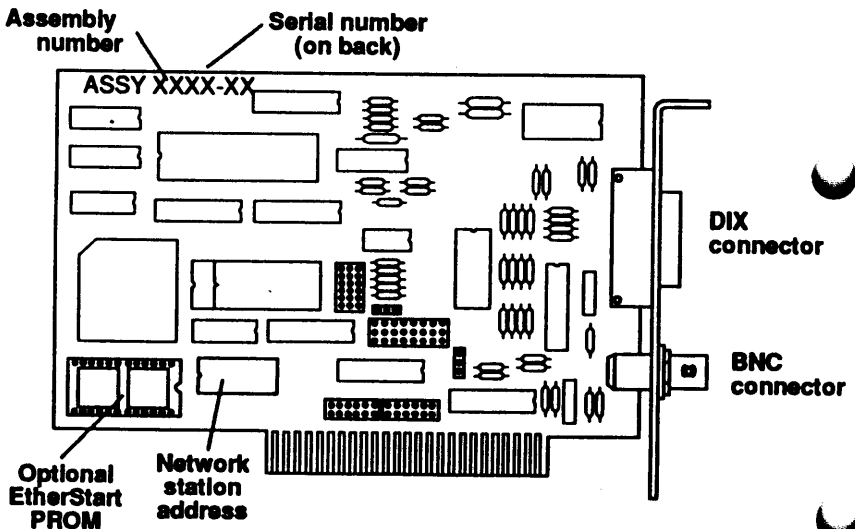


Figure 1-1. The EtherLink Board

Appendix A: EtherLink Configuration

This appendix describes the configuration (or jumper settings) of your EtherLink board. It also explains how to change the DMA channel, interrupt level, and I/O base address jumpers when they conflict with the settings of other accessory boards.

This appendix also describes the modifications that you need to make to your software if you have reconfigured your board.

Board Configuration

The jumper settings on the board determine its configuration. A jumper is a small removable plastic plug that acts as a switch when it fits over a block of pins on the board. When you change the position of the jumper to fit over a different combination of pins, the board's state changes. There are six jumper locations on the board (see Figure A-1).

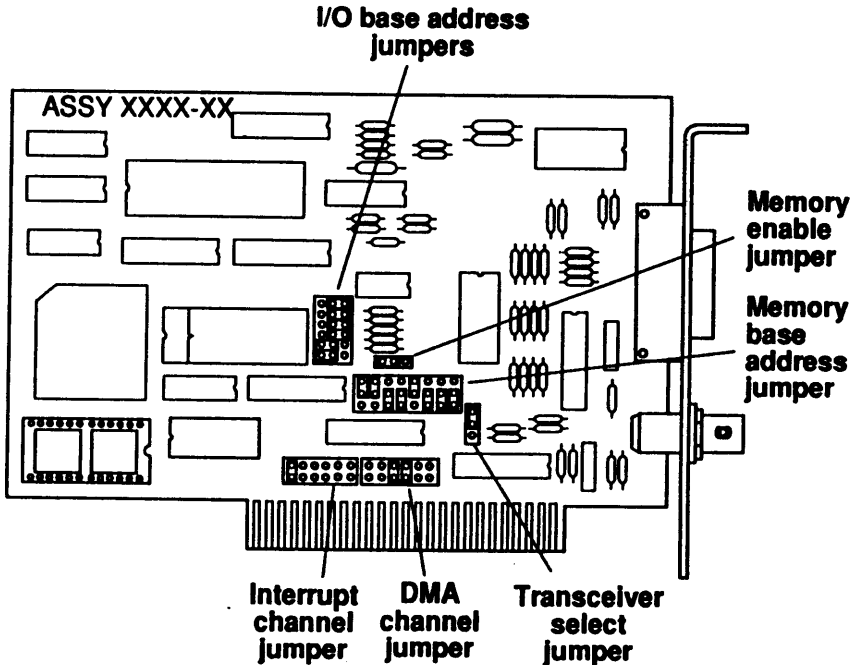


Figure A-1. Configuration of EtherLink Board

The jumpers on your EtherLink are factory-set so that the board functions properly when you first install it. Most jumpers on the board will never need to be changed. The jumpers that may need to be altered are explained in the next section "Reconfiguring the Board."

Table A-1 describes all the jumpers in alphabetical order. If you are ever unsure of the proper jumper settings, refer either to Figure A-1 or Table A-1.

Table A-1. Factory Settings of Jumpers

Jumper Setting	Factory	Description
DMA Channel*	1	Allows high-speed data transfers to and from the computer's microprocessor.
Interrupt* Level	3	Allows the EtherLink board to interrupt the microprocessor of the computer.
I/O Base* Address	300H	Determines the I/O location through which information is exchanged between the computer and EtherLink board. The board uses 16 sequential I/O addresses, starting at the base address selected. You can select base address values from 000 to 3F0 in 16-byte increments. If you are using a PC or XT, you can use the base address values 200 - 3F0. If you are using an AT, you can use the values 100 - 3F0.

* This setting may conflict with the setting used on other accessory boards. See the section "Reconfiguring the Board" for more details.

Table A-1. Factory Settings of Jumpers (cont.)

Jumper	Factory Setting	Description
Memory Base Address	EC00H	Determines the memory location of optional EtherStart PROM installed in the socket area shown in Figure 1-1. You can select base address values from 00000H to FF000H in 4-kilobyte increments. If you are using a PC or XT, you can use the base address values C8000 - F3000. If you are using an AT, you can use the values C8000 - DF000. If the optional EtherStart PROM is installed, you must set the Memory Enable jumper to enable (see description).
Memory Enable	Disable	Enables optional EtherStart PROM whose address is specified by the Memory Base Address jumper (see description). If a PROM is installed, set this jumper to enable by fitting the jumper over the right-hand and center pins; If one is not installed, use the disable setting by fitting the jumper over the center and left-hand pins.

Table A-1. Factory Settings of Jumpers (cont.)

Jumper	Factory Setting	Description
Transceiver Select	BNC	Selects the on-board transceiver (used with thin Ethernet cable) or an external transceiver (used with thick Ethernet cable). If you are selecting the on-board transceiver, keep the BNC position; otherwise, use the DIX position. For more information on setting this jumper, see Appendix B.

Reconfiguring the Board

The factory settings for the DMA channel, interrupt level, or I/O base address on your board may conflict with the settings on other boards. Since no two boards can use the same settings, you must reconfigure the conflicting board or your EtherLink board.

To determine if there is a conflict between the EtherLink board and another board, check the factory settings in Table A-1 against the documentation provided with the conflicting board.

The following sections describe how to reconfigure your Etherlink board. For information on reconfiguring the conflicting board, refer to the documentation supplied with the board. If you decide to change the EtherLink board, the available jumper settings are shown in Table A-2.

Table A-2. Available Jumper Settings

Jumpers	Available Settings
DMA Channel	1, 2, or 3
INT Level	2, 3, 4, 5, 6, or 7
I/O Base Address	000H - 3F0H

DMA Channel Jumpers

Two jumpers are required to select the DMA channel. Figure A-2 shows the jumpers set for DMA channel 1 (the factory setting).

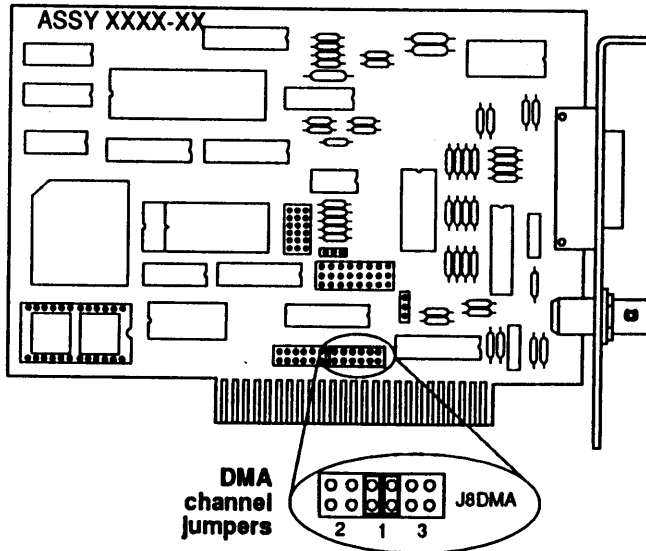


Figure A-2. DMA Channel Jumpers

You can use the DMA jumper settings 1 through 3.

To select a new setting, move each jumper to fit over the row of two pins that corresponds to the setting you want. You must select the same setting for each jumper.

Interrupt Level Jumpers

One jumper is required to select the interrupt level. Figure A-3 shows the jumper set for interrupt level 3 (the factory setting):

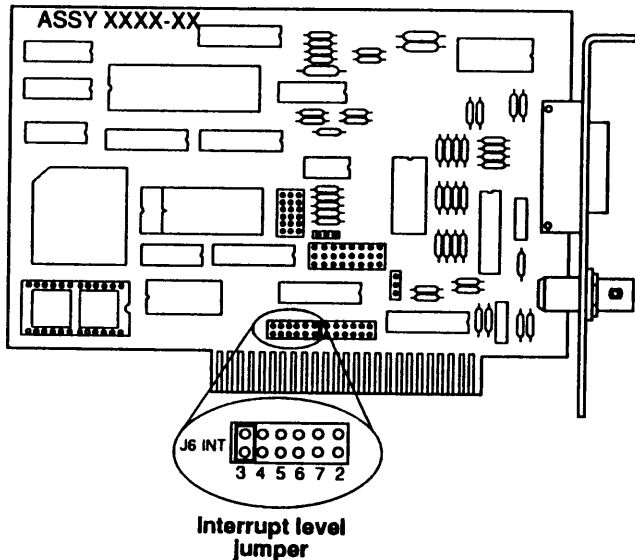


Figure A-3. Interrupt Level Jumper

You can use the interrupt jumper settings 2 through 7. To modify the interrupt level, move the jumper to fit over the row of two pins that corresponds to the channel you want to select.

I/O Base Address Jumpers

The board uses 16 sequential I/O addresses, starting at the I/O base address selected. You can set the board to select any I/O address block starting from the hexadecimal value 000H to 3F0H, inclusive.

Figure A-4 shows the jumpers set for the I/O base address 300H (the factory setting). Six jumpers are required to select this setting.

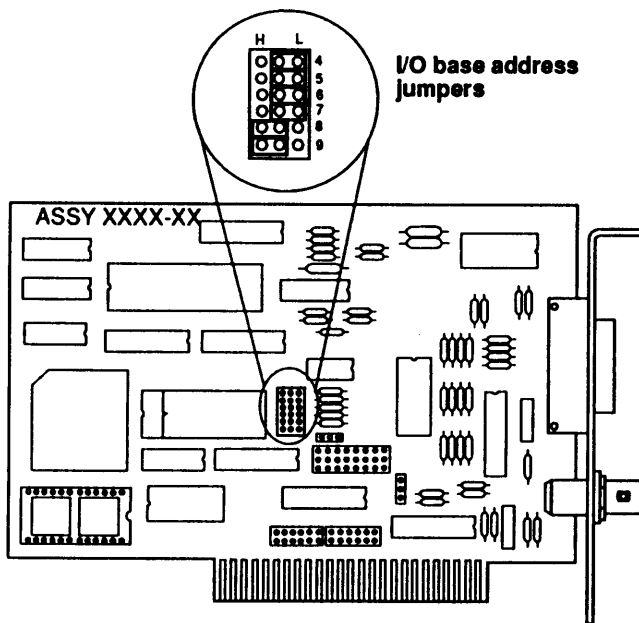


Figure A-4. I/O Base Address Settings

Table A-3 shows how the jumper settings correspond to the 300H value. Note that the last bits, 0, 1, 2, and 3 do not have jumpers. These bits are used to access the various I/O ports on the board.

Table A-3. Jumper Settings for Factory Setting

	I/O Base Jumper Settings									
	9	8	7	6	5	4	3	2	1	0
Hex Value	3		0				0			
Factory Settings	1	1	0	0	0	0	*	*	*	*

*Not Applicable

Setting a Different I/O Base Address

If you need to change the I/O base address, the corresponding jumper settings for other hexadecimal values are shown in Table A-4.

Table A-4. Hexadecimal Values and Corresponding Jumper Settings

Jumper Settings	I/O Address Bit									
	9	8	7	6	5	4	3	2	1	0
Possible Values	1/0	1/0	1/0	1/0	1/0	1/0	0	0	0	0
Factory Settings	1	1	0	0	0	0	0	0	0	0
Hex Value	3		0				0			

For example, to change the factory setting hex value 300 to the value 2E0, you set the jumpers as shown in Table A-5.

Table A-5. Jumper Settings for 2E0 Hex Value

	I/O Base Jumper Settings					
	9	8	7	6	5	4
Hex Value	2		E			
Jumper Settings	1	0	1	1	1	0

■ To Change the Base Address

1. To set the address to a 1, place the jumper over the center and left-hand pins on the jumper block.
2. To set the address to a 0, place the jumper over the center and right-hand pins on the jumper block.

Modifying Your Software

If you reconfigure your EtherLink board, you must modify your software to use the new jumper settings. The instructions for modifying 3+ software follow. For information on modifying any other software, consult the manual that accompanies the software.

If you are using 3+ software, you need to edit the CONFIG.SYS file of your netstation startup diskette to specify the new jumper settings. You must make sure that the jumper settings of the interrupt level, I/O base address, or DMA channel on your adapter board are specified in a DEVICE statement using this format:

```
DEVICE=ETH.SYS [interrupt],  
                [i/o address],  
                [dmachan],  
                [dmatype]
```



CAUTION: The jumpers on the EtherLink board must correspond to the parameter settings specified. If parameters are specified that do not match the settings on the board, the system will not function properly.

For example, if you have changed your EtherLink board so that it uses interrupt level 5, I/O address 310, and DMA channel 3, you would write:

```
A>DEVICE=ETH.SYS 5 310 3
```

If you are using the default values (or factory settings) of the jumpers, you can omit all three parameters as in:

```
A>DEVICE=ETH.SYS
```

The default values are as follows:

Interrupt Level	3
I/O Base Address	300 H
DMA	1

Using the letter x in place of a parameter's value causes the default value to be accepted. Default values also are accepted for parameters omitted at the end of the line. For example, if you change your EtherLink

board to have an interrupt level of 7 and DMA channel 2, the DEVICE statement should be:

A>DEVICE=ETH.SYS 7 x 2

The x specifies that the I/O address is the default setting.

You use the `dmatype` parameter to specify the type of DMA and programmed I/O used by your computer. The value can be 1, 2, 3, or 4, where the numbers reflect the settings described below. The default value is 3 on an IBM PC XT or compatible, and 4 on an IBM AT or compatible.

- 1 DMA byte mode transfer - Gives control back to the CPU after each byte is transferred. The CPU gives control back to the DMA device after each full machine cycle.
- 2 Programmed I/O loop - Does input and output to ports and loops until the packet has been received or sent.
- 3 DMA block mode transfer - The DMA channel is active continuously until the entire transfer has completed. Accelerated refresh is done to ensure no loss of data integrity.
- 4 Programmed I/O using REP instruction - Substitutes this instruction instead of loop. This can only be used in Intel 80186 or 80286 class machines.

Set the value for 2 when there is no DMA channel installed on your computer. If you enter a DMA value in the DEVICE statement, it is ignored.

For example, if you are using interrupt level 5, I/O address 310, and you want to ignore the setting of the DMA channel, you would write:

A>DEVICE=ETH.SYS 5 310 x 2

Appendix B: Adapting for Thick Ethernet Cable

This appendix describes the modifications you must make if you are using the thick Ethernet cable.

It explains how to:

- Change the setting of the board's transceiver select jumper
- Connect the adapter plate assembly to the end of the cable. Adapter plates are available from your network reseller.

Changing the Transceiver Select Jumper

The 3Com-designed thin Ethernet cable works with the transceiver on the EtherLink board. Thick Ethernet cable requires an external transceiver.

The transceiver select jumper is factory-set in the BNC position. This position selects the on-board transceiver used with the thin Ethernet

B

Adapting for Thick Ethernet Cable

B-2

cable. To use an external transceiver required by thick Ethernet cable, you must move the jumper to the DIX position. Figure B-1 shows the location of the transceiver select jumper.

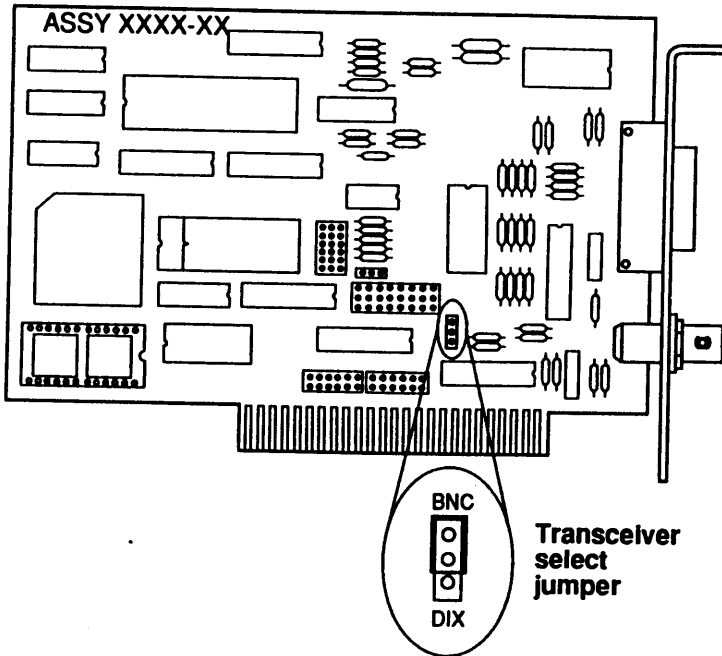


Figure B-1. Transceiver Select Jumper

**For information on Western Digital Local Area Network
and Systems Logic Products, call:**

(714) 932-6000

1-800-832-4778 in U.S.A.

1-800-448-8470 in Canada

For information on Western Digital Imaging Products, call:

(415) 960-3360

1-800-356-5787 in U.S.A.

WESTERN DIGITAL

Ethernet Coaxial Local Area Network Adapters

WD8013EBT High Performance 16-bit Ethernet LAN Adapter

A high performance 16-bit Ethernet LAN adapter for AT bus with 8-bit WD8003EB compatibility mode for XT bus. Designed for use in high performance workstations, servers, bridges, and gateways. Includes 16 Kbytes of buffer memory and a ROM socket that can accept a 16-, 32-, or 64-Kbyte ROM. Provides a shared memory interface to buffer memory in both 8- and 16-bit modes. The WD8013EBT offers expanded interrupt options, and is FCC Class B certified. Connectors: a BNC for direct connection to thin Ethernet cable, and a DB-15 AUI for connection to an external transceiver for use with thick Ethernet, fiber optic, or twisted pair cable.

Packaging

Bulk: WD8013EBT
 WD8013EBT board only

Branded: WDLAN-EP16 F001
 WD8013EBT board, BNC T-connector,
 User Installation Guide, SuperDisk

WD8003E/A High Performance 16-bit Ethernet LAN Adapter For Micro Channel

This board features the same architecture as the WD8013EBT, but is designed for use in IBM PS/2 Micro Channel bus computers and compatibles. In addition to its low-power CMOS LAN controller chip, this board includes a 16-Kbyte buffer memory and an on-board ROM socket supports a 16-, 32- or 64-Kbyte ROM. Manufactured using surface mount technology, the WD8003E/A features the the WD Micro Channel interface device - WD83C593. FCC Class B certified. Connectors: a BNC for direct connection to thin Ethernet cable, and a DB-15 AUI for connection to an external transceiver for use with thick Ethernet, fiber optic, or twisted pair cable.

Packaging

Bulk: WD8003E/A
 WD8003E/A board only

Branded: WDLAN-EP/A F201
 WD8003E/A board, BNC T-connector,
 User Installation Guide, SuperDisk

WD8003EB 8-bit XT/AT bus Ethernet LAN Adapter with ROM Socket

An 8-bit Ethernet LAN board for an XT/AT bus. This adapter includes a ROM socket that can accept a 16-, 32-, or 64-Kbyte ROM, and has an 8-Kbyte shared RAM buffer memory. Manufactured using surface mount technology, the WD8003EB features the WD83C583 bus interface chip with non-volatile memory to eliminate most of the jumpers. A setup program is used to configure the adapter after installation. FCC Class B certified. Connectors: a BNC for direct connection to thin Ethernet cable, and a DB-15 AUI for connection to an external transceiver for use with thick Ethernet, fiber optic, or twisted pair cable.

Packaging

Bulk: WD8003EB F205
 WD8003EB board only

Branded: WDLAN-EPB F201
 WD8003EB board, BNC T-connector, User
 Installation Guide, SuperDisk

Ethernet Twisted Pair Local Area Network Adapters

WD8003W

10BaseT Twisted Pair LAN Adapter

A half-size, 8-bit XT/AT bus Ethernet LAN adapter for 10BaseT and StarLAN 10 twisted pair environments. Features four LED indicators for network troubleshooting: automatic polarity correction, link integrity, transmit, and receive. Includes 8 Kbytes of shared RAM buffer memory and an on-board socket that can accept a 16-, 32-, or 64-Kbyte ROM. Complies with FCC Class A. Connectors: a DB-15 AUI for connection to an external transceiver for use with thick Ethernet, or fiber optic cable, and an RJ-45 telephone-type for connection to a maximum of 100m unshielded twisted pair cable (Standard AT&T PDS, IBM Type 3, or the unshielded conductors of IBM Type 2 cable.).

Packaging

Bulk: WD8003W
WD8003W board only

Branded: WDLAN-E10T F001
WD8003W board, 15-foot unshielded twisted pair cable, User Installation Guide, SuperDisk

WD8003W/A

10BaseT LAN Adapter for Micro Channel

A 16-bit Ethernet LAN adapter for Micro Channel 10BaseT and StarLAN 10 twisted pair applications. Includes a 16-Kbyte shared RAM buffer memory. Provides on-board ROM socket, and four LED indicators for network troubleshooting: automatic polarity correction, link integrity, transmit, and receive. Complies with FCC Class A. Connectors: a DB-15 AUI for connection to an external transceiver for use with thick Ethernet, or fiber optic cable, and an RJ-45 telephone-type for connection to a maximum of 100m unshielded twisted pair cable (Standard AT&T PDS, IBM Type 3, or the unshielded conductors of IBM Type 2 cable.).

Packaging

Bulk: WD8003W/A
WD8003W/A board only

Branded: WDLAN-E10T/A F001
WD8003W/A board, 15-foot unshielded twisted pair cable, User Installation Guide, SuperDisk

WD8003WT**LattisNet Twisted Pair Ethernet LAN Adapter**

An 8-bit XT/AT bus Ethernet LAN adapter for LattisNet (non-10BaseT) twisted pair environments. Includes 32 Kbytes of RAM buffer memory and a ROM socket that can accept a 16-, 32- or 64-Kbyte ROM. Complies with FCC Class A. Connectors: a DB-15 AUI for connection to an external transceiver for use with thick Ethernet or fiber optic cable, and an RJ-45 telephone-type for connection to a maximum of 100m unshielded twisted pair cable (Standard AT&T PDS, IBM Type 3, or the unshielded conductors of IBM Type 2 cable).

Packaging

Bulk: WD8003WT

Branded: WDLAN-ETP F001
WD8003WT board, 15 foot unshielded twisted pair cable, User Installation Guide, SuperDisk

**LattisNet
Concentrator****8-Port LattisNet Twisted Pair
Hub**

This stand-alone concentrator is a 10 Mbps retiming hub that connects up to eight computers via twisted pair cable in a star configured, LattisNet compatible network. The concentrator connects directly to the RJ-45 ports on WD8003WT boards. Concentrators may be linked together without using any of the twisted pair ports through the additional BNC thin Ethernet connector on the concentrator. An existing thin coaxial cable Ethernet network can be bridged to a twisted pair network by attaching directly to the concentrator at the same BNC connector.

Packaging

Bulk: WDLAN-ETPH F001
LattisNet Concentrator with North American power supply (120v/60Hz), BNC T-connector, User Installation Guide

Branded: WDLAN-ETPH F002
LattisNet Concentrator with Universal Euro Power Supply (220-240V/50Hz)
(Note: Appropriate power cords for each country must be purchased locally), BNC T-connector, User Installation Guide

Ethernet Coaxial Adapters

Product Overview

OEM Product Name	WD8003EB	WD8013EBT	WD8003E/A
Retail Product Name	EtherCard PLUS With ROM Socket	EtherCard PLUS16	EtherCard PLUS For Micro Channel
Retail Order Number	WDLAN-EPB F201	WDLAN-EP16 F001	WDLAN-EP/A F201
PC Compatibility	IBM PC, PC XT, PC AT, PS/2-25/30	IBM PC, PC XT, PC AT, EISA, PS/2-25/30	IBM PS/2-50/60/70/80
Protocol	Ethernet 10Mbps Baseband	Ethernet 10Mbps Baseband	Ethernet 10Mbps Baseband
Network Connectors	15-Pin Ethernet AUI, Thin Ethernet BNC	15-Pin Ethernet AUI, Thin Ethernet BNC	15-Pin Ethernet AUI, Thin Ethernet BNC
Interface To PC	Shared Memory	Shared Memory	Shared Memory
PC DMA	None	None	None
PC Interrupts	IRQ2, 3, 5, 7	IRQ2, 3, 4, 5, 7, 9, 10, 11, 15	IRQ3, 4, 10, 15
ROM Socket	16/32/64 Kbytes	16/32/64 Kbytes	16/32/64 Kbytes
On-Board Buffer RAM	8 Kbytes	16 Kbytes	16 Kbytes
Board Size (Inches)	3.9 x 5.25	3.9 x 11.5	3.5 x 10.0
Power (Typical)	5V, 0.75A	5V, 1.2A	5V, 1.4A
External Transceiver	12V, 0.5A	12V, 0.5A	12V, 0.5A
FCC Class	B	B	B

Ethernet Twisted Pair Adapters

Product Overview

OEM Product Name	WD8003WT	WD8003W	WD8003W/A
Retail Product Name	EtherCard PLUS TP	EtherCard PLUS10T	EtherCard PLUS10T/A
Retail Order Number	WDLAN-ETP F001	WDLAN-E10T F001	WDLAN-E10T/A F001
PC Compatibility	IBM PC, PC XT, PC AT, PS/2-25/30	IBM PC, PC XT, PC AT, EISA PS/2-25/30	IBM PS/2-50/60/70/80
Protocol	Ethernet 10Mbps Baseband SynOptics LattisNet	10BaseT Ethernet StarLAN 10 10 Mbps Baseband	10BaseT Ethernet, StarLAN 10 10Mbps Baseband
Network Connectors	15-Pin Ethernet AUI, RJ-45 Telephone Type	15-Pin Ethernet AUI, RJ-45 Telephone Type	15-Pin Ethernet AUI, RJ-45 Telephone Type
Interface To PC	Shared Memory	Shared Memory	Shared Memory
PC DMA	None	None	None
PC Interrupts	IRQ2-7	IRQ2, 3 5, 7	IRQ3, 4, 10, 15
ROM Socket	16/32/64 Kbytes	16/32/64 Kbytes	16/32/64 Kbytes
On-Board Buffer RAM	32 Kbytes	8 Kbytes	16 Kbytes
Board Size (Inches)	3.9 x 13.3	3.9 x 6.25	3.5 x 11.5
Power (Typical)	5V, 1.8A	5V, 1.0A	5V, 0.88A
External Transceiver	12V, 0.5A	12V, 0.5A	12V, 0.5A
FCC Class	A	A	A



FlatTop 1 Series (DK)

Stock No.:	23300900	FlatTop 1 Diskless
	23310900	FlatTop 1 FD
	23320900	FlatTop 1 FD+40M
	23330900	FlatTop 1 FD+120M
	2339090x	Additional options
Datasheet:	920227/DK FlatTop 1 series	
Brochure:	None	
TM-number:	387 (pc)	
	403 (ADI BW monitor)	
	352 (EIZO BW monitor)	
TPP-FCN's:	none	
Nationality:	Danish	
Manufct./model:	NCR/3210	
Main supplier:	NCR Danmark	
Product resp.:	lea/BNA	
Table:	none	
Cable type:	none	
Setup floppy:	none	
(P) Packing List:	920227/UK/FlatTop 1 series (DK)	
(P) Installation:	920227/UK/FlatTop 1 series (DK)	
User Intro:	none	

Revised: 28.02.92

V.1.5

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Change History:

18.08.91: Preliminary version - replaces PC316L series.
16.09.91: Still preliminary - changed to replace DOS
V.3.30 with 5.0
18.10.91: Name changed from PC316L-II to FlatTop 1.
08.11.91: Added TMN manual number.
10.02.92: Added 120Mb HD, and changed packing list.
28.02.92: New stock no. for new pricing structure.

FlatTop 1 series (DK)

Installation sheet 920227/UK

1. Assembly.

1.1 Manual assembly.

Disassemble system unit, and mount memory and/or FPU options. See Users Manual for details on how to.

If a netcard is to be mounted (option), use the lower slot for that.

Danish keys must be inserted in the empty sockets on the keyboard. Keys for all scandinavian languages are supplied, so be careful. A few keys are almost identical! Calculate about 20 to 30 minutes for this job. Layout is described in the Scandinavian Workstation Keyboard Guide.

1.2 Konfiguration.

Connect keyboard and monitor to the CPU, and power on. Press the **F1** key when prompted

Check the setup:

Flexible disk A : (see below)¹

Flexible disk B : Not installed

Fixed disk C : (see below)²

CPU speed : Fast

Conventional mem. : 640 KB

AT Bus Memory : 0 KB

Extended memory : 256 KB³

Primary display : EGA/VGA graphics display

Screen width : 80 Columns

Pres **F2** and check:

Shadow BIOS ROM : Yes

Shadow Video ROM : Yes

Shadow Video at : C000

Shadow 16K at .. : No

Flex Disk Controller : Yes

Hard Disk Controller : Yes

Parallel Port : Yes

25 Pin Serial I/O : Yes

9 Pin Serial I/O : Yes

Primary COM port : 25Pin

Pres **End** twice to save and reboot the system.

<u>¹Floppy type</u>	<u>DDE Stock no.</u>
Not installed	23300900
1.44Mb,3.5"	all others

<u>²Disktype</u>	<u>DDE Stock no.</u>
Not installed	23300900 and
	23310900
28	23320900
25	23330900

³Extended memory size. Add 2048Kb if 2Mb option installed, 4096Kb if 4Mb etc. Verify proper setting by POS test, i.e. no configuration errors.

1.3 Program installation.

Before installing DOS, run factory test below.

Install MS-DOS 5.0 on the hard disk. Put Disk 1 in floppy drive, and press **CTRL-ALT-DEL**. Follow instructions, and select keyboard and language according to stock no. code (Danish). Select also "SHELL LOAD : NO"! The rest is default. DOS installs itself automatic, you only need to insert DISK 2 and DISK 3 when prompted.

If the MS-Windows option has been purchased, install it using Danish language and keyboard, and MS-Mouse option. If you use batch install, remember to install only to exactly same configuration (memory size), and from the same shipment from Microsoft. MS makes small changes every day, and do not believe in version control! All the MS packages (DOS and Windows) must be opened before delivery for legal reasons.

If no hard disk is mounted, do not install DOS or Windows.

(turn over)

2. Factory test.

Check that no errors occurs during POS. (No other diagnostics available yet)

3. Markings.

3.1 System unit

NCR logo is covered with the label:

Mekoprint order number : H 0071

Use upper and left side of the NCR logo for aligning the DDE label.

3.2 Keyboard

Remove the NCR logo on the left side of the keyboard.

Mount the DDE logo (H 0071) on the right side of the keyboard. Distance from upper corner (back of keyboard) about 10 mm. Right side of label is 15 mm from right side of the keyboard. (aligns with the status LED area below it!)

4. DDE Stock Numbers:

These new stock numbers are for use in Denmark only. A monitor is added. See packing list for details.

23300900 FlatTop 1 Diskless mono
23310900 FlatTop 1 FD mono
23320900 FlatTop 1 FD 40M mono
23330900 FlatTop 1 FD 120M mono

* NCR PC6 XT *

Proseccor:
8088-2

RAM bank:
4x256Kb (bank 0, bank 1, bank 2, bank 3)

Floppy driv:
1x360Kb

Standard porte:
Seriell port (25 pol)
Parrallel port (25 pol)
keyboard port (5 pol)
220 volt in/out

Switch på kabinet:
Power on/off
XP (turbo) on/off
Sound Variabel

switch på motherboard:
2 stk dip switch

Options til motherboard:
640 Kb RAM
Math Coprocessor (8087)
360Kb floppy

De 2 dip switch på motherboard er til at konfigurere PC'er med. Følgende tabel anviser de enklede dips funktion.

SW-1

dip 1 2 3 4 5 6 7 8

1 1

PCer egen skærm kontrol slået fra,
skærmen bliver styret af et extern
grafik kort.

0 1

Color/grafik 40x25

1 0

Color/grafik 80x25

0 0

Monocrom

0 0

MPB RAM 256K til 640K

1

Matc Coprosocessor monteret

0

Math Coprosocessor ikke monteret

SW-A

1

XP (turbo) enabled

0

XP (turbo) Disabled

0 0

384Kb RAM monteret 256+64+64

0 1

256Kb RAM monteret 256

1 1

640Kb RAM monteret 256+256+64+64

1 0

512Kb RAM monteret 256+256

0

Seriell port disabled

1

Seriell port enablet

0

Parallel port disabled

1

Parallel port enabled

Ved opsætning af NCR PC6 skal følgende ting oprettes eller checkes:

Adskild pceren og check dip switch med hvad der er monteret i PC'eren. Dette kan være RAM, skærmbort m.m.(Se forige side)

Monter evt. skærmbort, netkort, serielkort eller andet i nogle af de 8 frie slots.

Saml PC'er med alle skruerene(også i de kort som er monteret i slot), og husk at forbinde skærmens 220 volt til PC'ers 220 volt udgang, så brugeren kun skal tænde/slukke et sted.

Herefter kan man nu prøve at boote PC'er med den medfølgende DOS. Vær opmærksom på at PC'er laver selvtest af alle de RAM kredse som der er monteret, gør den ikke det er switch blok SW-A switchet forkert!!.

Når PC'er viser en prompt skal der laves en opstart diskette, da den medfølgende DOS skal betragtes som en backup disketter. Dette gøres ved at man tager boot disketten ud af floppy og insætter i stedet disketten mærket utility. Herefter skrives FORMAT A:/s. Format programmet spørger efter en blank diskette som der skal formateres, denne sættes i floppy drev i stedet for disketten utility, og disketten vil efter et stykke tid være formateret med system spor, og kan bruges som opstartdiskette. Hvis en harddisk er monteret skrives FORMAT C:/s. Dette afprøves.

Det vil nu være en god ide at oprette nogle underkataloger på sin opstarts diskette, de kunne f.eks. benævnes DOS, BIN, TMP mv. I disse underkataloger lægges



DDE WS333

Stock No.: 23310650 (DK-keybaord)
23310651 (UK-keyboard)
23310658 (US-keyboard)

Datasheet: none

TM-number: see below

Table: none

F/W versions: BIOS 3.03E2
MS-DOS 4.01 (white)
3.3 (gray)

Cabletype: none

Manufct./model: see below

Supplier: see below

Productresp.: lea/MUDV

Components: ①. ACER 1100/33 PC w. floppydrive
②. Adaptec AHA-1540 SCSI ctrl.
③. Archive 2150S tapestreamer
④. Micropolis 1674 150Mb disk
⑤. INTEL 80387DX-25 FPU
⑥. 4 - 6 MB 80nS SIMM RAM

TM-number: ①) 326
②) 327
③) 325

Suppliers: ①) Groser Data
②) BLT periferi
③) JAI

Setup floppy: WS333 DIAGNOSTICS V.1.1/10.12.90

CONTENT:	1. Hardware assembly
V.1.2	2. Hardware configuration
10.12.90	3. Test and formatting
	4. Software installation
	(5. Checklist for shipping)
	(6. Marking)
	7. Setup of tapestreamer

Two versions of the ACER 1133 platform exists. They differ only in the colour and type of keyboard. The old version is called "white", the new "gray" whenever there is a need to distinguish between them.

1. Hardware assembly.

Following each unit is a "1100/33 USER'S GUIDE". Here you will find the meaning and position of all straps (Chapter 3, Hardware Configuration). This is a list of deviations from the default:

- a. The 1133 is delivered with either 2 or 4 Mb RAM mounted. It must be expanded to 8Mb.

- 1. The 4 or 6 free SIMM sockets is filled with 1Mb 80 ns RAM-strips.

- 2. Change straps to:

- JP13 : 1-2

- JP14 : 1-2

- JP15 : 2-3

- JP16 : 2-3

- SW2-10 : set to OFF.

- b. Mount a 80387DX-25 FPU:

- 1. Put the chip in the designated socket.

- 2. Change straps to:

JP6 : 1-2

JP7 : 1-2

JP7 : 1-2

- c. Mount Adaptec AHA-1540B card in slot no. 6
(FDC-card is found in slot no. 3)
- d. Mount SCSI disk in lower internal drive bay.
Terminator resistor block must be removed. (disabled).

(See DDE Datasheet for disk)

Fjern en eventuel modstandskasse til strømforsyningen.

- e. Mount Tapestreamer below the floppydrive in external drive bay, so front panels align.

UNIT = 2 and PARITY ENABLE straps should be set.

(See setup of tapestreamer, part 7, this document)

- f. Connect controller, disk and tapestreamer with SCSI cable.
- g. Mount the optional videocontroller in slot no. 2, and connect keyboard, monitor and power outlet.

Slot numbers are shown on the back of the PC.

2. Hardware configuration.

- a. Power on. Press CTRL-ALT-ESC when selftesting is almost complete. Check settings:

```

1. DATE:  Todays date
2. TIME:  and time
3. FLOPPY DRIVE A:      1.2M FLOPPY DRIVE
4. FLOPPY DRIVE B:      NOT PRESENT
5. FIXED DISK 1:        NOT PRESENT
6. FIXED DISK 2:        NOT PRESENT
7. PRIMARY DISPLAY:     SPECIAL ADAPTER
8. MEMORY BELOW 1 MEG.  : 00640K
9. MEMORY ABOVE 1 MEG.  : 07168K
A. COPROCESSOR.: PRESENT
B. SPEED CONTROL : 33M
C. CACHE FUNCTION : ON
D. UPDATE ALL ITEM
E. END AND REBOOT
F. BIOS MODE : SYSTEM - RAM BIOS, VGA OR EGA - ROM BIOS
6. COM1 : 9600,E,7,1

```

- b. Please check the points 3, 4, 5, 6, 8, 9, A, B, C and F carefully. If not set correctly, software installations will fail.
- c. Point 7 should reflect the video card. SPECIAL ADAPTER covers VGA and SuperVGA. MONOCHROME should be used for a HGC controller.
- d. When all points are set correct, end with E. It will reboot.

3. Test and formatting.

- a. A low level formatting is needed for a new combination disk and diskcontroller. Put WS333 DIAGNOSTIC floppy in drive A, and boot the system. Run the DEBUG program without parameters. at the '-' prompt, type:

G=DC00:6

(Any bootdiskette with a DEBUG program will do in this case).

- b. ADAPTEC ON-BOARD UTILITIES displays a menu.
Check to see if both disk and tapedrive is listed. If unit is not on the list, it is out of order.
 - 1. Select format disk.
 - 2. Select verify disk.
 - 3. Exit to DOS.
- c. Reboot with the WS333 DIAGNOSTIC floppy, and run the DIAGNOS program. You should not test diskdrive and videocard with this diagnostic.

4. Software installation.

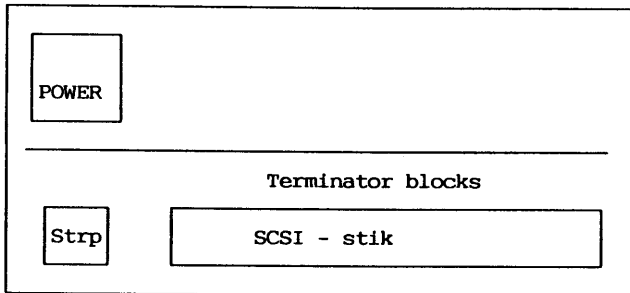
Demand a setup from the sales person

!

7. Setup of tapestreamer.

An Archive Viper 2150S is used as a tapestreamer. Use one with gray front panel. Default settings must be changed:

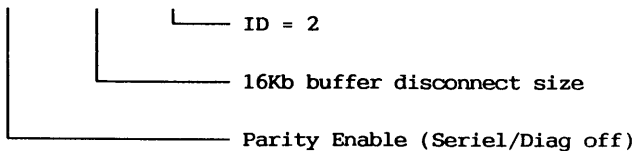
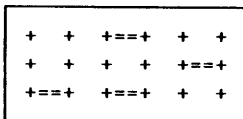
Put the streamer on a tabletop with circuit boards down and mechanism up. Viewed from the back:



<- ben 1

Terminator blocks should be mounted.

Following straps (==) should be set:



DDE PC212 (DK)

Stock No.: 23200350 (PC212)
 23210350 (PC212-20M)
 23220350 (PC212-40M)
 23997901 (DOS 4.01 option)

Datasheet: mu20/15.02.91
 mu20e/18.02.91

Brochure: yes
 TM-number: 317
 TPP-FCN's: none
 Nationality: Danish

H/W versions: BIOS 3.2
 BIOS Setup V.3.00.00
 VGA-PROM V.15.1.16 (U28)
 S/W versions: MS-DOS V.3.30.00 or
 MS-DOS V.4.01 (option)

Cabletype: none
 Manufct./model: NCR/PC286
 Supplier: NCR Danmark
 Supp. Stock no: 3302-0103-7410 (w. FD)
 3302-0110-7410 (w. FD & 20M HD)
 3302-0111-7410 (w. FD & 40M HD)
 D900-0954-0100 NCR MS-DOS 3.30
 D900-1273-0100 NCR MS-DOS 4.01

Product resp.: lea/MUDV

Table: none
 Cable type: none
 (E) Setup floppy: DDE PC212/316/316L/425L Config V.2.0
 (P) Packing List: V.3.0/PC212 Series (Int)
 (P) V.1.0/NCR MS-DOS V.3.30 or
 (P) V.1.0/NCR MS-DOS V.4.01
 (P) Installation: V.3.0/PC212 Series (DK)
 (P) V.1.0/NCR MS-DOS V.3.30
 (E) User Intro: V.2.1/PC212

Revised: 17.04.91

V.3.0

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.

PC212 Series (DK)

Installation sheet V.3.0/17.04.91

DDE stock no.

.23300350 (PC212)
23310350 (PC212-20M)
23320350 (PC212-40M)

Content:

1. Assembly.
2. Factory test.
3. Markings.

This version replaces V.2.0. Packing list is now separate, and MS-DOS V.3.30 has its own Installation sheet.

1. Assembly.

1.1 Manual assembly.

There is no mechanical assembly inside the CPU.

Danish keys must be inserted in the empty sockets on the keyboard. Keys for all scandinavian languages are supplied, so be careful. A few keys are almost identical! Calculate about 20 to 30 minutes for this job.

1.2 Konfiguration.

Connect keyboard and monitor to the CPU, and power on. Press the  key when prompted

Check the setup:

Flexible disk A : (see below)¹

Flexible disk B : Not Installed

Fixed disk C : (see below)²

CPU speed : **Fast**

Conventional mem. : **640 KB**

Extended memory : **384 KB**

Primary display : **EGA/VGA graphics display**

Screen width : **80 Columns**

¹Floppy type
1.44Mb,3.5"

Manufact./Model
TEAC FD-235HF

²Disktype

Manufact./model

Not installed

(No drive)

2 (-20M)

Conner CA-3024

28 (-40M)

Conner CA-3044

36 (-100M)

Conner CA-3104

1.3 Program installation.

Only MS-DOS V.3.30 is installed, and only on 40M and 100M models. If the MS-DOS V.4.01 option is purchased, do not install.

See NCR MS-DOS V.3.30 installation sheet.

Use DK as country code paramter for DDEINS.

2. Factory test.

Test should be performed before any program installations!

Install loopback plugs in serial ports.

Insert the **Field Service Diagnostics** floppy in drive, and boot.

Run all diagnostics once.

(turn over)

3. Markings.

3.1 System unit

NCR logo is covered with the label:

Mekoprint order number : K ?????

(Label 15×22mm with logo and PC212 name)

Use upper and left side of the NCR logo for aligning the DDE label.

3.2 Keyboard

Remove the NCR logo on the left side of the keyboard.

Mount the DDE logo (se 3.1) on the right side of the keyboard. Distance from upper corner (back of keyboard) about 10 mm. Right side of label is 15 mm from right side of the keyboard. (aligns with the status LED area below it!)



NCR MS-DOS V.3.30

Installation sheet V.1.0/15.04.91

DDE stock no. (NA)

Content:

1. Assembly.
2. Factory test.
3. Markings.

This procedure has been changed in order not to violate Microsoft licence, and ensure that versions installed are the same as those supplied with the PC.

1. Assembly.

1.1 Install DOS on C.

Make a copy of each disk, **DOS/DRIVERS** and **OPTIONS**. Use the copies for the installation procedure (They are modified!).

Insert floppy one in drive **A** and boot. At the system prompt type:

DOSINS

And follow the directions.

Name the volume "DDE PC316L".

When asked to restore any files, type **N**.

When asked for subdirectory, type:

DOS

Wait while the files are transferred from both DOS floppies.

When asked if you want international installation, enter **Y** and select **DANISH**.

Do a reboot without a floppy in drive **A**.

1.2 National Keyboard support.

Put the configuration diskette for the PC in drive **A** and follow directions for keyboard installation for a specific language. If this is not done, the keyboard will be assumed to be american!

1.3 Format drive D.

If the primary diskdrive is larger than 32 Mb, you must format the rest of the disk for DOS.

Reboot without floppy in drive, and give the command:

FDISK

Select the rest of the disk as 1) extended partition, and 2) create drive **D** in it. After automatic reboot, type:

FORMAT D:/V

set Volume ID to "DDE PC316-2"

2. Factory test.

When installation is complete, use a DIR command to verify, that the root directory contains:

```
COMMAND.COM  
DOS <DIR>  
CONFIG.SYS  
AUTOEXEC.BAT
```

For DK and N check that codepage 865 has been loaded:

Verify that the æ, ø og å keys are displayed on the monitor. If f.ex. ø is replaced by € or ¥, there has been a problem with the installation.

3. Markings.

None.

PC212/316/316L International Keyboards

Installation sheet V.1.0/16.04.91

DDE stock no. ...1 (UK) ...5 (S)
 ...6 (E) ...8 (US)

Content:

1. Assembly.
2. Factory test.
3. Markings.

This describes how to install national keyboards for the above PC's. Use the danish installation sheet for each PC, with the following execeptions:

Where cc is one of the supported country/language codes:

cc	Country/Language
UK	United Kingdom
S	Sweden
E	Spain
N	Norway
B	Belgium
US	United States

1. Assembly.

2. Factory test.

1.1 Manual assembly.

No change here.

For norwegian and swedish keyboards, use the same keyboard as the danish (scandinavian), but mount for Norway or Sweden/Finland. See **Scandinavian Workstation Keyboard** guide. Calculate 20 to 30 minutes to do this also.

3. Markings.

No change here.

All other supported languages are delivered pre-assembled.

1.2 Configuration

No change.

1.3 Program installation

After installation of **NCR MS-DOS V.3.30** place the **Config** floppy for the PC in drive **A** and type

A:DDEINS cc

C

C

C

C

DDE PC212 (E)

Stock No.:	23200356	(PC212 E)
	23210356	(PC212-20M E)
	23220356	(PC212-40M E)
	23997901	(DOS 4.01 option)
Datasheet:	mu20e/18.02.91	
Brochure:	yes	
TM-number:	317	
TPP-FCN's:	none	
Nationality:	Spanish (Spain)	
H/W versions:	BIOS	3.2
	BIOS Setup	V.3.00.00
	VGA-PROM	V.15.1.16 (U28)
S/W versions:	MS-DOS	V.3.30.00 or
	MS-DOS	V.4.01 (option)
Cabletype:	none	
Manufct./model:	NCR/PC286	
Supplier:	NCR Denmark	
Supp. Stock no:	3302-0103-7410 (w. FD) or	
	3302-0110-7410 (w. FD & 20M HD) or	
	3302-0111-7410 (w. FD & 40M HD)	
	! specify keyboard : 3299-K445-V001	
	D900-0954-0100 NCR MS-DOS 3.30 or	
	D900-1273-0100 NCR MS-DOS 4.01	
Product resp.:	lea/MUDV	
Table:	none	
Cable type:	none	
(E) Setup floppy:	DDE PC212/316/316L/425L Config V.2.0	
(P) Packing List:	V.3.0/PC212 Series (Int)	
(P)	V.1.0/NCR MS-DOS V.3.30 or	
(P)	V.1.0/NCR MS-DOS V.4.01	
(P) Installation:	V.3.0/PC212 Series (DK)	
(P)	V.1.0/NCR MS-DOS V.3.30	
	V.1.0/PC212/316/316L int. keyboards	
(E) User Intro:	none	
Revised:	22.04.91	V.3.0

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.



DDE PC212 (S)

Stock No.: 23200355 (PC212 S)
 23210355 (PC212-20M S)
 23220355 (PC212-40M S)
 23997901 (DOS 4.01 option)

Datasheet: mu20e/18.02.91

Brochure: yes

TM-number: 317

TPP-FCN's: none

Nationality: Swedish

H/W versions: BIOS 3.2
 BIOS Setup V.3.00.00
 VGA-PROM V.15.1.16 (U28)
 S/W versions: MS-DOS V.3.30.00 or
 MS-DOS V.4.01 (option)

Cabletype: none

Manufct./model: NCR/PC286

Supplier: NCR Denmark

Supp. Stock no: 3302-0103-7410 (w. FD) or
 3302-0110-7410 (w. FD & 20M HD) or
 3302-0111-7410 (w. FD & 40M HD)
 D900-0954-0100 NCR MS-DOS 3.30 or
 D900-1273-0100 NCR MS-DOS 4.01

Product resp.: lea/MUDV

Table: none

Cable type: none

(E) Setup floppy: DDE PC212/316/316L/425L Config V.2.0

(P) Packing List: V.3.0/PC212 Series (Int)

(P) V.1.0/NCR MS-DOS V.3.30 or

(P) V.1.0/NCR MS-DOS V.4.01

(P) Installation: V.3.0/PC212 Series (DK)

(P) V.1.0/NCR MS-DOS V.3.30

V.1.0/PC212/316/316L int. keyboards

(E) User Intro: none

Revised: 22.04.91

V.3.0

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.



DDE PC212 (UK)

Stock No.: 23200351 (PC212 UK)
 23210351 (PC212-20M UK)
 23220351 (PC212-40M UK)
 23997901 (DOS 4.01 option)

Datasheet: mu20e/18.02.91

Brochure: yes

TM-number: 317

TPP-FCN's: none

Nationality: English (United Kingdom)

H/W versions: BIOS 3.2
 BIOS Setup V.3.00.00
 VGA-PROM V.15.1.16 (U28)
 S/W versions: MS-DOS V.3.30.00 or
 MS-DOS V.4.01 (option)

Cabletype: none

Manufct./model: NCR/PC286

Supplier: NCR Danmark

Supp. Stock no: 3302-0103-7410 (w. FD) or
 3302-0110-7410 (w. FD & 20M HD) or
 3302-0111-7410 (w. FD & 40M HD)
 ! specify keyboard : 3299-K442-V001
 D900-0954-0100 NCR MS-DOS 3.30 or
 D900-1273-0100 NCR MS-DOS 4.01

Product resp.: lea/MUDV

Table: none

Cable type: none

(E) Setup floppy: DDE PC212/316/316L/425L Config V.2.0

(P) Packing List: V.3.0/PC212 Series (Int)

(P) V.1.0/NCR MS-DOS V.3.30 or

(P) V.1.0/NCR MS-DOS V.4.01

(P) Installation: V.3.0/PC212 Series (DK)

(P) V.1.0/NCR MS-DOS V.3.30

V.1.0/PC212/316/316L int. keyboards

(E) User Intro: none

Revised: 22.04.91

V.3.0

Distribution codes: (P) Production/Factory only.

(S) One for System administrator.

(E) Every product shipped.



PC316L series (DK)

Stock No.: 23300600 (PC316L)
 23310600 (PC316L-40M)
 23320600 (PC316L diskless)
 23997901 (DOS 4.01 option)

Datasheet: mu23/31.01.91
 mu23e/13.02.91

Brochure: yes
 TM-number: 317
 TPP-FCN's: none
 Nationality: Danish

H/W versions: BIOS B.3
 BIOS Setup V.3.02.01
 VGA-PROM V.15.1.16 (U28)
 S/W versions: MS-DOS V.3.30.00 or
 MS-DOS V.4.01 (option)

Cabletype: none
 Manufct./model: NCR/EL PC386sx

Supplier: NCR Denmark
 Supp. Stock no: 3302-0201-7410 (diskless) or
 3302-0203-7410 (w. FD) or
 3302-0211-7410 (w. FD & 40M HD)
 D900-0954-0100 NCR MS-DOS 3.30 or
 D900-1273-0100 NCR MS-DOS 4.01

Product resp.: lea/MUDV

Table: none
 Cable type: none

(E) Setup floppy: DDE PC212/316/316L/425L Config V.2.0
 (P) Packing List: V.3.0/PC316L Series (Int)
 (P) V.1.0/NCR MS-DOS V.3.30 or
 (P) V.1.0/NCR MS-DOS V.4.01
 (P) Installation: V.3.0/PC316L Series (DK)
 (P) V.1.0/NCR MS-DOS V.3.30
 (E) User Intro: V.2.1/PC316L

Revised: 17.04.91

V.3.0

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.



PC316L Series (DK)

Installation sheet V.3.0/16.04.91

DDE stock no.

23300600 (PC316L)

23310600 (PC316L-40M)

23320600 (PC316L disless)

Content:

1. Assembly.
2. Factory test.
3. Markings.

This version replaces V.2.0. Packing list is now separate, and MS-DOS V.3.30 has its own Installation sheet.

1. Assembly.

1.1 Manual assembly.

There is no mechanical assembly inside the CPU. Diskless versions should have a net adaptor mounted. Use the lower slot for that.

Danish keys must be inserted in the empty sockets on the keyboard. Keys for all scandinavian languages are supplied, so be careful. A few keys are almost identical! Calculate about 20 to 30 minutes for this job.

1.2 Konfiguration.

Connect keyboard and monitor to the CPU, and power on. Press the **F1** key when prompted

Check the setup:

Flexible disk A : (see below)¹

Flexible disk B : **Not Installed**

Fixed disk C : (see below)²

CPU speed : **Fast**

Conventional mem. : **640 KB**

Extended memory : **384 KB**

Primary display : **EGA/VGA graphics display**

Screen width : **80 Columns**

'Floppy type

Not installed

1.44Mb,3.5"

Manufact./Model

(diskless)

TEAC FD-235HF

*Disktype

Not installed

28 (-40M)

36 (-100M)

Manufact./model

(No drive)

Conner CA-3044

Conner CA-3104

1.3 Program installation.

Only MS-DOS V.3.30 is installed, and only on 40M and 100M models. If the MS-DOS V.4.01 option is purchased, do not install.

See NCR MS-DOS V.3.30 installation sheet.

Use **DK** as country code paramter for **DDEINS**.

2. Factory test.

Test should be performed before any program installations!

Install loopback plugs in serial ports.

Insert the **Field Service Diagnostics** floppy in drive, and boot.

Run all diagnostics once.

(Diskless version should have mounted a 3 1/2" drive temporary. Remember to change configuration before and after.)

(turn over)

3. Markings.

3.1 System unit

NCR logo is covered with the label:

Mekoprint order number : H 0027

Use upper and left side of the NCR logo for aligning the DDE label.

3.2 Keyboard

Remove the NCR logo on the left side of the keyboard.

Mount the DDE logo (H 0027) on the right side of the keyboard. Distance from upper corner (back of keyboard) about 10 mm. Right side of label is 15 mm from right side of the keyboard. (aligns with the status LED area below it!)

NCR MS-DOS V.3.30

Installation sheet V.1.0/15.04.91

DDE stock no. (NA)

Content:

1. Assembly.
2. Factory test.
3. Markings.

This procedure has been changed in order not to violate Microsoft licence, and ensure that versions installed are the same as those supplied with the PC.

1. Assembly.

1.1 Install DOS on C.

Make a copy of each disk, **DOS/DRIVERS** and **OPTIONS**. Use the copies for the installation procedure (They are modified!).

Insert floppy one in drive A and boot. At the system prompt type:

DOSINS

And follow the directions.

Name the volume "DDE PC316L".

When asked to restore any files, type N.

When asked for subdirectory, type:

DOS

Wait while the files are transferred from both DOS floppies.

When asked if you want international installation, enter Y and select DANISH.

Do a reboot without a floppy in drive A.

1.2 National Keyboard support.

Put the configuration diskette for the PC in drive A and follow directions for keyboard installation for a specific language. If this is not done, the keyboard will be assumed to be american!

1.3 Format drive D.

If the primary diskdrive is larger than 32 Mb, you must format the rest of the disk for DOS.

Reboot without floppy in drive, and give the command:

FDISK

Select the rest of the disk as 1) extended partition, and 2) create drive D in it. After automatic reboot, type:

FORMAT D:/V

set Volume ID to "DDE PC316-2"

2. Factory test.

When installation is complete, use a **DIR** command to verify, that the root directory contains:

COMMAND.COM
DOS <DIR>
CONFIG.SYS
AUTOEXEC.BAT

For **DK** and **N** check that codepage 865 has been loaded:

Verify that the æ, ø og å keys are displayed on the monitor. If f.ex. ø is replaced by € or ¥, there has been a problem with the installation.

3. Markings.

None.

PC212/316/316L International Keyboards

Installation sheet V.1.0/16.04.91

DDE stock no.	...1 (UK)	...5 (S)
	...6 (E)	...8 (US)

Content:

1. Assembly.
2. Factory test.
3. Markings.

This describes how to install national keyboards for the above PC's. Use the danish installation sheet for each PC, with the following execeptions:

1. Assembly.

1.1 Manual assembly.

For norwegian and swedish keyboards, use the same keyboard as the danish (scandinavian), but mount for Norway or Sweden/Finland. See **Scandinavian Workstation Keyboard** guide. Calculate 20 to 30 minutes to do this also.

All other supported languages are delivered pre-assembled.

1.2 Configuration

No change.

1.3 Program installation

After installation of **NCR MS-DOS V.3.30** place the **Config** floppy for the PC in drive **A** and type

A:DDEINS cc

Where *cc* is one of the supported country/language codes:

<i>cc</i>	<i>Country/Language</i>
UK	United Kingdom
S	Sweden
E	Spain
N	Norway
B	Belgium
US	United States

2. Factory test.

No change here.

3. Markings.

No change here.



PC316L series (E)

Stock No.: 23300606 (PC316L E)
 23310606 (PC316L-40M E)
 23320606 (PC316L diskless E)
 23997901 (DOS 4.01 option)

Datasheet: mu23e/13.02.91

Brochure: yes

TM-number: 317

TPP-PCN's: none

Nationality: Spanish (Spain)

H/W versions: BIOS B.3
 BIOS Setup V.3.02.01
 VGA-PROM V.15.1.16 (U28)
 S/W versions: MS-DOS V.3.30.00 or
 MS-DOS V.4.01 (option)

Cabletype: none

Manufct./model: NCR/EL PC386sx

Supplier: NCR Danmark

Supp. Stock no: 3302-0201-7410 (diskless) or
 3302-0203-7410 (w. FD) or
 3302-0211-7410 (w. FD & 40M HD)
 ! Specify Keyboard : 3299-K445-V001
 D900-0954-0100 NCR MS-DOS 3.30 or
 D900-1273-0100 NCR MS-DOS 4.01

Product resp.: lea/MUDV

Table: none

Cable type: none

(E) Setup floppy: DDE PC212/316/316L/425L Config V.2.0

(P) Packing List: V.3.0/PC316L Series (Int)

(P) V.1.0/NCR MS-DOS V.3.30 or

(P) V.1.0/NCR MS-DOS V.4.01

(P) Installation: V.3.0/PC316L Series (DK)

(P) V.1.0/PC212/316/316L Int. Keyboards

(P) V.1.0/NCR MS-DOS V.3.30

(E) User Intro: none

Revised: 22.04.91

V.3.0

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.

PC316L series (S)

Stock No.: 23300605 (PC316L S)
 23310605 (PC316L-40M S)
 23320605 (PC316L diskless S)
 23997901 (DOS 4.01 option)

Datasheet: mu23e/13.02.91

Brochure: yes

TM-number: 317

TPP-FCN's: none

Nationality: Swedish

H/W versions: BIOS B.3
 BIOS Setup V.3.02.01
 VGA-PROM V.15.1.16 (U28)
 S/W versions: MS-DOS V.3.30.00 or
 MS-DOS V.4.01 (option)

Cabletype: none

Manufct./model: NCR/EL PC386sx

Supplier: NCR Danmark

Supp. Stock no: 3302-0201-7410 (diskless) or
 3302-0203-7410 (w. FD) or
 3302-0211-7410 (w. FD & 40M HD)
 D900-0954-0100 NCR MS-DOS 3.30 or
 D900-1273-0100 NCR MS-DOS 4.01

Product resp.: lea/MUDV

Table: none

Cable type: none

(E) Setup floppy: DDE PC212/316/316L/425L Config V.2.0

(P) Packing List: V.3.0/PC316L Series (Int)

(P) V.1.0/NCR MS-DOS V.3.30 or

(P) V.1.0/NCR MS-DOS V.4.01

(P) Installation: V.3.0/PC316L Series (DK)

(P) V.1.0/PC212/316/316L Int. Keyboards

(P) V.1.0/NCR MS-DOS V.3.30

(E) User Intro: none

Revised: 22.04.91

V.3.0

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.



PC316L series (UK)

Stock No.: 23300601 (PC316L UK)
 23310601 (PC316L-40M UK)
 23320601 (PC316L diskless UK)
 23997901 (DOS 4.01 option)

Datasheet: mu23e/13.02.91

Brochure: yes

TM-number: 317

TPP-FCN's: none

Nationality: English (United Kingdom)

H/W versions: BIOS B.3
 BIOS Setup V.3.02.01
 VGA-PROM V.15.1.16 (U28)
 S/W versions: MS-DOS V.3.30.00 or
 MS-DOS V.4.01 (option)

Cabletype: none

Manufct./model: NCR/EL PC386sx

Supplier: NCR Denmark

Supp. Stock no: 3302-0201-7410 (diskless) or
 3302-0203-7410 (w. FD) or
 3302-0211-7410 (w. FD & 40M HD)
 ! Specify Keyboard : 3299-K442-V001
 D900-0954-0100 NCR MS-DOS 3.30 or
 D900-1273-0100 NCR MS-DOS 4.01

Product resp.: lea/MUDV

Table: none

Cable type: none

(E) Setup floppy: DDE PC212/316/316L/425L Config V.2.0

(P) Packing List: V.3.0/PC316L Series (Int)

(P) V.1.0/NCR MS-DOS V.3.30 or

(P) V.1.0/NCR MS-DOS V.4.01

(P) Installation: V.3.0/PC316L Series (DK)

(P) V.1.0/PC212/316/316L Int. Keyboards

(P) V.1.0/NCR MS-DOS V.3.30

(E) User Intro: none

Revised: 22.04.91

V.3.0

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.

DDE PC316L School

Stock No.: 57230010
Datasheet: no - but check each stock no.
Brochure: no - but check each stock no.
TM-number: no - but check each stock no.
Table: none
H/W versions: see each stock no.
S/W versions: see each stock no.
Cabletype: none
Manufct./model: see each stock no.
Supplier: DDE
Supp. Stock no: 23310600 PC316L-40M
23988409 MVX VGA 14"
23996359 Mouse, 25 pin
23947209 2Mb RAM
80500011 Windows 3.0, uk

Productresp.: ekr/US Packagde
lea/MUDV Each Stock No.
TPP-FCN's: none

Setup floppy: Same as PC316L-40M
(P) Installation: V.2.0/PC316L series +
(P) V.1.0/PC316L School
(E) User Intro: V.1.0/PC316L (Skolepakken)

Revised: 13.02.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

PC316L School

Installation sheet V.1.0/13.02.91

DDE stock no. 57230010

Content:

1. Packing check list.
2. Factory preparation.
3. End User setup.

Product overview

This is a special packaged version of the DDE PC316L for school applications. Use the Installation sheet (V.2.0) for the PC316L, but with the following modifications.

1. Packing Check List.

Take section 1.1 to 1.4 from PC316L installation.
Add this:

1.5 Mouse box:

- o Genius GM-6 mouse, 25 pin.
- o Driver floppy envelope.
- o Mouse Pad.
- o Mouse Holder.

1.6 Windows box:

- o MS-Windows V.3.0 box (do not open box!).

2. Factory preparation.

Follow section 2.1 to 2.4, with this addition:

2.2 Hardware assembly.

Add DDE Stock no. 23947209, by mounting the two SIMM's in socket 2H and 2L on the main-board.

2.3 Hardware configuration.

Change the setup parameter:

Extended memory: 2048 KB

Note that the 384 Kb is lost!

3. End User setup.

Install Windows 3.0 according to the installation guide supplied by Microsoft. See User Introduction Sheet for details.

DDE PC320

Stock No.:	23310550	(DK keyboard)
Datasheet:	none	
Brochure:	yes	
TM-number:	351	
Table:	none	
H/W versions:	BIOS	3.03E2
S/W versions:	MS-DOS	V.4.01
	MS-WINDOWS/386	V.2.1
Cabletype:	none	
Manufct./model:	Acer 1100/20	
Supplier:	Groszer Data	
Supp. Stock no:	1120-012	1100/20 + FD + 8203
Other Items:	Miniscribe 8051A (or)	
	Connor 3044 IDE-disks	
	INTEL 80387-20 FPU	
	2Mb 100 nS DIL RAM	
Productresp.:	lea/MUDV	
TPP-FCN's:	none	
(P) Setup floppy:	PC320 Diagnostics Floppy V.1.0	
(P) Installation:	V.1.0/DDE PC320 Series	
(E) User Intro:	V.1.0/DDE PC320	

Revised: 25.02.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

DDE PC320 Series

Installation sheet V.1.0/25.02.91

DDE stock no. 23310550

Content:

1. Packing check list.
2. Factory preparation.
3. End User setup.

This installation sheet is only valid for PC's sold under the above stock number. Some PC's sold with ANVIL-5000 has different configurations and packing lists.

1. Packing Check List.

1.1 System box:

- o System Unit.
- o key ring and two keys.

1.2 Mouse box:

- o Mouse Acer 6710 or Microsoft.
- o Driver diskette.
- o 9-25 pin adaptor.
- o Driver diskette (5¼").

1.3 Personality box:

- o Danish Keyboard.
- o Power cable (NKT-EDB).
- o 2 pck. MS-DOS V.4.01.
- o 1 pck. MS-Windows/386 V.2.1.
- o "MS-DOS GUIDE, REFERENCE AND IN-STALL".
- o "GW-BASIC GUIDE AND REFERENCE".
- o "WINDOWS USER GUIDE".
- o "USING MS-WINDOWS/386".
- o "MS-WINDOWS QUICK REFERENCE".

- o "ACER 1100/20 USERS GUIDE".
- o Introduction Sheet "DDE PC320 Introduktionsblad".

2. Factory preparation.

2.1 Markings

Use two labels, Mekoprint No. H 0032.

Place one label on the front of the system unit, on the front, lower, left corner. 5 mm from bottom and left edge.

Place the other label on the right side of the keyboard, in the middle of the wide flat area above the function keys. 7 mm from right edge.

Acer labels are not covered.

2.2 Mechanical assembly.

Refer to the "ACER 1100/20 USERS GUIDE" for default strappings, and add the following:

2.2.1 Add 2 Mb RAM.

Fill the RAM sockets with 100nS DIL-chips (256Kx4). Move the JP9 strap to A (4M).

2.2.2 FPU.

Mount an INTEL 80387DX-20 FPU in the designated socket. Set all straps JP6, JP7 and JP8 to position 1-2.

(turn over)

2.2.3 Diskadapter.

Mount the ACER 8203 adaptor in slot no. 4.

2.2.4 Disk.

Mount the 40 Mb disk (Connor CP3044 or Miniscribe 8051A) in lower, internal bay. Remove the resistor box, if it is present.

Connect disk adaptor and disk with IDE-cable.

2.2.5 Video board.

If a video adaptor is part of the order, mount it in slot no. 2.

2.2.6 Inspection.

The FDC adaptor (floppy controller etc.) should be in slot no. 5, and the extra COM-port in slot no. 6.

Do not connect 12 V wires to the extra COM-port when not used for ANVIL-5000 applications!

2.3 Configuration.

Connect keyboard, a monitor and power to the system unit, and power on. Press CTRL-ALT-ESC at the end of the test, and verify the settings in the setup:

1. DATE: *today*
2. TIME: *Exact time*
3. FLOPPY DRIVE A: 1.2M FLOPPY DRIVE
4. FLOPPY DRIVE B: NOT PRESENT
5. FIXED DISK 1: TYPE 017
6. FIXED DISK 2: NOT PRESENT
7. PRIMARY DISPLAY: SPECIAL ADAPTER'
8. MEMORY BELOW 1 MEG. : 00640K
9. MEMORY ABOVE 1 MEG. : 03328K

A. COPROCESSOR.: **PRESENT**

B. UPDATE ALL ITEM

E. END AND REBOOT

'SPECIAL ADAPTER is for VGA or Super VGA. Use **MONOCHROME** for HGC adaptors.

2.4 Test.

Insert PC320 Diagnostics floppy in drive A, and boot the system. Run the tests once for every item. Format the hard disk using the diagnostics floppy.

2.5 Software.

MS-DOS is not installed at the factory for this model.

3. End User setup.

None.



DDE PC425L

Stock No.: 23400700 (PC425L)
23410700 (PC425L-40M)
23420700 (PC425L-100M)

Datasheet: none
Brochure: none
TM-number: none
TPP-FCN's: none
Nationality: Danish

Manufct./model: NCR/ELPC486

H/W versions: BIOS V.01.01.05

S/W versions: MS-DOS V.3.30

Supplier: NCR Danmark

Supp. Stock no: 3421-4010-8010 NCR 3335 w. FD
3421-4210-8010 NCR 3335 + 40M HD
3421-4410-8010 NCR 3335 + 100M HD
D900-0954-0100 NCR DOS 3.30

Other Items: none

Product resp.: lea/MUDV

Table: none

Cable type: none

(E) Setup floppy: PC212/316 Configuration V.1.1

(P) Installation: V.1.0/PC425L series

(P) User Intro: V.1.0/DDE PC425L

Revised: 04.03.91

V.1.0

Distribution codes: (P) Production/Factory only.

(S) One for System administrator.

(E) Every product shipped.

PC425L series

Installation sheet V.1.0/04.03.91

DDE stock no.

23400700 (PC425L)

23410700 (PC425L-40M)

23420700 (PC425L-100M)

Content:

1. Packing check list.
2. Factory preparation.
3. NO End User setup.

1. Packing Check List.

1.1 System box

- o System unit and power cable (NKT EDB)

1.2 Keyboard box (inside system box)

- o Keyboard with cable.
- o "Scandinavian Workstation Keyboard" guide

1.3 Software box

- o MS-DOS container (2×3½ and 3×5¼" floppies)
- o "NCR MS-DOS User's Guide"
- o "3421 USER SOFTWARE PACKAGE" (3 floppies)
- o "3421 REFERENCE DISK UPGRADE" (floppy)
- o "PC386SX/MC20 with i486 Technology Upgrade Users Manual"
- o Setup diskette for NCR-DOS 3.30
(Not with DOS 4.01 option)
- o "DDE PC425L Introduktion"

2. Factory preparation.

2.1 Markings

2.1.1 System unit

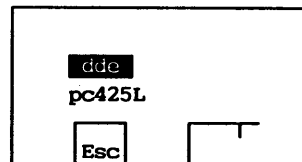
NCR logo is covered with the label:

Mekoprint order number : H 0052

Use upper and left side of the NCR logo for aligning the DDE label.

2.1.2 Keyboard

Remove the NCR logo, and replace it with the same DDE label. Distance from upper corner (back of keyboard) about 10 mm. Left side of the label aligns with the left side of the ESC-key cut-out below it:



2.2 Hardware assembly.

There is no mechanical assembly inside the CPU.

Danish keys must be inserted in the empty sockets on the keyboard. Keys for all scandinavian languages are supplied, so be careful. A few keys are almost identical! Calculate about 20 to 30 minutes for this job.

(turn over)

2.3 Hardware configuration.

Connect keyboard and monitor to the CPU, and power on. Put a copy of the USER DIAGNOSTICS diskette in drive A.

Check the setup:

640KB Conventional memory,

1280KB Extended memory,

ROM-BIOS V.01.01.05 (3421),

Keyboard attached,

Floating Point Unit on 80486,

1 Serial Port(s) and 1 Parallel port(s),

SCSI adapter,

Base IO address is 240 - No adaptor memory,

Video Graphics Array (VGA) with 256KB,

1 Flex Drive,

1.44Mb disk in 1.44MB drive,

Auxiliary Device Port,

Mouse not installed.

Run all diagnostics once (appr. 10 minutes), and select Utilities Menu. Initialize SCSI disk (up to 15 minutes).

2.4 Program installation

Only MS-DOS V.3.30 is installed, and only on 40M and 100M models. If the MS-DOS V.4.01 option is purchased, do not install and skip the rest of this sheet!

2.4.1 Partitioning.

Put the PC212/316L configuration floppy in floppy drive and reboot. When the A\> prompt is given, type FDISK.

Select drive C as active, primary MS-DOS partition. Only 32Mb can be allocated under MS-DOS 3.30.

2.4.2 Installing DOS.

The system will do an automatic reboot. At the A\> prompt, type the command DDEINS.

First phase is a FORMAT, and name the volume "DDE PC426L".

When complete, use a DIR command to verify, that the root directory contains:

```
COMMAND.COM
DOS <DIR>
CONFIG.SYS
AUTOEXEC.BAT
```

2.4.3 Format drive D (E and F).

Reboot without floppy in drive, and give the command FDISK again. Create extended partition with logical drive D (plus E and F if it is a PC425L-100M). Then do a FORMAT D:/V and set Volume ID to "DDE PC425-2".

On a PC425-100M, continue with drive E ("-3") and F ("-4") likewise.

2.4.4 Final check.

Verify that the æ, ø og å keys are displayed on the monitor. If f.ex. ø is replaced by ¢ or ¥, there is a problem with the installation (No Codepage enabled).



Adaptec

AHA-1540B

Guide

(V.1.1/14.09.90)

The Adaptec AHA-1540B SCSI-controller will have the following characteristics when mounted in a DDE WS 333:

SCSI Address	7
SCSI Parity	Enabled
Terminators	Installed
Terminator power	Supplying
Synchronous Negotiation	Disabled
DMA channel	5
Interrupt Channel	11
AT Port Address	330H
AT BIOS Address	0DC000H
LA Enable Jumper	Installed

The WS 333 contains a diskdrive and a tapestreamer:

Disk:

SCSI Address	0
SCSI Parity	Enabled
Terminators	Not installed

Tape:

SCSI Address	2
SCSI Parity	Enabled
Terminators	Installed

Tapestreamer and controller are at either end of the SCSI bus, and the disk is connected in the middle.



40Mb disk, ST506 I/F

Stock No.: 23908509

Manufct./model: NEC D3142 3½" disk drive
5¼" frame for 3½" drives

Supplier: JAI (stock no. 18540942)

Datasheet: none

Brochure: none

TM-number: none

Table: none

F/W versions: none

Cabletype: ST402 control cable for PC
(if required)

Setup/install: Version 1.0/10.01.91

Support disk: none

TPP-FCN list: none

National code: International

Productresp.: lea/MUDV

40 Mb disk, ST506 I/F

Installation sheet V.1.0/10.01.91

DDE Stock No. 23908509

This installation sheet supplements the installation guides for the various PC's, as original supplied. Trained installers may be able to skip the guides altogether, but if problems arise, read the original guide carefully.

Observe that only the following PC models, that has been sold by DDE, has been tested with this kit: NCR PC6, PC8, PC810, Wyse WY2108 and WY2110 (DDE models PC208 and PC210). It can not be used in other models currently sold by DDE, as they do not support the MFM interface.

Even though it is listed as a 40 Mb disk, not all PC's or MS-DOS versions will allow you to use the hole disk space. See each model for variations.

Kit contains:

- 1) NEC D3142 Hard disk.
- 2) 5¼" adapter frame.
- 3) Control cable (if required)
- 4) This installation sheet.

Installing in general

The only change needed on the NEC D3142 disk is setting of the unit number. Setting depends on type of control cable or drive number. See each entry below.

Unit number is selected on the DS switch, a 4 position (unit 1 to 4) DIP-switch under the bottom circuit board, close to the cable connectors. Select either position 1 or 2.

Installing in a NCR PC6

This kit can only be used as the second drive (D) in a PC6. Use stock no. 23908759 for first drive and controller.

You will need a control cable with 2 drive connectors (item 3 above). Check with the "WD WDXT-Gen2Plus Guide" to see if you need to change DS switches. It depends on the actual cable.

Follow the procedure from the installation sheet that followed the 40 Mb kit, but select drive D instead of drive C.

Observe:

If you are using a NCR MS-DOS version before 3.30, you might have enabled "virtual split". You can not use that any longer, so you will have to upgrade to MS-DOS V.3.30 (or higher) to get 40 Mb out of each drive. Otherwise you will have to format to 32 Mb on each drive.

(turn over)

Installing in Wyse computers

(WY-2108/DDE PC208 and WY-2110/DDE PC210)

No control cable is required. Set DS switch to 2, remove the front panel from the 5¼" frame. It is easier to get access to the cables if you pull the floppy drive out. Mount the drive as either C or D (check legends on control and data connector).

Boot the system and run **SETUP**. Select disk type 102, do a disk init (also from **SETUP**-program), **FDISK** and **FORMAT**.

If you have MS-DOS V.3.30 from Wyse, it will allow you to format a C drive with 40 Mb (whole disk), but heed the warning from **FDISK**!

If disk type 102 is not in your **SETUP** program, you need to implement TPP-FCN no. 14.

Installing in a NCR AT computer

(NCR PC8 or PC810)

BIOS version should be 4.5, see startup display.

Disk type in setup is 45.

Check the control cable:

1) Is it possible to reach both drives (when adding a second drive). Otherwise ask for a new control cable.

2) If the control cable has some wires crossed between the C and D connector (C is the one at end of the cable), both drives should have DS strap set for unit 2. If the cable is not crossed, drive C should be set to DS 1.

Proceed according to the Owners Manual with **INITFIX** for low level format, **FDISK** and **FORMAT** for the new drive. **INITFIX** is found on the diagnostics floppy supplied with the system.

Observe!

NCR MS-DOS V.3.20 will not allow disk partitions, so only 32 Mb can be formatted per drive.

NCR MS-DOS V.3.30 will allow partitioning, but not a full 40 Mb disk as drive C.

Installing in other PC's

Only the PC's above have been tested with this kit. If you try to mount it in other systems, you are on your own.

A helpfull note is, that the NEC D3142 drive has 8 heads (cylinders) and 642 tracks, and is a MFM drive.

LED status!

On all computers, except the PC6, you might find that the LED on the 5¼" frame front stays on or off, regardless of access. It is not an error. Use the PC's front panel for status readout.



1



40Mb kit PC/XT

Stock No.: 23908759

Manufct./model: Western Digital WD1004-Gen2Plus
NEC D3142 3½" disk drive
5¼" frame for 3½" drives

Supplier: JAI (stock no. 06910045)

Datasheet: none

Brochure: none

TM-number: none

Table: none

F/W versions: Super Bios II V.1.0 (controller)

Cabletype: ST402 control cable for PC
ST402 data cable for PC

Setup/install: Version 1.0/08.01.91

Support disk: none

TPP-FCN list: none

National code: International

Productresp.: lea/MUDV

40 Mb kit for PC/XT

Installation sheet V.1.0/08.01.91

DDE Stock No. 23908759

This installation sheet supplements the installation guide from Western Digital that is supplied with this kit. Trained installers may be able to skip the WD guide altogether, but if problems arise, read the guide carefully.

Kit contains:

- 1) Western Digital WD1004-Gen2Plus.
- 2) NEC D3142 Hard disk.
- 3) 5¼" adapter frame.
- 4) Data and Control cable
- 5) Installation Guide WDXT-GEN2PLUS.
- 6) This installation sheet.

Installing in a NCR PC6a. Hardware

The kit will work with NCR PC6 BIOS version 3.8 and NCR-DOS Version 2.11. If you system contains older versions, and you run into trouble, upgrade before anything else.

1) Mount the Hard disk drive in the 5¼" adapter frame. Remember to add the new front panel.

2) Mount the assembly in a free 5¼" drive bay in the PC6, after removing the front panel. Use the screws from the front panel to secure the disk drive frame. It is only possible to fasten the frame in one side.

3) Mount the controller in a free slot. Do not change settings on the board.

4) Connect cables between controller and disk drive, and attach a power connector to the disk drive.

b. Setup

1) Boot up the system with a DOS system disk containing the DEBUG program. Note that during initialize, the NCR PC reports a BIOS ROM at C800:0000.

2) start DEBUG and type:

g=c800:5

At the debug prompt.

3) Press **Return** to select drive C.

4) Press **Return** to select interleave default value of 3.

5) Answer **Y** and **Return** to use Dynamic Configuration.

6) Enter the following disk characteristics:

642 8 643 643 11 7

(turn over)

7) If your DOS is version 3.30 or higher, answer **N** and **Return** to skip virtual split. For older versions, f.ex. 2.11 you should make a virtual split by pnswering **Y** and **Return**.

8) A virtual split allows partitioning of the hard disk under MS-DOS versions that does not otherwise support it. No disk partition can be more than 32Mb, and that would leave 12Mb unused on this disk. If you enter **480** as the cylinder to split, you will get at C:-partition of 32Mb and a D:-partition of 12Mb.

9) When prompted to begin formatting, type **Y** and **Return**.

10) NEC drives are made with zero defects, so you can skip format bad blocks by answering **N** and **Return**.

Low level format will proceed automatic, and may take some time.

c. Dos Installation

1) When formatting is complete, reboot with af DOS diskette containing **FDISK** and **FORMAT** programs.

2) Make an active C: and D: drive using **FDISK**.

3) Format both drives with **FORMAT**, drive C: with the **/S** option.

4) Reboot the system without a floppy in drive A.

The system i now ready. Start by transferring all DOS programs to a **DOS** directory, and setup **PATH** directive in **AUTOEXEC.BAT** to point to it. Also add **FILES** and **BUFFERS** directives to **CONFIG.SYS**, if not already there. When transferring other floppy drive systems to the hard disk, put each in a separate subdirectory, and remember to change **.BAT** files with references to drive A or B.

Good Luck!

170 Mb SCSI-syst.PC/ISA

Stock No.:	23908709
Manufct./model:	Micropolis Model 1674 Adaptec AHA-1540B
Supplier:	Micropolis BLT-periferi (Adaptec)
Datasheet:	none
Brochure:	none
TM-number:	344 (Micropolis) 327 (Adaptec)
Table:	none
F/W versions:	none
Cabletype:	SCSI cable w. 3 connectors
Setup/install:	Version 1.0/15.01.91
Support disk:	none
TPP-FCN list:	none
National code:	International
Productresp.:	lea/MUDV

Packing list for 40Mb disk,MFM

See installation sheet.

Marking

none.

170 Mb SCSI-system PC/ISA

Installation sheet V.1.0/15.01.91

DDE Stock No. 23908709

This kit contains no other installation guides. Installation is mostly automatic, but a few things need to be observed. How to disassemble and assemble the PC can be found in the User Guide. It should have been shipped with the PC.

This kit will operate in any PC/AT compatible system. It has its own on-board BIOS. However, due to MS-DOS limitations, you should not mount in a system with two hard disks already mounted. That will require a special driver, that is not included in this kit!

The 170 Mb is unformatted capacity. Actual capacity is depending on operating system and version. Expect something in the order of 145 Mb.

Kit contains:

- 1) Micropolis 1674 hard disk
- 2) Adaptec AHA-1540B SCSI controller.
- 3) SCSI bus cable with 2 drive connectors
- 4) This installation sheet.

Installing in general

Mount the Adaptec controller in a free AT slot. Mount the hard disk in a free drive bay, using the mounting kit supplied by the PC manufacturer. Connect cable between controller and drive. They should sit on each end of the cable, with a

free drive connector in between. Connect power to the drive, and the ground wire (if applicable). Assemble the PC and power up.

During startup, you should see a report from the adaptec controller, and unit 0, subunit 0.

If not, you will have to check cables for loose connections or configuration for consistency or possible conflicts.

The onboard BIOS will try to install the drive as the next drive in MS-DOS, i.e. C or D.

To continue, you will need a MS-DOS boot diskette with the DEBUG program, even though you might want to use another operating system later on. Start DEBUG and type:

G=DC00:6

You will enter the Adaptec On-board Utilities, and after a status display be given a menu. The status display should list the Micropolis drive ID. If not, check SCSI cable and disk power. Use the menu to select a format and a verify. It will take some time.

When complete, reboot your machine with your operating system (MS-DOS or ix/386), run FDISK and FORMAT.

(turn over)

H/W configuration

Factory default for the Adaptec controller lists the following important values:

SCSI Address : 7
 SCSI Parity : Enabled
 Terminators : Installed
 Terminator
 Power : Supplying
 Synchronous
 Negotiation : Disabled
 DMA Channel : 5
 H/W interrupt: 11
 AT Port Addr.: 330H
 AT BIOS Addr.: DC00H
 LA Enable jmp: Installed

The drive has the corresponding defaults:

SCSI Address : 0
 SCSI Parity : Enabled
 Terminators : Installed

You should only have to modify BIOS address, as other changes will conflict with the BIOS PROM itself, and auto-install will not work. Some 16-bit VGA cards operate in the controller BIOS address space. Try to move the Adaptec BIOS to CC000H, or disable the other cards 16-bit addressing.

Find jumper J7, with 8 pin-pair near the back plane connector. Pair number 7 and 8 (from the top) selects BIOS address:

<u>pair 7</u>	<u>pair 8</u>	<u>Address</u>
-	-	DC000H (default)
X	-	CC000H
-	X	D8000H
X	X	C8000H

X is a jumper installed.
 The 4 first characters in the address replaces DC00 in the DEBUG command above.

Further documentation can be found in Adaptec AHA-1540B/1540B Users Manual, DDE Technical Manual number 327.

PC SETUP

It is important that the SETUP of the PC is not changed to include the SCSI system.

MS-DOS

FDISK should allow you to partition the hard disk. If not, you can only use 32 Mb. An upgrade to a newer version (3.30 or 4.01) of MS-DOS would be needed.

5 $\frac{1}{4}$ " AT-DISK KIT

Stock No.:	23907019	(40 Mb)
	23907069	(100 Mb)
Datasheet:	none	
Brochure:	none	
TM-number:	317	(DDE PC212/316L)
TPP-FCN's:	none	
Nationality:	International	
Manufct./model:	Conner/CP3044	(40 Mb)
	Conner/CP3104	(100 Mb)
H/W versions:	none specified	
S/W versions:	none specified	
Supplier:	none specified	
Supp. Stock no:	none	
Other Items:	5 $\frac{1}{4}$ " adaptor for 3 $\frac{1}{4}$ " drives	
	AT-bus cable w. 3 connectors, 50 cm.	
Product resp.:	lea/MUDV	
Table:	none	
Cable type:	none	
Setup floppy:	none	
(S) Installation:	V.2.0/5 $\frac{1}{4}$ " AT-disk Kit	
User Intro:	none	

Revised: 25.02.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

5¼" AT-disk Kit

Installation sheet V.2.0/26.02.91

DDE stock no.

23907019 (40Mb)

23907069 (100Mb)

Content:

1. Packing check list.
2. Factory preparation.
3. End User setup.

This product can be used in the DDE PC320 standard version, or other PC's with an AT-bus adaptor and 5¼" drive bays.

AT-disks can only be used as C and D drives, and not together with an MFM or RLL controller.

1. Packing Check List.

- o 3½" harddisk: Conner CP3044 (40Mb) or CP3104 (100Mb).
- o AT-bus cable with 3 connectors.
- o 5¼" drive adapter.
- o This sheet.

2. Factory preparation.

2.1 Assembly

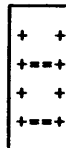
Mount the 3½" drive in the 5¼" frame adaptor, and attach the PC's own adaptor, usually two rails for each side of the drive. They should have been supplied with the PC.

2.2 Strapsetting.

There is a 4-position strap block close to the bus-connector at the back of the drive. Set it according to physical drive C or D.

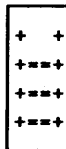
2.2.1 Drive C

If the drive is the only one in the PC, use factory default:



HSP
C/D
DSP
ACT

If another drive is required to be drive D, mount the DSP-strap. :



HSP
C/D
DSP
ACT

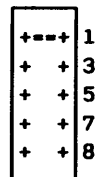
The D drive must be changed too. It could be either another Connor disk, or a Miniscribe 8051A:

Connor



HSP
C/D
DSP
ACT

M8051A

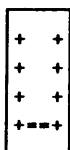


1
3
5
7
8

The Miniscribe jumper block is J4 on the bottom of the drive.

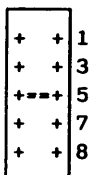
2.2.2 Drive D

Remove the C/D-strap:



HSP
C/D
DSP
ACT

If the disk at drive C is a Miniscribe 8051A, move strap 1-3 to 5-6 on block J4:



If the C drive is another Conner disk, set as described in 2.2.1.

2.3 Cable.

It is recommended that the AT-bus cable should be replaced with the attached. Some original cables do not have guides, and can be mounted in a wrong position.

Place drive C at the opposite end of the cable from the AT-bus adaptor.

2.4 Setup.

Setup the disk type according to the PC manufacturer's specification, see below.

2.4.1 DDE PC320.

The Conner CP3104 (100Mb) should be setup to type 84 in PC320, either in drive 1 or 2. The Conner CP3044 (40Mb) has type 17.

3. End User setup.

none.



Hires Monochrome Adaptor

Stock No.:	23938909	(3½" floppy)
	23938919	(5¼" floppy)
Datasheet:	mu33/05.02.91	
	mu33e/05.02.91	
Brochure:	no	
TM-number:	none	
Table:	none	
H/W versions:	Board	Rev. B
	BIOS	V.3.00
S/W versions:	Driver package	No version control!
Cabletype:	included with Hires Mono Monitor	
Manufct./model:	EIZO/MD-B09	
Supplier:	Metric A/S	
Supp. Stock no:	403-MD-B09	Specify floppy size
Productresp.:	lea/MUDV	
TPP-FCN's:	none	
Setup floppy:	none	
(S) Installation:	V.1.0/Hires Monochrome Adaptor	
User guide:	none	

Revised: 07.02.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Hires Monochrome Adaptor

Installation sheet V.1.0/07.02.91

DDE stock no. 23938909 (3½")
23928919 (5¼")

Content:

1. Packing check list.
2. Factory preparation.
3. End User setup.

This 16-bit adapter allows the Hires 21" monitor (EIZO Flexscan 6500) to fully utilize resolutions of 1660×1280 and 1280×1024. It can only work with that monitor!

You must specify the correct floppy size when ordering this product.

1. Packing Check List.

The EIZO box should contain:

- o CHECK LIST (for drivers).
- o Driver support list (1 page).
- o DGIS File list (2 pages).
- o TIGA File list (2 pages).
- o Software installation Manual DGIS.
- o Software installation Manual TIGA.
- o Additional informations TIGA.
- o 2 DGIS 2HD disks.
- o 3 DGIS 2D disks.
- o 2 TIGA 2HD disks.
- o 4 TIGA 2D disks.
- o MD-B09 Installation Manual.
- o MD-B09 Adaptor board.

The Check List for drivers is not correct. Use the file lists to verify that all disks are present.

2. Factory preparation.

No further markings or factory preparations are needed.

3. End User setup.

Each installation is individual, and must be done according to the manuals. Read them carefully. An installation for a single software product takes at least 1 - 2 hours the first time, and you may have to have the original distribution disks present.

You might also have to decide to use either DGIS or TIGA drivers. Use the Driver Support List to find out. If both driver types exist, check each Installation Manual to see possible limitations.

The current distribution has faulty DGIS graphics drivers for WP51. The HiText drivers are ok!

Windows 3.0 drive directory do not contain the Windows program DGISCFG listed in the READ.ME file. Use the description in the READ.ME to change windows parameters.

Be aware, that DGIS and TIGA drivers can not be active together, but that they can be removed after use.

Some PC's will report "PRIMARY CRT ERROR" during power on. It can be ignored, but remember to set the display type in the SETUP right.

Hires 21" Wh. Monitor

Stock No.: 23978859
Datasheet: mu33/05.02.91
mu33e/05.02.91
Brochure: yes
TM-number: none
Table: none
H/W versions: none
Cabletype: none
Manufct./model: EIZO/Flexscan 6500 Mk. II
Supplier: Metric A/S
Supp. Stock no: 403-6500

Productresp.: lea/MUDV
TPP-FCN's: none

Setup floppy: none
(S) Installation: V.1.0/Hires 21" White Monitor
User guide: none

Revised: 07.02.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Hires 21" White Monitor

Installation sheet V.1.0/04.02.91

DDE stock no. 23978859

Content:

1. Packing check list.
2. Factory preparation.
3. End User setup.

The Hires 21" white monitor, EIZO Flexscan 6500 is a multisync monitor that can be connected to any VGA or SuperVGA port, and display up to 1024×768 in several shades. With the special Hires Adaptor resolutions up to 1660×1280 in monochrome are possible.

The monitor is very heavy. Do not try to lift it alone.

1. Packing Check List.

The monitor box should contain:

- o Monitor EIZO 6500
- o Power cable (NKT-EDB)
- o VGA cable (15 pin – 3 BNC)
- o MD-B09 cable (1 Phono – BNC)
- o EIZO 6500 Users Guide
- o Registration card
- o Screen cloth with guide

2. Factory preparation.

2.1 Markings

Take a DDE label (10×50mm) for a 2 digit product, f. eks. DDE 57. Cut off the digits, so that 35 mm with DDE logo remains. Place it on top of the EIZO label on the front, leaving the "FLEXSCAN" free.

2.2 Tests

A sufficient test for operation is to connect the monitor to a PC with VGA, and power on.

Set the front panel adjustments to neutral, after checking, that they operate. Note that you can not get an standard VGA picture to fill the hole screen.

3. End User setup.

Follow instructions given in the EIZO 6500 User Guide.

Connect the monitor directly to a wall power outlet, not to a PC. PC outlets are limited to about 1A!

PC212/316L VGA patch V.1.2

Installation sheet V.1.0/22.01.91

DDE Stock No. 23958800

Warning: You are about to change your PC from a standard product to a non-standard product!

The VGA patch V.1.2 makes the video display backward compatible with older MS-DOS versions, enabling display of the letter 'Ø', at the same same time freeing about 31 Kb of memory.

This patch should only be used temporarily, until your software has been upgraded to support MS-DOS V.3.30 or higher. So keep the old PROM in a safe place.

Background:

MS-DOS 3.30 introduced Codepages for EGA and VGA video adapters. As a result, most manufacturers stopped making special VGA PROMs with national variations of characters sets. All you have to do today is load the proper codepage. For Denmark it could be either 865 or 850.

Two problems arose from that:

1) Programs written before the release of the new DOS will remove the loaded codepage unwillingly, because of changes in the BIOS interrupt for mode change. An example is Borlands TurboPascal V.4.0, and programs written with that.

¹We have been very careful and changed all the VGA modes we could find. However, it was not possible to find, and change the very high resolution modes 132x25 and 132x43, so Ø will not display there.

2) Codepage support require some resident drivers, which will decrease available DOS-RAM with about 31 Kb. Many programs will not be able to load, compared to earlier versions of MS-DOS ("Not enough memory to run"!).

This patch, which is a modified version of the VGA BIOS PROM in the PC212 or PC316L, will change the € and ¥ to ø and Ø, in almost all modes¹.

Installing:

Remove the cover of the PC, and find the VGA BIOS PROM. It is a socked EPROM labelled:

017-0049081

Unn V15.1.16

©NCR1989

Unn is a device number. On the PC212 that number is U14, on PC316L it is U28. If the marking on your PROM is different, this patch might not work!

You may have to remove the bus-card in a PC316L to gain access.

Remove the PROM carefully from the socket, and place in anti-static foam.

Mount the new PROM in the socket with proper orientation (the notch end of the PROM should be pointing to the back of the PC). Check that all pins are inserted correctly.

(turn over)

The new PROM is labelled:

PC212/316L
VGA
Patch V.1.2

Assemble the PC and power on. It should work exactly as before.

This will fix the first problem without further work. To release the now unneeded memory, you will have to edit CONFIG.SYS and AUTOEXEC.BAT files. Make a copy of each before changing, so that you can change the system back in the future.

In CONFIG.SYS remove the line containing the DISPLAY.SYS filename. In AUTOEXEC.BAT the lines starting with the commands: NLSFUNC, MODE and CHCP should be removed, and the '865' in the KEYB line changed to '..' (two commas). Reboot the system.

Good luck!

NoNoise Kit PC320/WS333

Stock No.: 23999009
Datasheet: none
Brochure: none
TM-number: none
TPP-FCN's: none
Nationality: International

Manufct./model: ESL/3001 E
H/W versions: none
S/W versions: none
Supplier: Groser Data A/S
Supp. Stock no: 1-16-510
Other Items: none

Product resp.: lea/MUDV

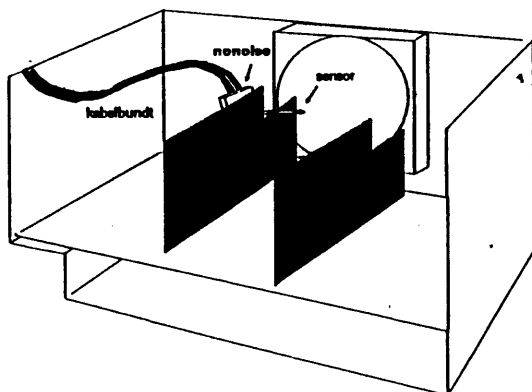
Table: none
Cable type: none
Setup floppy: none
(E) Installation: Vejledning til montering (danish)
User Intro: none

Revised: 13.03.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Vejledning til montering af nonoise i powersupply for
ACER 1120 , 1121 , 1125 , 1133
Powersupply : Mod. SMP-230-BB
nonoise : ESL3001E



- nonoise placeres på kabelbundet med en klæbepude og fastgøres med en kabelbinder således, at sensoren kommer til at sidde mellem de to køleplader foran ventilatoren
- Hunstikket fra ventilatoren sættes i hunstikket fra nonoise, og hunstikket fra nonoise sættes i hunstikket på printpladen
- Husk altid at kontrollere polariteten på stikkene !!

Scanner IX-30F

Stock No.:	23998959	
Datasheet:	none	
Brochure:	yes	Newtronic/Canon
TM-number:	none	
Table:	none	
H/W versions:	none	
S/W versions:	none	
Cabletype:	spec. SCSI cable included	
Manufct./model:	Canon/IX-30F + SCSI adaptor	
Supplier:	Newtronic	
Supp. Stock no:	1290054	Canon IX-30
	1291103	Canon SCSI adaptor
Productresp.:	lea/MUDV	
TPP-FCN's:	none	
Setup floppy:	none	
(P) Installation:	V.1.0 Scanner IX-30F	
User guide:	none	

Revised: 05.02.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Scanner IX-30F

Installation sheet V.1.0/05.02.91

DDE stock no. 23998959

Content:

1. Packing check list.
2. Factory preparation.
3. End User setup.

The Scanner IX-30F, based on Canon IX-30F and SCSI adaptor, allows a PC with ISA bus to scan pictures and tekst for further processing.

This product contains only the hardware. Drivers are included in application software.

1. Packing Check List.

- o Scanner IX-30F
- o CAUTION sheet (unlock)
- o IX-30F Instruction Manual.
- o SI-30 SCSI adaptor board.
- o SCSI cable and terminator block.
- o SI-30 Instructions.
- o Power cable (NKT-EDB).

2. Factory preparation.

2.1 Markings

Put DDE logo (Mekoprint H 0053) over the Canon Logo on the front of the scanner.

2.2 Test

Remove transport locks, as per instruction in the Instruction Manual.

Connect the scanner to a power outlet, switch on while pressing the test button up. The scanner should make a scan with light on.

Replace the transport locks

3. End User setup.

Follow instructions in the Canon Manuals.

Printers

rev. 01.11.96

1.0.3.1

DDE-type

Product name

System

dde-	C.ITOH 650	UNIX V
dde-	C.ITOH 8510	-
dde-	Canon BJ-300	UNIX V
dde-	DIABLO 630	-
dde-	Facit E540/E550/E560/E570	UNIX V
dde-	Facit E880	UNIX V
dde-	HP LaserJet 5/5N/5M	UNIX V
dde-	HP LaserJet 5L	UNIX V
dde-	HP LaserJet 5Si/5SiMX	UNIX V
dde-	KYOCERA 1000/1010	UNIX V
dde-	NEC P62/P72X	UNIX V
dde-	OKI Microline 83	-
dde-	OKI Microline 293	UNIX V
dde-	Olivetti PR 50/10	UNIX V
dde-	QUME 1140	-
dde-	Tally MT 420/40	-
dde-	Tally MT 87	UNIX III
dde-	TRIUMPH 170	-
dde-	TRIUMPH 7020	-
dde10a	C.ITOH 310	UNIX V & III & SF
dde10a	C.ITOH 310	UNIX V & SPC/1
dde20	C:ITOH 1550	-
dde28	NEC P20	UNIX V
dde29	NEC P30	UNIX V
dde30	OKI Microline 84	-
dde31	NEC P6	UNIX V & III
dde32	NEC P6 +	UNIX V
dde33	NEC P60	UNIX V

Printers

rev. 01.11.96

1.0.3.2

DDE-type	Product name	System
dde36	Siemens PT88S-21	UNIX V
dde37	C.ITOH 610 +	UNIX V
dde37 MK II	C.ITOH 610 II	UNIX V
dde38	Canon BJ-200	UNIX V
dde38 II	Canon BJ-200ex	UNIX V
dde39	See under Facit E540	
dde40	Canon BJ-300/BJ-330	
dde41	NEC P7	UNIX V & III
dde42	NEC P7 +	UNIX V
dde43	NEC P70	UNIX V
dde44	Canon BJC-4000	UNIX V
dde45	Tally MT 330	UNIX V
dde46	Philips P6390	UNIX V
dde47	Canon BJC-600	UNIX V
dde48	Canon BJC-800	UNIX V
dde51	Tally MT 400	UNIX V & III
dde53	Tally MT 87	UNIX V
dde54	Wenger 1/1 MKII Sh Form	UNIX V
dde57	EPSON TM-267 Bonprinter 57	UNIX V
dde58	Citizen/CBM-720	UNIX V
dde59	See under Facit E550	
dde60	Fujitsu DL5600	UNIXV
dde70	Facit E950/9010	UNIX V
dde80	Mannesmann Tally MT 661	UNIX V
dde110	JUKI 6200	UNIX V & III & SP
dde1000	Canon LBP8 A1	UNIX V & III
dde1000 Graphic	Canon LBP8 A1 1.1Mb	UNIX & III
dde1010	Canon LBP8 MKII	UNIX V & III
dde1010 Graphic	Canon LBP8 MKII 1.5Mb	UNIX V & III

Printers

Rev. 01.11.96

1.0.3.3

DDE-type

Product name

System

dde1020

Tally MT 910

UNIX V

dde1030

Canon LBP8 MKIIT

UNIX V

dde1030 Graphic

Canon LBP8 MKIIT 1.5Mb

UNIX V

dde1050

Canon LBP8 III

UNIX V

dde1051

Canon LBP8 PLUS

UNIX V

dde1055

QMS PS-815

UNIX V

dde1060

Canon LBP8 III T

UNIX V

dde1065

QMS PS-825

UNIX V

dde1070

Canon LBP8 III R

UNIX V

dde1080

Canon LBP4 III

UNIX V

dde1081

Canon LBP4 PLUS

UNIX V

dde1082

HP Laserjet 4L

UNIX V

dde1083

Canon LBP 4 U

UNIX V

dde1084

HP laserjet 5P

UNIX V

dde1085

QMS PS-410

UNIX V

dde1087

HP Laserjet 4P

UNIX V

dde1088

HP Laserjet 4

UNIX V

dde1089

Canon LBP 8 MK IV

UNIX V

dde1090

HP Laserjet IIISi

UNIX V

dde1091

HP Laserjet 4Si

UNIX V

dde1092

HP Laserjet 4 PLUS

UNIX V

dde1093

HP Laserjet 4V

UNIX V

dde1094

Canon LBP 1260C

UNIX X

dde2005

Canon BJC-880

UNIX V

dde2010

QMS CS-100/10

UNIX V

dde2015

QMS PS-860

UNIX V

dde2020

QMS CS-230

UNIX V

Printers

Rev. 01.11.96

1.0.3.4

DDE-type

Product name

System

Bonprinter 57

EPSON TM-267 Bonprinter

UNIX V

Bonprinter 58

CBM720

UNIX V

Cash Drawer 58

MIID 24D195B

UNIX V

Bonprinter 80

EPSON TM-T80

UNIX V

PRINTER / DDE type : dde1088

Based upon the HP LaserJet 4

930623

Terminology-table : /etc/types/prt/dde1088.t
/etc/types/prt/dde1088af.t
Datatable : 88002050

Factory default from DDE :

LANG : ENGLISH

PRINTING MENU

COPIES : 1
PAPER : A4
ORIENTATION : P (Portrait)
FORM : 66 LINES
MANUAL FEED : OFF
RET : MEDIUM

CONFIG MENU

MP TRAY : CASS
LOCK : MP
CLR WARN : ON
AUTO CONT : OFF
DENSITY : 3
LOW TONER : ON

PCL MENU

FONT SOURCE : I (Internal)
FONT NUMBER : 0
PTCH : 10.00
SYM SET : ROMAN-8

SERIAL MENU

SERIAL : RS-232
PACING : XON/XOFF
BAUD RATE : 19200
ROBUST XON : ON
DTR POLARITY : HI

PS MENU

(If PostScript option is installed)

PRT PS ERRS : OFF

PARALLEL MENU

HIGH SPEED : YES
ADV FNCTNS : OFF

JOB MENU

PAGEPROTECT : OFF
RESOLUTION : 600
PERSONALITY : AUTO

(If PostScript option is installed)

TIMBOUT : 15



PRINTER / DDE type : dde1092

Based upon the HP LaserJet 4 PLUS

940531

Terminology-table : /etc/types/prt/dde1092off.t
/etc/types/prt/dde1092offsf.t
/etc/types/prt/dde1092on.t
/etc/types/prt/dde1092onsf.t
Data cable : 88801050

Factory default from DDE :

LANG : ENGLISH

PRINTING MENU

COPIES : 1
PAPER : A4
ORIENTATION : P (Portrait)
FORM : 66 LINES
MANUAL FEED : OFF
RET : MEDIUM
ECONOMODE : OFF

PCL MENU

FONT SOURCE : I (Internal)
FONT NUMBER : 0
PITCH : 10.00
SYM SET : ROMAN-8

JOB MENU

RESOLUTION : 600
PWRSAVE : 30 MIN
IO TIMEOUT : 15

CONFIG MENU

MP TRAY : CASS
LOCK : MP
CLR WARN : ON
AUTO CONT : OFF
DENSITY : 3
LOW TONER : CONT

MEM CONFIG MENU

IO BUFFER : AUTO

PARALLEL MENU

HIGH SPEED : YES
ADV FNCTNS : OFF

SERIAL MENU

PACING : XON/XOFF
BAUD RATE : 19200
ROBUST XON : ON
DTR POLARITY : HI



PRINTER / DDE type : dde1087

Based upon the HP LaserJet 4P

931220

Terminology-table : /etc/types/prt/dde1087ecoff.t
/etc/types/prt/dde1087econ.t
Data cable : 88801050

Factory default from DDE :

LANG : ENGLISH

PRINTING MENU

COPIES : 1
PAPER : A4
ORIENTATION : P (Portrait)
FORM : 66 LINES
MANUAL FEED : OFF
RET : MEDIUM

PCL MENU

FONT SOURCE : I (Internal)
FONT NUMBER : 0
PITCH : 10.00
SYM SET : ROMAN-8

JOB MENU

PAGEPROTECT : AUTO
RESOLUTION : 600
TIMEOUT : 15

CONFIG MENU

CLR WARN : ON
AUTO CONT : OFF
DENSITY : 3

SERIAL MENU

PACING : XON/XOFF
BAUD RATE : 19200
ROBUST XON : ON
DTR POLARITY : HI

PARALLEL MENU

HIGH SPEED : YES
ADV FNCTNS : OFF

PRINTER / DDE type : dde1093

Based upon the HP LaserJet 4V

941114

Stock Number:

99208004

Terminology-table

: /etc/types/prt/dde1093.t
/etc/types/prt/dde1093sf.t
/etc/types/prt/dde1093e.t
/etc/types/prt/dde1093esf.t
/etc/types/prt/dde1093a3.t
/etc/types/prt/dde1093a3sf.t
/etc/types/prt/dde1093a3e.t
/etc/types/prt/dde1093a3esf.t

Databale

: 88303030

Factory default from DDE :

LANG : ENGLISH

PRINTING MENU

COPIES : 1
PAPER : A4
ORIENTATION : P (Portrait)
FORM : 66 LINES
MANUAL FEED : OFF
RET : MEDIUM
ECONOMODE : OFF

PCL MENU

FONT SOURCE : I (Internal)
FONT NUMBER : 0
PITCH : 10.00
SYM SET : ROMAN-8

JOB MENU

RESOLUTION : 600
PWRSAVE : 30 MIN
IO TIMEOUT : 15

CONFIG MENU

MP TRAY : CASS
LOCK : MP
CLR WARN : ON
AUTO CONT : OFF
LOW TONER : CONT

MEM CONFIG MENU

IO BUFFER : AUTO

PARALLEL MENU

HIGH SPEED : YES
ADV FNCTNS : OFF

PRINTER / DDE type : dde1082

Based upon the HP LaserJet 4L

930709

Terminology-table : /etc/types/prt/dde1082ecoff.t

/etc/types/prt/dde1082econ.t

Datacube : 88303030

Factory default from DDE :

Software controlled.



PRINTER / DDE type : ddc1091

Based upon the HP LaserJet 4Si

930623

Terminology-table : /etc/types/prt/ddc1091.t
/etc/types/prt/ddc1091.cf.t
Data cable : 88303030

Factory default from DDE :

LANG : ENGLISH

PRINTING MENU

COPIES : 1
OUT BIN : UPPER
PAPER : A4
ORIENTATION : P (Portrait)
FORM : 66 LINES
MANUAL FEED : OFF
JOB OFFSET : ON
RET : ON

PCL MENU

PONT SOURCE : I
PONT NUMBER : 0
PITCH : 10.00
SYM SET : ROMAN-8

PS MENU

(If PostScript option is installed)

PRT PS ERRS : OFF
JAM RECOVER : ON

JOB MENU

PAGEPROTECT : OFF
RESOLUTION : 600
PERSONALITY : AUTO

(If PostScript option is installed)

TIMBOUT : 15

CONFIG MENU

LOCK : LC
CLR WARN : ON
AUTO CONT : OFF
LOW TONER : STOP

MEM CONFIG MENU

RESOURCE SAV : OFF

PARALLEL MENU

HIGH SPEED : YES
ADV FNCTNS : NO

PRINTER / DDE type : dds2005

Based on the Canon BJC-830

930129

Technology cable

:/etc/ypsw/priv/dds2005b-w.1 :
:/etc/ypsw/priv/dds2005color.1 : 88002050

Factory default from DDE :

Mode : C-PSL

INTERFACE

U/I : B5232C

band : 19200

mode : 8S

dir : READY-H

com/soft : ON

dir/ack : OFF

CONTROL

offsetX : +0

offsetY : +0

message : DANISH

error-clip : MANUAL

timerFP : ON

buzzer : ON

yellow : +0

magenta : +0

cyan : +0

black : +0

MEMORY

partial : PARTIAL

buffer-size : 64K

color/memo : COLOR

FONT

primary : 10005

secondary : 10203

graphic-set : BR4L

LAYOUT

orientation : PORTRAIT

autoNL : OFF

autoFP : ON

autoCR : OFF

autoLP : OFF

lines : 6 LPI

columns : 10 CPM

ASSIST

copy : 01

macro : 030

overlay1 : NONE

overlay2 : NONE

paper : A4

media : NORMAL-PAPER

PRINTER / HP LaserJet 5L

Stock Number:

951023
99208034

VTI-table : prt/dde1082ecoff.t
Data cable : prt/dde1082econ.t
 : 88303030

Factory default from DDE :

Software controlled.

PRINTER / DDE type : dde1084

Based upon the HP LaserJet 5P

Stock Number:

950710

99208024

Terminology-table

: dde1084ecoff.t

dde1084econ.t

Data cable

: 88303030

Factory default from DDE :

Software controlled.

PRINTER / HP LaserJet 5/5N/5M

Stock Number:

960805

99208061

Terminology-table

: prt/dde1092off.t
prt/dde1092offsf.t
prt/dde1092on.t
prt/dde1092onsf.t

Data cable

: 88801050

Factory default from DDE :

LANG

: ENGLISH

PRINTING MENU

PWRSAVE : 30 MIN
COPIES : 1
PAPER : A4
WIDE A4 : NO
COURIER : REGULAR
ORIENTATION : P (Portrait)
FORM : 66 LINES
MANUAL FEED : OFF
RET : MEDIUM
ECONOMODE : OFF

PCL FONTS MENU

SOURCE : INTERNAL
NUMBER : 0
PITCH : 10.00
SYM SET : ROMAN-8

JOB MENU

RESOLUTION : 600
I/O TIMEOUT : 15

CONFIG MENU

TRAY 1 : CASSETTE
SIZE 1 : A4
LOCK TRAY : 1
CLR WARN : ON
AUTO CONT : OFF
TONER DENSITY : 3
TONER LOW : CONT

MEM CONFIG MENU

IO BUFFER : AUTO

PARALLEL MENU

HIGH SPEED : YES
ADV FNCTNS : OFF

SERIAL MENU

PACING : XON/XOFF
ROBUST XON : ON
BAUD RATE : 19200
DTR POLARITY : HI

PRINTER / HP LaserJet 5Si/5SiMX

951207

Stock Number:

99208055

Terminology-table

: prt/lj5si.t
prt/lj5sie.t
prt/lj5sia3.t
prt/lj5sia3e.t

Data cable

: 88303030

Factory default from DDE :

Software controlled.

PRINTER / DDE type : dde1094

Based upon the Canon LBP 1260C

950102

Stock Number:

99208013

Terminology-table

: /etc/types/prt/dde1094.t

/etc/types/prt/dde1094sf.t

Data cable

: 88002050

Factory default from DDE :

MODE

CaPSL

PCL

INTERFACE

INTERFACE : AUTO-PORT-SLCT
BAUD-RATE : 19200
RS-MODE : 8S
DTR : ON
DSR : OFF
XON/XOFF : ON
T-XON/XOFF : OFF
ETX/ACK : OFF
BUSY-LENGTH : MED.

CONTROL

CONTRAST : 4
TIMEOUT : 60
MESSAGE : ENGLISH
COPY : 1
OFFSETX : +0 mm/0.00 inch
OFFSETY : +0 mm/0.00 inch
ERROR-SKIP : MANUAL
BUZZER : ON
TONER-LOW : WARNING
28-ERROR : OFF
PAPER : A4
SLEEP-TIMER : 60
MP TRAY-FIRST : OFF

QUALITY

REFINE : ON
DITHER REFINE : ON
LOW RESOLUTION : CONTINUE

MEMORY

PAINT-MODE : AUTO
RASTER-CONFIG : STANDARD

CaPSL

GRAPHIC-SET : IBM850
PRIMARY : COURIER10
SECONDARY : COURIER10
ORIENTATION : PORTRAIT
AUTONL : OFF
AUTOFF : ON
AUTOCR : OFF
AUTOLF : OFF
LINES : 6 LPI
COLUMNS : 10 CPI
MACRO : 30
OVERLAY1 : NONE
OVERLAY2 : NONE

PRINTER / DDE type : dde1089

Based upon the Canon LBP 8 MK IV

931021

Terminology-table : /etc/types/prt/dde1089.t
/etc/types/prt/dde1089sf.t
Data cable : 88002050

Factory default from DDE :

MODE

CaPSL

INTERFACE

INTERFACE : AUTO-PORT-SLCT
BAUD-RATE : 19200
RS-MODE : 8S
DTR : READY-H
XON/XOFF : ON
ETX/ACK : OFF
BUSY-LENGTH : MED.

CONTROL

CONTRAST : 4
TIMEOUT : 60
MESSAGE : ENGLISH
COPY : 1
OFFSETX : +0 mm/0.00 inch
OFFSETY : +0 mm/0.00 inch
ERROR-SKIP : MANUAL
BUZZER : ON
TONER-LOW : WARNING
28-ERROR : OFF
PAPER : A4

QUALITY

SELECTION MODE : MANUAL
REFINE : ON
MEMORY USAGE : PARTIAL PAINT
LOW RESOLUTION : CONTINUE

MEMORY

BUFFER-SIZE : 1 K BYTES

CaPSL

GRAPHIC-SET : IBM850
PRIMARY : COURIER10
SECONDARY : COURIER10
ORIENTATION : PORTRAIT
AUTONL : OFF
AUTOFF : ON
AUTOCR : OFF
AUTOLF : OFF
LINES : 6 LPI
COLUMNS : 10 CPI
MACRO : 30
OVERLAY1 : NONE
OVERLAY2 : NONE



PRINTER / DDE type : dde1083

Based upon the Canon LBP 4 U

931021

Terminology-table : /etc/types/prt/dde1083.t
Data cable : 88303030

Factory default from DDE :

Software controlled.

PRINTER / DDE type : dde1050/1060/1070/1080

Based on the Canon LBP8 III/III T/III R and LBP4 III

910129

Terminology-table : /etc/types/prt/dde1050.t
/etc/types/prt/dde1060.t
/etc/types/prt/dde1070.t
/etc/types/prt/dde1080.t

Databable : 88002050

Factory default from DDE :

FONT/FEEDER.

prim : I0005
second : I0179
scaling : ON
rotation : ON
ps : ON
ecs : 8
feeder : Cass. (dde1050)
feeder : Upper (dde1060/1070)
feeder : Tray (dde1080, Cass. if sheetfeeder are mounted)

LAYOUT.

orient. : Port
offsetX : +0.0 (only on dde1050/1060/1070)
offsetY : +0.0 (only on dde1050/1060/1070)
autoNL : OFF
autoFF : ON

COPY/OVERLAY.

copy : 01
overlay1 : OFF
overlay2 : OFF

COMMAND.

command : ISO
message : Danish

INITIAL.

macro : 30
lp : OFF
autoCR : OFF
autoLF : OFF
paint : Full (dde1050/1060/1070)
paint : Partial (dde1080)
paper : A4
gr.-set : IBM850
lines : 6 LPI
columns : 10 CPI

INTERFACE.

i/f : RS232C
baud : 19200
rsmode : 8S
dtr : Ready-H
xon/xoff : ON
etx/ack : OFF

DUPLEX (only on dde1070)

duplex : OFF
binding : LEFT
margin : 4 /0.16


```

*****
*
*      PRINTER      dde type : ddel030 / ddel030 graphic      *
*      Baseret på Canon LBP8 MKIIT / Canon LBP8 MKIIT med 1.5 Mb RAM*
*                                     260288      *
*****

```

Siocetabel : ddel030.t (UNIX V)

Kabel : 8804

Selvtest : Printerens udfører en selvtest ved POWER ON. Det er også muligt, hvis printerens sættes "offline" og "TEST" tasten herefter trykkes ned, indtil displayet viser "01 TEST PRINT B". Der kan genereres et "Sample Print" på følgende måde : printerens skal sættes offline hvorefter "TEST" tasten nedtrykkes én gang. Der kan genereres font udskrifter ved at nedtrykke "TEST" tasten to eller tre gange.

Switch : Printerens har kun software switche. Printerens sættes offline, hvorefter "MENU" tasten nedtrykkes. Herefter benyttes piletasterne. Hvis det valgte ønskes gent udføres kommandoen "Save NV-RAM", hvorefter printerens skal resettes.

Følgene en DDE standard : (UNIX V)

FONT FEED.

prim	: I001	Primary character set.
second	: I002	Secondary character set.
ps	: Enable	Proportional operation.
ecs	: 7	Diablo ECS.
feeder	: Upper	Paper feed mode.

LAYOUT.

orient.	: Port	Page orientation.
offsetX	: +00	Fine adjustment of print position.
offsetY	: +00	Fine adjustment of print position.
autoNL	: off	Auto line wrap.
autoFF	: on	Auto formfeed.

Vend...

COPY/OVERLAY.

copy	: 01	Number of copies.
overlay1	: off	Overlay.
overlay2	: off	Overlay.

COMMAND.

command	: ISO	Command mode.
lcd	: 4	LCD angle adjustment.

INITIAL.

macro	: 30	Start-up macro selection.
lp	: off	Lineprinter mode.
autoCR	: off	Automatic CR.
autoLF	: off	Automatic LF.
paint	: partial/ full (med 1.5 MByte lager)	Print memory mode.
paper	: A4	Paper size.
gr.-set	: ISO_USA	Default graphic set selection.
lines	: 6 LPI	Number of lines.
columns	: 10 CPI	Number of columns.

INTERFACE.

i/f	: RS232C	Interface.
baud	: 19200	Baud rate.
rsmode	: 8S	communication parameter.
dtr	: Ready-H	DTR signal operation.
xon/xoff	: on	Handshake.
etx/ack	: off	Handshake.
dsr	: on	DSR mode.

Tilslutning til IBM-PC.

prim : I005. (IBML) / second : I013. (IBMR2) / baud : 9600.

```
*****
*
* PRINTER dde type : dde1010 / dde1010 GRAPHIC
* Basaret på Canon LBP8 MK II / Canon LBP8 MK II med 1.5 Mb RAM*
* 271187
*
*****
```

Siocetabel : dde1010 (UNIX III)
dde1010.t og dde1010.1 (UNIX V)

Kabel : 8804

Selvtæst : Printerens udfører en selvtæst ved POWER ON.
Der kan genereres et "Sample Print" på følgende
måde : printerens skal sættes offline hvorefter
"TEST" tasten nedtrykkes en gang.
Der kan genereres font udskrifter ved at ned-
trykke "TEST" tasten to eller tre gange.

Switch : Printerens har kun software switche.
Printerens sættes offline, hvorefter "MENU" tas-
ten nedtrykkes. Herefter benyttes piletasterne.
Hvis det valgte ønskes gæmt udføres kommandoen
"Save NV-RAM", hvorefter printerens skal reset-
tes.

Følgene er DDE standard :

Tilslutning til SUPERMAX UNIX V.

FONT FEED.

prim	: I001	Primary character set.
second	: I002	Secondary character set.
ps	: Enable	Proportional operation.
ecs	: 7	Diablo ECS.
feeder	: Cass	Paper feed mode.

LAYOUT.

orient.	: Port	Page orientation.
offsetX	: +00	Fine adjustment of print position.
offsetY	: +00	Fine adjustment of print position.
autoNL	: off	Auto line wrap.
autoFF	: on	Auto formfeed.

COPY/OVERLAY.

copy	: 01	Number of copies.
overlay1	: off	Overlay.
overlay2	: off	Overlay.

COMMAND.

command	: ISO	Command mode.
lcl	: 4	LCD angle adjustment.

Vend...

INITIAL.

macro	: 30	Start-up macro selection.
lp	: off	Lineprinter mode.
autoCR	: off	Automatic CR.
autoLF	: off	Automatic LF.
paint	: partial/ full (med	Print memory mode. 1.5 MByte lager)
paper	: A4	Paper size.
gr.-set	: ISO_USA	Default graphic set selection.
lines	: 6 LPI	Number of lines.
columns	: 10 CPI	Number of columns.

INTERFACE.

i/f	: RS232C	Interface.
baud	: 19200	Baud rate.
rsmode	: 8S	communication parameter.
dtr	: Ready-H	DTR signal operation.
xon/xoff	: on	Handshake.
etx/ack	: off	Handshake.
dsr	: on	DSR mode.

Tilslutning til SUPERMAX UNIX III.

prim : I036. / gr.-set : ISO_N/D. / rsmode : 7ES.

Tilslutning til SPC/1.

prim : I036. / command : DIABLO. / gr.-set : ISO_N/D.
baud : 9600. / rsmode : 7ES.

Tilslutning til IBM-PC. -

prim : I005. (IBML) / second : I013. (IBMR2) / baud : 9600.


```

*****
*
*          PRINTER   dde type : dde1000 / dde1000 GRAPHIC
*          Baseret på Canon LBP8 A1 / Canon LBP8 A1 med 1.1 Mb RAM
*
*                               170387
*****

```

Siocetabel : dde1000 (UNIX III)
 dde1000.t og dde1000.i (UNIX V)
 dde1000sf.t og dde1000sf.i (UNIX V)

Kabel : 8804

Selvttest : Printerens udfører en selvttest ved POWER ON.
 Brugeren kan generere en test på følgende måde :
 printerens skal være offline og bufferen skal være tom.
 Tast "shift test" hvorefter printerens tester video-
 controlleren. Ved fejl udskrives en fejlkode i displayet.
 Hvis ingen fejl konstateres, udskriver printerens et test-
 mønster, hvor "firmware version/font nr./font nr./switch
 indstilling/RAM kapacitet" kan aflæses.

Switch : Samtlige 4x8 switche er placeret på printerens bagside.

Følgene er DDE standard :

SW-1.

1. Interface select : OFF RS 232C.
2. Baud rate select : ON 9600.
3. : OFF 9600.
4. : ON 9600.
5. Data bit,parity,
stop bit : ON 7, even, 1. OFF 8, none, 1.
6. : OFF 7, even, 1. ON 8, none, 1.
7. : ON 7, even, 1. OFF 8, none, 1.
- (UNIX III/ SPC/1) (UNIX V)
8. DTR polarity : ON high.

SW-2.

1. Handshake mode : ON Xon/Xoff used.
2. Handshake mode : OFF ETX/ACK not used.
3. Handshake mode : ON DTR used.
4. DSR conditions : ON check DSR.
5. Automatic cr : OFF.
6. Automatic lf : OFF.
7. Automatic cr/lf : OFF.
8. Automatic ff : ON uden sheet feeder/ OFF med sheet feeder.

Vend ...

SW-3.

1. Instruction mode : ON ISO mode Supermax / OFF Diablo mode SPC/1.
2. Not used : OFF
3. Print wheel type : OFF 96 Plastic.
4. : OFF 96 Plastic.
5. Character set : ON DK. OFF USA.
6. : ON DK. OFF USA.
7. : OFF DK. OFF USA.
(UNIX III/SPC/1) (UNIX V)
8. Not used : OFF.

SW-4.

1. Paper size : OFF A4 size.
2. Not used : OFF.
3. Print direction : OFF Portrait.
4. Line printer mode: OFF disabled.
5. Jam conditions : ON Reprint page.
6. Not used : OFF.
7. Paint memory mode: OFF standard mode. ON full paint mode.
8. : OFF standard mode. ON full paint mode.
(dde1000) (dde1000 GRAPHIC)

PRINTER / DDE type : dde44

Based upon the Canon BJC-4000

941107

Stock Number:

99208009

Terminology-table

: /etc/types/prt/dde47.1

Datatable

: 88303030

Factory default from DDE :

1:ON, 2:OFF, 3:OFF, 4:ON, 5:ON, 6:OFF, 7:OFF, 8:OFF, 9:ON, 10:ON, 11:ON, 12:OFF , 13:ON

PRINTER / DDE type : dde2005

Based on the Canon BJC-830

930129

Terminology-table : /etc/types/pr/dde2005b-w.t
/etc/types/pr/dde2005color.t
Datatable : 88002050

Factory default from DDE :

Mode : CaPSL

INTERFACE

l/f : RS232C
baud : 19200
mode : 8S
dtr : READY-H
xon/xoff : ON
cts/ack : OFF

CONTROL

offsetX : +0
offsetY : +0
message : DANISH
error-skip : MANUAL
timerFF : ON
buzzer : ON
yellow : +0
magenta : +0
cyan : +0
black : +0

MEMORY

print : PARTIAL
buffer-size : 64K
color/mono : COLOR

FONT

primary : K0005
secondary : K0203
graphic-set : IBMML

LAYOUT

orientation : PORTRAIT
autoNL : OFF
autoFF : ON
autoCR : OFF
autoLF : OFF
lines : 6 LPI
columns : 10 CPI

ASSIST

copy : 01
macro : 030
overlay1 : NONE
overlay2 : NONE
paper : A4
media : NORMAL-PAPER



PRINTER / DDE type : dde48

Based on the Canon BJC-800

930129

Terminology-table : /etc/types/prt/dde48.t
Database : 88303030

Factory default from DDE :

Printing Mode	: Mode-A
Interface	: Parallel
Busy Timing	: ACK-BSY
Ack Width	: 0.5 Micro
Country Code	: Danish
Media Select	: Normal Paper
Color	: Black
Condensed	: Off
Line Length	: 11 inches
Character Set	: Graphics Table
Auto LF	: Off
CR Code	: Not Print
Character Pitch	: 10 cpi
Page Length	: 12 inches
Font	: Courier
International	: Denmark I
DCI/DC3	: Enable



PRINTER / DDE type : dde47

Based upon the Canon BJC-600

931021

Terminology-table

: /etc/types/prt/dde47.t

Data cable

: 88303030

Factory default from DDE :

1:ON, 2:OFF, 3:OFF, 4:ON, 5:ON, 6:ON, 7:OFF, 8:OFF, 9:OFF, 10:ON, 11:ON, 12:ON



PRINTER / DDE type : dde40/50

Based upon the Canon BJ-300/BJ-330

930707

Terminology-table : /etc/types/prt/dde40.t
/etc/types/prt/dde40ocrb.t
/etc/types/prt/dde50.t
/etc/types/prt/dde50ocrb.t

Datatable : 88002050/88303030

Factory default from DDE :

For Printer with Serial Interface :

DIP-Switches on the Main Board

SW 1 : ON ON ON ON ON OFF ON OFF

SW 2 : ON OFF OFF ON OFF OFF ON OFF OFF OFF

DIP-Switch on the Serial Interface Board

SW 1 : ON ON OFF OFF OFF OFF OFF OFF OFF

For Printer without Serial Interface :

DIP-Switches on the Main Board

SW 1 : ON ON OFF ON ON OFF ON OFF

SW 2 : ON OFF OFF ON OFF OFF ON OFF OFF OFF

PRINTER / DDE type : dde4s

Based on the Canon BJ-C-800

990129

Terminology-note : /etc/ypsw/psw/dde4s :
 Datable : 88303030

Factory default from DDE :

Printing Mode	: Mode-A
Interface	: Parallel
Busy Timing	: ACK-RSY
Ack Width	: 0.5 Micro
Country Code	: Danish
Media Select	: Normal Paper
Color	: Black
Condensed	: Off
Line Length	: 11 inches
Character Set	: Graphics Table
Auto LF	: Off
CR Code	: Not Print
Character Pitch	: 10 cpi
Page Length	: 12 inches
Font	: Courier
International	: Dotsmark I
DCI/DC3	: Enable

PRINTER / DDE type :

Based on the Canon BJ-300

920714

Terminology-table : /etc/types/prt/canonbj300.t
Dataable : 88002050

Factory default from DDE :

DIP-Switches on the Main Board

SW 1 : ON ON ON ON OFF OFF ON OFF

SW 2 : ON OFF OFF ON OFF OFF ON OFF OFF

DIP-Switch on the Serial Interface Board

SW 1 : ON ON OFF OFF OFF OFF OFF OFF OFF

PRINTER / DDE type : dde38 II

Based upon the Canon BJ-200ex

Stock Number:

950126

99208016

Terminology-table

: /etc/types/prt/dde38.t

Datatable

: 88303030

Factory default from DDE :

DIP Switch 01	: ON	(Horizontal Print Position: A4 Size)
DIP Switch 02	: OFF	(Text Scale Mode: Disable)
DIP Switch 03	: ON	(Page Length: 12 Inches)
DIP Switch 04	: ON	(Character Set II)
DIP Switch 05	: OFF	} (Code Page 850)
DIP Switch 06	: OFF	
DIP Switch 07	: ON	
DIP Switch 08	: OFF	(Automatic Carriage Return: Normal LF)
DIP Switch 09	: OFF	(Alternate Graphic Mode: Disabled)
DIP Switch 10	: OFF	(Buffer Size: 62 KByte)
DIP Switch 11	: OFF	(Canon BJ-10 Mode)
DIP Switch 12	: OFF	(Automatic Emulation Switching Mode: Disabled)



PRINTER / DDE type : dde38/dde49

Based upon the Canon BJ-200/230

931021

Terminology-table : /etc/types/prt/dde38.1

/etc/types/prt/dde49.1

Datatable : 88303030

Factory default from DDE :

DIP Switch 12 : OFF (Canon BJ-10 Mode)

DIP Switch 01 : ON (Horizontal Print Position for A4 Size)

DIP Switch 02 : OFF (Text Scale Mode Disable)

DIP Switch 03 : OFF

DIP Switch 04 : ON (Page Length 12 Inches)

DIP Switch 05 : ON (Character Set II)

DIP Switch 06 : OFF (Automatic Carriage Return : Normal LF)

DIP Switch 07 : OFF (Alternate Graphic Mode Disable)

DIP Switch 08 : OFF

DIP Switch 09 : ON (Code Page 850)

DIP Switch 10 : OFF (Buffer Size 49 KByte)

DIP Switch 11 : OFF



PRINTER / DDE type : dde38

Based on the Canon BJ-200

930129

Terminology-table

: /etc/types/prt/dde38.t

Datatable

: 88303030

Factory default from DDE :

DIP Switch 12 : OFF (Canon BJ-10 Mode)

DIP Switch 01 : ON (Horizontal Print Position for A4 Size)

DIP Switch 02 : OFF (Text Scale Mode Disable)

DIP Switch 03 : OFF

DIP Switch 04 : ON (Page Length 12 Inches)

DIP Switch 05 : ON (Character Set II)

DIP Switch 06 : OFF (Automatic Carriage Return : Normal LF)

DIP Switch 07 : OFF (Alternate Graphic Mode Disable)

DIP Switch 08 : OFF

DIP Switch 09 : ON (Code Page 850)

DIP Switch 10 : OFF (Buffer Size 49 KByte)

DIP Switch 11 : OFF

PRINTER / C.ITOH 650

951129

Stock Number:

99208051

VTI-table

: prt/c-ito650.t

Data cable

: 88002050

Factory default from DDE :

01	MACRO	USER-1	60	PAPER INITIAL	ON
02	LANGUAGE	ENGLISH	61	POWER ON	ON LINE
03	EMULATION	EPSON	62	Buzzer SWITCH	ON
04	SWITCH LOCK	INVALID	63	COVER OPEN	ON
			64	PE SENSOR	ON
10	FONT	DRAFT	65	PE STATUS	ON LINE
11	PITCH	10 CPI	70	BUFFER AREA	PRINT
12	LINE SPACING	6 LPI			
13	FORM LENGTH	072 LINE	75	SELECT-IN	VALID
14	RIGTH MARGIN	080 CLMN	76	AUTO XT	VALID
15	LEFT MARGIN	000 CLMN	77	BUSY/ACK	MODE 1
16	TOP MARGIN	010/60 INCH	80	BAUD RATE	19200 BPS
17	BOTTOM MARGIN	010/60 INCH	81	PARITY	NONE
18	PAGE SKIP	000/60 INCH	82	DATA BIT	8 BIT
19	CROSS PAGE	OFF	83	STOP BIT	1 BIT
			84	PROTOCOL	XON/XOFF
25	CHARACTER TABLE	U.S.A.	85	OVER RUN BUFFER	256 BYTES
26	CHARACTER SET	GRAPHICS2	86	RECEIVE DATA	VALID
27	CODE PAGE	MULTI			
28	SLASH ZERO	OFF	90	TEAR ADJUST	+000/60 INCH
29	15 CPI	HALF	91	DOT ADJUST	+000/720 INCH
30	CR CODE	CR	92	TOF CUT SHEET	+000/120 INCH
31	LF CODE	LF	93	TOF CONTINUOUS FORM	+000/120 INCH
32	CANCEL CODE	VALID	94	TOF ASF	+000/120 INCH
33	BUFFER FULL	LF	95	HEAD POSITION	+090 CLMN
34	AGM MODE	OFF	98	PRINT MODE	MACRO
35	PASSBOOK SW	OFF	99	EEPROM INITIALIZE	CURRENT
36	PASSBOOK CENTER	035 CLMN			
40	EJECT TABLE	FRONT			
41	EJECT ASF	REAR			
42	LOADING	1.0 SEC.			
45	HEAD GAP	AUTO ONE			
46	TUNE GAP	0			
50	IMPACT FORCE	AUTO			
51	PRINT DIRECTION	BI-DIR C			
55	TEAR OFF	0.5 SEC.			
56	TEAR OFF POSITION	CUTTER			
57	TEAR OFF CONDITION	WITHOUT F/F			

PRINTER / DDE type : dde37 MK II

Based on the C.ITOH 610II

921020

Terminology-table : /etc/types/prt/dde37.t

Databale : 88002050

Factory default from DDE :

00 DF.SET; OFF
01 SEL USER; 1
02 CHG USER; 1

USER 1

03	EMUL; EPSON	35	TEAR-OFF; 0.5
04	FONT; DRAFT	36	TEAR POS; 1
05	CPI; 10	37	TEAR ADJ; 0
06	PAGE-L; 72LINE	38	TEAR-OFF; 1
07	LPI; 6	39	LOADING; MODE2
08	BUZZER; ON	40	PAPER INT; OFF
09	CR CODE; CR	41	P-HEAD POS; L
10	LF CODE; LF	42	RESERVED; 1
11	BUFFER; PRINT	43	IMPACT; COPY
12	ZERO; 0	44	LANGUAGE; ENGL
13	CHR TBL; GRA.2	45	CODE PG; 437
14	CHR SET; USA	50	I/F; SERIAL
15	CHR SET; SET1	51	SLCT IN; VALID
16	1/2*SKIP; OFF	52	AUTO XT; VALID
17	BUF FUL; LF	53	BSY/ACK; MODE1
18	PW ON; ONLINE	60	PROT; XON/XOFF
19	QUIET; OFF	61	BAUD; 9600BPS
20	DIRECT; BI(C)	62	DATA BITS; 8
21	PE DETECT; ON	63	PARITY; NONE
22	CHR MODE; NORM	64	STOP BIT; 1
23	CAN; VALID	65	CTS; INVAL
24	IBM AGM; OFF	70	O-BUFF; 256
25	15 CPI; HALF	71	R-DATA; VALID
26	SW LOCK; INVALID		
31	EJECT; REV		
32	SHEET EXT; ON		
33	P LOAD; 10/60		
34	B MARG; 20/60		

PRINTER / DDE type : dde37

Based on the C.ITOH 610+

920403

Terminology-table : /etc/types/prt/dde37.t
Databable : 88002050

Factory default from DDE :

00 DF.SET; OFF
01 SEL USER; 1
02 CHG USER; 1

USER 1

03	EMUL; EPSON	39	LOADING; MODE2
04	FONT; DRAFT	40	PAPER INT; OFF
05	CPI; 10	41	P-HEAD POS; L
06	PAGE-L; 12"	42	RESERVED; 1
07	LPI; 6	50	I/F; SERIAL
08	BUZZER; ON	51	SLCT IN; VALID
09	CR CODE; CR	52	AUTO XT; VALID
10	LF CODE; LF	60	PROT; XON/XOFF
11	BUFFER; PRINT	61	BAUD; 9600BPS
12	ZERO; 0	62	DATA BITS; 8
13	CHR TBL; GRA.2	63	PARITY; NONE
14	CHR SET; USA	64	STOP BIT; 1
15	CHR SET; SET1	65	CTS; INVAL
16	1/2*SKIP; OFF	70	O-BUFF; 256
17	BUF FUL; LF	71	R-DATA; MODE1
18	PW ON; ONLINE		
19	QUIET; OFF		
20	DIRECT; BI(C)		
21	PE DETECT; ON		
22	CHR MODE; NORM		
23	CAN; VALID		
24	IBM AGM; OFF		
31	EJECT; REV		
32	SHEET EXT; ON		
33	P LOAD; 10/60		
34	B MARG; 20/60		
35	TEAR-OFF; ON3S		
36	TEAR POS; 1		
37	TEAR ADJ; 0		
38	TEAR-OFF; 1		

Printer

DDE type : dde20

Based on Itoh 1550

910304

Firmware version :

Terminology-table :

Cable : 8804 / 880020_0

Selftest :

Setup : 1200, 7 bits, 1 stop bit, even parity

Switch-setting : See the following papers

DOT MATRIX SERIAL IMPACT PRINTER

MODEL 1550S/SC

USERS MANUAL



C. ITOH & CO., LTD.

C.P.O. Box 136 Tokyo 100-91 Japan

U.S.A.:

C.ITOH ELECTRONICS, INC.
5301 Beethoven Street,
Los Angeles, Calif.
90066 U.S.A.

EUROPE:

C.ITOH ELECTRONICS CO., LTD.
Beacon House 26/28
Worple Road, Wimbledon,
London SW19 4EE
United Kingdom

C. ITOH ELECTRONICS CORP.

Toho Seimei Bldg. 27th,
2-15-1 Shibuya, Shibuya-ku,
Tokyo 150 Japan

C.ITOH ELECTRONICS GmbH

Roßstraße 96
4000 Düsseldorf 30
West Germany

3.7 DIP Switch Setting (Parallel Data)

The 1550S/SC DIP switches all various selections to be made as described below.

DIP SW-1 and SW-2 are mounted on the main PC board. They are visible at the right and accessible when the print cover is opened. (See Fig. 3-5.)

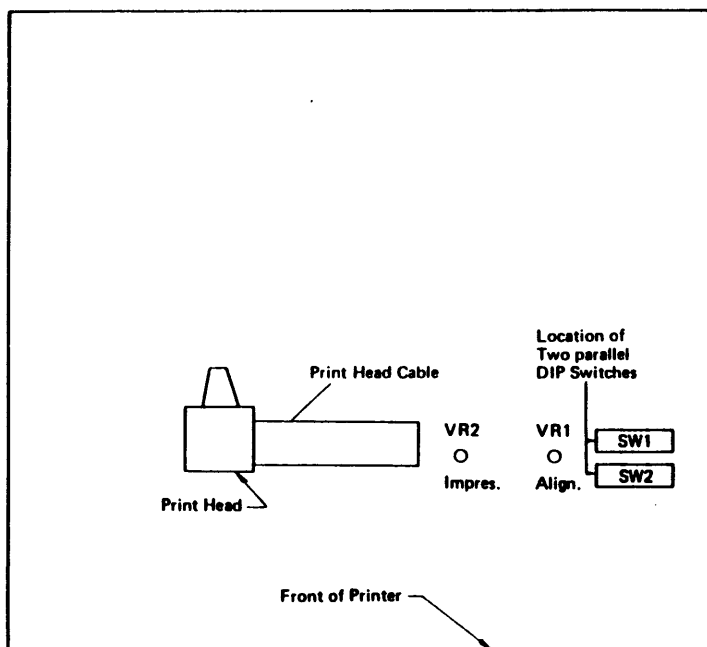
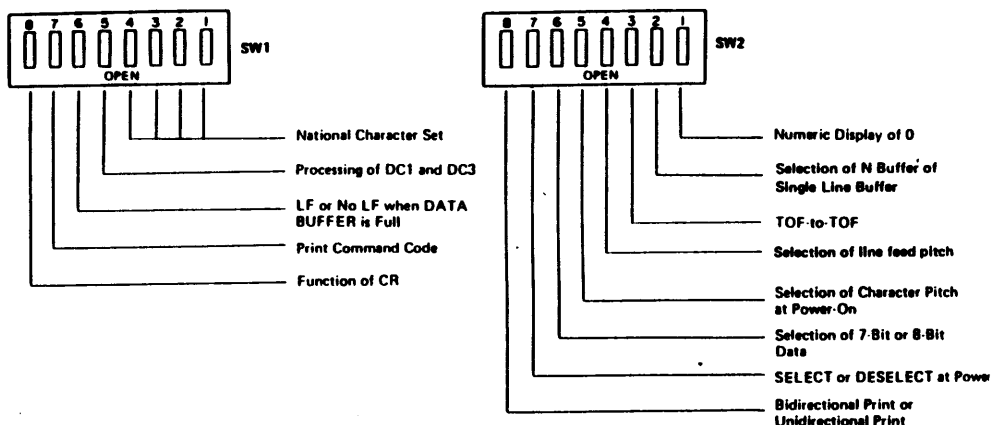


Fig. 3-5 Parallel DIP Switch Functions and Locations

3.7.1 National Character Selection

Select the desired Character Set, by means of setting corresponding DIP switch, according to following table:

No.	Nation	SW1-4	SW1-3	SW1-2	SW1-1
0	JA	Open	Open	Open	Open
1	FR	Open	Open	Open	Closed
2	US	Open	Open	Closed	Open
3	UK	Open	Open	Closed	Closed
4	GE	Open	Closed	Open	Open
5	SW	Open	Closed	Open	Closed
6	IT	Open	Closed	Closed	Open
7	SP	Open	Closed	Closed	Closed
8	DN	Closed	Open	Open	Open
9	NOR	Closed	Open	Open	Closed
10	NET	Closed	Open	Closed	Open
11	AF	Closed	Open	Closed	Closed
12	*	Closed	Closed	Open	Open
13	*	Closed	Closed	Open	Closed
14	FR II	Closed	Closed	Closed	Open
15	UK II	Closed	Closed	Closed	Closed

Remarks: * Undefined now, if this position is assigned, US Character Set will be effective.

Again, the Hiragana specification for JIS, will be replaced by Greek for export use.

3.7.2 Processing of DC1 and DC3

Set SW1-5 to select effectiveness of DC1 and DC3.

Processing	SW1-5
Effective	Open
Ineffective	Closed

(ST)

Remarks: (ST) Standard

3.7.3 LF or NO-LF when DATA BUFFER is Full

Set SW1-6 to select line feed or no line feed upon a buffer-full condition.

When the DATA BUFFER contains one line of print data, the data will be printed out without a print command code. At this point, one line feed may or may not take place, depending on the position of SW1-6.

Condition	SW1-6
Non-LF	Open
LF	Closed

(ST)

3.7.4 Print Command Code (Valid only in Logic Seek Print Mode)

Set SW1-7 to select the command(s) which will act as print commands.

Command Code	SW1-7
CR Only	Open
CR, LF, VT, FF, US	Closed

(ST)

3.7.5 Function of CR

Set SW1-8 to select one line feed or no line feed to take place following a Carriage Return.

Function	SW1-8
CR	Open
CR + LF	Closed

(ST)

3.7.6 Numeric Display of 0 (zero)

Set SW2-1 to select printing of the number 0 with or without a slash.

Display	SW2-1
0	Open
0	Closed

(ST)

3.7.7 Selection of N Buffer or Single Line Buffer

Set SW2-2 to select N buffer or single line buffer.

Condition	SW2-2
N Buffer	Open
Single Line Buffer	Closed

(ST)

3.7.8 TOF-to-TOF

Set SW2-3 to select the desired number of inches from TOF to the next TOF.
The number of lines for TOF-to-TOF is either 66 or 72.

Number of TOF-TOF line	SW2-3
11 Inches (66 line)	Open
12 Inches (72 line)	Closed

(ST)

Remarks: The line number between two TOFs, will be '88' for 1/8" line spacing; and '96' for 1/8 line-spacing.

3.7.9 Selection of Line Spacing

Line Spacing	SW2-4
1/6"	Open
1/8"	Closed

(ST)

Remarks: Vertical tab set at Power on:
1/6" Line Spacing – every 6 lines
1/8" Line Spacing – every 8 lines

3.7.10 Selection of Character Pitch at Power On

Set SW2-5 to select printing of characters at 10 CPI or proportionally (spacing allowance made depending on the size of the character).

These are the options available at Power-On. Other print modes are software selectable. See section 3.13.2 for details.

Print Mode	SW2-5
10CPI character	Open
Proportional character	Closed

(ST)

3.7.11 Selection of 7-bit or 8-bit Data

Set SW2-6 to select 7 or 8-bit data.

8-bit data enable the selection of Greek character sets and graphics mode. See section 3.13 for details.

Data	SW2-6
8-bit	Open
7-bit	Closed

(ST)

3.7.12 SELECT or DESELECT at Power On

Set SW2-7 to select either SELECT or DESELECT condition to occur when the printer power is turned-on.

Data	SW2-7
DESELECT	Open
SELECT	Closed

(ST)

3.7.13 Bidirectional or Unidirectional Print at Power On

Set SW2-8 to select unidirectional or bidirectional printing.

Data	SW2-8
Bidirectional	Open
Unidirectional	Closed

(ST)

Remarks: Unidirectional printing is recommended in graphic mode.

3.7.14 1550S/SC DIP Switch Selection (Parallel Data)

Table 3-1 Model 1550S/SC DIP Switch Selection

DIP SW No.	Function	Open	Close
1-1	National Character Selection		
1-2			
1-3			
1-4			
1-5	Processing of DC1 and DC3 Signals	Effective	Ineffective
1-6	Line Feed When Buffer is full	No LF	LF
1-7	Print Command Code	CR	CR, LF, VT, FF, US
1-8	Line Feed invoked by CR Command Code	No	Yes
2-1	Printing of Numeral 0	0	Ø
2-2	Select Buffer Option	Yes	No
2-3	Length between two TOFs	11 Inches (66 Lines)	12 Inches (72 Lines)
2-4	Line Spacing	1/6 Inch	1/8 Inch
2-5	Power on Character Pitch	10 CPI	Proportional
2-6	Selection of 7 or 8-Bit Data	8-Bit	7-Bit
2-7	Power on Select/Deselect	Deselect	Select
2-8	Uni- or Bi-direction Print	Bi-Direct	Uni-Direct

3.7.15 1550S/SC Jumper Function List

The 1550S/SC specification can be altered by selecting the jumpers as shown below.

Table 3-2 Jumper Function Selection

●: For the standard model.

JUMPER NO.	CLOSED	OPEN
J11	● 15-inch print	8-inch print
J9	● INPUT-BUSY signal output on Pin 11 of the connector.	BUSY signal output on Pin 11 of the connector.
J10	BUSY signal output on Pin 11 of the connector.	● INPUT-BUSY signal output on Pin 11 of the connector.
J20	SG connected to FG.	● SG disconnected from FG, or connected to with a resistor installed.
J7	INPUT-BUSY signal output (INTR or PB6)	● INPUT-BUSY output (IBF or PB6)
J8	● INPUT-BUSY signal output (IBF or PB6)	INPUT-BUSY output (INTR or PB6)

Note: Jumpers other than those listed above are connected as follows:

J1	J2	J3	J4	J5	J6	J12	J13	J14	J15
Open	Closed	Closed	Open	Open	Open	Open	Closed	Closed	Closed
J16	J17	J18	J19	SW3-1	SW3-2	SW3-3	SW3-4		
Open	Open	Closed	Open	Closed	Open	Closed	Open		

The connections of these jumpers are not to be altered.

3.9.6 Connectors:

Printer: Japan AMP 552742-1 Connector or the equivalent
DDK 57L-40360-27CB Connector or the equivalent

Cable: Japan AMP 552470-1 Connector or the equivalent
DDK 57-30360-1 Connector or the equivalent

3.9.7 Connector Pin Assignment Table

PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME
1	DATA STB	19	TWISTED PAIR GND
2	DATA 1	20	
3	2	21	
4	3	22	
5	4	23	
6	5	24	
7	6	25	
8	7	26	
9	DATA 8	27	
10	ACK	28	
11	INPUT-BUSY	29	
12	PE	30	TWISTED PAIR GND
13	SELECT	31	INPUT-PRIME
14	0V	32	FAULT
15	NC	33	0V
16	0V	34	NC
17	CHASSIS GND	35	NC
18	+5V DC	36	INPUT-BUSY

Note: Pin 11 can be used for BUSY signal on the CPU PC board (jumper selectable).

Jumper No. J9 : INPUT BUSY
J10: BUSY

Fig. 3-8 Connector Pin Assignment (Parallel)

3.10.8 Error Detection

- (1) Parity Check: VRC (vertical redundancy check), EVEN, ODD, NO-PARITY, and IGNORE.
- (2) Framing Error: Identifies when there is no STOP BIT within a frame specified by the START BIT.
- (3) Overrun Error: Identifies when the next data are input before the data input by the host CPU to UART are read by the printer.

Note: If any of the above errors occurs, the erroneous data is printed intact.
An error in Bit Image is also printed intact.

3.10.9 Connector Pin Assignment Table

Note: "C" = Connected;

"NC" = Not Connected

(1) RS232C

Table 3-4 Connector Pin Assignments (RS232C)

PIN-NO.	Symbol	Descriptions	Direction	RDY/BSY	X ON/X OFF ETX/ACK
1	FG	Frame Ground		C	C
*(2)	SD	Send Data	Output	NC	C
3	RD	Received Data	Input	C	C
4	RTS	Request to Send	Output	NC	C
5	CTS	Clear to Send	Input	NC	C
6	DSR	Data Set Ready	Input	NC	C
7	SG	Signal Ground		C	C
8	CD	Carrier Detect	Input	NC	C
20	DTR	Data Terminal Ready	Output	C	C
*(2)	CER	Carrier Error	Output	C	NC
14	FAULT	Fault	Output	C	C

3.10.13 DIP Switch Settings (Serial Data)

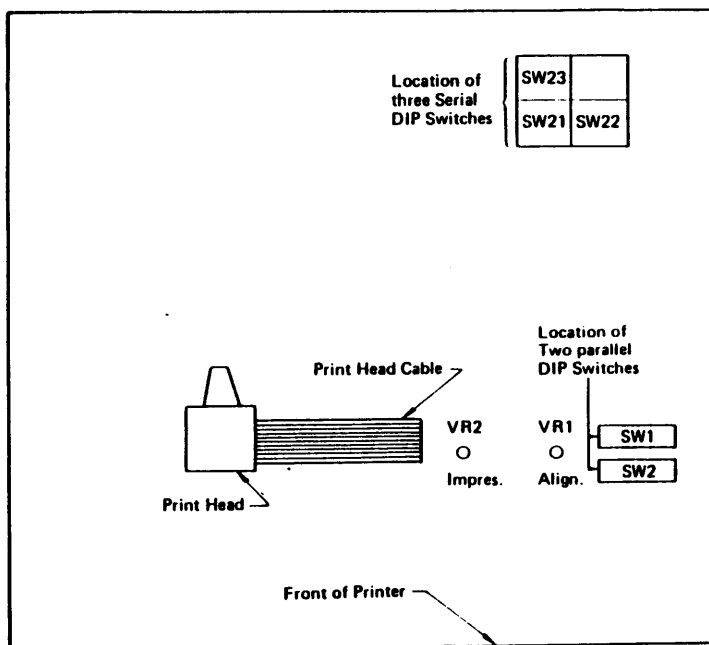
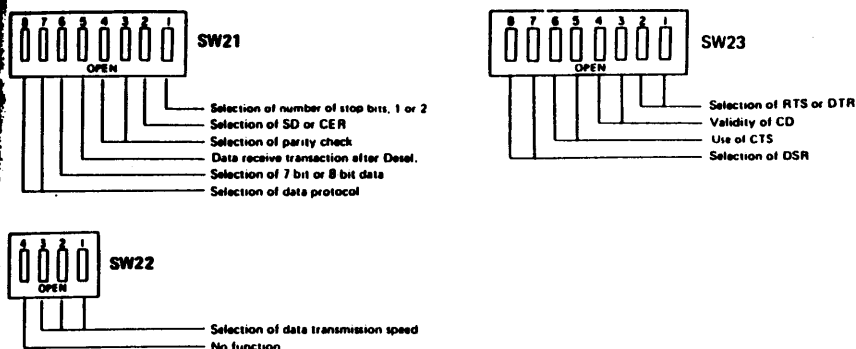


Fig. 3-14 Serial DIP Switch Functions and Locations

"ST .. denotes the setting made at the time of shipment.

(1) Selection of stop bit 1 or 2

(ST)

SW No.	1 bit	2 bit
21-1	Open	Closed

(2) Selection of SD or CER

(ST)

SW No.	SD	CER
21-2	Open	Closed

(3) Selection of parity check

(ST)

SW No.	EVEN	ODD	NO PARITY
21-3	Open	Closed	Open
21-4	Open	Open	Closed

* On both SW21-3 and 4 "Closed" setting is forbidden.

(4) Data Reception Processing after DESELCT.

(ST)

SW No.	Receive all data input even in DESELCT state	Receive data for 350 ms after DESELCT and ignore following data
21-5	Open	Closed

(5) Selection of 7 bit or 8 bit data

(ST)

SW No.	8 bit	7 bit
21-6	Open	Closed

When 7 bit is selected, set SW2-6 also to 7 bit.

(6) Selection of data protocol

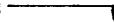
(ST)

SW No.	RDY/BSY		XON/XOFF	ETX/ACK
21-7	Open	Closed	Open	Closed
21-8	Open	Open	Closed	Closed

*1

*2

Regarding the polarity of CER.

*1  Low (CER)

*2  High (CER)

(7) Selection of Data transmission speed

(ST)

SW No.	Speed (BPS)							
	9600	4800	2400	1200	600	300	200	110
22-1	Open	Open	Open	Open	Closed	Closed	Closed	Closed
22-2	Open	Open	Closed	Closed	Open	Open	Closed	Closed
22-3	Open	Closed	Open	Closed	Open	Closed	Open	Closed

(8) Selection Timing of RTS

(ST)

SW No.	Will be fixed on high while SELECT is ON. (Can be used for distinguishing SELECT/DESELECT)	Synchronize it with DTR. (Can be used as RDY/BSY signal)
23-1	Closed	Open
23-2	Open	Closed

(9) Validity of CD. CD is not used in this printer.

(ST)

SW No.	CD Valid	CD Invalid
23-3	Closed	Open
23-4	Open	Closed

(10) Selection of CTS

(ST)

SW No.	Used	Not Used
23-5	Closed	Open
23-6	Open	Closed

(11) Selection of Valid/Invalid of DSR

(ST)

SW No.	Valid	Invalid
23-7	Closed	Open
23-8	Open	Closed

(12) Selection Timing of DTR

(ST)

Jumper No.	Synchronizes with RDY/BSY (DSY/BSY)	After the Power is turned ON. DTR will be fixed on high (X ON/X OFF, ETX/ACK)
J-8	Connected	Not Connected

PRINTER / DDE type : dde10a

Based on the C.ITOH 310

910129

Terminology-table : /etc/types/prt/dde10a.t

Databable : 88002050

Factory default from DDE :

Function. no.		Menu no.	
00	reset command	01	esc c 1
01	form length	10	12 inches
02	line spacing	01	1/6 " line spacing
03	character/inch	01	10 CPI
04	function of LQ switch	01	LQ
05	sound buzzer	01	yes
06	LQ CG	02	cassette CG
11	receive buffer	01	1 line buffer method
12	data bit	02	8 bit
13	selection at power on	01	on line
14	print direction	01	bidirectional
15	lf/no-lf at buffer full	02	no lf
16	pe detection	01	valid
18	type of zero	01	0
19	character set	13	usa
21	print command code	02	cr,lf,vt,ff,us
22	cr function	01	cr
23	can code	02	invalid
24	processing of dcl/dc3	01	valid
25	processing of so/si	01	valid
26	processing of ff	01	ff operation
27	vt setting	01	every 1"
41	cg-ram	01	
61	sheet feeder	02	asf310
81	processing after offline	01	receive all input
82	DSR	01	valid
83	timing of RTS	01	fixed at a high level
84	CD	02	invalid
85	CTS	01	valid
86	SD/CER	01	SD

91	buffer type	01	
92	7/8 data bit	02	8 bit
93	protocol	03	Xon/Xoff
94	stop bit	01	1 stop bit
95	parity	01	no parity
96	baud rate	01	9600 baud

If the printer is to be connected to the SPC/1 following is different :

12	data bit	01	7 bit code
19	character set	09	danish
92	7/8 data bit	01	7 data bit
93	protocol	01	RDY/BSY (low)
95	parity	03	even parity

Printer / DDE type : dde33/43
Based on the NEC P60/P70

901010

Terminology-table : /etc/types/prt/dde33.t
/etc/types/prt/dde43.t

Datatable : 88002050

Factory default from DDE :

Print mode settings.

1. 12 pitch draft speed : High speed.
2. Print style at power up : Courier 10.
3. Language char sets : Multilingual.
4. Char sets (Italic or IBM) : IBM(R)/STD.
5. Shape of zero : 0.
6. Graphics print direction : Unidirectional.
7. Download char sets : Two 128 char sets.
8. Heavy duty check : On.
9. Quiet mode : Off.

Horizontal settings.

1. Left margin column : 1.
2. Horizontal alignment LQ : 5.
3. Horizontal alignment DR : 5.
4. Carriage stop position : Normal.
5. Sheet feeder left margin : Column 1. (only on dde43)

Form settings.

1. Form length in lines of 6 lpi : 72.
Form length in inches : 12".
2. Skip over perforation : Off.
3. Lines per inch : 6 LPI.
4. CR function : CR only.
5. LF function : LF only.
6. Buffer full auto line feed : On.
7. Load/Tear off : 1 inch.
8. Auto Tear off : Disable.
9. Pull Tractor mode : Off.
10. SF opt type : 1 bin. (only on dde43)

Interface settings.

1. Buffer capacity : 80 KB (no DL).
2. 7 or 8 bit data : 8 bit.
3. DC1/DC3 : Disable.
4. Baud rate : 19200.
5. Word length : 8 bit.
6. Parity check : None.
7. DCD, CTS, DSR signals : Ignored.
8. Communication protocol : X-on/X-off.
9. Ready/busy control : Pin 19,20.
10. Ready polarity : High.


```

*****
*
* PRINTER dde type : dde32/dde42
* Baseret på NEC P6+/P7+
*
* 881025
*
*****

```

Siocetabel : /etc/types/prt/dde32.t /etc/types/prt/dde42.t

Kabel : 8804

Selvtest : Printerens udfører en selvtest ved POWER ON + FEED.

Switch : Printerens har kun Software switche.

Start setup : power on + select.

Herefter følges printerens udskrevne forklaring.

Følgene er DDE standard : (UNIX V)

Print mode settings.

12 pitch draft speed	: High speed.
Print style at power up	: Courier 10.
Language char sets	: DM1.
Char stes (Italic or IBM)	: IBM(R)/STD.
Shape of zero	: 0. (without a slash).
Graphics print direction	: Unidirectional.
Download char sets	: One 256 char set.
Heavy duty check	: On.

Form settings.

Form length	: 12".
Skip over perforation	: Off.
Lines per inch	: 6 lpi.
Cr function	: Cr only.
Lf function	: Lf only.
Buffer full auto line feed	: On.
Load/tear off	: Short adj.
Pull tractor mode	: Off.

Horizontal settings.

Left margin column	: 1.
Horizontal alignment LQ	: 5.
Horizontal alignment DR	: 5.
Carriage stop position	: Left margin.
Sheet feeder left margin	: Column 1.

Interface settings.

Buffer capacity	: 80 KByte.
7 or 8 bit data	: 8 bit.
DC1/DC3	: Disable.
Mode	: Serial.
Baud rate	: 19200.
Word length	: 8 bit.
Parity check	: None.
DCD, CTS, DSR signals	: Ignored.
Communication protocol	: X-on/x-off.
Ready/busy control	: Pin 19.
Ready polarity	: High.

 *
 * PRINTER dde type : dde31/dde41 Baseret på NEC P6/P7 *
 * 271187*

Sloctabel : dde31 og dde41 (system III)
 dde31.t og dde41.t (system V)
 Kabel : 8804

Selvtest : Firmware version + Switch indstilling=
 Power ON + Quiet tast.
 Firmware version + Switch indstilling
 + Tegn-sæt udskrivning= Power ON + Font tast.
 Tegn-sæt udskrivning= Power ON + Feed.

Versions nummer : REV 15 11 OG 07 52 13 98 eller højere.

Følgene er DDE standard :

Seriell og Parallel interface :

SW 1 :

Bit 1 : 1 inch perforation skip	ON : Enabled	OFF : Disabled .
Bit 2 : Form feed length default	ON : 12 inches	OFF : 11 inches .
Bit 3 : Reserved for future use	ON :	OFF :
Bit 4 : Print mode power up default	ON : Draft 10 CPI	OFF : LO 10 CPI .
Bit 5 : Shape of default 0	ON :	OFF : 0 .
Bit 6 : Left margin for sheet feeder	ON : column 35	OFF : column 1
dde41 med sheet feeder : ON .	Ellers OFF .	
Bit 7 : Line feed	ON : lf only	OFF : cr and lf .
Bit 8 : Carriage return	ON : cr and lf	OFF : cr only .

SW 2 :

Country	Bit 1	Bit 2	Bit 3	Bit 4	
USA	OFF	OFF	OFF	OFF	
France	ON	OFF	OFF	OFF	
Germany	OFF	ON	OFF	OFF	
England	ON	ON	OFF	OFF	
Denmark 1	OFF	OFF	ON	OFF	
Sweden	ON	OFF	ON	OFF	IBM-PC + system V
Italy	OFF	ON	ON	OFF	
Spain	ON	ON	ON	OFF	
Japan	OFF	OFF	OFF	ON	
Norway	ON	OFF	OFF	ON	
Denmark 2	OFF	ON	OFF	ON	system III
Netherlands	ON	ON	OFF	ON	

Bit 5 : Character set default	ON : IBM	OFF : Italic .
Bit 6 : Must be off	ON :	OFF : .
Bit 7 : SLCT IN signal (low)	ON : Disabled	OFF : Enabled .
Bit 8 : Auto Feed XT signal (low)	ON : Enabled	OFF : Disabled .

Vend...

SW 3 :

dda31	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON

dde41	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF

Serialt interface :

SW 5 :

Baud rate	Bit 1	Bit 2	Bit 3
150	ON	OFF	ON
300	ON	ON	OFF
600	ON	ON	ON
1200	OFF	OFF	OFF
2400	OFF	OFF	ON
4800	OFF	ON	OFF
9600	OFF	ON	ON
19200	ON	OFF	OFF

IBM-PC
Supermax

Bit 4 : Antal data bit	ON : 7 bit	OFF : 8 bit .
Tilslutning til System III	: ON	
Tilslutning til IBM-PC og system V	: OFF	
Bit 5 : Parity check	ON : Enabled	OFF : Disabled .
Tilslutning til System III	: ON	
Tilslutning til IBM-PC og system V	: OFF	
Bit 6 : Parity check set	ON : Even	OFF : Odd .
Bit 7 : Printer operation	ON : Normal	OFF : Busy pin 20 .
Bit 8 : Loopback test	ON : Enabled	OFF : Normal .

SW 6 :

Bit 1 : CD , CTS , DSR signals	ON : Disabled	OFF : Enabled .
Bit 2 : Must be OFF	ON :	OFF : .
Bit 3 : Must be OFF	ON :	OFF : .
Bit 4 : Reverse channel set	ON : Active low	OFF : Active high .
Bit 5 : Communication	ON :	OFF : Xon Xoff .
Bit 6 : Protocol set	ON :	OFF : Xon Xoff .
Bit 7 : Buffer capacity set	ON : Max	OFF : .
Bit 8 : Buffer capacity set	ON : Max	OFF : .

SW 7 :

Bit 1 : Current loop interface	ON : Enabled	OFF : Disabled .
Bit 2 : RS-232C interface	ON : Enabled	OFF : Disabled .
Bit 3 : Reserved for future use	ON :	OFF : .
Bit 4 : Current loop interface mode set	ON :	OFF : .
Bit 5 : Current loop interface mode set	ON :	OFF : .
Bit 6 : Current loop interface mode set	ON :	OFF : .
Bit 7 : Current loop interface mode set	ON :	OFF : .
Bit 8 : Reserved for future use	ON :	OFF : .

PRINTER / Facit E880

951107

Stock Number:

99208039

VTI-table

: prt/facite880.t

Data cable

: 88002050

Factory default from DDE :

INTERFACE

BUFFER : 30 KBYTE
WORD LENGTH : 8 BIT
I/F TYPE : SHARED
BAUD RATE : 19200 BPS
PARITY BIT : NONE
PROTOCOL : XON/XOFF
AUTO-STATUS : NO

ADJUSTMENT

AGC POSITION : 24
PLATEN GAP : 0
PAPER-IN ADJ : 0
CUT. V-POS LO. : 0
CUT. V-POS UP. : 0
UNI-DIRECT.CMD : YES
TRACT. FF-MODE : IGNORE FF

MACRO 1

FONT	: DATA	TOP MARGIN	: 1 LINES
PRINT QUALITY	: NLQ	BOTTOM MARGIN	: 1 LINES
SUB/SUPER FONT	: YES	PERF. SKIP	: YES
PITCH	: 10 CPI	PAPER SOURCE	: TRACTOR UPPER
LINE	: 6 LPI	EMULATION	: EPSON LQ
PAGE LENGTH	: 72 LINES	CHARACTER SET	: IBM CODE PAGE 850
TRACT.L. V-POS	: 0	LINE MODE	: LF=LF, CR=CR
TRACT.U. V-POS	: 0	\$\$ COMMANDS	: YES
LEFT MARGIN	: 1 COLUMNS	TEAR-OFF / CUT	: TEAR-OFF 10 S.
RIGHT MARGIN	: 136 COLUMNS		

PRINTER / Facit E540/E550/E560/E570

951103

Stock Number:

99208035

VTI-table : prt/dde39.t
prt/dde59.t
prt/facite560.t
prt/facite570.t
Data cable : 88002050

Factory default from DDE :

USER

SET DEFAULT USER : USER 1
CHANGE USER : USER 1

EMULATION

EMULATION : EPSON

CHARACTER

CHARACTER PITCH : 10 CPI
FONT STYLE : DRAFT
CODE PAGE : MULTILINGUAL
CHARACTER TABLE : GRAPHIC 2
INTERNATIONAL
CHARACTER TABLE : AMERICAN

PAPER HANDL.

FORM LENGTH : 12 INCHES
LINE SPACING : 1/6 INCHES
LINE LENGTH : 80 CHARACTERS
(Facit E540/E560)
: 136 CHARACTERS
(Facit E550/E570)

SKIP PERFORATION : INVALID
PAPER INITIALIZATION : OFF
AUTO TEAR OFF : VALID (3 SEC)
TEAR OFF POSITION : TOF POSITION
ASF : NOT INSTALLED
PAPER EMPTY SENSOR : VALID

CONTROL

POWER ON : ON LINE
QUIET MODE : OFF
AFTER AUTOLOADING : OFF LINE
PRINT DIRECTION : BI-DIRECTION (CHAR)
RIBBON MODE : BLACK RIBBON
BUZZER : VALID

DATA

BUFFER FULL : WITH LF
CR MODE : CR
LF MODE : LF
CANCEL CODE : VALID
ZERO CHARACTER : NOT SLASHED
SELECTION OF RAM : PRINT BUFFER

INTERFACE

INTERFACE : SERIAL
PROTOCOL : XON/XOFF
BAUD RATE : 9600 BPS
BIT LENGTH : 8 BITS
PARITY BIT : NONE
STOP BIT LENGTH : 1 BIT
CTS : INVALID

INTERFACE

INTERFACE : PARALLEL
SELECT-IN SIGNAL : INVALID
AUTOFEED-XT SIGNAL : INVALID

PRINTER / DDE type : dde70

Based on the Facit E950/9010 with firmware R6B and Engine CPU R4A

921110

Terminology-table : /etc/types/prt/dde70.t
/etc/types/prt/dde70ocrb.t
Data cable : 88002050

Factory default from DDE :

SET UP 1 :

COMMAND MODE :

COMMAND MODE :

EPSON FX/JX/EX

GENERAL :

PITCH :

10 CHAR/INCH

FONT :

DQ 1

NATIONALITY :

IBM CHAR SET 2

CHARACTER SET :

GRAPHIC

CR FUNCTION :

NO AUTO LF

LF FUNCTION :

NO AUTO CR

ZERO DESIGN :

0

POWER UP STATE :

SETUP1 ON LINE

PAPER & FORMAT :

FORMAT LENGTH (inch) :

12 INCH

LINE SPACE (lines/inch) :

6 LINES/INCH

SKIP ZONE (inch) :

0 INCH

LINE LENGTH (inch) :

13.6 INCH

MULTIPART PRINTING :

MULTIPART NORM.

TEAR OFF FUNCTION :

NOT VALID

PAPER JAM FUNCTION :

VALID

FORM LEFT MARGIN (1/10") :

0

FORM LOAD ADJUST (1/6") :

0

COMMUNICATION :

INTERFACE :

SERIAL

INPUT BUFFER :

12K BYTES

DC1/DC3 FUNCTION :

VALID

BAUD RATE :

19200 BITS/S

PARITY :

8 / NONE

PROTOCOL :

XON/XOFF

SYSTEM OPER ADJ :

VERTICAL ALIGNMENT ADJUSTMENT :

individual parameter

HOR. POS. FOR PRINthead ADJUSTMENT (inch) :

0 INCH

GRAPHICS PRINTING :

NORMAL

PRINthead GAP ADJUSTMENT :

individual parameter

STATUS (SOFTSWITCH SETTING):

LASER PRINTER STATUS PAGE

Software version 4.8-14 , released 6/87.
 Units : Inches. Page : Portrait.
 Current font : 1. Current country : 0.
 Copies : 1. Current emulation : 6.

Margins

Top 0.079
 Bottom 11.292
 Left 0.000
 Right 7.795

Spacings

Line 0.167
 Character 0.100
 Pen width 0.010

Memory allocation (Kbytes)

User Memory Avail.	1208.250	In use(font)	298.617
Macro Buff.1 Avail.	4.996	In use	0.000
Macro Buff.2 Avail.	3.500	In use	0.000

Miscellaneous Status

Option(Comment)	Value	Option(Comment)	Value
C0(Reserved)	0	H5(RS protocol)	0
C1(Page orientation)	0	H6(xoff threshold[%])	90
C2(Font id middle)	0	H7(xon threshold[%])	70
C3(Font id_low)	1	H8(Host buffer size)	1
C4(Macro buff.2 size)	0	H9(F.F. time out)	0
C5(Font id_high)	0	P1(Emulation)	6
A1(Top margin_high)	0	P2(C.R. action)	1
A2(Top margin_low)	0	P3(L.F. action)	1
A3(Left margin_high)	0	P9(Escape char.)	82
A4(Left margin_low)	0	U0(Line/Inch_high)	6
A5(Page length_high)	13	U1(Line/Inch_low)	0
A6(Page length_low)	61	U2(Char/inch_high)	10
A7(Page width_high)	8	U3(Char/inch_low)	0
A8(Page width_low)	11	U5(Status page)	0
H0(Macro buff.1 size)	0	U6(Country code)	0
H1(RS baud rate)	19	U7(Reserved)	0
H2(RS Data bits)	8	R1(Reserved)	0
H3(RS stop bit)	1	R2(Reserved)	0
H4(RS parity bit)	0	R3(Reserved)	0

Service information

/0050/0025/1061/0811/AECDE/ADDGBH/AGDGBH/

Nonresident fonts in memory

Number	Size	Number	Size
100	7.396	101	8.521
515	13.945	520	13.750
115	56.123	120	54.107

USER NON DISCLOSABLE SERVICE INFORMATION

/ 0 0 4 0 / 0 0 3 5 / 1 0 6 1 / 0 8 1 0 /

L1 L2 L3 L4 L5 L6 L7 L8

L1: Top calibration margin high

L2: Top calibration margin low

L3: Left calibration margin high

L4: Left calibration margin low

L5: Paper length high

L6: Paper length low

L7: Paper width high

L8: Paper width low

/ A A J J J J / A E J J J / A H J J J J /

Drum unit
life

Developer
kit life

Fuser kit
life

A-0

B-1

C-2

D-3

E-4

F-5

G-6

H-7

I-8

J-9

MON-RESIDENT FONTS MEMORY

In this area the user-assigned font IDs and their sizes are represented. The residents fonts do not appear in this area. If a too many non-resident font information overflows the information is printed on new page.

KYOCERA 1000/1010

H1: RS 232 baud rate

3 300

6 600

12 1200

24 2400

48 4800

96 9600

19 19200

H2: Number of data bits, 7 to 8.

H3: Number of stop bits, 1 to 2.

H4: Parity

0 No parity generated or received.

1 Odd parity generated and checked.

2 Even parity generated and checked.

3 Mark parity generated, no parity checked.

4 Space parity generated, no parity checked.

C4: Immediate command, not stored in the EEPROM. After implemented the command revert to zero.

1 Print status page

2 Go into dump mode

C5: Font ID code high order part. Used only at power-on. (Default is "0".)

A1: Top user margin high, 0.99 inches (Default is 0). Change occurs immediately.

A2: Top user margin low, 0.99 hundredths inches (Default is 0). Change occurs immediately.

A3: Left user margin high, 0.99 inches (Default is 0). Change occurs immediately.

A4: Left user margin low, 0.99 hundredths inches (Default is 0). Change occurs immediately.

A5: Logical page length high, 0.99 inches (Default is 11). Change occurs immediately.

A6: Logical page length low, 0.99 hundredth inches (Default is 0). Change occurs immediately.

12



PRINTER / DDE type : dde2015

Based upon the QMS P3-360

930316

Detachable

: 88002030

Factory default from DDE :

Operator Control

Copies : 001
Collation : On
Orientation : Portrait
Inputbin : Lower
Chain Inputbins : Off
Multipurpose Sz : A4

Administration

Communications

Timeouts

PS Wait Timeout : 00300
Emul Timeout : 00005
Job Timeout : 00000
ESP Timeout : 00003

Serial

Mode : Interactive
Emulation : PostScript
Min K Spool : 00015
Spool Timeout : 00030
End Job Mode : None
Baud Rate : 19200
Parity : None
Ignore Parity : On
Rcv Sw Flow Ctl : Xon/Xoff
Xmit Sw Flow Ctl : Xon/Xoff
Data Bits : 8 bits
Stop Bits : 1 bit
Hdwc Flow Ctl
DSR POL : Lo
DSR : Off
DTR POL : Lo
DTR : On
RTS : Off
CTS : Off

Parallel

Mode : Enabled
Emulation : PostScript
Min K Spool : 00015
Spool Timeout : 00030
Data Bits : 8 bits
End Job Mode : None

AppleTalk

Mode : Enabled
Connection : Conventional
Min K Spool : 00015

Emulations

HP-GL

Plotter : 7550A
Scaling Percent : 100
Origin : X 0000, Y 00000
Reverse Image : Off
Enhanced Mode : Off
Expand Mode : Off
Paper Type : A3
Pen 1 : Width 7 Color 1
Pen 2 : Width 3 Color 2
Pen 3 : Width 3 Color 3
Pen 4 : Width 3 Color 4
Pen 5 : Width 3 Color 5
Pen 6 : Width 3 Color 6
Pen 7 : Width 3 Color 7
Pen 8 : Width 3 Color 8

Detachable : 88002050

Factory default from DDE :

Operator Control

Select Paper : False
Special Letter : False
Copies : 001
Orientation : Portrait
Media : Thermal Paper
Color Separation : Off

Administration

Timeouts
PS Wait Timeout : 00300
Band Timeout : 00005
Job Timeout : 00000
ESP Timeout : 00003
Mode : Inactive
Emulation : PostScript
Min K Spool : 00015
Spool Timeout : 00030
Band Rate : 19200
Ignore Parity : On
Recv Sw Flow Ctrl : Xon/Xoff
Xmit Sw Flow Ctrl : Xon/Xoff
Data Bits : 8 bits
Stop Bits : 1 bit
Hdwe Flow Ctrl : Lo
DSR POL : Lo
DSR : Off
DTR POL : Lo
DTR : On
RTS : Off
CTS : Off
End Job Mode : None

Parallel

Mode : Enabled
Emulation : PostScript
Min K Spool : 00015
Spool Timeout : 00030
Data Bits : 8 bits
End Job Mode : None
Mode : Enabled
Connection : Conventional
Min K Spool : 00015
Emulation : PostScript
ESP Default Band : PostScript
Default Halftone : Proofing
Resolution Level : Level 2
Default CMD : Colorimetric

AppleTalk

Mode : Inactive
Emulation : PostScript
Min K Spool : 00015
Spool Timeout : 00030
Band Rate : 19200
Ignore Parity : On
Recv Sw Flow Ctrl : Xon/Xoff
Xmit Sw Flow Ctrl : Xon/Xoff
Data Bits : 8 bits
Stop Bits : 1 bit
Hdwe Flow Ctrl : Lo
DSR POL : Lo
DSR : Off
DTR POL : Lo
DTR : On
RTS : Off
CTS : Off
End Job Mode : None

PRINTER / DDE type : dde2015

Based upon the QMS PS-860

930316

Datatable

: 88002030

Factory default from DDE :

Operator Control

Copies : 001
Collation : On
Orientation : Portrait
Inputbin : Lower
Chain Inputbins : Off
Multipurpose Sz : A4

Administration

Communications

Timeouts

PS Wait Timeout : 00300
Emul Timeout : 00005
Job Timeout : 00000
ESP Timeout : 00003

Serial

Mode : Interactive
Emulation : PostScript
Min K Spool : 00015
Spool Timeout : 00030
End Job Mode : None
Baud Rate : 19200
Parity : None
Ignore Parity : On
Rcv Sw Flow Ctl : Xon/Xoff
Xmit Sw Flow Ctl : Xon/Xoff
Data Bits : 8 bits
Stop Bits : 1 bit
Hdwe Flow Ctl
DSR POL : Lo
DSR : Off
DTR POL : Lo
DTR : On
RTS : Off
CTS : Off

Parallel

Mode : Enabled
Emulation : PostScript
Min K Spool : 00015
Spool Timeout : 00030
Data Bits : 8 bits
End Job Mode : None

AppleTalk

Mode : Enabled
Connection : Conventional
Min K Spool : 00015

Emulations

HP-GL

Plotter : 7550A
Scaling Percent : 100
Origin : X 0000, Y 00000
Reverse Image : Off
Enhanced Mode : Off
Expand Mode : Off
Paper Type : A3
Pen 1 : Width 7 Color 1
Pen 2 : Width 3 Color 2
Pen 3 : Width 3 Color 3
Pen 4 : Width 3 Color 4
Pen 5 : Width 3 Color 5
Pen 6 : Width 3 Color 6
Pen 7 : Width 3 Color 7
Pen 8 : Width 3 Color 8

HP-PCL 4

Default Font : Courier 12
Symbol Set : Roman 8
Lines Per Page : 066
Retain Temporary: Off
Line Termination: CR = CR LF = LF

ESP Default Emul : PCL4

PostScript

Emulation Level : Level 2

Startup Options

Do Start Page : No

Do Sys Start : Yes

Do Error Handler : No

Engine

Image Alignment

Horiz Offset : 100

Vertical Offset : 100

Default Paper : A4

Inputbin 1 Name : Multipurpose

Inputbin 2 Name : Lower

Inputbin 3 Name : Optional

Outputbin 1 Name : Upper

Def Resolution : 600 dpi

Gamma Correction : 0

Enable Buzzer : On

Page Recovery : On

Toner Out Act. : Continue

Man Feed Timeout : 060

Miscellaneous

Keypad Language : English

PRINTER / DDE type : dde2020

Based upon the QMS CS-230

930316

Datatable

: 88002050

Factory default from DDE :

Operator Control

Select Paper

Special Letter : False

Copies : 001

Orientation : Portrait

Media : Thermal Paper

Color Separation : Off

Administration

Communications

Timeouts

PS Wait Timeout : 00300

Emul Timeout : 00005

Job Timeout : 00000

ESP Timeout : 00003

Serial

Mode : Interactive

Emulation : PostScript

Min K Spool : 00015

Spool Timeout : 00030

Baud Rate : 19200

Parity : None

Ignore Parity : On

Rcv Sw Flow Ctl : Xon/Xoff

Xmit Sw Flow Ctl : Xon/Xoff

Data Bits : 8 bits

Stop Bits : 1 bit

Hdwe Flow Ctl

DSR POL : Lo

DSR : Off

DTR POL : Lo

DTR : On

RTS : Off

CTS : Off

End Job Mode : None

Parallel

Mode : Enabled

Emulation : PostScript

Min K Spool : 00015

Spool Timeout : 00030

Data Bits : 8 bits

End Job Mode : None

AppleTalk

Mode : Enabled

Connection : Conventional

Min K Spool : 00015

Emulations

ESP Default Emul : PostScript

PostScript

Default Halftone : Proofing

Emulation Level : Level 2

Default CRD : Colorimetric

HP-GL

Plotter : 7550A
Scaling Percent : 100
Origin : 000 right and 0000 up
Reverse Image : Off
Enhanced Mode : Off
Expand Mode : Off
Paper Type : A3
Pen 1 : Width 7 Black
Pen 2 : Width 3 Black
Pen 3 : Width 3 Red
Pen 4 : Width 3 Green
Pen 5 : Width 3 Blue
Pen 6 : Width 3 Violet
Pen 7 : Width 3 Orange
Pen 8 : Width 3 Brown

Startup Options

Do Start Page : No
Do Sys Start : Yes
Do Error Handler : No

Engine

Image Alignment

Horiz Offset : 000 pixels
Vertical Offset : 000 pixels

Default Paper : A4
Blank Pages : Disable
Optimize Mode : Halftones
Max Feed Timeout : 060

Miscellaneous

Permanent Change : Off
Keypad Language : English

Bonprinter 57

Konfiguration version 1.1/04.09.90

V.1.1 rettet : Tilføjet datakabel til pakkeliste.

Varenr.:	21100570
Datablad:	mu25/10.08.90
TM-nummer:	324
Tabel:	/etc/types/prt/dde57.t (V.1.0)
F/W version:	1.0EP ¹
Kabeltype:	880020xx
Fabrikat/model:	Seiko Epson TM 267 B
Leverandør:	P.Pedersen & Co.
Produktansv.:	lea/MUDV

¹Printer selv-test: se sidste side i brugsanvisning.

Indhold

1. Pakkeliste
2. Test og klargøring
3. Mærkning
4. Printer setup (OJE)
5. Installation af terminology-tabel (OJE)

1. Pakkeliste for DDE Bonprinter 57.

- _ Epson printer TM-267B.
- _ Farvebånd (rød/sort).
- _ Papirrulle.
- _ "Installation manual" (engelsk/japansk).
- _ Netkabel med EDB-stik.
- _ "Brugsanvisning for Bonprinter 57".
- | _ Datakabel 88002050

De første 4 ting er med fra leverandøren, de to sidste skal lægges ved.

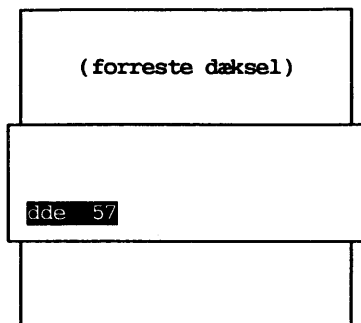
2. Test og klargøring.

Farvebånd og papirrulle monteres i printeren (side 2 og 3 i brugsanvisningen. Forbind netkabel og kør printertest (side 4).

Bedøm skriftkvalitet.

3. Mærkning.

Mærkatens H 0030 DDE 57 sættes på forsiden, på den lodrette, faste forplade. 2 mm fra underkanten, 5 mm fra venstre kant.





Bonprinter 58

Stock No.: 25000600 DDE 58, parallel
25000650 DDE 58, serial
Datasheet: 920207/DK/Bonprinter 58/Kasseter..
Brochure: no
TM-number: 334 (Printer assembly)
335 (Printer mechanism)
TPP-FCN's: 059, 072 (pending cable no.)
Nationality: International

Manufct./model: Citizen/CBM-720 w. Adcom mods.
Main supplier: Adcom Data A/S, Denmark

Product resp.: lea/MUDV

(S) Table: V.1.0/prt/dde58.t
(P) Packing List: 920828/UK/Bonprinter 58 Series
(P) Installation: 920212/UK/Bonprinter 58 Series
(E) User Intro: V.1.0/Brugervejl., Bonprinter 58

Revised: 28.08.92

V.2.1

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Change History:

- V.1.0/27.03.91 Initial release, parallel version only.
- V.2.0/12.02.92 Full release, including VTI support.
- V.2.1/28.02.92 Interim release. New special parallel cable needed: In the mean time, cut SELECT and INIT wires from 88303030 (FCN

Bonprinter 58

Stock No.: 25000600
Datasheet: mu35/27.03.91
Brochure: no
TM-number: 334 (printer assembly)
335 (printer mechanism)
TPP-FCN's: none
Nationality: Danish

Manufct./model: Citizen/CBM720 w Adcom mods.
H/W versions: CBM-7x0 CASH 200MS
Supplier: Adcom Data
Supp. Stock no: CBM720 w. parr.IF and cash drawer op
Other Items: none

Product resp.: lea/MUDV

Table: none
Cable type: 88303030
Setup floppy: none
Packing list: V.1.0/Bonprinter 58
(P) Installation: V.1.0/Bonprinter 58
(E) User Intro: V.1.0/Brugervejl., Bonprinter 58

Revised: 27.03.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Content:

4. Packing Hint:

Remove the paper roll, tighten and fix the end with tape, and put i back into the printer.

1. Assembly.
2. Factory test.
3. Markings.
4. Packing Hint.

1. Assembly.

Mount the paper, and the ribbon before the test.

2. Factory test.

2.1 Visual checks.

Check the labels at the bottom (in danish) for "PENGESKUFFE-PROM" and "IBM-PC interna-tionale tegnsæt" are present.

2.2 Printer test.

Run the printer selftest. Connect power, and switch on while pressing the LF-key.

The first line should read *** CBM-7x0 CASH 200MS", followed by a testpatern of all characters, in black and red.

2.3 Cash Drawer test.

See installation sheet for Cash Drawer 58.

3. Markings.

Use label Mekoprint H 0050.

Place it at the front of the printer, 20 mm from the left corner, 5 mm from the bottom.

Bonprinter 58 Series

Packing List 920828/UK

1. Check Item List

DDE No.	Spl. Stock No.	What (checklist)
250006c0	adc (Specify) ¹	Citizen CBM-720 with parallel port and Cash Drawer option. + 2 colour printer ribbon + a full roll of paper + "User's Manual" + "Teknisk Note: Pengeskuffe-udgang" + Power cord (NKT-EDB)
	Mek H 0050	Label "DDE 58"
	DDE	"Brugervejledning, Bonprinter 58"

Variants (code c). Add the following:

25000600	DDE 88303030 ²	+ PC-Centronics parallel cable, 3m.
25000650	DDE 88003050	+ Serial cable, 5m

¹Specify CBM-720 with Cashregister option, and parrallel or serial port.

²NB: Cut DB25.13 - JD36.13 and DB25.16 - JD36.31 connection - new cable number will be specified later! (Escalation no.52486 solution).

2 Suppliers / Manufacturers

adc: Adcom Data A/S, Denmark

Mek: Mekoprint, Denmark

3. Altenate suppliers

None.

4. Version Control.

25000600	Adc (Specify+parr.)	CBM-7x0CASH-200mS	F/W version.
		DK-PC/8bitISO38u	
25000650	Adc (Specify+ser.)	CBM-7x0CASH-200mS	F/W version.
		DK-PC/8bitISO38u	

5. Product Summary.

Small printer for receipts and control of cash drawers (Cash drawer 58), serial or parallel version.

Bonprinter 58 Series

Installation sheet/920212/UK

1. Assembly.

Mount the paper, and the ribbon before the test.

Check the labels at the bottom (in danish) for "PENGESKUFFE-PROM" and "IBM-PC int. MED 00 + 8 bit ISO" are present.

Remove the bottom plate, and check and set DIP-switches:

- DS1-1: ON Autocutter enabled.
- DS1-2: OFF ISO 8-bit char. set
- DS1-3: OFF do.
- DS1-4: OFF 7Kb input buffer.
- DS1-5: OFF Normal char. direct.
- DS1-6: OFF CR cord.
- DS1-7: OFF Character mode.
- DS1-8: OFF SELECT at Power on.

DS2 and SW1 (slide switch) are only on the serial version:

- DS2-1: OFF 8-bits characters.
- DS2-2: ON No parity check.
- DS2-3: OFF Odd parity.
- DS2-4: (not in use).
- DS2-5: ON 9600 baud.
- DS2-6: ON 9600 baud.
- DS2-7: ON 9600 baud.
- DS2-8: OFF 9600 baud.

SW1 : RS (for RS-232).

2. Factory test.

2.1 Power on test.

Run the printer selftest. Connect power, and switch on while pressing the LF-key.

The first line should read "***CEM-7x0 CASH 200MS", followed by a testpattern of all characters, in black and red.

2.2 Function test.

Test it with a Cash Drawer. See installation sheet for Cash Drawer 58.

3. Markings.

Use label Mekoprint H 0050.

Place it at the front of the printer, 20 mm from the left corner, 5 mm from the bottom.

4. Packing Hints.

Remove the paper roll, tighten and fix the end with tape, and put it back into the printer.

5. DDE Stock Numbers:

25000600 Bonprinter 58, parallel.
25000650 Bonprinter 58, serial.



Bonprinter 58

Stock No.: 25000600 DDE 58, parallel
25000650 DDE 58, serial
Datasheet: 920207/DK/Bonprinter 58/Kasseter..
Brochure: no
TM-number: 334 (Printer assembly)
335 (Printer mechanism)
TPP-FCN's: 059 (in progress)
Nationality: International

Manufct./model: Citizen/CBM-720 w. Adcom mods.
Main supplier: Adcom Data A/S, Denmark

Product resp.: lea/MUDV

(S) Table: V.1.0/prt/dde58.t
(P) Packing List: 920212/UK/Bonprinter 58 Series
(P) Installation: 920212/UK/Bonprinter 58 Series
(E) User Intro: V.1.0/Brugervejl., Bonprinter 58

Revised: 12.02.92

V.2.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Epson T85

Change History:

V.1.0/27.03.91 Initial release, parallel version only.
V.2.0/12.02.92 Full release, including VTI support.

Cash Drawer 58

Stock No.: 25000700
Datasheet: mu35/27.03.91
Brochure: none
TM-number: none
TPP-FCN's: none
Nationality: Danish

Manufct./model: APG/MIID 24D195B
H/W versions: none
S/W versions: none
Supplier: Xanthus computers (uk) ltd.
Supp. Stock no: MIID 24D195B (specify till insert)
Other Items: MOLEX 5264 2-circuit crimp terminal
2 pcs. 4 mm Ø screw terminal.

Product resp.: lea/MUDV

Table: none
Cable type: none
Setup floppy: none
Packing list: V.1.0/Cash Drawer 58
(P) Installation: V.1.0/Cash Drawer 58
(E) User Intro: V.1.0/Brugervejl., Kasseskuffe 58
(E) Operating & Maintenance instructions

Revised: 27.03.91

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Cash Drawer 58

Installation sheet V.1.0/27.03.91

DDE stock no.

25000700

Content:

1. Assembly.
2. Factory test.
3. Markings.

1. Assembly.

1.1 Connector.

Remove the connector supplied with the Cash Drawer. Cut the red wire off.

Mount the black and the white wire (for the solenoid) in a MOLEX 5264 N 2-circuit crimp terminal and housing.

Mount the green wire to a screw terminal with an internal diameter of at least 4mm.

1.2 Internal rewiring.

Disassemble the cash drawer as shown in the "Operating & Maintenance Instructions" sheet.

Verify that the black and white wire is terminated at the solenoid, and its rating is 24 VDC.

Remove the sensor switch, and cut the red wire.

Connect the remaining green wire to the cash drawer frame with a screw terminal, using one of the holes left by the sensor switch.

Assemble the cash drawer again.

2. Factory test.

2.1 Manual test.

Use the key to manual release the cash drawer a few times.

Verify the the drawer opens smoothly.

2.2 Electrical test.

Connect the cash drawer to a bonprinter 58, and the printer to a PC (parallel port).

Send a BEL character to the printer.

Verify the the cash drawer opens.

Disconnect the cash drawer, and lock the drawer with the key. Attach the keys to the bottom of the drawer with tape!

NB: To send a BEL character, do as follows:

From any MS-DOS prompt, type command:

COPY CON: PRN:

Then press CTRL/G, RETURN, CTRL/Z and RE-

TURN in that order.

(over)

3. Markings.

Place a label, Mekoprint no. H 0050, on the front of the cloud white case, under the drawer opening. (That is the bar, where the hole is mounted)

Align the left side of the label with the left side of the drawer opening above, and in the middle of case bar.

Bonprinter TM-T80

Installation sheet 920904/UK

1. Assembly.

Unpack the printer, turn it over, and set/check the dipswitchs, under the little cover plate on the bottom.

No:	Set:	What:
1	OFF	Errors, print '?'.
2	OFF	4K bytes buffer
3	ON	XON/XOFF enabled.
4	OFF	No parity.
5	OFF	Odd parity
6	OFF	Baud 19200
7	OFF	Baud 19200
8	OFF	Print level 3
9	OFF	Print level 3
10	OFF	(always)

Mount paper, and connect PS-130 powersupply.

2. Factory test.

2.1 Power on test.

Switch power on, while holding down the LINEFEED key. The printer will show version number and switch settings, and print the character-set. It will execute af few partial cuts and finally af full cut.

2.2 Function test.

Connect the serial line to a host or terminal, and send characters to verify serial port is operating. (In order to test flow-control, you could temporarily set switch 2 to ON, thus reduce the buffer to 43 characters!)

3. Markings.

Put a neutral DDE logo (10 × 15) on the (lower) front surface of the flip-up cover. Align it 5 mm in from the left, vertically centered on the surface.

4. DDE Stock Numbers:

28000090 Bonprinter TM-T80

Bonprinter TM-T80

Stock No.:	28000090	TM-T80A w. autocut.
Datasheet:	none	
Brochure:	none	
TM-number:	418 (pending)	
TPP-FCN's:	none	
Nationality:	International	

Manufct./model: Epson/TM-T80

Main supplier: PP, Denmark

Product resp.: lea/BNA

(S) Table:	prt/ddepos2.t (V.0.1 - prerelease) ¹
(E) Cable type:	88002050
(P) Packing List:	UK/920901/Epson TM-T80
Installation:	UK/920904/Epson TM-T80
User Intro:	none

* This is still a concept specific produkt *
* A full Platform version (POS printer 2) *
* is in the works - *

Revised: 04.09.92

V.1.1

¹This table is a hack by lea - e-mailed together with this release. An official version (1.0?) will follow at some later time. Please transfer the table to a newpkg-floppy.

Distribution codes: (P) Production/Factory only.

(S) One for System administrator.

(E) Every product shipped.

Release History:

19.08.92/V.1.0 Initial Release.

04.09.92/V.1.1 Release with install-guide and preliminary terminology-table. Product responsibility transferred to lea/BNA.

PRINTER / DDE type : dde36

Based on the Siemens PT88S-21

921203

Terminology-table : /etc/types/prt/dde36.t

Datatable : 88002050

Factory default from DDE :

RS232C interface.

Mode switch S1

1-2-3	on-on-on 9600 baud.
4-5-6	off-off-on software and hardware handshake (A).

Mode switch S2

1-2-3-4-5-6	off-on-off-on-off-off software and hardware handshake (A).
-------------	--

Coding switch 1 (left)

1-2-3	on-on-on ASCII character set.
4	off cr without lf.
5	on 10 cpi.
6	off NLQ.
7	on zero=0
8	off 12"

Coding switch 2 (right)

1	on 6 lpi
2	off skip over off.
3	off
4-5	on-off parity off.
6	on audible alarm on.
7-8	off-off

PRINTER / DDE type : dde36

Based on the Siemens PT88S-21

910129

Terminology-table : /etc/types/prt/dde36.t

Datatable : 88002050

Factory default from DDE :

RS232C interface.

Mode switch S1

1-2-3	on-on-on 9600 baud.
4-5-6	on-off-on xon/xoff.(B)

Mode switch S2

1-2-3-4-5-6	off-on-off-on-off-off xon/xoff.(B)
-------------	------------------------------------

Coding switch 1 (left)

1-2-3	on-on-on ASCII character set.
4	off cr without lf.
5	on 10 cpi.
6	off NLQ.
7	on zero=0
8	off 12"

Coding switch 2 (right)

1	on 6 lpi
2	off skip over off.
3	off
4-5	on-off parity off.
6	on audible alarm on.
7-8	off-off


```

*****
*
*      PRINTER      dde type : dde36
*      Baseret på Siemens PT88S-21
*
*
*
*****
880922

```

Siocetabel : /etc/types/prt/dde35.t /etc/types/prt/dde36.t

Kabel : 8804

Selvtest : Printerens udfører en selvtest ved POWER ON + LF.

Switch : Printerens har kun Hardware switche.

Følgene er DDE standard : (UNIX V)

RS232C interface.

Mode switch S1.

1-2-3	on-on-on	9600 baud.
4-5-6	on-off-on	xon/xoff.(B)

Mode switch S2.

1-2-3-4-5-6	off-on-off-on-off-off	xon/xoff.(B)
-------------	-----------------------	--------------

Coding switch 1 (left)

1-2-3	on-on-on	ASCII character set.
4	off	cr without lf.
5	on	10 cpi.
6	off	NLQ.
7	on	zero=0
8	off	12"

Coding switch 2 (right)

1	on	6 lpi
2	off	skip over off.
3	off	
4-5	on-off	parity off.
6	on	audible alarm on.
7-8	off-off	

PRINTER DDE type : dde54
Baseret på Wenger 1/1 MK II Short Form

891123

Firmware version : 5.40
Terminology-tabel : /etc/types/prt/dde54.t
Kabel : 8807
Selvtest : Power ON + LF.
Switch : Printeren har kun hardware switche.

Følgene er DDE standard :

- | | | |
|-----|-----|------------------------------------|
| 1-1 | ON | } USA character set. |
| 1-2 | ON | |
| 1-3 | ON | |
| 1-4 | ON |] Data quality 10 CPI. |
| 1-5 | ON | |
| 1-6 | ON | - Epson with Wenger features. |
| 1-7 | OFF | - Extended character set. |
| 1-8 | ON | - Input buffer 20 Kbyte. |
| | | |
| 2-1 | OFF | - No LF at CR. |
| 2-2 | OFF | - Form length is 12 inch. |
| 2-3 | ON | - 6 LPI. |
| 2-4 | OFF | - No skip-over perforation. |
| 2-5 | OFF | - Form length is 12 inch. |
| 2-6 | OFF | - Paper end detection is enabled. |
| 2-7 | ON | - Printer is permanently selected. |
| 2-8 | OFF | - Zero without slash. |
| | | |
| 3-1 | OFF | - 8 data bit. |
| 3-2 | OFF | - 1 stop bit. |
| 3-3 | OFF |] No parity bit. |
| 3-4 | OFF | |
| 3-5 | OFF | } 19200 baud. |
| 3-6 | OFF | |
| 3-7 | ON | |
| 3-8 | OFF | |
| | | |
| 4-1 | ON |] RS 232C interface. |
| 4-2 | ON | |
| 4-3 | ON |] XON/XOFF handshake. |
| 4-4 | OFF | |
| 4-5 | OFF | - |
| 4-6 | ON | - Buffer enabled. |
| 4-7 | ON | - 128 bytes hysteresis. |
| 4-8 | OFF | - Ready = SPACE. |

PRINTER dde type : dde53

Baseret på Tally MT87

220289

Siocetabel : /etc/types/prt/dde53.t (unix V)

Kabel : 8804

Selvttest : Draft selvttest : lf tast + power on.
NLQ selvttest : on line tast + power on.

Switche : Printeren har kun software switche. Switchmenuen startes på følgende måde : Power on + ALT tast, herefter udskrives indstillingen af samtlige switche. Herefter skal man definere, hvilke switchbanke, der ønskes rettet. "lf" tasten benyttes som "ja" og "ff" som "nej". "1" betyder "on" og "0" betyder "off".

Følgene er DDE standard : (unix V)

SW1 :

1.	EPSON mode	: 0.
2.	Power up online	: 1.
3.	Buffer full print cr	: 0.
4.	Cancel code not valid	: 0.
5.	Char. gen. set 2	: 1.
6.	Form length 12 inch	: 1.
7.	Spacing 1/6 inch	: 0.
8.	Proprinter emulation mode	: 1.

SW4 :

1.	8 data bit	: 1.
2.	Parity disabled	: 0.
3.	Even parity	: 1.
4.	1 stop bit	: 0.
5.	Baud rate, 9600	: 1.
6.		: 1.
7.		: 0.
8.		: 1.

SW2 :

1.	10 cpi	: 0.
2.	Normal zero	: 0.
3.	Paper empty switch enabled	: 0.
4.	Buffer size max.	: 1.
5.	Print normal on power on	: 0.
6.	Character set, usa	: 0.
7.		: 0.
8.		: 0.

SW5 :

1.	ASF disabled	: 0.
2.	A4 upright	: 0.
3.	Tray 1 selected	: 0.

SW3 :

1.	Printer always enabled	: 1.
2.	Alarm disabled	: 0.
3.	Perforation skip disabled	: 0.
4.	No lf with cr	: 0.
5.	Draft	: 0.
6.	EPSON character set	: 0.
7.	VT without cr	: 0.


```

*****
*
*          PRINTER   dde type : dde1020   Baseret på Tally MT910   *
*                                     050188 *
*****

```

Siocetabel : dde1020.t (UNIX V)

Kabel : 8807

Selvtest : Printerens kan udføre en "Graphic test" eller en "ASCII test", hvis man svarer "no" til "Normal oper." i setup menu'en og derefter "yes" til en af de to tests.

Switch : Printerens har kun software switche. Setup-menu'en startes op ved at sætte printerens "offline", og derefter trykke "menu" tasten ned. Herefter kan man svare "yes/no" til spørgsmålene. Når setup-menuen er konfigureret kan det gemmes i en EEPROM ved at trykke "menu" tasten ned, og derefter svarer "yes". Den samlede konfiguration kan udskrives på papir ved at svare "no" til "normal oper." og derefter "yes" til "menu status" i setup-menu'en.

Følgene er DDE standard :

```

Copies      : 1 Copy.
Font        : Courier HP.
Paper input : Upper bin.
Paper output : Face down tray.
Orientation : Portrait.
Lines/inch  : 6 LPI.
Emulation   : Laserjet plus.
Character set : U.S.
Power-up    : Power-up online.
Alarm       : Alarm enabled.
Auto linefeed : Auto lf off.
LF on CR    : No LF ON CR.
Interface   : Serial.
Data field   : 8 data bits
Parity      : No parity.
Stop bits   : 1 stop bit.
Data rate   : 19200 baud.
Protocol    : Xon/Xoff.

```



```

*****
*
* PRINTER dde type : ddel10 Baseret på JUKI 6200
*
*****
271187*
*****

```

```

Siocetabel : ddel10 (system 3)
              ddel10.t (system V)
              diablo (SPC/1)
Kabel       : 8804

```

Selvtest : Power ON + line feed test.

Følgene er DDE standard :

SW 21 :

Bit 1 : Hammer intensity	ON HIGH	OFF LOW
Bit 2 : AUTO cr/lf	ON enable	OFF disable
Bit 3 : Form length	ON 12 inches	OFF 11 inches
Bit 4 : AUTO lf	ON enable	OFF disable
Bit 5 : Mode	ON line	OFF serial
Bit 6 : Undefined	ON	OFF

SW 22 :

	Bit 1	Bit 2	Bit 3	Bit 4
10 CPI	ON	OFF	OFF	OFF
12 CPI	OFF	ON	OFF	OFF
15 CPI	OFF	OFF	ON	OFF
Proportional	OFF	OFF	OFF	ON

SW 01 :

Country	Bit 1	Bit 2	Bit 3
USA	ON	ON	ON
France	OFF	ON	ON
Germany	ON	OFF	ON
England	OFF	OFF	ON
Denmark	ON	ON	OFF
Sweden	OFF	ON	OFF
Spain	ON	OFF	OFF
Italy	OFF	OFF	OFF

Bit 4 : Feeder	ON Sheet feeder	OFF Tractor
Bit 5 : IBM/standard	ON IBM	OFF Standard
Bit 6 : Sheet feeder mode set	ON mode 2	OFF mode 1

Vend...

SW 41 :

Baud rate	Bit 1	Bit 2	Bit 3
110	ON	ON	ON
300	OFF	ON	ON
600	ON	OFF	ON
1200	OFF	OFF	ON
2400	ON	ON	OFF
4800	OFF	ON	OFF
7200	ON	OFF	OFF
9600	OFF	OFF	OFF

Bit 4 : Busy

Bit 5 : Data bit

Bit 6 : Parity check

Bit 7 : Parity

Bit 8 : Stop bit

Bit 9 : Undefined

Bit 10: Interface

ON : Xon/Xoff

ON : 7 bit

ON : off

ON : Odd

ON : 1

ON :

ON : Serial

OFF : DTR

OFF : 8 bit

OFF : on

OFF : Even

OFF : 2

OFF :

OFF : Parallel

Tilslutning til system V.

bit 5 : OFF , bit 6 : ON

```

*****
*
* PRINTER dde type : dde45 Baseret på Tally MT330
*
* 221287*
*****

```

Sløctabel : dde45.t (UNIX V)

Kabel : 8807

Tastatur :

	***	***	***	***	***
tast nr.	4	3	2	1	0

Selvtest : En selvtest kan startes på følgende måde :
Tryk tast 1 ned indtil "TEST LED" lyser,
tryk dernæst følgende :
tast 2 : USASCII V-pattern
tast 4 : rolling USASCII

Switch : Printeren har kun software switche.
Setup-menuen startes på følgende måde :
tryk tast 1 ned indtil "MENU LED" lyser,
tryk dernæst på tast 2.
Det er nu muligt, at ændre konfigurationen
ved hjælp af følgende taster :
tast 4 : flytter printhovedet til venstre
tast 3 : flytter printhovedet til højre
tast 2 : vælger værdien, hvor printhovedet
er placeret.
Det er muligt, at komme eet niveau højere op,
hvis printhovedet placeres udenfor valgområdet,
og man derefter trykker tast 2 ned.
For at stoppe konfigurationen trykkes på
tast nr. 1.

Vend...

Følgene er DDE standard :

(Supermax UNIX V)

USER MENU :

- | | |
|-----------------------------|--------------|
| 1. Character density : | 10 CPI. |
| 2. Character presentation : | |
| a. character generator : | |
| font selection : | 2 LQ modern. |
| national character : | 0 PC SET. |
| b. character set : | extended. |
| c. italic : | no. |
| d. proportional : | no. |
| e. slashed zero : | no. |
| 3. Line density : | 6 lpi. |
| 4. Paper form : | |
| a. formlength (inch) : | 12. |
| b. skip over fold (inch) : | 0. |
| c. length of line (inch) : | 13.6. |
| 5. Printer options : | |
| a. paper options : | no option. |
| b. ribbon options : | no option. |

TECHNICAL MENU :

- | | |
|--------------------------|-------------------|
| 1. Auto print : | |
| a. paper commands : | cr. |
| b. cr implies lf : | no. |
| c. line overflow : | cr+lf. |
| 2. Communication setup : | serial interface. |
| a. buffer : | large. |
| b. data bit : | 8 bit. |
| c. parity : | no. |
| d. stop bit : | 1 stop. |
| e. baudrate : | 9600. |
| f. protocol : | Xon/Xoff. |
| g. wake up mode on line | yes. |
| h. emulation mode : | ansi + ibm |
| 3. Technical setups : | |
| a. L/R adjustment : | 0. |


```

*****
*
* PRINTER dde type : Baseret på Tally MT87
*
* 130787*
*****

```

Siocetabel : tally87 (system 3)

Kabel : 8804

Selvtest : Draft selvtest : lf tast + power on.
 NLQ selvtest : on line tast + power on.

Switche : Printeren har kun software switche. Switchmenuen startes på følgende måde : Power on + ALT tast, herefter udskrives indstillingen af samtlige switche. Herefter skal man definere, hvilke switchbanke, der ønskes rettet. "lf" tasten benyttes som "ja" og "ff" som "nej". "1" betyder "on" og "0" betyder "off".

Følgene er DDE standard :

SW1 :

1.	EPSON mode	: 0.
2.	Power up online	: 1.
3.	Buffer full print cr	: 0.
4.	Cancel code not valid	: 0.
5.	Char. gen. set 2	: 1.
6.	Form length 12 inch	: 1.
7.	Spacing 1/6 inch	: 0.
8.	Proprinter emulation mode	: 1.

SW2 :

1.	10 cpi	: 0.
2.	Normal zero	: 0.
3.	Paper empty switch enabled	: 0.
4.	Buffer size max.	: 1.
5.	Print normal on power on	: 0.
6.	Character set, danish	: 0.
7.		: 0.
8.		: 1.

SW3 :

1.	Printer always enabled	: 1.
2.	Alarm disabled	: 0.
3.	Perforation skip disabled	: 0.
4.	No lf with cr	: 0.
5.	NLQ	: 1.
6.	EPSON character set	: 0.
7.	VT without cr	: 0.

SW4 :

1.	7 data bit	: 0.
2.	Parity enabled	: 1.
3.	Even parity	: 1.
4.	1 stop bit	: 0.
5.	Baud rate, 9600	: 1.
6.		: 1.
7.		: 0.
8.		: 1.

SW5 :

1.	ASF disabled	: 0.
2.	A4 upright	: 0.
3.	Tray 1 selected	: 0.


```

*****
*
* PRINTER dde type : dde51 Baseret på Tally MT490
*
* 190387*
*****

```

Siocetabel : dde51 (UNIX III)
dde51.t (UNIX V)

Kabel : 8807

Selvtest : Start af selvtest udføres ved, at sætte printeren offline. Tryk MODE og ENTER tasterne ned samtidig, og ADV ned to gange, herefter står der TEST i displayet. Dette vælges ved at trykke ENTER tasten ned. Selvtesten kan stoppes ved at trykke MODE tasten ned.

Switch : Printerens har kun software switche. Printerens sættes først offline, herefter trykkes MODE og ENTER tasterne ned samtidig, herefter tages ENTER, hvorefter displayet viser CHAR. Herefter virker tasterne på følgende måde

ENTER : Akcepterer det der står i displayet.

ADV : Går til forrige niveau.

UP arrow : Går op til næste værdi på samme niveau.

DOWN arrow : Går ned til næste værdi på samme niveau.

Konfigureringsen stoppes ved at trykke MODE tasten ned.

Følgene er DDE standard :

CHAR :

PQ : PQ D draft quality.
LI : LI 6 6 lpi.
CI : CI10 10 cpi.
CS : PC 2 PC character set "World Trade". (UNIX V)
CS : EDAN Epson character set "Danish". (UNIX III)
SZ : SZ 0 no slashed zero.
AL : AL 1 lf at line end.
AP : AP 2 print on paper command, lf implies cr.

MARG :

LM : 0001 left margin.
RM : 0081 right margin.
FL : 0072 form length.
BM : 0072 bottom margin.
TM : 0001 top margin.

Vend ...

TABS :

HS : 0001 set horizontal tabs.
HC : ALL clear all horizontal tabs.
VS : 0001 set vertical tabs.
VC : ALL clear all vertical tabs.

CONF :

PE : PE 2 print stop after line end and paper end.
RB : RB 0 single track ribbon.

IFAC :

EM : EM 1 IBM PC and ANSI mode. (UNIX V)
EM : EM 2 EPSON and ANSI mode. (UNIX III)
MC : MC 0 direct connection to control module.
BR : B192 19200 baud.
DL : DL 8 8 data bits. (UNIX V)
DL : DL 7 7 data bits. (UNIX III)
PS : PS 0 no parity. (UNIX V)
PS : PS 4 even parity, with parity check. (UNIX III)
SB : SB 1 1 stop bit.
DX : DX 0 full duplex.
LP : LP 0 FIFO mode.
CR : CR 1 with serial data response.
SM : SM 0 no status-response.
DC : DC 1 delete function by DEL.
RY : RY 1 READY high active.

PRINTER / Olivetti PR 50/10

941024

VTI-table : /etc/types/prt/olivettipr50.t
/etc/types/prt/olivettipr50.i
Databale : 88002050

Factory default from DDE :

CONFIGURATION MODE:

EMULATION:	OLIVETTI
SIDE:	R
AUTOMATIC ALIGNMENT:	Y
PAPER EDGE DETECTION:	ON
WAIT TIME:	0.5
BAUD RATE:	9600
BIT/CHAR:	8
PARITY:	NONE
STOP BIT:	1
DSR:	Y
DCD:	N

OLIVETTI MENU:

PASSBOOK:	Y
LINE BUFFER PR40 LIKE:	Y
CHAR SET:	IBM/PC
NATION:	CODE PAGE/850
CHAR DEFINITION:	DRAFT
CPI:	10
VERTICAL RESOLUTION:	1/240
LF+CR:	N
PRINTER REPLAY SYNCHRONIZED:	N
TOP MARGIN PR40 LIKE:	Y
SHORT PAGE HANDLING:	2
RESET WITH EJECT:	Y

PRINTER / DDE type : dde57

Baseret på EPSON TM-267

900727

Terminology-tabel : /etc/types/prt/dde57.t
Datakabel : 88002050
Setup : Hardware switche.

DDE-standard setup :

Switch nr.

1. ON USA character set.
2. ON USA character set.
3. ON USA character set.
4. OFF 8 data bits.
5. OFF No parity.
6. ON Even parity.
7. OFF 9600 baud.
8. OFF 9600 baud.
9. OFF 9600 baud.
10. ON Auto cutter available.

Installation af terminology-tabel.

Terminology-tabel til dde57
version 1.0

/etc/types/prt/dde57.t

Programmelforudsætninger :

Basic Utility : 2.54

Andre forudsætninger :

Ingen.

Fremgangsmåden ved indlæsning af Terminology-tabellen er følgende.

1. Log ind som superbruger.
2. I shell skrives følgende kommando :

```
tar xvf /dev/flop  
(hvor »flop« henfører til navnet på diskette drevet)
```

De før omtalte filer indlæses herefter.

3. Herefter kan Terminology-tabellen benyttes på den ønskede port.
Angiv følgende kommando i shell :

```
/etc/terminology -i prt/dde57.t /dev/printxx  
(hvor »printxx« svarer til navnet på den pågældene port)
```

Kommandoen skal indsættes i filen : /etc/rc.d/InitTerm,
så denne udføres automatisk ved boot.

Heri beskrives brugen, samt udskriftning af papir og lærebånd for Bonprinter 57. Anvisningen indeholder ikke noget om tilkobling og opsætning af pønte og programmer på Supermax-systemer.

5. Intern test.

Printeren kan udføre en test af sig selv, dvs. elektronisk, skrivehoved, fremføring af papir og lærebånd, samt udskriftsvalitet og alskærning. Hvis printeren ikke er i gang med at skrive, kan man gøre følgende:

- o Sluk Printeren.
- o Tænd for printeren, samtidig med at man trykker på LINE FEED-tillet.
- o Testen starter automatisk og kører indtil printeren er færdig med testen. På sidste line skriver den:

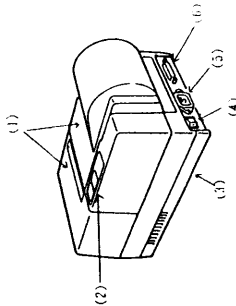
*** Selfcheck End ***

- o Man kan afbryde testen undervejs ved at trykke på ON LINE-tillet.
- o Når testen er slut, skal man slukke og tænde printeren igen før den tages i brug.

(Visse billeder i det følgende viser en "udbuling" bag på printeren. Den findes ikke på Bonprinter 57.)

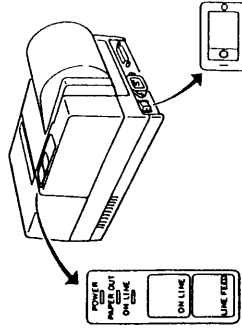
1. Hvor slider hoved?

- (1) Printer dæksler.
- (2) Kontrolpanel.
- (3) DIP-kontakter.
- (4) Netafbryder.
- (5) Apparatsik til netkabel.
- (6) Sik til datakabel.



2. Kontrol

Netafbryder (på bagsiden) tænder og slukker for strøm til printeren.



Advarsel:

Sluk ikke for printeren mens den skriver!

Tryktillet på panel:

- o ON LINE kontrollerer om printeren kan modtage data eller ej.
- o LINE FEED skubber papirer en line frem, når printeren ikke modtager data.

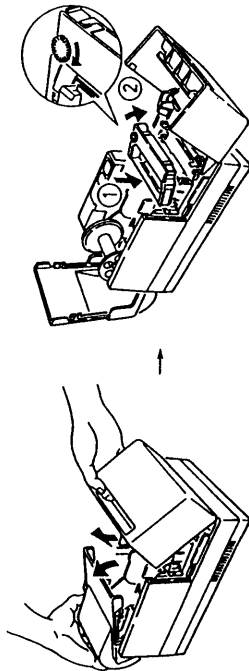
Statuslamper på panel:

- o POWER lyser grønt når der er strøm på printeren.
- o PAPER OUT lyser rødt, når der ikke er mere papir.
- o ON LINE lyser når printeren kan modtage data.

3. Isætning af farvebånd

Sørg for at printeren ikke skal skrive noget mens der skal skiftes farvebånd.

- o Sluk printeren.
- o Vip begge dæksler op. Den bagste åbner bagud, den forreste fremad.
- o Fjern det gamle farvebånd ved at løfte i venstre side af kassetten (Se illustration på kassetten).
- o Stram farvebåndet i den nye kassette. Drej fingerhjul i pilens retning.
- o Placer farvebåndet mellem aftrykningskarton (tækket metalplade) og valsen (med papir, hvis det sidder i). Tryk kassetten på plads.
- o Drej på fingerhjul i pilens retning igen, indtil farvebåndet kører glat igennem spalten.
- o Vip dækslerne på plads igen.
- o Tænd printeren.



VIGTIGT!

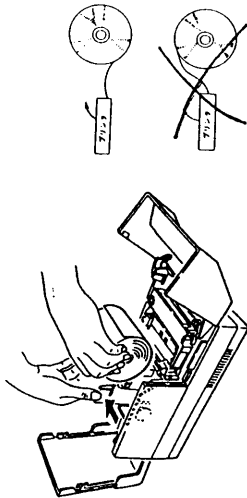
- + Se efter om farvebåndet sidder rigtig mellem skrivet hoved og gummirullen.
- + Se efter at farvebåndet ikke vrider eller folder.
- + Drej kun fingerhjul i pilens retning, aldrig modsat.
- + Skift kun farvebånd, når printeren er slukket.

Hvis ikke farvebåndet sidder rigtig, tag det ud og start forfra igen.

4. Isætning af papir

Printeren skal være tændt, men ON LINE-lampen skal være slukket (Tryk på ON LINE-føler en gang).

- o Sørg for at papirets frie ende er helt lige.
- o Vip begge dæksler op, og se om farvebåndet sidder i. Hvis ikke, monter en farvebåndkassette. Det er beskrevet i forrige afsnit.
- o Indsæt papirrullen som vist på tegningen. Der sidder en lille tab i højre side. Pres forsigtigt på den mens rullen lægges i. Bemærk hvordan rullen vender!



- o Stik den frie ende af rullen ind i fremføreren. Tryk på LINE FEED og hold den mens papiret automatisk trækkes igennem mekanismen, indtil den lige neliop dukker frem igen. Slip LINE FEED føler. PAPER OUT lampen skulle ikke længere lyse.

- o Vip dækslerne i, og tryk LINE FEED indtil papiret dukker op i spalten på det forreste dæksel. Se efter at papiret ikke hænger i.

- o Tryk ON LINE-føler en gang, og se om ON LINE lampen lyser igen.

PRINTER / DDE type : dde60

Based on the Fujitsu DL5600

910129

Terminology-table : /etc/types/prt/dde60.1

Datatable : 88002050

Factory default from DDE :

VLG.MENU : Menu1

MENU1:

Kvalitet	: Liste.
Font	: Cour 10.
Kar-brd	: Normal.
Kar-hjd	: Normal.
Kar-afs	: 10 cpi.
Lin-afs	: 6 lpi.
Emulere	: Dpl24i.
Fremhvh	: Ingen.
Sidelng	: 12.0°
Vnst.mg	: 1 koln.
Top-mrg	: 1.linie.
Sprog	: USA-DK.
Kar-vlg	: Valg 2.
Graf.lf	: FX-80.
Perforr	: Hop ikk.
Bredde	: 13.6 in.
Nul fnt	: Udn-str.
DC3-cde	: Til.
CR-kode	: CR.
LF-kode	: LF.
Hjr.mrg	: Ny lini.

DIVERSE :

Hstghed	: Normal.
Paprudl	: Trk-Ark.
Udskrift	: <====>.
Alarm	: Til.
Ord-ing	: 8 bit.
Buffer	: 24Kbyte.
Arkldr	: Ingen.
Intrfce	: Seriel.
Format	: 8 no 1.
Baudhst	: 19200.
Protkol	: Xon/xof.
Kontrol	: Detect.
Duplex	: Full.



Printer

DDE type : dde30

Based on Oki 84 Microline

910304

Firmware version	:	
Terminology-table	:	prt/dde30.t
Cable	:	8807 / 880040_0
Selftest	:	
Setup	:	1200, 7 bits, 1 stop bit, even parity
Switch-setting	:	
Flow control -	:	OFF



```

*****
*
*      PRINTER      dde type :
*      Baseret på OKI MICROLINE 293
*
*
*
*****

```

881010

Siocetabel : /etc/types/prt/oki293.t

Kabel : 8804

Selvtest : Printerens udfører en selvtest ved POWER-ON + LINE FEED

Switch : Printerens har kun Software switche.

Start menu	: POWER-ON + FORM FEED
Udskriv configuration	: Tryk SELECT
Skift til næste option	: Tryk FORM FEED
Skift til forrige option	: Tryk LINE FEED
Valg af indstilling ved nuværende option	: Tryk SELECT
Stop og gem menu	: Tryk TO SET

Følgene er DDE standard : (UNIX V)

Printerens skal benytte følgende »Personality module« : IBM compatible

Print mode	: NLQ COURIER
Character pitch	: 10 cpi
Line spacing	: 6 lpi
Emphasized characters	: No
Enhanced characters	: No
Double width characters	: No
Double height characters	: No
Super/subscript characters	: ½ size
Italic characters	: No
Character set	: Set 2
Proportional spacing	: No
Language set	: USA
Slashed zero	: No
Unidirectional graphics	: No
Page Length	: 12 inches
Color	: Black ribbon

Select # of DLL sets : 0
Skip over perforation : No
Automatic line feed : No
Auto carriage return : No
Paper out override : No
Print Registration : 0
Parity : None
Data bit : 8
Protocol : X-on/x-off
Diagnostic test : No
Busy line : Dtr
Baud rate : 19200 bps
DSR signal : Valid
DTR signal : Ready on power up
Busy time : 200 milliseconds
Compatibility : Proprinter XL
Slashed letter O : No
Automatic paper loading : No
DLL utility : Norm
Form tear off : 1 2/3 inches
Menu line spacing : 7 lines
BDT CSF installed : No

Printer

DDE type : dde_____

Based on Oki 83 Microline

910304

Firmware version :

Terminology-table :

Cable : 8807 / 880040_0

Selftest :

Setup : 1200, 7 bits, 1 stop bit, even parity

Switch-setting :

1. Dip switch on operator panel -

1 : OFF	Danish
2 : ON	-
3 : ON	-
4 : OFF	-
5 : ON	Grafic SI/S0
6 : OFF	CR
7 : OFF	Ignore Del & CR
8 : ON	Serial Interface

2. Dip switch on contr. circ. board -

1 : ON	Ready on pin 11
2 : ON	1200 baud
3 : OFF	-
4 : ON	-
5 : OFF	Unused
6 : ON	Printer on pin 20

3. Short plug SP 1 (top) -

: B	DTR with power up
-----	-------------------

4. Short plug SP 2 (bottom) -

: A	-
-----	---

5. Form length switch -

: 8	Form feed
-----	-----------

Printer / DDE type : dde46

Based on the Philips P6390

910116

Terminology-table : /etc/types/prt/dde46.t

Data cable : 88006050

Factory default from DDE :

Remote Power OFF : OFF.
Use of 107 (DSR) : OFF.
Protocol used : XON/XOFF.
Parity : EVEN.
Transfer rate : 19200 Bits/s.
Status report mode : NORMAL.
Doc. pull out error mode : NORMAL.
Cover open protect mode : ON.
P6327 mode : ON.

 *
 * PRINTER dde type: navn/type: TRIUMPH 170 *
 * 201285 *

Standard kabel.8812

*=DDE standard

Alle switche sidder foran under dækslet

Selv-test. tryk på den første knap+top off form

Venstre switch

 1 2 3 4 5 6 7 8
 * * * * *

-on-

-off-

Højre switch

* * * * *
 1 2 3 4 5 6 7 8
 * *

1 not used

2 not used

3 not used

4 not used

5 CR+LF OPTION

6 BAUD

7 BAUD

8 BAUD

FORM LENGHT

FORM LENGHT

FORM LENGHT

LANGUAGE VARIANT

LANGUAGE VARIANT

DATA FORMAT

DATA FORMAT

DATA FORMAT

9600 4800 2400 1800 600 150 110 50

6 * * * * *
 7 * * * * *
 8 * * * *

Indstilling af formlængde

1/6"	sw.1	sw.2	sw.3
70			
50			*
35		*	
25		*	*
36	*		
48	*		*
66	*	*	
72	*	*	*

C

3

C

C

```

*****
*
*   PRINTER      dde type:      navn/type DIABLO 630
*
*
*****
201285

```

standard kabel 8804

Alle switche sidder foran

venstre dreje switch

højre dreje switch

Selvtest. Højre dreje switch stilles mellem 4-9 ved power up

0 = 88 metal
 2 = 92 metal
 3 = 96 metal
 4 = 96d metal
 5 = apl metal
 6 = apl plast
 7 = plast
 1,8,9 = option

0 = prop
 1 = 10
 2 = 12
 3 = 15
 4 til 9 = selv test

venstre switch

*=DDE standard

højre switch

*

```

!-----!
!1 2 3 4 5 6 7 8!
!-----!
*****

```

1 = SINGEL/DUBLE L.F.
 2 = 0
 3 = AUTO L.F.
 4 = 0
 5 = U.C ONLY
 6 = 0
 7 =MESSAGE LOAD

```

!-----!
!1 2 3 4 5 6 7 8!
!-----!
*****

```

HALF/FULL DUPLEX
 PARITY DISA/ENA
 BAUD
 0
 BAUD
 PARITY EVEN/ODD
 PAPER OUT SENSOR

DIABLO

ASNC23

630 PRINTER HYTYPE/HYTERM
 ** NORTH EUROPEAN VERSION **
 MARTIN HOUSE AGO 19 SEPTEMBER 1980
 DIABLO SYSTEMS LTD., WOKING, SURREY U.K.

THIS VERSION IS BASED ON 63CREV9S PREPARED BY
 ANTON POLIVKA AND FRED RADLEY 02/25/80

THIS VERSION SUPPORTS THE FOLLOWING KEYBOARDS:

1. TYPEWRITER PAIR
2. LOGICAL BIT PAIR
3. APL
4. NORSE/DANISH
5. SWEDISH/FINNISH

THE PRINTWHEELS SUPPORTED ARE:

1. PLASTIC 96
2. PLASTIC APL
3. METAL APL
4. METAL 96 (DIABLO)
5. METAL 96 (XEROX)
6. METAL 92 (XEROX)
7. METAL 88 (XEROX)

HPROS DIP SWITCH FUNCTIONS ARE REDEFINED AS FOLLOWS:

WITH CONTROL PANEL		WITHOUT CONTROL PANEL	
ETX/ACK	1	SELF TEST	
DC1/DC3	2	DC1/DC3	
11/12 INCH PAGE SIZE	3	10 PITCH	
OPTION ESC CODES	4	PARITY ENABLE	
BAUD RATE OPTION	5	EVEN PARITY	
FOREIGN KYB. & P.W.	6	FULL DUPLEX	
" " "	7	BAUD RATE	
" " "	8	BAUD RATE	

THE OPTION ESCAPE CODE SWITCH FUNCTIONS AS FOLLOWS:

HPROS SWITCH #C4	OPROM FITTED IN POSITION F80	COMMENTS
→ OFF	NO	STANDARD ESC SEQUENCE
ON	NO	ESC CHAR CHANGED TO NUL
OFF	YES	STANDARD ESC SEQUENCE
ON	YES	OPTION ESC SEQ DEFINED BY OPROM ROUTINES

DIABLO

THE BAUD RATES HAVE BEEN CHANGED TO MATCH 1640/50. THE FOLLOWING TABLE LISTS THE SWITCH POSITIONS AND THE BAUD RATES OBTAINABLE

CONTROL PANEL				HPR05 BAUD		BAUD
SPEED 30		SPEED 120		SWITCH #05		RA1F
OFF	*	OFF	*	OFF	*	600
ON	*	OFF	*	OFF	*	300
OFF	*	ON	*	OFF	*	1200
ON	*	ON	*	OFF	*	110
OFF	*	OFF	*	ON	*	4800
ON	*	OFF	*	ON	*	2400
→OFF	*	ON	*	ON	*	9600
ON	*	ON	*	ON	*	2000

LANGUAGE TABLES ARE SELECTED ON HPR05 DIP SWITCHES AS FOLLOWS:

HPR05 SWITCH #				LANGUAGE SELECTED
6	7	8		
OFF	OFF	OFF	*	TYPEWRITER PAIRED
ON	OFF	OFF	*	" "
OFF	ON	OFF	*	LOGICAL BIT PAIRED
ON	ON	OFF	*	APL
OFF	ON	ON	*	SWEDISH/FINNISH
→ON	ON	ON	*	NORSK/DANISH

**** NOTE: A NEW ESCAPE SEQUENCE (ESC~) HAS BEEN ADDED ****

ESC~ - SETS TOP OF FORM AT CURRENT PAPER POSITION.
THIS ESCAPE SEQUENCE DOES NOT CHANGE FORM
LENGTH OR ANY PREVIOUSLY SET TOP AND BOTTOM
MARGIN POSITIONS

PGE

NOTE:

Feilsymptom:
=====

Diablo 630 laver forskellige linieafstand eller skriver linierne oven i hinanden, når den bliver belastet af en tractor eller sheet feed.

Mulig årsag:
=====

Det kan være 40 volt der er for lav (Tol. 38.8 - 41.2 volt). Når/hvis kortet er lavet og det kun giver 38 - 39 volt ud, kan dette afhjælpes med en modstand (R1) på ca. 100 Kohm over B6 (4.87Kohm).

Man kan samtidig undersøge 16 volt (Tol. 15.7 - 16.3 volt) og hvis den også er for lav, kan en modstand på ca 150Kohm over C52 (4.87Kohm) hjælpe.

Power stik:
=====

Pin nr.

10	-----+	40 Volt.
9	-----+	40 og 16 Volt end.
8	-----+	FD.
7	-----+	16 Volt.
6	-----+	5 og -12 volt end.
5	-----+	5 og -12 volt end.
4	-----!	NC
3	-----+	5 volt.
2	-----+	Chassis.
1	-----+	-12 Volt.


```

*****
*
*   PRINTER      dde type:                navn/type:QUME 1140
*
*                                           201285
*****

```

Kabel mont. på interface *=DDE standard

Selvtest. tryk FF under power up. Interface testes ved at trykke
pause under power up

switchen sidder på interface

<u>PARITY</u>		on	off	
ODD	EVEN MARK SPACE			
off	off on on	>!	10	*!
off	on off on	>!* 9		!
<u>HANDSHAKE</u>		!	8	*!< MODEM
ETX/ACK	XON/OFF DTR UNDF.!	!	7	!
7	off off on on	!	6	*! 110 150 300 600 1200 4800 9600
6	off on off on	!* 5	!<	
		!* 4	!<	* * * *
		!* 3	!<	* * * *
STOP ON PAPER OUT		>!* 2	!	
HALF DUPLEX		>!	1	*!< FULL DUPLEX

switchene sidder foran

	venstre		højre
on		on	* *
	<u>1 2 3 4</u>		<u>1 2 3 4</u>
off	* * * *	off	* *

1	SPACING 10-12-15	FORM LENGTH
2	" "	--'--
3	LINE/INCH 6/8	--'--
4	AUTO LF on/off	--'--

switchen sidder bagpå nederst

on	
	1 2 3 4 5 6 7 8
off	* * * * * *

5=AUTO BIDI
6=AUTO CR/LF

QUME SHEETFEED

Der er konstateret problemer med QUME sheetfeed ved skrivning med understregning.

Ved skrivning med understregning sværes papiret over bogstabet.

Det er konstateret at sværtningen finder sted ved brug af original QUME sheetfeeder, samt BDT sheet feeder.

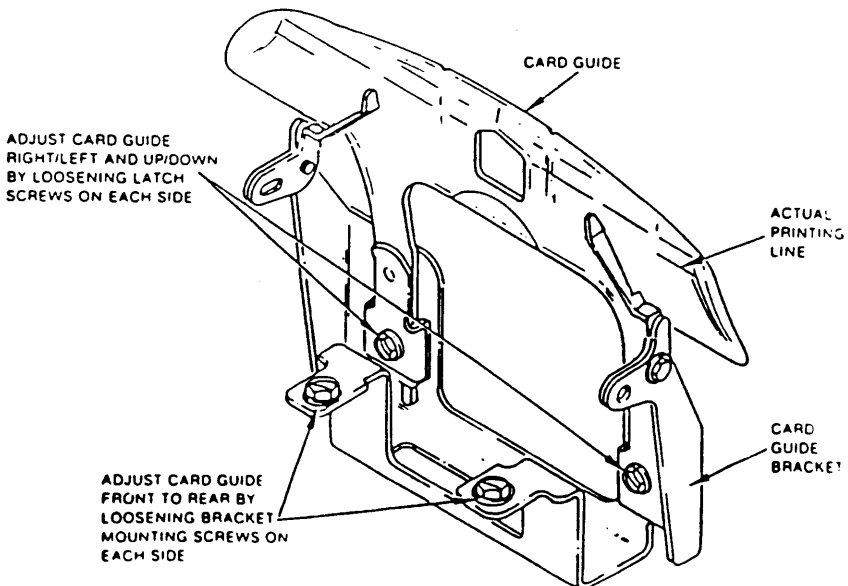
Problemet opstår på det tidspunkt hvor papiret skal gribes med wire guide, her møder papiret modstand og føres derved ikke helt ind til valsen.

Problemet løses ved justering af card guide som vist nedenfor.

Card guide justeres ned så toppen følger valsen.

M/H Testafd L5010285

ADJUSTMENTS



NEAR LETTER QUALITY)

BEKSEMPEL PÅ OMSTILLING AF BAUD-RATE FRA 9600 TIL 1200

<u>TRYK!</u>	<u>DISPLAY</u>	!
	CHAR	!
ADV	MARG	!
ADV	TABS	!
ADV	IFAC	!
ENTER	MC *	!
ENTER	MC 0	!
ADV	BR *	!
ENTER	BR 96	!
PIL NED(3X)	BR 12	!
ENTER	BR 12 BIP!	!

NYETER STILLES OMSKIFTEREN TILDAGE I RUN.

DOE STANDARD PROGRAMMING AF PANEL

```

CHAR    LI 6      :6 LINIER PER TOMME
          CI 10     :10 KRAKTERER PER TOMME
          CS 107    :KARAKTERSAT NR.107 :DANSK/NORSK
          SZ 0      :NUL SKRIVES UDEN GENNEMSTREGNING
          PD D      :NORMAL PRINTKVALITET
          CL 2      :SORT SKRIFT
          AL 0      :INGEN AUTO-LINIESKIFT
MARG    LM 001    :VENSTRE MARGEN I POS.1
          RM 132    :HØJRE MARGEN I POS.132
          FL 072    :FORM LANGE 72 LINIER
          BM 072    :SIDSTE LINIE ER 72
          TM 001    :FØRSTE LINIE ER 1
TABS    HS 000    :VANDRET TAB MAX 64
          VS 000    :LODRET TAB MAX 16
IFAC    MC 0      :COMPUTER TILSLUTNING
          BR 96     :BAUD RATE 9600
          DL 7      :7 DATABIT
          PS 2      :LIGE PARITET,INGEN CHECK
          SB 1      :1 STOPBIT
          DX 0      :FULD DUPLEX
          LP 0      :LINIE PROTOKOL. BUSY,XON/XOFF
          CR 1      :MIT WORTRUCKMELDUNG???
          SM 0      :INGEN STATUSMELDING FRA MT 420
          DC 1      :DELETE KODE ER DEL(7F)
          EC 0      :STARTTEGN FOR SEKVEN ER ESC(1B)

```

! DDE STANDARD

!SWITCHINDSTILLING PA.

!LOGIKKORT

!S10 1 READY HIGH

!511 0 READY LOW

!512 0 REEDY PA BEN 2

!S13 0 REGDY PA BEN 25

!514 0 REEDY PA DEN 10

!S15 1 REEDY FA BEN 11

!516 0 REEDY PA BEN 15

1517 0 NF

1518 0 111/54 ON-OFF

```
1519 0 +12V 470/10 0PM
```

```

1520 0 -12V 470/0 OHM

```

1521 0 NF

!NB: KABELLÄNGDE MAX. 15M.

! !

!

1

! ! !

!

SELVTEST KØRES VED AT STILLE OMSKIFTEREN I TEST OG TRYKKE PÅ ENTER, OG STOPPES VED TRYK PÅ ADDY.
 UDSKRIFT AF PROM VERSION LÆGES VED AT HOLDE ENTER INDE OG SÆTTE OMSKIFTEREN I TEST.

OMSKIFTNING TIL SKØNSKRIFT I WORDWORK FORETAGES VED AT SKRIVE:

5P 27, 29, 31, 67, 13, 10 (ESC P O C CR LF)

DESLUTTES VED AT SKRIVE:

BP 27, 80, 81, 68, 13, 10 (ESC P O D CR LF)

... ..

FINAL

Microline

Switchstilling :

DIP SWITCH ON OPERATOR PANEL

1	:	OFF	DANISH
2	:	ON	- - -
3	:	ON	- - -
4	:	OFF	- - -
5	:	ON	GRAFIK SI/SO
6	:	OFF	CR
7	:	OFF	IGNORE DEL. CR.
8	:	ON	SERIAL INTERFACE

DIP SWITCH ON CONTR. CIRC.BOARD

1	:	ON	READY ON PIN 11
2	:	ON	1200 BAUD
3	:	OFF	- - - - -
4	:	ON	- - - - -
5	:	OFF	UNUSED
6	:	ON	PRINTER ON PIN 20

SHORT PLUG SP 1 ØVERST

: B DTR WITH POWER UP

SHORT PLUG SP 2 NEDERST

: A - - - - -

FORM LENGHT SWITCH

: 8 FORM FEED

Bar Code Readers

rev. 01.09.94

1.0.4

DDE-type	Product name	System
BAR Code decoder	Welch Allyn Scanteam 2000C	
WAND Bar Code sc.	Welch Allyn Scanteam 2380/A311DD	
CCD Bar Code sc.	Welch Allyn Scanteam 3000-x0	
CCD Bar Code sc.	Welch Allyn Scanteam 3000-x2	

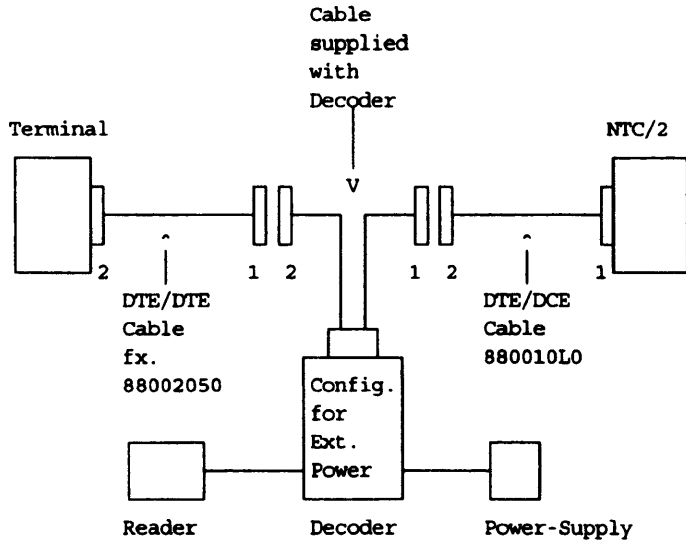


BAR CODE DECODER

Welch Allyn SCANTEAM 2000C

931019

Cable configuration :



Factory default from DDE :

TERMINAL SELECTION

Serial Wedge

OUTPUT PARAMETERS

BEEPER VOLUME/TONE :

5090

KEYBOARD STYLE :

Primary

INTERCHARACTER DELAY :

0000

INTERFUNCTION DELAY :

0000

INTERMESSAGE DELAY :

0000

PREAMBLE :

99 FF

78 40 FF (MSR TRACK 1)

79 23 FF (MSR TRACK 2)

POSTAMBLE :

99 FF

78 0D FF (MSR TRACK 1)

79 0D FF (MSR TRACK 2)

OUTPUT MODES, Buffer Scans :	Yes
OUTPUT MODES, Input Inhibit :	No
OUTPUT MODES, Function Code Transmit :	Yes
WAND/LASER PORT MODES, Hand Held Laser Timeout :	Yes
WAND/LASER PORT MODES, Laser Redundancy :	Yes
WAND/LASER PORT MODES, Dual Wand :	Yes
COUNTRY CODE :	Denmark

OUTPUT SERIAL WEDGE

OUTPUT :	To Host
BAUD RATE :	19200
PARITY :	None
DATA BITS :	Eight

CODE SELECTION I

CODEBAR, Enable :	No
CODE 39, Enable :	Yes
CODE 39, Min. Length :	00
CODE 39, Max. Length :	48
CODE 39, S/S Xmit :	No
CODE 39, Check Char. Req'd :	No
CODE 39, Xmit Check Char. :	No
CODE 39, Full ASCII :	Yes
CODE 39, Append Option :	No
INTERLEAVED 2 OF 5, Enable :	No
CODE 2 OF 5, Enable :	No
MATRIX 2 OF 5, Enable :	No
CODE 11, Enable :	No
CODE 93, Enable :	No
CODE 128, Enable :	Yes
CODE 128, Min. Length :	00
CODE 128, Max. Length :	80
CODE 16K, Enable :	No
DECODING ALGORITHM, Codebar :	No
DECODING ALGORITHM, Code 39 :	No
DECODING ALGORITHM, Interleaved 2 of 5 :	No

CODE SELECTION II

UPC, Version A :	Yes
UPC, Version E0 :	Yes
UPC, Version E1 :	Yes
UPC, Check Digit Xmit :	No
UPC, Number System Xmit :	No
UPC, Version E Expand :	No
UPC, 2-Digit Addenda :	Yes
UPC, 5-Digit Addenda :	Yes

EAN, EAN/JAN 13 :	Yes
EAN, EAN/JAN 8 :	Yes
EAN, Check Digit Xmit :	No
EAN, 2-Digit Addenda :	Yes
EAN, 5-Digit Addenda :	Yes
UPC & EAN ADDENDA REQ'D, Enable :	No
MSI, Enable :	Yes
MSI, Min. Length :	04
MSI, Max. Length :	48
PLESSEY, Enable :	No

DATA FORMATTER

FORMAT REQUIRED :	No
MSR DATA, Start/Stop Char. Transmit :	No
MSR DATA, LRC Char. Transmit :	No
MSR TRACK SELECTION, Track 1 Enable :	Yes
MSR TRACK SELECTION, Track 2 Enable :	Yes
MSR TRACK SELECTION, Track 3 Enable :	Yes
KEY-CODE 1-4 ASSIGNMENT, Key-Code 1 :	0D
KEY-CODE 1-4 ASSIGNMENT, Key-Code 2 :	0D
KEY-CODE 1-4 ASSIGNMENT, Key-Code 3 :	0D
KEY-CODE 1-4 ASSIGNMENT, Key-Code 4 :	0D



WAND BAR CODE SCANNER WITH DECODED OUTPUT

Welch Allyn SCANTEAM 2380/A311DD

931021

Factory default from DDE :

TERMINAL SELECTION

IBM 102 Keyboards

FORMAT SELECTION

PREAMBLE :	None
POSTAMBLE :	None
FUNCTION XMIT, Enable :	Yes
KEYBOARD TYPE :	Primary
INTERCHARACTER DELAY :	0002
INTERFUNCTION DELAY :	0000
INTERMESSAGE DELAY :	0000
LEDs/BEEPER, Beep/Blink (on reset) :	Yes
LEDs/BEEPER, Beep/Blink (on Good Read) :	Yes
APPEND BUFFER :	Yes

SCANCODE SELECTION

RS232 MODE :	No
K2 SCANCODE CAPABILITY :	No

SYMBOLGY SELECTION

CODEBAR, Enable :	No
CODE 39, Enable :	Yes
CODE 39, Min. Length :	00
CODE 39, Max. Length :	48
CODE 39, S/S Xmit :	No
CODE 39, Check Char. Req'd :	No
CODE 39, Xmit Check Char. :	No
CODE 39, Full ASCII :	Yes
CODE 39, Append Option :	No
UPC, Version A :	Yes
UPC, Version E :	Yes
UPC, Version E Expand :	No
UPC, Number System Xmit :	No
UPC, Check Digit Xmit :	No
EAN, EAN/JAN 13 :	Yes
EAN, EAN/JAN 8 :	Yes
UPC & EAN, 2-Digit Addenda :	Yes
UPC & EAN, 5-Digit Addenda :	Yes
INTERLEAVED 2 OF 5, Enable :	No
CODE 2 OF 5, Enable :	No

MSI, Enable :	Yes
MSI, Min. Length :	04
MSI, Max. Length :	48
CODE 93, Enable :	No
CODE 128, Enable :	Yes
CODE 128, Mode A :	Yes
CODE 128, Mode B :	Yes
CODE 128, Mode C :	Yes
CODE 128, Min. Length :	00
CODE 128, Max. Length :	80
CODE 128, Leading <FNC1> Req'd :	No

CCD BAR CODE SCANNER

Welch Allyn SCANTEAM 3000-x0

931021

Factory default from DDE :

MENU SELECTIONS

SCAN RATE :	100 Scans per Second
OUTPUT POLARITY :	White High ("Laser")
TRIGGER MODE :	Auto-Trigger
GOOD READ DELAY :	0 Seconds
BEEPER/LED, Power Up Beeper/LED :	Yes
BEEPER/LED, Good Read Beeper :	Yes
BEEPER/LED, Volume :	2
BEEPER/LED, Tone :	3
DOT MATRIX SCANNING, Enable :	No



WAND BAR CODE SCANNER WITH DECODED OUTPUT

Welch Allyn SCANTEAM 2380/A311DD

931021

Factory default from DDE :

TERMINAL SELECTION

IBM 102 Keyboards

FORMAT SELECTION

PREAMBLE :	None
POSTAMBLE :	None
FUNCTION XMIT, Enable :	Yes
KEYBOARD TYPE :	Primary
INTERCHARACTER DELAY :	0002
INTERFUNCTION DELAY :	0000
INTERMESSAGE DELAY :	0000
LEDs/BEEPER, Beep/Blink (on reset) :	Yes
LEDs/BEEPER, Beep/Blink (on Good Read) :	Yes
APPEND BUFFER :	Yes

SCANCODE SELECTION

RS232 MODE :	No
K2 SCANCODE CAPABILITY :	No

SYMBOLGY SELECTION

CODEBAR, Enable :	No
CODE 39, Enable :	Yes
CODE 39, Min. Length :	00
CODE 39, Max. Length :	48
CODE 39, S/S Xmit :	No
CODE 39, Check Char. Req'd :	No
CODE 39, Xmit Check Char. :	No
CODE 39, Full ASCII :	Yes
CODE 39, Append Option :	No
UPC, Version A :	Yes
UPC, Version E :	Yes
UPC, Version E Expand :	No
UPC, Number System Xmit :	No
UPC, Check Digit Xmit :	No
EAN, EAN/JAN 13 :	Yes
EAN, EAN/JAN 8 :	Yes
UPC & EAN, 2-Digit Addenda :	Yes
UPC & EAN, 5-Digit Addenda :	Yes
INTERLEAVED 2 OF 5, Enable :	No
CODE 2 OF 5, Enable :	No

CODE SELECTION I

CODEBAR, Enable :	No
CODE 39, Enable :	Yes
CODE 39, Min. Length :	00
CODE 39, Max. Length :	48
CODE 39, S/S Xmit :	No
CODE 39, Check Char. Req'd :	No
CODE 39, Xmit Check Char. :	No
CODE 39, Full ASCII :	Yes
CODE 39, Append Option :	No
INTERLEAVED 2 OF 5, Enable :	No
CODE 2 OF 5, Enable :	No
MATRIX 2 OF 5, Enable :	No
CODE 11, Enable :	No
CODE 93, Enable :	No
CODE 128, Enable :	Yes
CODE 128, Min. Length :	00
CODE 128, Max. Length :	80

CODE SELECTION II

UPC, Version A :	Yes
UPC, Version E0 :	Yes
UPC, Version E1 :	Yes
UPC, Check Digit Xmit :	No
UPC, Number System Xmit :	No
UPC, Version E Expand :	No
UPC, 2-Digit Addenda :	Yes
UPC, 5-Digit Addenda :	Yes
EAN, EAN/JAN 13 :	Yes
EAN, EAN/JAN 8 :	Yes
EAN, Check Digit Xmit :	No
EAN, 2-Digit Addenda :	Yes
EAN, 5-Digit Addenda :	Yes
UPC & EAN ADDENDA REQ'D, Enable :	No
MSI, Enable :	Yes
MSI, Min. Length :	04
MSI, Max. Length :	48
PLESSEY, Enable :	No

DATA FORMATTER

FORMAT REQUIRED :	No
-------------------	----

CCD PROGRAMMING

SCAN RATE :	100 Scans per Second
OUTPUT POLARITY :	White High ("Laser")
TRIGGER MODE :	Auto-Trigger
GOOD READ DELAY :	0 Seconds
DOT MATRIX SCANNING, Enable :	No

Associated Units

1.1.9

rev. 01.09.94

DDE-type

Product name

System

General

Installations procedure

UNIX V



INSTALLATION AF ASSOCIERET PRINTER :

Dette er en vejledning i tilslutning af associeret printer på tandberg og ampex terminal. Vejledningen gælder både for terminaler der er tilsluttet direkte eller via modem til supermaxen.

I de følgende eks. vil printeren hedde printA og vil være printer no 4, som er tilsluttet terminal nr 9 der er monteret på sioc med unit nr 8 og kanal 3

EKS er med unix ver 100 hvor chhw hedder chhw11. Printeren er en qume med sheetfeed.

1:

chhw skal eksekveres og printeren skal indføres.

eks.

chhw11 /dev/flop

print 4 8 3 assprint

Nu er printer nr 4 tilsluttet sioc med unit nr. 8 på kanal 3, Hvor terminal nr 9 også skal være tilsluttet.

Dette kan kontrolleres ved at udføre display.

display print

chhw afsluttes ved end.

end

INSTALLATION AF ASSOCIERET PRINTER :

2:

Printeren skal indføres i dev kataloget.

eks.

```
mknod /dev/printA c 3 4
```

Nu er printA det samme som som print4 i chhw.
3 betyder at det er en printer.

Dette kan kontrolleres ved at udføre lx.

```
lx -l /dev
```

3.

Printeren skal indføres i rc filen hvor der skal
sættes sioc.

Terminalen skal sættes til xon/xoff

eks.

```
editor /etc/rc
```

ud for setsioc tty9 må der ikke stå mask 00
mask skal være 7f som normalt står i transport
lige før setsioc.

printeren skal nu indføres, mask og baud rate
har ingen betydning.

```
setsioc /dev/printA type=qumesf
```

Nu er printeren indført på supermaxen.

ASSOCIERET PRINTER PÅ TANDBERG:

Handshake for terminal sættes til xon/xoff

Handshake for printer sættes til off

Forbindelsen mellem terminal og printer består af et adaptor kabel (8824) og et standart printer kabel.

Skærbilled print: SHIFT+PRINT

ASSOCIERET PRINTER PÅ AMPEX D230:

Handshake for terminal sættes til xon/xoff

Forbindelsen mellem terminal og printer består af et adaptor kabel (8823) og et stædard printer kabel.

Skærbilled print: set terminal i local mode
PRINT.

Det er vigtigt at terminalen er sat til d150
emulering og at firware ver er 3.

sa 19.12.85



Modems

rev. 01.09.94

1.0.5

DDE-type	Product name	System
Concord	Concord series II switch setting (DK)	
Concord	Concord short user guide (DK)	
Concord	Concord Reference Card	
Concord	Concord Owner's Manual (part)	
Concord	Concord 224 Modem installation (UK)	
Maxwell	Maxwell User's Guide (part)	
EconoModem 2	E-C EconoModem 2 Specs.	
EconoModem 3	E-C EconoModem 3 product	
EconoModem 3	E-C EconoModem 3 Setup Guide	
EconoModem 3	E-C EconoModem 3 User Manual (part)	
EconoModem 3	E-C EconoModem 3 Quick Reference Guide	
EconoModem 3	E-C EconoModem 3 Packing List	
T2000	Telebit Trailblazer plus (DK)	
Codex 2266	Codex 2266 modem (Motorola)	
Codex 3266	Codex 3266 modem	



Codex 3266 Modem

Stock No.: 16500550 3266 with A-cable
16500551 3266 with B-cable
16500552 3266 with C-cable
Datasheet: 920609/DK/Codex 3266 Modem
Brochure: Codex V.32 Series 3265/3266 modem
1670/105-3-91

TM-number: none
TPP-FCN's: none
Nationality: Danish

Manufct./model: Codex/3266
Main supplier: AHI, Denmark

Product resp.: lea/MUDV

Table: none
Cable type: See packing list
(P) Packing List: 920729/UK/Codex 3266 modem
Installation: See User Intro
(E) User Intro: 920729/UK/Codex 3266 modem

Revised: 29.07.92

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

1

2

3

4

Codex 3266

Setup Guide

In order to ensure proper connection to DDE equipment with a minimum of effort, the following setup has been programmed into the modem at the factory. Please skip the first chapter, unless you for some reason or other have lost the setup.

1. Setup

Programming can be done from the front panel, unless it has been explicitly locked. Refer to the Reference and Applications Guide, on how to unlock. Do not connect the modem to any terminal or host when programming.

DDE modifications are done to the option set 1 (phone line) and 2 (leased line). Both are programmed below:

Use the Reference Card overview to navigate through the menus. Top level displays "Disconnect T/D?", when modem has been powered on (Overview says "Data 9600 T/D?"). Step forward in first level to "Reinit Memory?", and press Enter-key twice. Display shows "3266 Initial".

Step forward to "Select Options=1", and press Enter-key.

To select an menu option, step down through the options, and press ENTER, changing the colon to an equal sign.

Step down to "TERMINAL OPT'S", forward to "DTE Rate=Auto", and select "DTE Rate=19.2", to "DTR = High", and select "DTR = Reset", to "DSR=High" and select "DSR=normal".

Step down to "RMT CONFIG OPT'S", forward to "RmtAcc=Enable", and select "Disable".

Go to the top (RETURN-key twice), forward to "Save Changes=1", and press ENTER-key.

That was option set 1. To program set 2:

Go to the top, forward to "Select Options=1", and select "2".

Go down to "MODULATION OPTS", forward to "Line=Dial", and select "Line=4W Lease".

Back to the top, forward to "Save Changes=2", and press ENTER-key.

This leaves the modem in option set 2. To make set 1 default at power on, step forward to "Select Options=2", and change to "Select Options=1" again.

2. Terminal Use:

If you want to use the modem connected to a terminal, note the following:

Set the terminal for the 19.2 Kbaud, parity and character width (7 or 8 bit) the remote modem uses. The modem will automatically adjust to the remote modems most efficient operating mode.

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. Remember to set the baudrate for each phone number to 19200 baud.

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. Supremax 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 basic dial-in modem operation. Proper operation is not default, so you must change system files yourself.

(Turn over)

4.1.1 gettydefs file

Add the following line to the `/etc/gettydefs` file from a superuser login:

```
1920M# B19200 CS8 HUPCL # B19200
  SANES DDE CTL IXOFF ECHOE TAB3
  HUPCL #Modem Login:#1920M
```

or something like it. The line is for 8 bit operation. The key fields are the presence of HUPCL and IXOFF, 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 1920M none LDISC1
```

The key parameters are `-u`, `-i`, `-r` and `1920M`. `-u` is for compatibility with other modem programs, f.ex. BNU. `-i` removes the issue text, and `-r` controls the probe reaction to the modem connect message. `-r` works only with `-u` (or `uugetty`). `1920M` 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 improvement

Better modem behavior will follow, if you also select "Async Echo=Off" under "ACU OPTS", when programming option set 1.

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 used the setup improvement in 4.1.4, then 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 selection "DSR=Drop on Disc", under "TERMINAL OPTS", in option set 1.

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 manuals and guides in that case.

When connection to hosts with simple modems, i.e. without MNP or V.42, the training sequence from the Codex might be too long, or contain illegal characters, resulting in failed access. You can switch off those options by selecting "Mode=Normal" under "EC/DC OPTS". A clever way of doing it on a session by session basis, is to add the AT command "SM1" just before the dial command.

A similar problem occurs on BBS's using simple modem. Some filetransfer protocols do not like the buffered mode of the Codex. You can work the modem as a simple modem too, by selecting "Normal=Direct" under "EC/DC OPTS" and "DTE Rate=Auto" under "TERMINAL OPTS". You will have to set the terminal to the speed of the remote modem, however.

6. Leased line operation.

4 wire leased line operation is possible between Codex 6015 multiplexers, using the 3266 with option set 2. The other modem must be a 3266 or 2266. 2345 will not work.

UK/920729

EconoModem3

Stock No.:	16500100	(EC3 w. A-cable)
	16500101	(EC3 w. B-cable)
	16500102	(EC3 w. C-cable)
Datasheet:	mul8/12.09.90 EconoModem3	
Brochure:	Economodem (DK & UK)	
TM-number:	none	
TPP-FCN's:	067	
Nationality:	Danish	
Manufct./model:	JAI e24	
Main supplier:	JAI, Denmark	
Product resp.:	lea/MUDV	
Table:	none	
Cable type:	88005050 (A-cable)	
	88005150 (B-cable)	
	88801250 (A-cable)	
Setup floppy:	none	
(P) Packing List:	920626/UK/EconoModem3	
Installation:	none	
(E) User Intro:	920626/UK/EconoModem3 Setup Guide	
Revised:	26.06.92	V.4.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.



EconoModem 3

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 &S1 &D3 &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 (910716)

If the date shown above is 881219 or 900816, the modem needs an upgrade (TPP-FCN 067), 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 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.

(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# 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 Log-on 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:reepawn:/etc/getty -h -u
-i -r tty00 2408M none LDISCL
```

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 q

To make the changes current, use the command

`init q`

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, Le 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

Indstilling af Concord series II modem, F/W version 3.17

Versionsnummer fremkommer ved at give commando RSF ved CDS> prompt. Når modem er sat til AT kommandoer er kommandoen AT@RSF. Versionsnummer skal være:

CONCORD DATA SYSTEMS SERIES II - REV 3.17-DENMARK

Hardware indstillingerne er uændret:

Switch 1-8 skal sættes til ON

Øvrige skal sættes til OFF

Modemprogrammellets standardværdier vises efter versionsnummeret og er angivet nedenfor. '*' betyder en ændring i forhold til REV 3.17 ved levereringen, eller hård reset. Værdierne ændres ved at angive forkortelsen (f.eks SPD) efterfulgt af den nye værdi (her f.eks 5), hvis man har CDS prompt. Ellers skal man skrive AT@ foran forkortelsen. (dvs. AT@SPD5).

BLK	256	SPD	5	*
MON	1	SPE	0	
RLB	1	SPF	2	*
SBA	0	SRD	1	
SBK	0	SRG	001	
SCC	0	SRI	0	
SCM	1	SRM	0	
SCP	1	SSD	1	
SE	043	SST	0	
SFP	0	STA	005	
SLCA	0	STB	003	*
SLCB	0	STC	030	
SLCC	2	STD	000	
SLCD	1	STE	025	
SLCF	0	STI	030	
SLT	1	STP	002	
SMB	2400	STR	000	
SMD	2	STW	002	
SMF	1	STX	001	*
SMT	0	SRM	0	
SPB	9600	SV	1	

Tilslidst gøres værdierne permanente med kommando SAVE (eller AT@SAVE)

En del af parametrene på forrige side bør ændres i hvisse tilfælde:

Kommunikation til andre typer modemer end dette, hvis der er problemer:

- 1) Skift SMD fra 2 til 1. (Do not try protected mode)
- 2) Skift SCM fra 1 til 0. (Ikke-MNP modemmer kan ofte ikke lide MNP)
- 3) Hvis man har tilkoblet udstyr der bruger IBM tegnsæt og 'æ' tegnet forsvinder. Se TPP-FCN 011.
- 4) Hvis man anvender terminaler, der er sat til at køre software-handshake, skal SPF skiftes fra 2 til 0.

CONCORD

Kort betjeningsvejledning

Ved power on skal 2400 blinke. Dette betyder at modemmet indstiller baudrate efter terminalen.

Modemet venter nu på at der taster.

at return

Modemet svarer nu med dens promts.

CDS>

Man er nu i dialog mode med modemmet.

Kald et nummer op:

f.eks 0036 (KTAS nummeroplysning)

²⁶
D0036 return

Hvis modemmet er tilsluttet et intern nummer taster

²⁶
D0,0036 return

hvor , står for en pause

Modemet vil nu kalde op og skrive

Dialing	taster nummeret
Rining	det ringer hos modtageren, venter på at røret skal blive taget.
Answer tone	modemet i den anden har "taget" røret
Bufferet	der er nu forbindelse med det andet modem

Når modemmet er online er der konstant lys i DATA. Der er altså forbindelse til et andet modem

Hvis modemmet aldrig svarer med answer tone, prøv da at ringe modemmet op og hør om det "tager" røret og afgiver en hyletone. Hvis dette ikke er tilfældet kan det være på grund af en af følgende årsager:
modemet er ikke tændt,

modemet er ikke tilkoblet til supermax
supermaxen er ikke tændt
forkert koblet imellem modem og supermax (normalt 8801)

Afbryd linien.

{ tast ctrlA ctrlA ctrlA

modemet svarer med prompt

CDS>

og er nu i kommando mode, men er stadig connetcet.(Data lyser)

der testes

H

for hang up af modemmet "lægger røret"på ,

Genkald.

Hvis man ønsker at kalde sidste nummer op igen tast D return
og modemmet vil kalde det sidste kaldte nummer.

Nonsens.

Hvis modemmet ikke kan skrive prompten rigtig ud,sluk/tænd
modemet og start forfra.

CONCORD DATA SYSTEMS

224®/V.22bis Series II Modem

Reference Card

09-10105-701

Series II Operating Commands

Dialing/answering

Answer	A
Dial last number	D
Dial stored number	D/n
Dial new string	D<string>

Dial Subcommands	Pause during dialing	,
	Attempt MNP link	L
	Pause (CDS AD)	O
	Pulse dial	P
	Tone dial (CDS AD)	M
	Tone dial	T
	Wait for dial tone, continue	W
	Exit to command mode without connecting	E
	Wait for second answer	A
	Exit to command mode	:
	Optional text	:
Set synchronous mode	S	

Originate mode answer	O
Write phone number to memory	WPn<string>

On-line

Accept protected link	AP
Send break	Bn
Exit to data mode	E
Hang up	H

Originate buffered mode from protected mode	OB
Originate protected async mode	OPA
Originate protected sync mode	OPS
Request RMC mode	REMOTE

Query

Command summary	?
Query last number dialed	Q
Read phone list	RP
Review settings - brief list	RSB
Review settings - full list	RSF

Settings

Save settings		SAVE
Switch command mode - n: 0 CDS		SMC n
Initialize working memory 1 HACE		IN
Reset factory settings 2 V.25 BIS		RESET

Testing

Test switch LEDs	RSW
Initiate L3 test	SLL
Initiate L2 test	SRL

Series II Set-up Commands

Command Mode

Set break response SBK n

See p. A-22 in the *Owner's Manual* for n values.

Set character case SCC

SCC0 Upper-case characters.

SCC1 Lower-case characters.

Set exit code character SE n SE/<char>

See p. A-25 in the *Owner's Manual* for allowable characters.

Set front panel response SFP n

SFP0 Front panel enabled.

SFP1 Front panel disabled.

Set long space response SRD n

SRD0 Long space disconnect disabled.

SRD1 Long space disconnect enabled.

Set response mode SRM

SRM0 Worded responses, command echo enabled.

SRM1 Worded responses, command echo disabled.

SRM2 No responses, command echo disabled.

SRM3 Numeric responses, command echo disabled.

Set RMC mode password	SRP<string>
<string>= Up to 10 alphanumeric characters.	
Set use of long space	SSDn
SSD0 No long space before disconnect.	
SSD1 Long space sent before disconnect.	
Set wait time before disconnect after carrier loss	STBn
STB0-STB30	Time = $n \times .1$ second.
Set wait time for carrier before disconnect	STCn
STC2-STC30	Time = $n \times 1$ second.
Set time to disconnect after loss of DTR	STDn
STD0	Modem responds at DTR drop.
STD1-STD255	Time = $n \times .1$ second.
Set exit code guard time	STEn
STE0-STE255	Time = $n \times 1/50$ second.
Set Inactivity timer	STIn
STI0	Timer disabled.
STI1-STI255	Time = $n \times 1$ minute.
Set user message	SUM<string>
<string> Up to 78 alphanumeric characters.	

Communications

Set MNP Class 4 block size	BLKn
BLK16-BLK256	
Class 4 block size = $n \times$ data bytes.	
Set automatic answer	SAA
Set manual answer	SAM
Set compression mode	SCMn
SCM1 Compression enabled.	
SCM2 Compression disabled.	
Set call progress monitoring	SCPn
SCP0 Monitoring disabled.	
SCP1 Monitoring enabled.	
Set dial mode	SD
Set adaptive dialing	SDA
Set pulse dialing	SDP
Set tone dialing	SDT
Set lease - answer mode	SLA
Set lease - originate mode	SLO
Set modem bit rate	SMBn
SMB300	300 bps mode.
SMB1200	1200 bps mode.
SMB1200R	V.23 Originate mode (V.22bis only).
SMB1200S	V.23 Answer mode (V.22bis only).
SMB2400	2400 bps mode.

Set modem data mode	SMDn
SMD0 Direct mode.	
SMD1 Buffered mode.	
SMD2 Automatic Protected mode.	
SMD3 Protected Only mode.	
SMD4 CDS MNP Only mode.	
SMD5 X.PC network user (224 Dual Protocol).	
Automatic ARQ mode (V.22bis Dual Protocol).	
SMD6 X.PC network (224 Dual Protocol).	
ARQ Only mode (V.22bis Dual Protocol).	
Set modem flow control	SMFn
SMF0 Modem port flow control disabled.	
SMF1 Modem port flow control enabled.	
Set modem type	SMTn
SMT0 V.25 answering, no guard tones.	
SMT1 V.25 answering, 1800 Hz guard tones.	
SMT2 V.25 answering, 550 Hz guard tones.	
SMT3 Bell 2224-compatible operating mode.	
Set ring Indicator	SRI n
SRI0 RI off after answer.	
SRI1 RI on after answer.	
Set sync external timing	SSTn
SST0 DTE timing disabled.	
SST1 DTE timing enabled.	
Set 'A' subcommand cycles	STAn
STA1-STA255 Cycles = <i>n</i> .	
Set ',' subcommand pause	STPn
STP0-STP255 Time = <i>n</i> x 1 second.	
Set 'W' subcommand cycles	STWn
STW1-STW255 Cycles = <i>n</i> .	
Set ring number	SRGn
SRG0 Auto-answer disabled.	
SRG1-SRG255 Answer on <i>n</i> rings.	

Control Signal

Set RTS (CA) lead	SLCAn
SLCA0 RTS ignored.	
SLCA1 RTS required for modem to raise CTS.	
SLCA2 RTS seen as flow control signal.	
Set CTS (CB) lead	SLCBn
SLCB0 CTS always on.	
SLCB1 V.22bis use of CTS.	
SLCB2 CTS drops briefly after disconnect.	
Set DSR (CC) lead	SLCCn
SLCC0 DSR always on.	
SLCC1 V.22bis use of DSR.	
SLCC2 DSR drops briefly after disconnect.	

Set DTR (CD) lead**SLCD n**

- SLCD0 DTR ignored.
- SLCD1 DTR required for answer.
- SLCD2 Ignore DTR drop, dial on rising DTR.
- SLCD3 Disconnect on DTR drop, dial on rising DTR.
- SLCD4 Initialize on DTR drop, wait for rising DTR.
- SLCD5 Initialize on DTR drop, dial on rising DTR.

Set DCD (CF) lead**SLCF n**

- SLCF0 DCD always on.
- SLCF1 DCD on at connection
(Buffered or Protected mode).
V.22bis use of DCD (Direct mode).
- SLCF2 DCD drops briefly on disconnect

**Set time upon receipt of
RTS to raise CTS****STR n**

- STR0-STR255 Time = $n \times .2$ seconds.

DTE Port**Set baud rate adjust****SBA n**

- SBA0 Baud adjust disabled.
- SBA1 Baud adjust enabled.

Set port bit rate**SPB n**

- SPB50, 75, 110, 134.5, 150, 200, 300, 600, 1200,
1800, 2400, 3600, 4800, 7200, 9600, AUTO.

Set port data/parity format**SPD n**

- SPD0 7 data bits, no parity.
- SPD1 7 data bits, mark parity.
- SPD2 7 data bits, space parity.
- SPD3 7 data bits, odd parity.
- SPD4 7 data bits, even parity.
- SPD5 8 data bits, no parity.
- SPD6 8 data bits, odd parity.
- SPD7 8 data bits, even parity.

Set port echo**SPE n**

- SPE0 Echo disabled.
- SPE1 Echo enabled.

Set port flow control**SPF n**

- SPF0 Bilateral XOFF/XON.
- SPF1 Unilateral XOFF/XON.
- SPF2 CTS flow control.
- SPF3 HP ENQ/ACK terminal.
- SPF4 HP ENQ/ACK host.

Set password prompt**SPP<string>**

<string> = Up to 10 alphanumeric characters.

Set user password**SUP<string>**

<string> = Up to 10 alphanumeric characters.

Speaker

Set monitor mode **MON n**
MON0 Speaker always off.
MON1 Speaker on until call initiation.
MON2 Speaker always on.
Set speaker volume **SV n**
SV0-SV3 Softest to loudest volume.

Testing

Set remote L2 response **RLB n**
RLB0 Remote loopback response disabled.
RLB1 Remote loopback response enabled.
Set lead testing **SLT n**
SLT0 EIA-instigated L2/L3 disabled.
SLT1 EIA-instigated L3 enabled, L2 disabled.
SLT2 EIA-instigated L2 enabled, L3 disabled.
SLT3 EIA-instigated L2/L3 enabled.
Set test watchdog timer **STX n**
STX0 Watchdog timer disabled.
STX1 Watchdog timer enabled.

AT Mode Commands

Dialing/Answering

Answer **AT A**
Dial **AT D**
Pulse dial **AT D P**
Tone dial **AT D T**
Pause during dialing **AT D ,**
Exit to command mode **AT D ;**

On-line

Escape to command mode **+++**
Re-enter data mode **AT O**

Query

Identify firmware **AT I n**
Read specific register **AT S n ?**
Read last register used **AT ?**

Set-up

Carrier transmitter **AT C n**
Command mode echo **AT E n**
Duplex mode **AT F n**
Switch-hook **AT H n**
Speaker mode **AT M n**
Result code used **AT Q n**
Switch command set **AT SMC**
Result code format **AT V n**
Result code set **AT X n**
Reset defaults **AT Z**
Set last register used **AT =**
Set specific register **AT S n =**

CONCORD DATA SYSTEMS, INC.

**224[®]/V.22bis SERIES II MODEM
OWNER'S MANUAL**

APRIL 1987

09-10107-401

CONCORD DATA SYSTEMS, INC.
45 Bartlett Street, Marlborough, Massachusetts 01752

○ This chapter explains the front panel switches, lists the inter configuration switches, and describes how to install the modem.

FRONT PANEL SWITCHES AND INDICATORS

The Series II front panel includes status indicators and combination switch/indicators. (See Figure 1-1.)

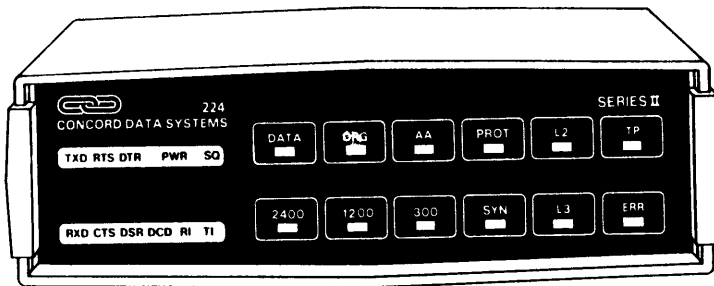


Figure 1-1 224 Series II Front Panel

Status Indicators

Note! V.22bis modem designations are listed below the 224 designations. All commands referenced in this chapter are described in Appendix A.

- | | |
|--------------|--|
| TXD
(1) | Transmit Data: flashes as data is received by the Series II from the DTE. |
| RTS
(105) | Request To Send: lights when the RTS signal is sent from the DTE. The Series II normally ignores RTS. Use the SLCA command to set other responses to RTS, if necessary. The RTS indicator, however, always reflects the true state of the RTS lead from the DTE. |
| DTR
(108) | Data Terminal Ready: lights when the DTR signal is sent from the DTE. The Series II normally ignores DTR. Use the SLCD command to set other responses to DTR, if necessary. The DTR indicator, however, always reflects the true state of the DTR lead from the DTE. |

PWR

Power: lights while the modem is plugged in.

SQ

Signal Quality: lights when signal quality over the phone line is good. Consistently poor signal quality (excessive impulse noise on the line) results in the SQ lamp remaining off most or all of the time.

**RXD
(104)**

Receive Data: flashes as data is sent from the Series II to the DTE.

**CTS
(106)**

Clear To Send: lights when the Series II sends the CTS signal to the DTE. The Series II normally asserts CTS constantly. Use the SLCB command to set other uses of CTS.

**DSR
(107)**

Data Set Ready: lights when the Series II sends the DSR signal to the DTE. The Series II normally asserts DSR constantly. Use the SLCC command to set other uses of DSR.

**DCD
(109)**

Data Carrier Detect: lights when the Series II sends the DCD signal to the DTE. The Series II normally asserts DCD constantly. Use the SLCC command to set other uses of DCD.

**RI
(125)**

Ring Indicator: flashes when the Series II detects an incoming call.

**TI
(142)**

Test Indicator: lights while an L2 or L3 test is in progress.

Combination Switch/Indicators

Important! When activating the combination switches, press the lettered area *above* the LED (light-emitting diode).

DATA

DATA initiates data mode. For manually dialed calls to a remote system, press DATA once the remote system answers. The DATA switch can also be used to manually answer incoming calls. The DATA indicator will flash to indicate an incoming call. Press DATA to answer; the DATA lamp will light steadily. Pressing the DATA switch during a call disconnects the call.

ORG

ORG (Originate) controls whether the modem is in originate or answer mode. When the ORG indicator is lit, the modem is in originate mode. When the ORG indicator is off, answer mode is in effect.

AA

AA (auto-answer) determines whether the modem is in auto-answer or manual answer mode. When the AA indicator is lit

the Series II automatically answers incoming calls, regardless of the setting of the ORG switch. When the AA indicator is off, you must manually answer incoming calls by

- pressing the DATA switch, or
- entering the Answer (A) command at the DTE keyboard.

The AA switch performs the same function as the SAA and SAM commands.

PROT

The function of the PROT switch depends on whether the modem is off- or on-line with a remote system when the switch is pressed, as well as the error correction protocol in effect.

When the Series II is off-line, the PROT switch places MNP Automatic Protected mode in effect for the next call only. (If the SMD command is already set to select Automatic Protected or Protected Only mode, pressing the PROT switch has no effect.)

When the Series II is equipped with MNP and is on-line in buffered mode with a remote Series II, pressing PROT accepts an MNP link request from the remote modem. In this case, the PROT switch works the same as the AP command, by accepting the MNP link request initiated from the remote Series II with the OPA or OPS command.

When the modem is on-line in a Protected link, pressing PROT drops the connection to buffered mode.

L2

L2 initiates a remote digital loopback test with a V.22/Bell 212A- or V.22bis compatible remote modem. The switch exerts the same effect as the SRL command. (Note: The L2 test cannot be performed during Protected data mode.) See Appendix C for details about how the L2 test works. Pressing L2 again ends the test.

TP

TP is used when performing a RESET from the front panel. When the TP and ERR switches are pressed simultaneously for 1 second, the modem's nonvolatile memory is loaded with the configuration factory settings. The internal switches are read and placed in effect after the settings are loaded.

2400

2400 sets the modem to attempt transmission at a maximum speed of 2400 bps. (When initiating the connection, the modem may fallback to a lower speed if the remote modem can't support 2400 bps. The 2400 switch is ignored when the modem is on line.

1200

1200 sets the modem to attempt transmission at a maximum speed of 1200 bps. (When initiating the connection, the modem may fallback to a lower speed if the remote modem can't support 1200 bps.) The 1200 switch is ignored when the modem is on line.

300

300 sets the modem to attempt transmission at a maximum speed of 300 bps. The modem will not be able to operate at 1200 or 2400 bps. The 300 switch is ignored when the modem is on line.

SYN

SYN selects synchronous data transfer mode. Pressing SYN has the same effect as setting internal switches SW1-1, 1-2, and 1-3 for direct synchronous mode, except that the SYN switch is effective only until the modem is initialized or RESET.

L3

L3 initiates a local analog loopback test. Pressing L3 is the same as entering the SLL command. See Appendix C for details about how the L3 test works. Pressing L3 again ends the test.

ERR

ERR performs an INIT (initialize) from the front panel. When ERR is pressed for 1 second, the modem's working memory is loaded with the configuration settings stored in nonvolatile memory. ERR is also used with the TP switch to do a RESET from the front panel. To perform a RESET, press ERR and TP simultaneously for 1 second.

Table 1-1 Switch LED States

SWITCH	LED ON	LED FLASHING	LED OFF
DATA	Data transfer mode in effect.	Data transfer mode being initiated.	All other times.
PROT	Protected link exists.	Protected link being initiated.	All other times.
L2	L2 test in progress.	Modem initiating L2.	All other times.
2400	Maximum link rate of 2400 bps.	Slow: modem is set for 2400 bps but operating at fallback speed. Fast: modem DTE port speed set to autobaud. Pressing 2400 sets DTE port to 2400; entry of AT code* matches modem's DTE port to DTE speed.	Modem is set for 1200 bps or 300 bps.
1200	Maximum link rate of 1200 bps.	Slow: modem is set for 1200 bps but operating at fallback speed. Fast: modem DTE port speed set to autobaud. Pressing 1200 sets DTE port to 1200; entry of AT code* matches modem's DTE port to DTE speed.	Modem is set for 300 bps or 2400 bps.
300	Maximum link rate of 300 bps.	Modem has completed power-on self test and is set for 300 bps. Fast: modem DTE port speed set to autobaud. Pressing 300 sets DTE port to 1200; entry of AT code* matches modem's DTE port to DTE speed.	Modem is set for 1200 or 2400 bps.
S	Synchronous mode or Class 3 link exists.		All other times.
L3	L3 test in progress.		All other times.
ERR		Errors detected in received data during Protected link. Data being retransmitted.	All other times.

* The AT code is discussed in Chapter Two.

INTERNAL DIP SWITCHES

The Series II contains internal DIP (dual in-line package) switches for configuration. All Series II modems have an eight-position switch (SW1) and a four-position switch (SW2) for setting certain standard features. If you have a lease/dial modem, it will also have one or two additional DIP switches to control the line transmit levels. Table 1-2 lists the SW1 switches for quick reference, since those will be the ones you'll use most often. For details about SW1, SW2, and the other switches that may be included in your modem, check Appendix

Table 1-2 Internal Switch Functions

FUNCTION	SWITCHES							
DTE Port Bit Rate	1	2	3	4	5	6	7	8
Autobaud (factory setting)	Off	Off	Off					
300	On	Off	Off					
600	Off	On	Off					
1200	On	On	Off					
2400	Off	Off	On					
4800	On	Off	On					
9600	Off	On	On					
Direct synchronous	On	On	On					
Command equivalent: SPB.								
Command Mode	1	2	3	4	5	6	7	8
Disabled				On				
Enabled (factory setting)				Off				
Control Signals	1	2	3	4	5	6	7	8
DSR, DCD, CTS follow modem; hang-up on falling DTR.					On			
DSR, DCD, CTS always on; DTR ignored (factory setting)					Off			
Command equivalents: SLCC, SLCF, SLCB, SLCD.								
Front Panel Switches	1	2	3	4	5	6	7	8
Disabled						On		
Enabled (factory setting)						Off		
Command equivalent: SFP.								
Write Protect	1	2	3	4	5	6	7	8
Enabled							On	
Disabled (factory setting)							Off	
Command Set	1	2	3	4	5	6	7	8
AT Series II (factory setting)								On
Command equivalent: SMC (cannot be stored).								Off

HOW TO INSTALL THE SERIES II

Site Requirements

The modem should be installed in an area free of extremes of temperature, humidity, shock, and vibration. Allow enough room at the front to permit access to the switches and LEDs, and at least four inches clearance in back for the cables and wires. Locate the modem within 50 feet of the device (personal computer, data terminal, printer, etc.) to comply with RS-232-C recommendations for interface signalling, and within 6 feet of an electrical outlet.

Rack-mount Model

The Series II rack-mount modem is designed for installation in the CDS RM07B rack. Please consult the *RM07B Rack Mount Assembly Installation and Maintenance Guide* for instructions on installing the Series II rack-mount modem.

Telephone Line

Connecting to the phone line requires a standard modular RJ11C or RJ45S telephone wall jack, plus a standard phone cable with modular RJ11C plugs that can be plugged into the wall jack and into the LINE jack on the back of the modem (see Figure 1-2.)

Note! When connecting the Series II to a leased line, or to a dial line other than in the U.S., you must supply your own telephone cables, as the type required depends on your local telephone system.

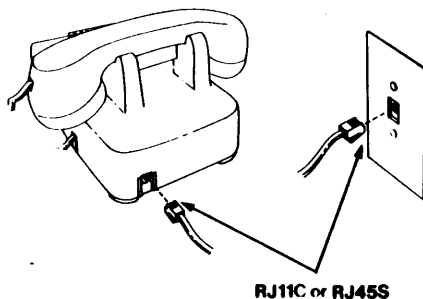


Figure 1-2 Modular Telephone Connectors

Note! In some cases, use of an RJ45S jack set for fixed loop loss could result in handshaking difficulties when the modem tries to come on line. For best results, we suggest using an RJ11C jack.

Procedure

All installation connections to the Series II modem are made on the rear panel (see Figure 1-3). If using a V.22bis Series II, the modular phone connectors are replaced by a barrier strip.

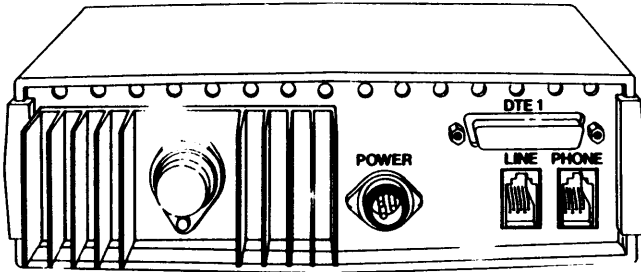


Figure 1-3 224 Series II Rear Panel

Note! If you want to set any internal DIP switches, do so *before* installing the modem (refer to Appendix C).

1. Unplug your current phone cable from the telephone.
2. Plug the cable into the **LINE** jack on the modem's rear panel so the modem is now connected to the wall jack (see Figure 1-4).

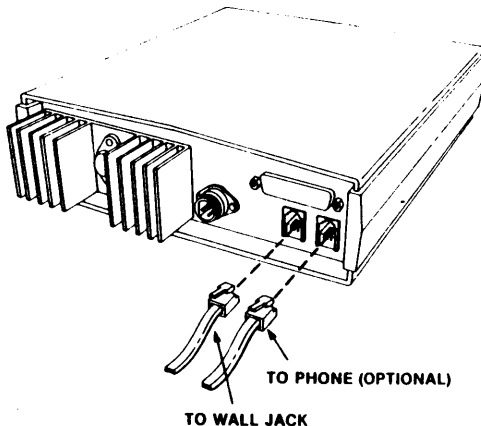


Figure 1-4 Telephone Connections

3. (Optional) To be able to use your telephone when not using the modem plug the extra phone cable (supplied with the modem) into the modem's **PHONE** jack and your telephone.

4. Connect the RS-232-C cable to the DTE connector on the rear panel (see Figure 1-5).

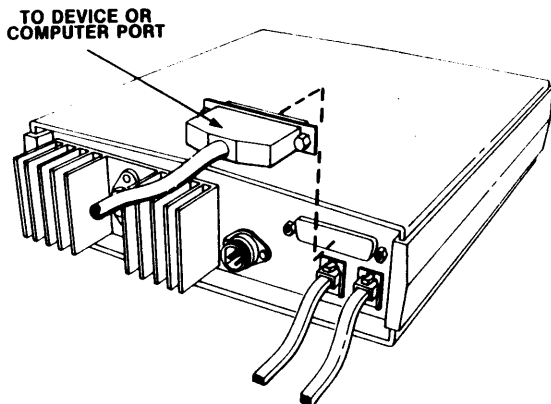


Figure 1-5 RS-232-C Connection

If the cable has securing screws, use a screwdriver to fasten the cable to the connector on the modem.

5. Plug the other end of the cable into the DTE's communications port (possibly marked 'modem'). Refer to the DTE's user manual if you have questions on making this connection.

6. Attach the AC power cord to the POWER connector on the modem (see Figure 1-6). Plug the power pack into the AC power source (usually a wall outlet).

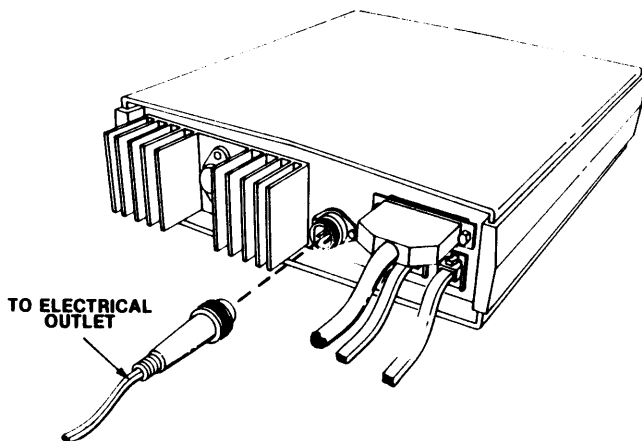


Figure 1-6 Power Cord Connection

You may use an extension cord with the Series II, if necessary. The modem will power on immediately and will remain on as long as it is plugged in. Since the modem consumes minimal power, you can simply leave it plugged in.

POWER-ON STATE

Power-on Self Test

When the Series II is first plugged in, it performs a power-on self test to check the modem's major functional areas. The test takes about seven seconds, during which all of the front panel LEDs are on except for the TXD (103) and RXD (104) indicators.

Any Problems?

The PWR indicator will flash if the test detected any errors. Appendix G: Testing/Troubleshooting/Service includes instructions for displaying the test failure codes, as well as troubleshooting and service procedures.

Check The Front Panel

After the test, the front panel LEDs indicate the power-on settings. These will normally be those settings stored in nonvolatile memory the last time the modem was used. If you haven't changed the modem's configuration yet, these LEDs should be on:

RTS (105)	2400 (flashing)	DTR (108)	ORG	PWR
AA	CTS (106)	DSR (107)	DCD (109)	

The 2400 LED flashes rapidly to indicate that

- the modem's maximum operating speed is set to 2400 bps, and
- the DTE port speed is set to autobaud, and the modem is waiting to initialize the port speed.

If you want the DTE port speed to match the modem's operating speed (in this case, 2400 bps), you can set the speed now by pressing the 2400 switch (the area directly above the LED). The LED will light steadily once the DTE port speed is set. If you'd rather have the modem adapt (autobaud) to the DTE's speed, type 'AT' to let the modem adjust its port speed and invoke the command mode prompt. Now you're ready to move on to Chapter Two.

APPENDIX K

SPECIFICATIONS

○ This appendix lists the operating specifications for the 224 and V.22bis Series II modem.

224 SERIES II

General Specifications

Data format:	9-, 10-, or 11-bit asynchronous (7- or 8-bit data, with or without parity); or Synchronous
Transmission format:	Asynchronous; bit synchronous or byte synchronous (function of MNP protocol option)
Data rate:	2400 bps (CCITT V.22bis), 1200 bps (Bell 212A), 300 bps (Bell 103)
Modulation:	2400 bps - Quadrature Amplitude Modulation (QAM) 1200 bps - Differential Phase Shift Keying (PSK) 0-300 bps - Frequency Shift Keying (FSK)
Operating modes:	Direct (Synchronous or Asynchronous) Buffered Protected (MNP or optional X.PC)
Power:	Less than 20 Watts
Temperature:	0° - 50° C operating -40° - 70° C storage
Relative humidity:	90% non-condensing
Dimensions:	Length: 23.5 cm. (9.25 in.) Height: 6.9 cm. (2.7 in.) Width: 21.6 cm. (8.5 in.)
Shipping weight:	1.5 kg. (3.3 lbs.)

Switched Telephone Line Specifications

Impedance:	600 ohms
Holding resistance:	Less than 200 ohms at up to 80 mA max
Transmit level:	FCC registered permissive (RJ11C) or programmed (RJ45S)
Receive level:	Low -43 dBm High -3 dBm max
Ring detector:	Frequency - 16 Hz to 50 Hz Trip point - 23 VRMS or greater No trip at 15 VRMS or less

Used Line Specifications

Impedance:	600 ohms
Transmit level:	0 to -16 dBm, strap-selectable in 2 dB steps. Answer modem signal is 1.5 dB lower than originate signal
Receive level:	High -3 dBm Low -43 dBm

V.22bis SPECIFICATIONS II

General Specifications

Data format:	8-, 9-, 10-, or 11-bit asynchronous (7- or 8-bit data, with or without parity); or Synchronous
Transmission format:	Asynchronous; bit synchronous or byte synchronous (function of MNP protocol option)
Data rate:	2400 bps (CCITT V.22bis), 1200 bps (CCITT V.22), 1200/75 bps (CCITT V.23 if selected), 300 bps (CCITT V.21)
Modulation:	2400 bps - Quadrature Amplitude Modulation (QAM) 1200 bps - Differential Phase Shift Keying (DPSK) 1200/75 bps - Frequency Shift Keying (FSK) 0-300 bps - Frequency Shift Keying

Operating modes:

Direct (Synchronous or Asynchronous)
Buffered
Protected (MNP or optional ARQ)

Power:

100 - 130 VAC, 48-60 Hz, less than 20 Watts

Temperature:

0° - 50° C operating, -40° - 70° C storage

Relative humidity:

90% non-condensing

Dimensions:

Length: 23.5 cm (9.25 in.)
Height: 6.9 cm (2.7 in.)
Width: 21.6 cm (8.5 in.)

Shipping weight:

1.5 kg (3.3 lbs)

Switched Telephone Line Specifications

Impedance:

600 ohms

Holding resistance:

Less than 200 ohms at up to 80 mA max

Transmit level:

-16 dB default; strap-selectable 0 to -16 dB in 2 dB steps

Receive level:

Low -43 dBm
High -3 dBm max

Ring detector:

Frequency - 16 Hz to 50 Hz
Trip point - 23 VRMS or greater
No trip at 15 VRMS or less

Leased Line Specifications

Impedance:

600 ohms

Transmit level:

0 to -10 dBm, strap-selectable in 2 dB steps.
Answer modem signal is 1.5 dB lower than original signal

Receive level:

High -3 dBm
Low -43 dBm



1



APPENDIX

ASCII CONVERSION CHART

DEC	HEX	ASCII	DEC	HEX	ASCII
0	00	NUL	64	40	@
1	01	SOH (CTL/A)	65	41	A
2	02	STX (CTL/B)	66	42	B
3	03	ETX (CTL/C)	67	43	C
4	04	EOT (CTL/D)	68	44	D
5	05	ENQ (CTL/E)	69	45	E
6	06	ACK (CTL/F)	70	46	F
7	07	BEL (CTL/G)	71	47	G
8	08	BS (CTL/H)	72	48	H
9	09	HT (CTL/I)	73	49	I
10	0A	LF (CTL/J)	74	4A	J
11	0B	VT (CTL/K)	75	4B	K
12	0C	FF (CTL/L)	76	4C	L
13	0D	CR (CTL/M)	77	4D	M
14	0E	SO (CTL/N)	78	4E	N
15	0F	SI (CTL/O)	79	4F	O
16	10	DLE (CTL/P)	80	50	P
17	11	DC1 (CTL/Q)	81	51	Q
18	12	DC2 (CTL/R)	82	52	R
19	13	DC3 (CTL/S)	83	53	S
20	14	DC4 (CTL/T)	84	54	T
21	15	NAK (CTL/U)	85	55	U
22	16	SYN (CTL/V)	86	56	V
23	17	ETB (CTL/W)	87	57	W
24	18	CAN (CTL/X)	88	58	X
25	19	EM (CTL/Y)	89	59	Y
26	1A	SUB (CTL/Z)	90	5A	Z
27	1B	ESC	91	5B	[
28	1C	FS	92	5C	\
29	1D	GS	93	5D	]
30	1E	RS	94	5E	^
31	1F	US	95	5F	_
32	20	SP	96	60	`
33	21	!	97	61	a
34	22	"	98	62	b
35	23	#	99	63	c
36	24	\$	100	64	d
37	25	%		65	e
38	26	&	102	66	f
39	27	'	103	67	g
40	28	(	104	68	h
41	29	)	105	69	i
42	2A	*	106	6A	j
43	2B	+	107	6B	k
44	2C	,	108	6C	l
45	2D	-	109	6D	m
46	2E	.	110	6E	n
47	2F	/	111	6F	o
48	30	0	112	70	p
49	31	1	113	71	q
50	32	2	114	72	r
51	33	3	115	73	s
52	34	4	116	74	t
53	35	5	117	75	u
54	36	6	118	76	v
55	37	7	119	77	w
56	38	8	120	78	x
57	39	9	121	79	y
58	3A	:	122	7A	z
59	3B	;	123	7B	{
60	3C	<	124	7C	
61	3D	=	125	7D	}
62	3E	>	126	7E	~
63	3F	?	127	7F	DEL

APPENDIX M

RS-232 CABLE PIN ASSIGNMENTS

DCE	EIA RS-232 INTERFACE	DTE
2	Transmit Data (TXD)	2
3	Receive Data (RXD)	3
4	Request To Send (RTS)	4
5	Clear To Send (CTS)	5
6	Data Set Ready (DSR)	6
7	Signal Ground -----	7
8	Carrier Detect (DCD)	8
9	+ EIA Test Voltage (+V)	9
10	- EIA Test Voltage (-V)	10
12*	EPG Horizontal Output (EPGH)	12
13*	EPG Vertical Output (EPGV)	13
15	Transmit Clock (TXC)	15
17	Receive Clock (RXC)	17
18	Loop 3 Select (DTEL3)	18
20	Data Terminal Ready (DTR)	20
21	Loop 2 Select (DTEL2)	21
22	Ring Indicator (RI)	22
24	External Sync Clock (DTELxC)	24
25	Test Indicator (TI)	25

* Eye Pattern Generator (EPG) signal lines are active only when optional EPG hardware is installed.

APPENDIX N

OVERLAP TABLE

○ The table below lists those Series II commands, front panel switches, and DIP switches controlling the same functions.

<u>SERIES II COMMANDS</u>	<u>FRONT PANEL SWITCH</u>	<u>DIP SWITCH</u>
A (Answer)	DATA (pressed when off-line and ORG is off)	-
O (Originate)	DATA (pressed when off-line and ORG is on)	-
H	DATA (pressed when off-line)	-
L (subcommand)*	PROT (pressed when off-line)	-
OB	PROT (pressed when on-line in MNP link)	-
OPA	PROT (pressed when on-line in Buffered or Direct mode)	-
OPS	PROT (pressed when on-line in Buffered or Direct mode)	-
S (subcommand)*	SYN	SW1-1, SW1-2, SW1-3
SAA	AA	-
SAM	AA	-
SFP	-	SW1-6
SLCB	-	SW1-5
SLCC	-	SW1-5
SLCD	-	SW1-5
SLCF	-	SW1-5
SLL	L3	-
SMB2400	2400 (pressed when off-line)	-
SMB1200	1200 (pressed when off-line)	-
SMB300	300 (pressed when off-line)	-
SMC	-	SW1-8

**SERIES II
COMMAND**

FRONT PANEL SWITCH

**DIP
SWITCH**

SMD2	PROT (pressed when off-line)	-
SPB270	2400 (pressed while flashing during Autobaud)	SW1-1, SW1-2, SW1-3
SPB1200	1200 (pressed while flashing during Autobaud)	SW1-1, SW1-2
SPB300	300 (pressed while flashing during Autobaud)	SW1-1, SW1-2, SW1-3
SRL	L2	-
Exit Code	L2 (pressed when on-line in L2 mode) L3 (pressed when on-line in L3 mode)	-

THE MAXWELL MODEM.

1200V

300V

USER'S GUIDE

INITIAL ISSUE
AUGUST 1984

INSTALLATION

Overview

Before attempting to install your Maxwell Modem, it is a good idea to first read through this entire section.

Direct any technical questions to Racal-Vadic's Diagnostic Center at this toll-free number: 800/22-VADIC (800/228-2342).

Preliminary Checking

1. Check the carton for shipping damage. If damage has occurred, immediately file a claim with the carrier.
2. Inspect the contents for physical damage and check that you received the modem, a detachable telephone cable, and the power supply. If you have a problem, notify the dealer who sold you the unit.
3. Notify the local telephone company. *This is required by the Federal Communications Commission (FCC).* FCC information is listed on the bottom of the modem.

Choosing a Location

1. Ensure that the modem can be safely and easily connected to the ac power outlet with the cord supplied.
2. Verify that the cable between the terminal and modem can be connected without stress to the cable or connectors.
3. Check that your location is physically stable and protected from corrosive atmosphere and spray. Excessive heat or improper ventilation can damage sensitive components within the modem.

Configuring Your Terminal or Computer

The modem will operate with few adjustments, if any, to your terminal or computer. However, verify that you have met these criteria.

1. All automatic operations require that Data Terminal Ready (DTR) be continuously on. DTR is usually supplied by a terminal or computer, but if yours does not supply DTR, have an authorized supplier or Racal-Vadic service representative force DTR on within the modem.
2. The auto-dial feature accepts only 10-bit asynchronous ASCII data (for example, 10-bit character length 1 start bit, 7 ASCII data bits, 1 parity bit, and 1 stop bit). Check your terminal or computer reference guide and set the equipment for compatibility with this requirement.
3. Set the speed of your terminal either at 300 bps or 1200 bps to accommodate your applications.*
4. Some terminals or computers may require a change to one or more of the options described in Appendix A.

Installing the Modem

The modem has four rear-panel connectors:

- One standard RS-232-C connector to the terminal or computer
- One five-pin power supply connector
- Two modular telephone jacks—one for the telephone line and one for an optional telephone handset

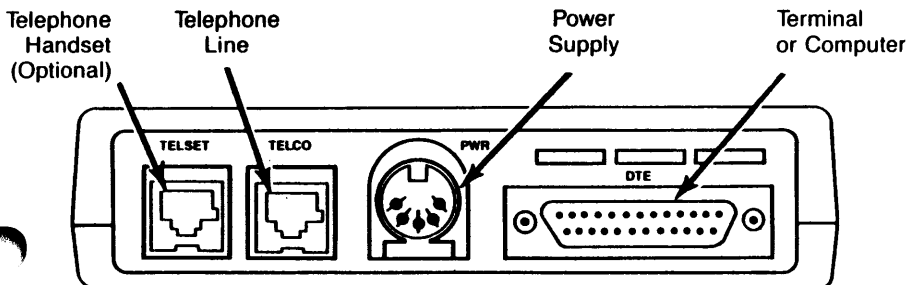


Figure 2-1. Rear Panel

*The 300V operates at 300 bps only.

Interfacing to a Terminal or Computer

Purchase a standard RS-232-C cable with a 25-pin, male, D-type connector (Cannon DB-1604-432 or equivalent) from your terminal or computer equipment supplier.

1. Attach the male connector to the 25-pin, female, DTE connector on the modem's rear panel.
2. Tighten the retainer screws.

Supplying Power

The modem's power supply has an ac cord with a wall plug on one end and a dc cord with a five-pin connector on the other.

1. Attach the five-pin dc cord to the PWR connector on the modem's rear panel.
2. Plug the ac cord into a 110 V ac outlet.

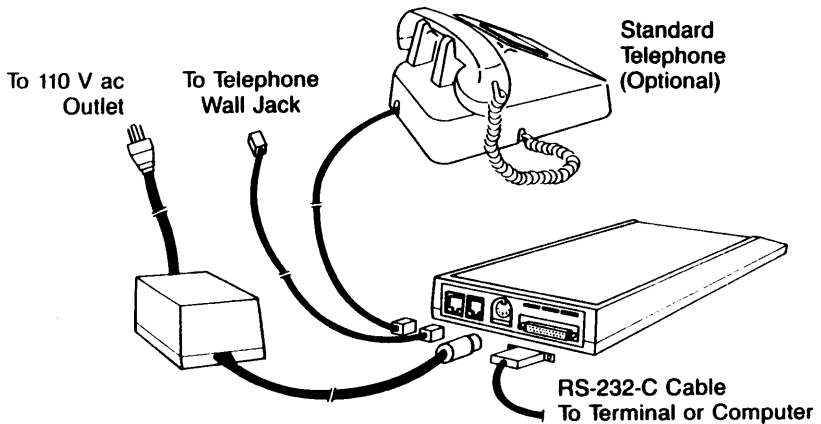


Figure 2-2. Typical Installation

Connecting to the Telephone Line

The detachable 12-foot cable that comes with your modem can be plugged into a standard RJ11C modular telephone wall jack, the type commonly found with most office and residence telephones.

1. Plug one end of the cable into the telephone wall jack.
2. Plug the other end into the TELCO jack on the modem's rear panel.

Setting Up a Standard Telephone (Optional)

Use a standard desk telephone for talking to a remote site operator and/or for manual dialing and answering.

1. Plug one end of the detachable cable into the jack on the optional voice telephone.
2. Plug the other end into the TELSET jack on the modem.
3. Canadian installations require a T-adapter as shown in Figure 2-3.

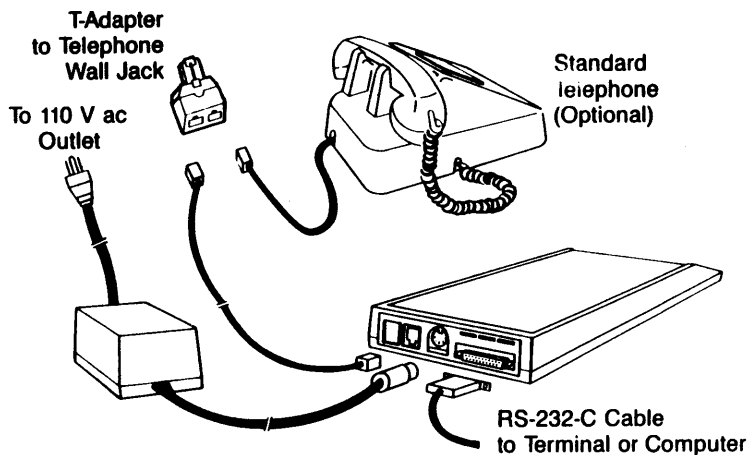


Figure 2-3. Canadian Installation



L



USER OPTIONS

Overview

This appendix presents step-by-step procedures for verifying and changing the programmable option settings.

Standard Option Settings

Whenever you plug in your modem, it uses option values for operation with most 10-bit, asynchronous ASCII terminals. If you have special equipment or applications, use the information in this appendix to determine which options, if any, you need to change.

To restore all standard options settings, momentarily unplug the modem.

Remember to reset any nonstandard settings whenever you plug in the modem again.

Option Descriptions

This section explains each option and its possible settings. The standard setting is always code 1, and in Table A-1, it is also shown with an asterisk.

Table A-1. Options

Option Number	Option Name	Setting Codes	Function	Description
01				Not used in this model.
02	DSR Control	1* 2 3		DSR follows DTR while on-hook DSR forced ON DSR ON while modem is off-hook
03	CXR Control	1* 2 3		CXR follows the true carrier received CXR follows DTR while on-hook CXR forced ON
04	Auto Answer	1* 2	Enabled Disabled	Allows the modem to automatically answer an incoming call when DTR is on. It is recommended that you disable this option whenever using a telephone line that is not dedicated to computer use.
05	Local Copy	1* 2	Enabled Disabled	Causes the modem to echo command characters to the terminal. <i>If this option is enabled, setting your terminal to half duplex causes double characters to appear on the screen.</i>
06	Dial Mode	1* 2 3	Auto Tone Pulse	Selects pulse dialing, tone dialing, or automatic selection of either type. In automatic selection, the modem first attempts to tone dial. If dial tone persists after dialing of the first digit, the modem redials the number using pulse dialing. It repeats this selection process after each dial tone.

NOTE: Not all U.S. telephone lines can accept tone dialing.

Table A-1. Options (cont'd)

Option Number	Option Name	Setting Codes	Function	Description
07	Blind Dialing	1*	Disabled	Causes the modem to disregard dial tone and to wait five seconds before dialing.
		2	Enabled	
08	Call Progress Detection	1*	Enabled	Monitors the progress of a call by identifying signals on the telephone line.
		2	Disabled	
09	Response Messages	1*	Full	Full words
		2	Single	Single characters
		3	None	No responses
10	Character Length	1*	10 bits	Includes start, stop, and parity bits (for example, 10-bit character length = 1 start bit, 7 ASCII data bits, 1 parity bit, and 1 stop bit). Regardless of the actual setting, this option defaults to 10 bits during interactive operation.
		2	11 bits	
11	Disconnect Control	1*	Enabled	Allows the <i>CONTROL (C D)</i> command to disconnect the modem from the telephone line while it is off-hook.
		2	Disabled	
				This feature operates in 10-bit ASCII configuration at 1200 ± 5 bps and 300 ± 5 bps.* When operating at any other data rate, we recommend disabling the option.

*The 300V operates at 300 bps only.

Verifying Option Settings

The Table of Options command (*T*) displays each option number, its setting code, and its abbreviated name, in that order.

1. Check for an asterisk prompt or enter *CONTROL E (CR)*:

```
HELLO: I'M READY
*
```

2. Enter *T (CR)*:

01*1	"NOT USED"	02*1	DSR CONTROL
03*1	CXR CONTROL	04*1	AUTO-ANSWER
05*1	LOCAL COPY	06*1	DIAL MODE
07*1	BLIND DIAL	08*1	CALL PROGRESS
09*1	RESPONSE MODE	10*1	CHAR LENGTH
11*1	DISCONNECT CTRL		

Code 1 of each option is the standard setting for operation with most 10-bit ASCII terminals.

Changing Option Settings

Use one of the following procedures to change an option setting.

1. Check for an asterisk prompt or enter *CONTROL E (CR)*:

```
HELLO: I'M READY
*
```

2. Enter *O (CR)*:

```
OPTION NUMBER?
```

3. Enter the number to be changed. For example, to change option 3, enter *3 (CR)*:

```
03*1
```

If you decide not to change the setting, just press (*CR*). Otherwise, proceed to step 4.

4. Enter the new setting. For example, enter 2 (CR) to change the setting from 1 to 2:

OPTION NUMBER?

5. Press (CR) to exit the routine:

*

6. Enter T (CR) to verify your settings.

As an alternative, you can simplify the option set routine using the Batch Dialing command format.

1. Check for an asterisk prompt or enter CONTROL E (CR):

HELLO: I'M READY

*

2. Enter Oxxxxxxxxx (CR), where "x" represents an option setting code.

For example, to change options 2, 3, and 4, you might enter O1232 (CR), where

O = Option command

1 = Designates option 1 (not used)

2 = New setting for option 2

3 = New setting for option 3

2 = New setting for option 4

This format requires you to enter all option settings preceding the one(s) you want changed. To change options 4 and 5, for example, you might enter O1122 (CR), where

O = Option command

1 = Designates option 1 (not used)

1 = Standard setting for option 2

1 = Standard setting for option 3

2 = New setting for option 4

2 = New setting for option 5

You do not have to enter any settings that follow the last option changed.

Table D-3. Hayes Options

Option Command Name	Option Command Setting	Function
Command Echo	E1*	Causes the modem to display command characters at the terminal
	E0	Disables the echo
Hook	H0*	Selects on-hook function, which is equivalent to disconnecting from the telephone line
	H1	Selects off-hook function to enable transmission of a dial tone
Pulse	P*	Selects pulse dialing; normally used as part of the Dial command to change the dialing format as may be required by SPRINT or MCI
Tone	T	Selects tone dialing as opposed to pulse dialing; restricted to only those telephones designed for tone dialing; may be inserted at any point in a telephone number to change the dialing method
Quiet Response	Q0*	Responses sent to terminal
	Q1	No responses sent to terminal
Auto- Answer	S0=1*	Enables auto-answer
	S0=0	Disables auto-answer
Response Type	V0*	Single characters
	V1	Full words

To change one of these preset values, use the command format shown in each example below. A new setting remains operative until you enter a change, until you unplug the modem, or until you enter *ATZ*.

Remember to reset any nonstandard settings after an *ATZ* command or whenever you plug in the modem.

Setting Options

Options can be reset by entering the upper case *AT* prefix, a valid command letter, and one of two possible setting codes (Table D-3). For example, the standard setting for the Response Type command is 0 (single character). To display full words at your terminal, enter *ATV1 (CR)*, where

AT = Command prefix
V = Response Type command
1 = Full words
(CR) = Carriage return

This format applies to any option command. You can also link several commands on one line as shown in the following example, where the Echo, Response Type, and Tone options are reset simultaneously. For example, you can enter *ATE0V1DT7440810 (CR)*, where

AT = Command prefix
E0 = No command echo
V1 = Full words
D = Dial command
T = Tone command
7440810 = Telephone number
(CR) = Carriage return

Notice that the command string contains no separators between entries. You may want to insert some spaces for clarity, but they are not required and have no effect on how the commands are executed. Just remember that a space is a character, and you cannot exceed the 40-character limit.

Registers

S Registers contain standard operating parameters that control the modem functions in this protocol (Table D-4). Except for auto-answer (S0), each register has one value that is fixed in memory.

Table D-4. Hayes S Register Values

Register	Value	Function
0	0 or 1	Auto-answer
1	—	—
2	+++	Escape character
3	CR	Carriage return
4	LF	Line feed
5	BS	Backspace
6	2 seconds	Dial tone delay before dialing
7	30 seconds	Maximum time to detect a carrier
8	2 seconds	Comma (,) pause during dialing
9	—	—
10	1 second	Loss of carrier disconnect time
11	70 milliseconds	Duration of each tone dialed
12	1 second	Pre-escape pause that allows the modem to recognize the escape character sequence
13	—	—
14	—	—
15	—	—
16	—	—

If you inadvertently try to reset one of the registers, the modem accepts the command without changing the value or sending an ERROR message.

EIA SIGNAL INTERFACES

The 25-pin DTE connector on the modem's rear panel provides an RS-232-C interface between the modem and your associated terminal or computer equipment.

Table B-1 shows the pin assignments for this connector and lists the corresponding signal for each pin.

Table B-1. Pin Assignments for DTE Interface

Pin	Racal-Vadic Designation	EIA/Bell Designation	Description
1	FG	AA	Frame Ground
2	TXD	BA	Transmit Data
3	RXD	BB	Receive Data
4	RTS	CA	Request to Send
5	CTS	CB	Clear to Send
6	DSR	CC	Data Set Ready
7	SG	AB	Signal Ground
8	CXR	CF	Carrier Detect
9	+V	+P	Testing Voltage
10	-V	-P	Testing Voltage
11	—	—	No connection
12	—	—	No connection
13	—	—	No connection
14	—	—	No connection
15	—	—	No connection
16	—	—	No connection
17	—	—	No connection
18	—	—	No connection
19	—	—	No connection
20	DTR	CD	Data Terminal Ready
21	—	—	No connection
22	RI	CE	Ring Indicator
23	—	—	No connection
24	—	—	No connection
25	—	—	No connection

SPECIFICATIONS

OPERATING CHARACTERISTICS

Operating Modes	Automatic or manual originate, automatic or manual answer		
Data Format	Serial, binary, asynchronous		
Data Rate	<i>Terminal to Modem</i>	<i>Line</i>	<i>Modem to Terminal</i>
212 mode	1170 to 1212 bps	1200 $\pm$ 0.05% bps	1170 to 1212 bps
103 mode	0 to 300 bps	0 to 300 bps	0 to 300 bps
Modulation			
103 mode	Binary phase-coherent frequency shift keying (FSK)		
212 mode	Four-level differential phase shift keyed (4-level DPSK) or its equivalent quadrature amplitude modulation (QAM)		
Transmit Frequencies	<i>Answer Mode</i>	<i>Originate Mode</i>	
212	2400 Hz $\pm$ 2 Hz	1200 Hz $\pm$ 2 Hz	
103	2225 Hz $\pm$ 0.2% MARK	1270 Hz $\pm$ 0.2% MARK	
	2025 Hz $\pm$ 0.2% SPACE	1070 Hz $\pm$ 0.2% SPACE	
Transmit Level	<i>Switched Network</i>	<i>Leased Line</i>	
	-11 dBm $\pm$ 2 dB	-5 dBm $\pm$ 2 dB	

ENVIRONMENTAL REQUIREMENTS

Temperature	Operating 0° to 40°C Nonoperating -20° to 70°C
Humidity	Up to 90% relative humidity, without condensation

PHYSICAL CHARACTERISTICS

Height	1.50 in
Width	6.0 in
Length	10.0 in
Weight	2.0 lbs (without power supply)

POWER REQUIREMENTS

117 V ac $\pm$ 10%, 57 to 63 Hz, 12 watts maximum

TECHNICAL SPECIFICATIONS

Modem Standards: CCITT V.19, V.21, V.22 and parts of V.25.
Bell 103 and 212A.

Data Format: 8 Data bits, one of which may be a parity bit,
and 2 stop bits (only 1 stop bit is needed for
received data).

Data Rate: 300 bps half and full duplex (FSK), 1200 bps half
and full duplex (PSK).

Dialling Modes: Pulse either 1, 2 .. 9, 0 or 0, 1 .. 8, 9 ac-
cording to local requirements. Signal durati-
on 85 ms with 125 ms pauses.

DTMF (Touch Tone) dialling according to CCITT
V.19. DTMF Transmitter levels: -11 dBm (low
band), -9 dBm (high band).

Command Buffer: 39 Characters following the AT Prefix

Computer Model 11-0201 - CCITT V. 24 (ANSI RS-232C)
Interfaces: Model 11-0200 - IBM PC Bus Interface

Telephone Line 2-Wire 600 Ohms nominally. Transmitter Level
Interface: -12 dBm. Receiver Sensitivity -48 dBm. DTMF
Receiver Sensitivity (option) -48 dBm.

Note: The data of the Data Access Arrangement
(Telephone Line Interface) may vary from coun-
try to country to comply with local regulati-
ons.

Software Compatibility with most software requiring
Compatibility: "Hayes Compatible" modems. E-C EconoModems
emulate Hayes Smartmodem 1200B as a command
subset, but implement extra functions and com-
mands.

Computer Model 11-0201 is compatible with all computers
Compatibility: using a V.24 (RS-232C) interface for asynchro-
nous communication, and is able to transmit
and receive control information in ASCII.

Model 11-0200 is compatible with all compu-
ters using an accessible IBM PC bus with port
addresses and functions like an IBM PC.

Touch Tone is a trade mark of American Telephone & Telegraph.

Hayes Smartmodem is a trade mark of Hayes, Inc.

IBM is a trade mark of International Business Machines Corp.

COMMAND AND FUNCTION SUMMARY

Code	Function
AT	Attention Prefix. Indicates start of a command line.
+++	Escape Sequence. Switches modem from Communication Mode to Command Mode.
A/	Command Repeat. Causes the most recently executed command to be repeated.

Command	Parameters	Function	Default
Z	None	Reset.	
H	0, 1, 2	H0 = ON HOOK H1 = OFF HOOK H2 = OFF HOOK	None
C	0, 1	C0 = Carrier OFF C1 = Carrier ON	C1
D	0..9 ()#-*. P T , W ; R ! / @	Digits to dial Ignored Pulse dial number Dial with DTMF Tones Pause specified in Register S8. No wait for new dial tone. Wait for new dial tone before continuing to dial Reenter Command Mode after dialing Dial, then go on-line in Answer Mode Flash (toggle line relay) Wait for 1/8 of a second Wait for silence	DT

Continued next page

Table Continued

Command	Parameters	Function	Default
O	0, 1, 2	O=Enter Communication Mode 1 = Remote Dig Loopback off 2 = Remote Dig Loopback req.	
A	None	Enter the Answer Mode, then switch to Communication Mode	
B	0, 1	0 = CCITT Standards 1 = Bell Standards	B0
Sr = n	0..18 (r) 0..255 (n)	Select S-Register number r and store n in it	
Sr?	0..22 (r)	Read S-Register r	
Q	0, 1	Q0 = Result Codes Sent Q1 = No Result Codes Sent	Q0
V	0, 1	V0 = Digit Result Codes V1 = Word Result Codes	V1
X	0..4	X0 = Basic Result Codes X1 = Extended Result Code Set X2 = Dial Tone Det Enabled X3 = Busy Signal Det En X4 = Both Enabled	X0, X4
E	0, 1	E0 = No Echo E1 = Echo	E1
F	0, 1	F0 = Half Duplex F1 = Full Duplex	F1
I	0..2	I0 = Return Prod ID I1 = Return ROM Version I2 = Test Memory	
M	0, 1, 2	M0 = Speaker always Off M1 = Speaker On till Carrier Detected M2 = Speaker always On	M1
L	1..3	L1 = Low Speaker Volume L2 = Medium Volume L3 = High Volume	L2
Y	0, 1	Y0 = Break Disabled Y1 = Break Enabled	Y0

REGISTER SUMMARY

Reg	Range	Units	Function	Default
S0	0..255		Number of rings to wait before answering a call	0 Rings
S1	0..255		Number of rings counted	0 Rings
S2	0..127	ASCII	Escape Sequence character	+ 43d
S3	0..127	ASCII	Carriage Return character	<CR> 13d
S4	0..127	ASCII	Line Feed character	<LF> 10d
S5	0..32	ASCII	Backspace character	<BS> 8d
	127			
S6	2..255	sec	Dial Tone Wait Time	2 secs
S7	1..255	sec	Carrier Signal Wait Time	30 secs
S8	0..255	sec	D Command Pause Length	2 secs
S9	1..255	1/10 s	Carrier Detect Response Time	6/10 sec
S10	1..255	1/10 s	Time between loss of Carrier and On Hook position	7/10 sec
S11	50..255	msecs	Time between DTMF Tones	90 ms
S12	20..255	msecs	Escape Sequence Guard Time	50 ms
S13			Option Register See page 41	
S14			Option Register. See page 41	
S15			Flag Register See page 41	
S16	0..4		0 = Normal Operation 1 = Analog Loopback Test 2 = DTMF Tone Test 4 = Digital Loopback Test	0
S17			Flag Register See page 41	

RESULT CODES

Digit	Word(s)	Meaning
0	OK	Command Line executed without errors -or- A Password violation was attempted.
1	CONNECT	Carrier Signal detected at any legal Baud Rate (Basic Result Code Set) -or- Carrier Signal detected at 300 bps only (Extended Code Set).
2	RING	Ring Signal Detected. The mo- will only answer the call if given an A Command or S0 = 0.
3	NO CARRIER	Carrier Signal lost or never detected. See S7.
4	ERROR	Error in a Command Line. Un- recognized command or Command Line too long (>39 characters following the AT prefix).
5	CONNECT	Carrier detected at 1200 bps. (Extended Result Code Set).
6	NO DIALTONE	No Dial Tone detected after placing the modem in an OFF HOOK Condition. See S6.
7	LINE BUSY	A Busy Signal is detected as the result of a Dial Operati- on.
8	NO ANSWER	Silence not detected and sub- sequent commands not executed. Results from @ command only.

THAT'S ALL, FOLKS

EconoModem3

Stock No.:	16500100	(EC3 w. A-cable)
	16500101	(EC3 w. B-cable)
	16500102	(EC3 w. C-cable)
Datasheet:	mu18/12.09.90 EconoModem3	
Brochure:	Economodem (DK & UK)	
TM-number:	none	
TPP-FCN's:	067	
Nationality:	Danish	
Manufct./model:	JAI e24	
Main supplier:	JAI, Denmark	
Product resp.:	lea/MUDV	
Table:	none	
Cable type:	88005050 (A-cable)	
	88005150 (B-cable)	
	88801250 (A-cable)	
Setup floppy:	none	
(P) Packing list:	920626/UK/EconoModem3	
Installation:	none	
(E) User Intro:	920626/UK/EconoModem3 Setup Guide	
Revised: 26.06.92		
V.4.0		

Distribution codes: (P) Production/Factory only.
 (S) One for System administrator.
 (E) Every product shipped.

Setup Guide

1.1 For your information:

The changes in the setup compared to factory default, invoked by "S.F.", are:

- Autoanswer (AA) enabled ("S0=1"),
- DSR follows line state ("S1"),
- Should reset on DTR low ("S3") and
- save it all permanent ("S7").

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 exists.

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 LEDs are flashing. Change the default setup by the command (typed blind):

ATZC <Return>

and redo the programming, adding &C0 just before &V 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)

In order to ensure proper connection to DDE equipment with a minimum of effort, the following setup will be programmed into the modem. Please ship 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 lines, 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:

ATZF <Return>

Now program the modem by typing the following line:

ATZF S0=1 S1 S03 S4 <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:

ATV3 <CR>

The current version will respond:

E-C 11-0211 (910716)

If the date shown above is 881219 or 800816, the modem needs an upgrade (TFP-FCN 067), so contact DDE.

4. Supremax 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 Systemadmins-trators Manual for the NTC2)

4.1 SMOS (basic utility)

The basic SMOS distribution can support simple modem operation. Proper 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:

```
2408# B2400 CS8 HUPCL # B2400
SANEB DDE CTL IXOFF ECHOE TAB3
HUPCL #Modem Login:#2408M
```

or something like it. The above line is added automatic when you install the Modem Log-package (see 4.2), but it has been improved by replacing SANEB with CS8 in the second field. The line is for 8 bit operation. The key fields are the presence of HUPCL and IXOFF, and the absence of CLOCAL.

NOTE: the Supremax does not support speed changes by BREAK during login. You must use a gettydefs-entry with a single baudrate, as shown.

4.1.2 initab file

Insert a line in /etc/initab for the modemline (assumed here to be /dev/tty0):

```
00:234:respawn:/etc/getty -h -u
-1 -r tty00 2408M none ID1SC1
```

The key parameters are -u, -l, -r and 2408M. -u is for compatibility with other modem programs, i.e. BNU. -l removes the issue text, and -r controls the proper 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 "8W".

4.2 Other modem packages

Other modem packages, i.e. Modem Logon, BNU and TTY/VTT100 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/VTT100 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 "8S0". 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 users Manual" in that case.

UK/820626



DDE EconoModem[®] 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.

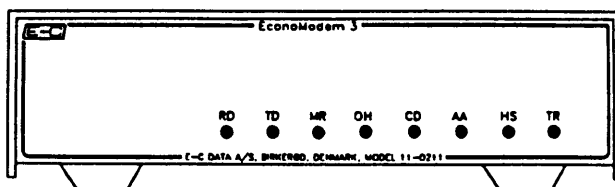
4.2 Other modem packages

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.





E-C EconoModem 3[®]

User Manual

Models

11-0210, 11-0211 and 11-0212

2400 bps Modems

1.3 Unpacking and checking your new modem

Please read the following chapters of the manual telling you how to unpack, install and check out your modem, carefully, before proceeding with the actual installation.

If you have purchased the *stand-alone version* of the E-C EconoModem 3, you can just remove the parts from the packing materials.

If you have purchased one of the board versions of the modem, unpack the parts and lay them out on a table. The kits contain the following parts:

A. Stand-alone modem, model 11-0211

- 1 Modem in cabinet
- 1 AC power cord
- 1 Telephone cord
- 1 Modem cable
- 1 Manual.

B. IBM PC/XT/AT board modem, model 11-0210

- 1 Modem board
- 1 Telephone cord
- 1 Manual.

C. IBM PS/2 Micro Channel board modem, model 11-0212

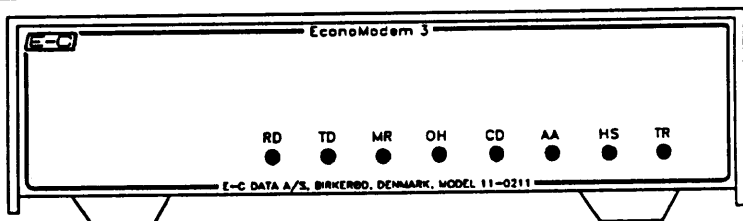
- 1 Modem board
- 1 Telephone cord
- 1 Manual
- 1 3.5" Set-up diskette

If any of these parts are missing from your kit, please notify your dealer or E-C DATA immediately.

If you discover signs of physical damage to any parts, please notify your shipper or postal office immediately. Damage incurred during transit is not the responsibility of your dealer or E-C DATA.

1.4 Connecting your modem

1.4.1 Stand-alone modem, model 11-0211



Control Lamps:

RD	Receive Data	CD	Carrier Detect
TD	Transmit Data	AA	Automatic Answer
MR	Modem Ready	HS	High Speed
OH	Off Hook	TR	Data Terminal Ready

Figure 1-1 Model 11-0211 Front Panel

In electronics and especially telecommunications, things rarely are just "plug in and go". This part of the manual deals with the physical installation of your modem, how to connect it to the computer, to the telephone and to the mains supply.

In order to connect to a stand-alone modem at all, your computer must have a *RS-232C* or *V.24 Serial Communications Interface*. On most

computers the physical connection to the Serial Interface consists of a *DB-25 or DB-9 Connector* (see Fig. 3-1). The modem cable supplied with your modem presumes this convention to be followed. However, you should by no means be surprised if the serial port of your computer has a different type of connector.

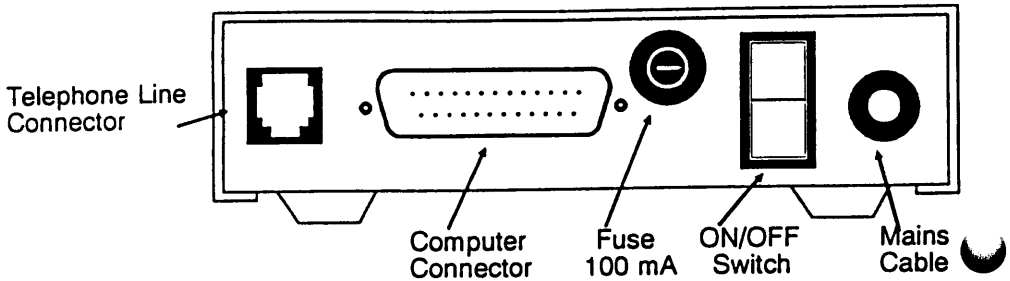


Figure 1-2 Model 11-0211 Rear Panel

Since the modem connection is through a *DB-25* connector of the type used on most computers and terminals, the connection should be of a one-to-one type if you attach the modem to a computer following this standard, i.e. pin 1 of the computer connector should be connected to pin 1 of the modem connector, etc.

In other cases a special cable must be made, and you should follow the *signal names* (RX on the computer connects to RX on the modem, etc).

Fig. 1-2 shows the rear panel of the modem with its connections

The telephone cord supplied with the modem should fit the telephone system in your country. On the modem, it plugs into the telephone connector in the rear panel. It only fits one way. Push it in till you hear it snap in place. To remove it you push the small spring lever in the bottom of the plug and pull gently.

NOTE: If special precautions need to be taken in your country with regard to the connection between the modem and the telephone system, a separate sheet is inserted in the beginning of this manual. Please see if such a sheet exists in your manual.

Modem 3 functions as a standard Serial Interface Adaptor seen from the point of view of the computer. It occupies *either* COM 1 *or* COM 2. This is important to understand, if you already have a Serial Adaptor installed (or a multi-function board containing a Serial Adaptor). It is not possible to have two different Serial Adaptors occupy the same COM addresses (COM 1 or COM 2). Thus, if you already have two Serial Adaptors, one has to be removed or disabled. On most Serial Adaptor boards you can specify whether you want the board to be COM 1 or COM 2 - or altogether disabled. You must now decide whether you want the modem on COM 1 or COM 2.

Once this decision have been made, it is time to configure the board. The switches J3 and J4 are used for this purpose as illustrated in Fig. 1-3.

The type of switches used consist of small plastic "jumpers", which produce an electrical connection between the two pins passing through the jumper. The jumpers can be pulled off the pins and reinstalled using the fingers or a small pair of pliers.

On the board, there are to sets of switches, J3 and J4 (J1 and J2 are the telephone line connectors).

J3 and J4 determine if the board should be COM 1 *or* COM 2 as shown in the figure. With *both* jumpers in the A position the board occupies COM1 in the system - with *both* jumpers in the B position COM2.

NOTE: J3 and J4 must *never* occupy different positions. Either they must both be in the A position or both in the B position.

E.g., if you already have one Serial Adaptor in your computer and your communication software requires your modem to be COM 2, configure the existing Serial Adaptor as COM 1 (which it probably already is) and set both J3 and J4 in the B (COM2) position.

After you have decided how to configure your modem to suit your needs, it is time to install it. Sit down at a work table and discharge yourself of static electricity by briefly touching a good ground such as a water tube. Be sure not to touch the computer or any electrical appliance simul-

taneously. Now configure the board the way you have decided and plug it into a free slot in your PC. Secure the board.

A telephone cable is supplied with the modem, which should fit the telephone wall receptacle in your country. In the modem end, the cable fits in **Connector J1**. It fits only one way. Push it in till you hear it snap in place. To remove it you push the small spring lever in the bottom of the plug and pull gently.

NOTE: If special precautions need to be taken in your country with regard to the connection between the modem and the telephone net, a separate sheet is inserted in the beginning of this manual. Please see if such a sheet exists in your manual.

NOTE: If the optional telephone connector **J2** is installed, you may connect a telephone to this connector. In most countries, however, an optional telephone connection is made through the wall plug connector on the telephone cable supplied with the modem as described below.

Now connect the modem to the telephone net. In many cases a telephone plugs in on top of the wall connector of the modem, thus making it possible to use the same wall connection for telecommunications as well as voice calls.

Once this connection is established, you are ready to use the modem as far as the physical configuration is concerned.

10 Technical specifications

Modem Standards:

CCITT V.19, V.21, V.22, V.22bis, parts of V.25 and V.54. Bell 103 and 212A.

Data Format:

8 Data bits, one of which may be a parity bit, and 2 stop bits (only 1 stop bit is needed for received data).

Data Rate:

300 bps half and full duplex (FSK), 1200 bps half and full duplex (PSK) and 2400 bps half and full duplex (QPSK/QAM), asynchronous and synchronous (model 11-0211 only).

Dialling Modes:

According to local PTT Regulations. DTMF (Touch Tone) dialling according to CCITT V.19. DTMF Transmitter levels: -11 dBm (low band), -9 dBm (high band).

Command Buffer:

39 Characters following the AT Prefix

Computer Interfaces:

Model 11-0211 - CCITT V. 24 (EIA RS-232C)

Model 11-0210 - IBM PC Bus Interface

Model 11-0212 - IBM Micro Channel Architecture Bus Interface

Telephone Line Interface:

2-Wire 600 Ohms nominally.

Transmitter Level:

-12 dBm

Receiver Sensitivity:

-48 dBm.

Note: The data of the Data Access Arrangement (Telephone Interface) may vary from country to country to comply with local regulations. Receiver sensitivity may be different during Call Progress Monitoring.

Software Compatibility:

Compatibility with most software requiring "Hayes Compatible" modems. E-C EconoModems use the Hayes Smartmodem 2400 command set as a subset. Default values are adapted to local PTT requirements.

Computer Compatibility:

Model 11-0211 is compatible with all computers using a V.24 (RS-232C) interface for asynchronous communication, and is able to transmit and receive control information in ASCII.

Model 11-0210 is compatible with all computers using an accessible IBM PC bus with port addresses and functions like an IBM PC. It is also compatible with IBM PS/2 Model 30.

Model 11-0212 is compatible with IBM PS/2 Model 50, 60, 70 and 80.

Touch Tone is a Trade mark of AT&T. Smartmodem 2400 is a Trade Mark of Hayes, Inc. IBM is a Trade mark of International Business Machines Corp.

11 Quick Reference Guide

11.1 Command Summary

Code Function

AT	Attention Prefix. Indicates start of a command line.
+++	Escape Sequence. Switches modem from Communication Mode to Command Mode.
A/	Command Repeat. Causes the most recently executed command to be repeated.

Com	Parms	Function	Default
Z	None	Restore values stored in <i>Config RAM</i> (Reset)	
H	0, 1	H0 = On Hook H1 = Off Hook	None
D	0..9 A..D ()#-*. Ignored	Digits to dial	DT
	P	Pulse dial number	
	T	Dial with DTMF Tones	
	,	Pause specified in Register S8	2 s
	W	Wait for new dial tone before continuing to dial	
	;	Reenter Command Mode after dialing	
	R	Dial, then go on-line in Answer Mode	
	!	Flash (toggle line relay)	
	@	Wait for silence	
	S	Dial Stored Telephone Number	
O	None	Enter Communication Mode	
A	None	Enter the Answer Mode, then switch to Communication Mode.	

Continued following page

Continued from preceeding page

Com	Parms	Function	Default
B	0, 1	0 = CCITT Standards 1 = Bell Standards	B0
Sr=n	0..27 (r) 0..255 (n)	Select S-Register number r and store the value n in it.	
Sr?	0..27 (r)	Read S-Register r	
Q	0, 1	Q0 = Result Codes Sent Q1 = No Result Codes Sent	Q0
V	0, 1	V0 = Digit Result Codes V1 = Word Result Codes (Verbose)	V1
X	0..4	X0 = Basic Result Codes X1 = Extended Result Code Set X2 = Dial Tone Detection Enabled X3 = Busy Signal Detection Enabled X4 = Both Enabled	X2
E	0, 1	E0 = No Echo E1 = Echo	E1
I	0..2	I0 = Return Product Identification Code I1 = Return ROM Checksum I2 = Perform RAM Check I3 = Return Firmware ID	
M	0..3	M0 = Speaker always Off M1 = Speaker On till Carrier Detected M2 = Speaker always On M3 = Speaker Off during dial and when Carrier Detected	M1
L	0..3	L0 = Low Speaker Volume L1 = Low Speaker Volume L2 = Medium Volume L3 = High Volume	L2
Y	0, 1	Y0 = Break Disabled Y1 = Break Enabled	Y0

Continued following page

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Com	Parms	Function	Default
&F	None	Restore all parameters to their <i>Default Values</i> .	
&W	None	Stores current configuration in the <i>Config RAM</i> .	
&Z	Dial Com	Store Dial Command in <i>Config RAM</i> .	
&C	0, 1	&C0 = CDC Asserted always &C1 = CDC Reflects State	&C0
&D	0..3	&D0 = Ignore DTR &D1 = See Chapter 6.1.5 &D2 = See Chapter 6.1.5 &D3 = See Chapter 6.1.5	&D0
&S	0, 1	&S0 = DSR Asserted always &S1 = DSR Reflects State	&S0
&G	0..2	&G0 = No Guard Tones &G1 = 550 Hz Guard Tone &G2 = 1800 Hz Guard Tone	&G0
&J	0, 1	No function	
&P	0..3	&P0 = Pulse Dialing USA &P1 = Pulse Dialing Europe &P2 = Pulse Dialing Sweden &P3 = Pulse Dialing Norway	&P1
&M	0..3	&M0 = Asynchronous Mode &M1 = Synchronous Mode 1 &M2 = Synchronous mode 2 &M3 = Synchronous Mode 3	&M0
&R	0, 1	&R0 = CTS Tracks RTS &R1 = RTS is Disregarded	&R0
&X	0..2	&X0 = Modem generates Xmit Clock &X1 = Data Terminal generates Xmit Clock &X2 = Xmit Clock from Receive Carrier	&X0
&T	0..8	See Chapter 8	

11.2 Register Summary

Reg	Range	Units	Function	Default
S0	0..255		Number of rings to wait before answering a call.	0 Rings
S1	0..255		Number of rings counted	0 Rings
S2	0..127	ASCII	Escape Sequence character	+ (43d)
S3	0..127	ASCII	Carriage Return character	13d
S4	0..127	ASCII	Line Feed character	10d
S5	0..32 127	ASCII	Backspace character	8d
S6	2..255	s	Dial Tone Wait Time	2 s
S7	1..255	s	Carrier Signal Wait Time	30 s
S8	0..255	s	D Command Pause Length	2 s
S9	1..255	1/10 s	Carrier Detect Response Time	6/10 s
S10	1..255	1/10 s	Time between loss of Carrier and On Hook position	14/10 s
S11	50..255	ms	Time between DTMF Tones	105 ms
S12	20..255	ms	Escape Sequence Guard Time	50 ms
S13			Not used	
S14			Option Register. See <i>page 6-15</i> .	
S15			Not used	
S16	0..4		Modem Test Options. See <i>page 6-15</i> .	
S17			Not used	
S18	0..255		Test Timer	0 s
S19			Not used	

Continued following page

Continued from preceeding page

Reg	Range	Units	Function	Default
S20			Not used	
S21			Options. See <i>page 6-16</i>	
S22			Speaker & Result Code Options. See <i>page 6-16</i>	
S23			Options. See <i>page 6-18</i>	
S24			Not used.	
S25	0..255	1/100 s	Delay to DTR	5/100 s
S26	0..255	1/100 s	RTS to CTS Delay	1/100 s
S27			Options. See <i>page 6-18</i> .	

11.3 Result Codes

Digit	Word(s)	Meaning
0	OK	Command Line executed without errors
1	CONNECT	Carrier Signal detected at 300 bps only.
2	RING	Ring Signal Detected. The modem will only answer the call if given an A Command or if S0=0.
3	NO CARRIER	Carrier Signal lost or never detected. See S7.
4	ERROR	Error in a Command Line. Unrecognized command or Command Line too long (>39 characters following the ATprefix).
5	CONNECT 1200	Carrier detected at 1200 bps.
6	NO DIALTONE	No Dial Tone detected after placing the modem in an OFF HOOK Condition. See S6.
7	BUSY	A Busy Signal is detected as the result of a Dial Operation.
8	NO ANSWER	Silence not detected and subsequent commands not executed. Results from @ command only.
10	CONNECT 2400	Carrier detected at 2400 bps.

MODEM DDE type : T2000
Baseret på Telebit Trailblazer plus
(Foreløbig) 891109

Firmware version : 4.02

Kabler (vælg én) : 8801 (Supermax, dde 420, 450 el)
8802 (DDE 480, -700, PC/XT)
8841 (PC/AT)

Selvtest : Modem udfører selvtest ved power on. Hvis OK lyser MR-diode.

Switch : Switch skal ikke ændres.

Standardsetup følger - Se special afsnit hvis EIES-II.

Setup: Forbind en terminal til modemmet, 9600 baud, 8 bit, none og 1 stop bit. Hvis modemmet ikke svarer OK på 'AT', så sluk og tænd, samtidig med at T/D knappen holdes inde. Sker der stadig ikke noget, er modemmet formodentlig defekt, eller nye fabriksstandard er lagt ind. (Check PROM på printkort!).

Giv følgende kommandoer fra terminalen:

```
at&f s6=5 s51=254 s52=2 s53=4 s54=3 s58=0 s110=1 s111=30  
q6 x3 &w2
```

(gives på en linie. Man kan rette med BS-tast). Når modemmet svarer OK gives denne kommando:

```
at&f s48=1 s51=5 s52=2 s53=4 s64=1 s66=1 s110=1 s111=10  
&w1
```

Modemet svarer OK, men sætter derefter porten til 19200 baud. Svarer modem ERROR er der fejl i det indtastede, men hastigheden kan være ændret til 19200. Linien kan indtastes igen. Bemærk at modemmet bliver sat til at blokere afbrydelse af opkald/svar sekvens. Hvis det skal bruges til en terminal, og man ønsker at kunne afbryde sekvensen fra terminalen, sættes S64=0 istedet.

AT &F S6=5 S51=254 S52=2 S53=4 S54=3 S58=0 S110=1 S111=30
Q6 X3 &W2

Dette skulle sætte modemmet i en tilstand der kan benyttes til UUCP og lagre opsætningen i memory B. Opsætningen skulle indbære:

- Dynamisk tilpasning af hastigheden til DTE - mulighed for at skifte mellem high-speed, 2400 baud og 1200 baud.
- Modemet resettes og linien lukkes ned ved tab af DTR (understøttelse af CLOCAL)
- Der vippes kortvarigt med DSR ved tab af bærebølge (understøttelse af HUPCL)
- Breaksignaler sendes igennem til den anden ende, når i data mode.
- Der køres uden dataflow
- Ved 2400 og 1200 forsøges etableret MNP protokol,
- Der køres med UUCP protokol og
- Data pakkes ved høje hastigheder.

(Her indsættes komplet liste)

5. "Chatte"-sekvenser i /usr/lib/uucp/Dialers oprettes:

```
tbfast  =W-, "" A\pA\pA\pT\ OK \pATS50=255DT\T CONNECT\sFAST
tb2400  =W-, "" A\pA\pA\pT\ OK \pATS50=3DT\T CONNECT\s2400
tb1200  =W-, "" A\pA\pA\pT\ OK \pATS50=2DT\T CONNECT\s1200
```

6. Opret linier i /usr/lib/uucp/Systems for andre systemer, som kan ringes op med modemmet. Disse systemer skal have dialers af typen ACU og hastigheden 19200. UUCP vil så benytte Trailblazer-modemet til at ringe op.

7. Test at UUCP forbindelsen til de oprettede systemer virker:

Uutry -r < remote >

Læg mærke til, om uucico rent faktisk får fat i Trailblazermodemet og at dette melder CONNECT FAST tilbage til programmet. Det er tegn på, at det lykkedes at etablere en højhastighedsforbindelse.

Hej Alle !!!!

Hvis man gerne vil kunne ringe ind manuelt med en telefon, for så at overlade kommunikationen til det tilsluttede Concord Modem, skal man gøre som følger.

Tilslut både telefon og Concord Modem til samme tlf.stik.

Modificer i Concordens setup. Følgende skal skrives.

ats0=0

Når man så vil sætte modemmet tilbage til standard opkald skrives:

ats0=1

Man ringer nu med den alm. telefon. Når man får hyletonen i røret trykker man på "data" knappen på modemmet.

Nu skulle det hele så virke (efter lidt hyl og skrig fra modem).

mvh

PUS

Kopi sendt til alle i Support.

Setup er færdig. Modemet er programmeret således, at det kan anvendes som almindeligt opkaldsmodem med støtte til PCNetTerm filoverførsel når A/B tasten er ude. Er den istedet trykket ind er modemmet beregnet til brug i UUCP forbindelser. Indstillingerne kan verificeres således:

Setup A

Tryk:

at&n1 (eller atn? når A/B tasten er ude)

og modem svarer:

E1 F1 M1 Q0 P V1 X1 Version CA4.02 LIB:NDL
S00=001 S01=000 S02=043 S03=013 S04=010 S05=008 S06=010
S07=040 S08=002 S09=006
S10=007 S11=070 S12=050
S45=000 S47=004 S48=001 S49=000
S50=000 S51=005 S52=002 S53=004 S54=000 S55=000 S56=017
S57=019 S58=003 S59=000
S60=000 S61=045 S62=003 S63=001 S64=001 S65=000 S66=001
S67=000 S68=255
S90=001 S91=000 S92=000 S95=000
S100=000 S101=000 S104=000
S110=001 S111=010 S112=001
S121=000

OK

Setup B

Tryk:

at&n2 (eller atn? når A/B tasten er trykket ind)

og modem svarer:

E1 F1 M1 Q6 P V1 X3 Version CA4.02 LIB:NDL
S00=001 S01=000 S02=043 S03=013 S04=010 S05=008 S06=005
S07=040 S08=002 S09=006

S10=007 S11=070 S12=050
S45=000 S47=004 S48=000 S49=000
S50=000 S51=254 S52=002 S53=004 S54=003 S55=000 S56=017
S57=019 S58=000 S59=000
S60=000 S61=045 S62=003 S63=001 S64=000 S65=000 S66=000
S67=000 S68=255
S90=001 S91=000 S92=000 S95=000
S100=000 S101=000 S104=000
S110=001 S111=030 S112=001
S121=000

OK

EISA-II host Setup

Foreløbig kan Setup A ikke bruges i forbindelse med Modemlogon, og så er det en fordel at AT-kommandosættet slås fra. Det sker f.eks. når den anvendes på en EIES-II vært (Supermax). I setup linien for A skal der tilføjes:

S54=4 S55=3 E0 Q3

før &W1. (Ok - S54 og Q3 er ændringer ikke tilføjelser. Hvis man gør noget forkert her, er modemet død. Brug reset som beskrevet i starten af setup, eller skift til Setup B.

Pakkeliste for DDE T2000 Modem

Følgende skal leveres med modemet:

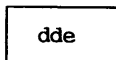
1. Strømforsyning, 230V
2. Telefonledning m. dansk stik
3. Dokumentation:
 - a. User's Manual
 - b. Commands and Registers ref.
 - c. Quick Reference Card
4. 5¼" floppy "Setup Program"
5. 8801, 8802 eller 8841 kabel
6. DDE T2000 vejledning og setup

Der skal desuden monteres et DDE-skilt på forpladen, på den grå forkant, lige over der, hvor Telebit logoet er på den mørke plade. Set skematisk tegning:

			dde
	A/B	T/D	### Telebit Trailbla

Logoet er standard skilt, uden nummerbetegnelse:

9



målt i mm.

15

(Dette er en redigeret udgave af Anders Conrads skrift om Trailblazer modemmet som UUCP modem på Supermax.)

1. Indsæt en linie for modemmet i filen /etc/inittab:

```
tl:234:respawn:/usr/lib/uucp/uugetty -h -r -t 60 tty01 19200H
```

Husk at køre init q.

Dette skulle svare til et kompleks i /etc/gettydefs som cirka:

```
4800# B4800 # B4800 SANE IXANY TAB3 HUPCL #login: #9600H
9600# B9600 # B9600 SANE IXANY TAB3 HUPCL #login: #19200H
19200# B19200 # B19200 SANE IXANY TAB3 HUPCL #login: #2400H
2400# B2400 # B2400 SANE IXANY TAB3 HUPCL #login: #1200H
1200# B1200 # B1200 SANE IXANY TAB3 HUPCL #login: #300H
300# B300 # B300 SANE IXANY TAB3 HUPCL #login: #4800H
```

Den rækkefølge de enkelte linier kalder hinanden på er praktisk, hvis Trailblazer'en skal fungere både som high-speed og som "almindeligt" 2400 baud modem.

2. Filen /usr/lib/uucp/Devices skal have oprettet linier for modemmet, f.eks.:

```
ACU tty01 - 19200 FAST
ACU tty01 - 2400 tb2400
ACU tty01 - 1200 tbl200
```

I dette tilfælde kan modemmet benyttes til at ringe ud ved high-speed, 2400 og 1200 baud. Navnet på porten ændres efter det aktuelle navn.

Hvis modemmet er kommet direkte fra fabrikken, trykkes tast A/B ind, og man fortsætter fra punkt 5. Hvis

3. Nu kan modemmet kontaktes med f.eks. cu. Er der resat til factory setting er hastigheden 9600, og porten skal sættes til den hastighed midlertidigt.

4. Når modemmet svarer meningsfyldt (dvs. med OK) på en AT kommando, kan følgende kommando gives:

Concord 224 Modem

Stock No.: 16500050 (Modem with A-cable)
16500051 (Modem with B-cable)
16500052 (Modem with C-cable)

Datasheet: mul9/12.06.90
Brochure: CDS V.22Bis SERIES II MODEMS
TM-number: none
TPP-FCN's: 055 (in progress)
Nationality: Danish

Manufct./model: Concord Data Systems/V22bis II
Main supplier: Datalog

Product resp.: lea/BNA

Table: none
Setup floppy: none
(P) Packing List: 920123/Concord 224 Modems
(S) Installation: 920123/Concord 224 Modems
User Intro: None

Revised: 27.01.92

V.1.0

Distribution codes: (P) Production/Factory only.
(S) One for System administrator.
(E) Every product shipped.

Concord 224 Modem

Installation 920123/UK

This is installation sheet for REV 3.19-DENMARK F/W. All modems should now be upgraded to this version (TPP-FCN 055).

And verify by the AT@RSF command:

SERIES II - REV 3.19-DENMARK

1. Assembly.

1.1 Mechanical.

Disassemble the modem, and verify that Switch 1, pin 8 is ON, and the rest is OFF. Assemble the modem.

1.2 Setup.

Connect to a terminal with the character @ (at) on the default keyboard, set at 9600 baud.

Power on the modem, and press TP and ERR button together for at least 1 second. The 2400 LED should blink. Press the keys A, I and RE-TURN. The modem should prompt:

MODEM >

Give the following commands:

SCM 1
SE 043
SLCC 2
SLCD 1
SPB 9600
SPF 2
STB 3
STX 1

Finally, type:

SMC 1

You will not get a prompt now, as the modem is in Hayes-compatible mode. Save the settings by:

AT@SAVE

BLK :256	SPB :9600
MON :1	SPD :5
RLB :1	SPE :0
SBA :0	SPF :2
SBK :0	SRD :1
SCC :0	SRG :001
SCM :1	SRI :0
SCP :1	SRM :0
SDM :0	SSD :1
SE :043	SST :0
SFP :0	STA :005
SLCA:0	STB :003
SLCB:0	STC :030
SLCC:2	STD :000
SLCD:1	STE :025
SLCF:0	STI :030
SLT :1	STP :002
SMB :2400	STR :000
SMD :2	STW :002
SMF :1	STX :001
SMT :0	SV :1

2. Factory test.

2.1 Power on test.

Is passed, if ERR is not on, or flashing.

2.2 Function test.

Hook up the modem to a phone line, and call an external host. If that host does not have a Concord 224 modem, you might have to set protected mode off temporary by the command:

AT@SMD 1

(turn over)

3. Markings.

Cover the Concord logo with a standard DDE-logo, 10x25mm.

(Use the left part of any surplus printerlogos, or create from H 0057, by cutting off 13mm from each end!)

4. DDE Stock Numbers:

16500050 Concord 224 with A-cable

16500051 Concord 224 with B-cable

16500052 Concord 224 with C-cable



11



Multiplexers

rev. 01.09.94

1.0.6

DDE-type

Product name

System

-

Codex 6015 Setup



Setup vejledningSetup af konfigurationsport

Multiplexerne konfigureres ved at tilslutte en terminal til stikket mærket "CP" (8801 kabel).

CP porten er default strappet til : 19200 baud, 7 bit, Paritet disabled (sw1 + sw10 =on, resten off).

CP porten er strappet fra switch-blokken på forpladen.(s3)

sw 3/1	Automatic reset;	off = disable	on = enable
sw 3/2	loopback netport;	off = normal mode	on = loopback
sw 3/3	Loopback i modem;	off = normal mode	on = loopback
sw 3/4	unused;	off = normal mode	on =

Resterende switche vedr. kun konfigurationsporten.

sw 3/5-8	baudrate;	sw5 = msb	sw8 = lsb
sw 3/9	paritet enable;	off = disable	on = enable
sw 3/10	paritet select;	off = odd	on = even
sw 3/11-12	unused		

Switch oversigt findes i lågen.

Tilslut terminal til kontrolporten " CP "

Tast " ? <cr> "

Der vises nu en oversigt over alle lovlige kommandoer til muxen. Der anvendes kun store bogstaver.

Svares der med "?" til de spørgsmål, der stilles under konfigurationen, vises alle lovlige svarmuligheder.

CODEX 6015 MULTIPLEXER

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Her følger en kort gennemgang af de enkelte kommandoers betydning.

- 1) C = Change ; Ændre konfigurerings af unit, terminal-port eller netværks-port.
- 2) E = Examin ; Check setup af ovennævnte.
- 3) MOV = move ; kommando der bruges til at kopierer setup af en port eller multiplexer.
- 4) MON = monitor ; Monitorerer hw flowkontrol (EIA straps).
- 5) S = Statistik ; Benyttes til statistisk analyse af lokal terminal-port eller netværks-port.
- 6) D = Diagnostic ; Benyttes til at: enable lokal- og remote terminalport-loopback, loopback i netværks port og integreret modem. Desuden kan der sendes en FOX til en remote terminal
- 7) B = Boot ; Benyttes til at resette en enkel kanal eller hele enheden, samt til at disable en loopback eller FOX test.
- 8) T = Timeout ; Benyttes til at sætte intern tid i mux, samt til definere 4 timeout tider.
- 9) V = Virtual ; Skifter fra lokal til remote konfigurations-port .
- 10) Q = Quit V ; Skifter tilbage til lokal konfigurations-port.
- 11) ":" = examin ; Viser indhold af memory.
- 12) L = ALS ; Benyttes til at skifte mellem linier.(Kræver ALS option - ikke DDE standard)
- 13) "/" ; Afvikler indhold i memory.
- 14) "?" ; Viser alle lovlige svar for den pågældende kommando.
- 15) *XXXXXX ; Sender meddelelse efter * til konfigurations-port på remote unit.

CODEX 6015 MULTIPLEXER

4

SETUP AF TERMINALPORT.

Alle lokale og remote terminal-porte, kan konfigureres fra den lokale enhed.

Status på en given port vises ved at taste "E X", hvor X er lig nummeret for den pågældende port.

En terminal-port vil i dde sammenhæng være konfigureret på følgende vis:

*C 01 FUNCTION: E 1

TYPE	A	SUBTYPE	1		
TX SPEED	19200	RX SPEED	19200		
DATA BITS	5	STOP BITS	1	PARITY	N
EIA STRAPS	HHHHHHH	RTS/CTS DELAY	0		
DIAGNOSTICS	D	AUTO ECHO	D	BREAK LENGTH	20
FLYBACK	D	FILL PAD CHAR	00	GARBLE CHAR	25
FILL RCG CHAR 1	00	FILL RCG CHAR 2	0A	FILL RCG CHAR 3	0C
FILL CHAR CNT 1	15	FILL CHAR CNT 2	8	FILL CHAR CNT 3	37
DATA RES IN	C	DATA RES OUT	C		
XON CHAR	11	XOFF CHAR	13		
XON THRS	11	XOFF THRS	15	FLOW CL THRS	8
TX QUOTA	18	RX QUOTA	23		
SLOT LENGTH	128	STORAGE ALLOT	15		

Overstående parametre har følgende betydning.

TYPE: Specificerer terminaltype:
E = empty; D = Default værdi; A = asynkron;
S = synkron

SUBTYPE: Hvis terminalen er defineret som asynkron, kan der vælges mellem flere forskellige terminaltyper. Subtype = 1 er default for DDE produkter. 6015 understøtter andre terminaltyper så som Wang, HP, Tandem, IBM, UNIVAC, ICL mm.

SPEED: Specificere baudrate på terminal-porten
50,75,110,134.5,150,300,600,1200,1800,2400
3600,4800,7200,9600,19200

CODEX 6015 MULTIPLEXER

5.

- DATA BITS:** Specificicerer antallet af databits pr. karakter, excl. paritet. 5, 6, 7, 8.
- STOP BITS:** Specificicerer antallet af stopbits pr. karakter. 1, 1.5, 2.
- PARITY:** Specificicerer typen af paritet:
- E = Even
 - O = Odd
 - N = None
- EIA STRAPS:** Der er mulighed for at overføre følgende 7 hardware kontrolsignaler:
- DSR, DCD, RI, CTS, DTR, RTS og MB.
- Disse overføres som karakterer på linien, og ubenyttede EIA signaler strappes High eller Low.
- H = High,
L = Low,
T = Transparent.
- RTS/CTS DELAY:** RTS/CTS forsinkelse i multiplum af 8.8 ms. Område fra 0 255. Default 0
- ON-LINE DIAGNOSTICS:** Enabler/disabler mulighed for at initialisere loopback/Fox test fra brugerterminal.
- E = Enable
D = Disable
- AUTO ECHO:** Enabler/disabler lokalt echo (terminal i half duplex mode).
- E = Enable
D = Disable
C = Conversation
- C bruges i forbindelse med dail-up bruger.

CODEX 6015 MULTIPLEXER

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FLYBACK DELAY: System der understøtter ældre printere, og som forventer delays efter bestemte operationer, så som CR; LF; FF.

E = Enable

D = Disable.

FILL RECOGNITION CHARACTER 1: 1. karakter der testes på i forbindelse med Flyback. Kan antage værdi fra 00 til FF (hex). Default 0D = (CR).

FILL COUNT 1: Definerer antallet af PAD karakterer, der skal sendes til printerens efter 1. karakter. Default 15.

FILL RECOGNITION CHARACTER 2: 2. karakter der testes på i forbindelse med Flyback. Kan antage værdi fra 00 til FF (hex). Default 0A = (LF).

FILL COUNT 2: Definerer antallet af PAD karakterer, der skal sendes til printerens efter 2. karakter. Default 8.

FILL RECOGNITION CHARACTER 3: 3. karakter der testes på i forbindelse med Flyback. Kan antage værdi fra 00 til FF (hex). Default 0C.

FILL COUNT 3: Definerer antallet af PAD karakterer, der sendes efter 3. karakter. Default 37.

FILL PAD CHARACTER: To hex karakterer der definerer PAD karakter. Default 00.

GARBLE CHARACTER: Speciel karakter der sendes til remote mux ved kommunikations-fejl (paritet, overrun) på den lokale input-side. Kan antage værdi fra 00 til FF (hex). Default 25 hex. = &

DATA RESTRAINT IN: Denne parameter specificerer, hvordan data-kommunikationen styres.

E = EIA straps - hw handshake.

D = Disabled, ingen handshake.

C = XON/XOFF kontrolleret - sw handshake.

(Codex 6015 melder busy på pin 5).

DATA RESTRAINT OUT:	Denne parameter specificerer, hvordan data-kommunikationen skal styres. E - EIA straps - hw handshake. D = Disabled, ingen handshake. <u>C = XON/XOFF kontrolleret - sw handshake.</u> (Data-transmissionen standses ved at lægge pin 14 på mux low).
XON CHARACTER:	Definerer XON karakterer; Værdi fra 00 til FF. <u>Default = 11.</u>
XOFF CHARACTER:	Definerer XOFF karakter; Værdi fra 00 til FF. <u>Default = 13.</u>
BREAK LENGTH:	Definerer Break længde i multiplum af 8.8 mS. <u>Default = 20.</u> (0-255).
TX/RX QUOTA:	Definerer den maksimalt tilgængelige output eller input buffer's størrelse, i enheder af 126 bytes. Default størrelsen er afhængig af kommunikationshastigheden.
XON THRESHOLD:	Denne parameter bestemmer den tærskelværdi, input- bufferen's størrelse skal være under, før der sendes XON og før der modtages nye tegn. Hastighedsafhængig og <u>default 11</u> ved 9600 baud. Multiplum af 126 bytes.
XOFF THRESHOLD:	Denne parameter definerer, hvor mange tegn der må være i input bufferen, før der sendes XOFF. Hastighedsafhængig, <u>default 15</u> ved 9600 baud. Multiplum af 126 bytes.
SLOT LENGTH:	Specificerer det maksimale antal bytes, der kan sendes på linken pr. frame pr. terminal-port. <u>Default = 128.</u>
FLOW CONTROL THRESHOLD:	Specificerer størrelsen af transmit-køen, før flow-kontrol implementeres. Hastighedsafhængig, default 8. Multiplum af 126 bytes.
STORAGE ALLOT:	Specificerer det maksimale antal bytes, der kan transmitteres efter flow-kontrol er enabled.

CODEX 6015 MULTIPLEXER

5

BEMÆRKNINGER VEDR. TERMINAL SETUP.

1. Er Flyback disabled, er følgende parametre uden betydning:

- a) Fill Recognition Chr. 1 - 3.
- b) Fill Count 1 - 3.
- c) PAD Chr.

2. Ønskes der hw handshake på terminalporten, skal der benyttes specielle datakabler - mellem Supermax / mux (8834) og (8833) mellem mux og væginstallation.

Følgende parametre ændres for den pågældende port:

- a) Data-restrain in og out ændres til E.
- b) EIA-straps sættes til THTTTH.

3. Konfigurationen af en terminal-forbindelse behøver nødvendigvis ikke at være ens i lokal og remote mux. Der kan eksempelvis ønskes:

- a) Lokalt; hw handshake og baud = 19200.
- b) Remote; Sw handshake og baud = 2400.

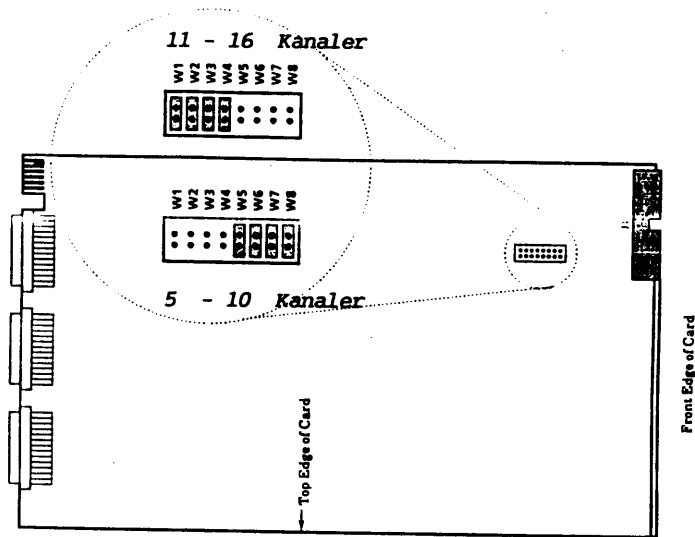
Konfigurationen af en given port ændres ved at taste følgende:

C n <CR>

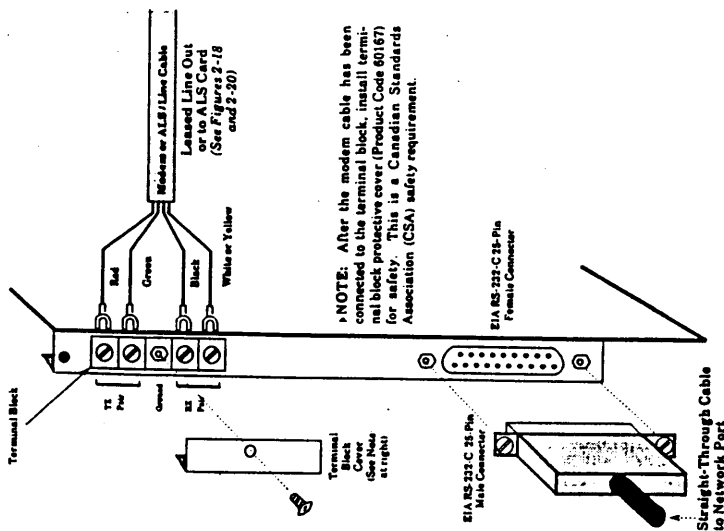
Hvor n er lig nummeret på ovennævnte terminalport. Konfigurations-programmet svarer nu tilbage med første parameter og værdien af denne. Er det ikke første parameter, der ønskes ændret, men eksempelvis 3. parameter, tages return (<CR>) 2 gange. Den nye værdi for 3. parameter kan nu indtastes og der afsluttes med ; . Den nye værdi for 3. parameter er hermed gemt og aktiv.

CODEX 6015 MULTIPLEXER

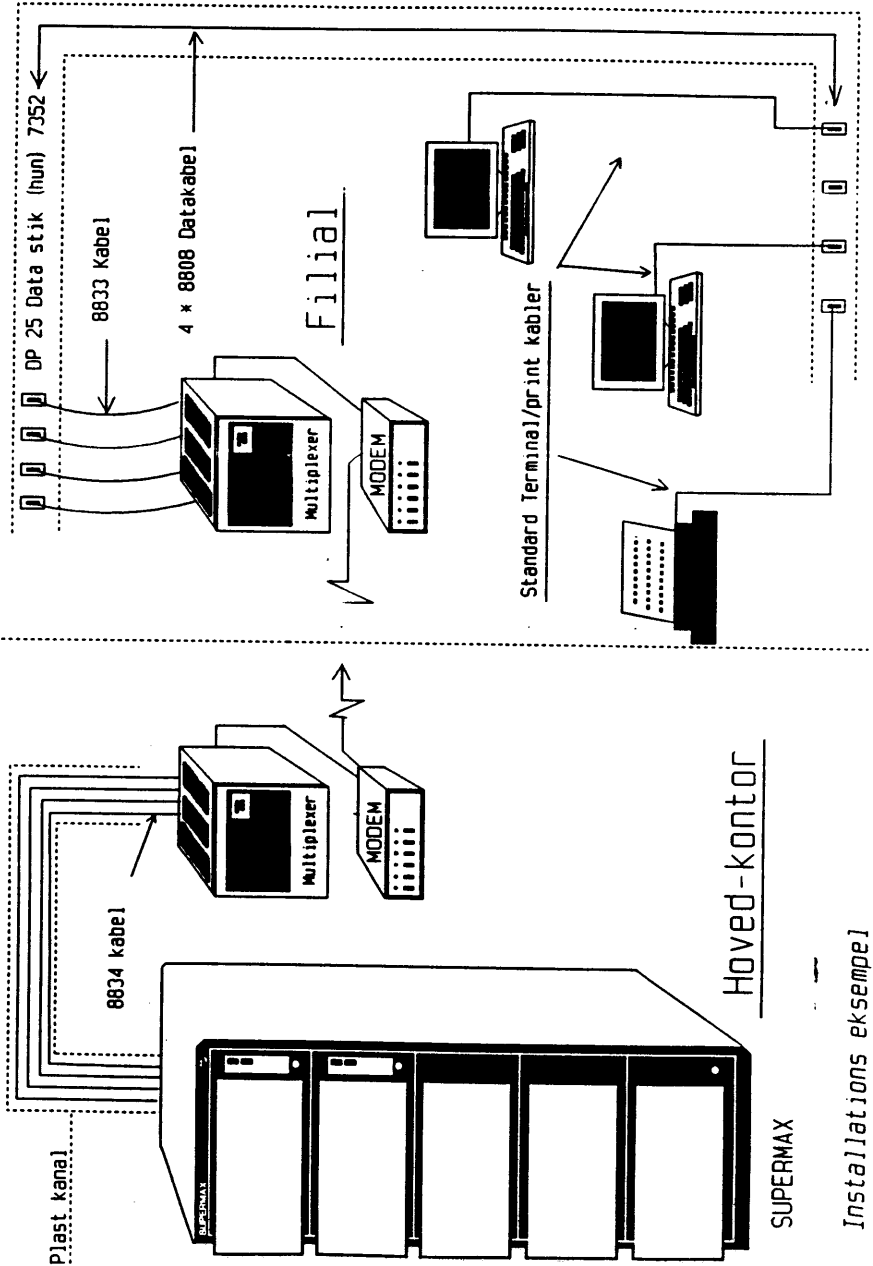
Strap oversigt for Async/Hex kort



Tilslutning af Modemkort



CODEX 6015 MULTIPLEXER



Installations eksempel

CODEX 6015 MULTIPLEXER

SWITCH SETTING FOR CP PORT:

SW1 + SW10 = ON, RESTEN = OFF : 19200 BAUD, 7 BIT, PARITET DISABLE.

SETUP FOR TERMINAL/PRINTER/SUPERMAX:

*C 01 FUNCTION: E 1

TYPE	A	SUBTYPE	1		
TX SPEED	19200	RX SPEED	19200		
DATA BITS	8	STOP BITS	1	PARITY	N
EIA STRAPS	TTHTTTT	RTS/CTS DELAY	0		
DIAGNOSTICS	D	AUTO ECHO	D	BREAK LENGTH	20
FLYBACK	D	FILL PAD CHAR	00	GARBLE CHAR	25
FILL RCG CHAR 1	0D	FILL RCG CHAR 2	0A	FILL RCG CHAR 3	0C
FILL CHAR CNT 1	15	FILL CHAR CNT 2	8	FILL CHAR CNT 3	37
DATA RES IN	C	DATA RES OUT	C		
XON CHAR	11	XOFF CHAR	13		
XON THRSN	11	XOFF THRSN	15	FLOW CL THRSN	8
TX QUOTA	18	RX QUOTA	23		
SLOT LENGTH	128	STORAGE ALLOT	15		

SETUP AF NETPORT

*C 01 FUNCTION: E G

TP	TYPE	SUB	TX CLK	RX CLK	
		TYPE	SPEED	SPEED	
01	A	01	19200	19200	NP SPEED: 9600
02	A	01	19200	19200	
03	A	01	19200	19200	UNIT: TP ERROR THRESHOLD: 10
04	A	01	19200	19200	NP ERROR THRESHOLD: 10
05	A	01	19200	19200	RE TX RATE THRESHOLD: 20
06	A	01	19200	19200	BUFFER UTIL. THRESHOLD: 75
07	A	01	19200	19200	MAX FRAME SIZE: 300
08	A	01	19200	19200	ADDRESS: A
09	A	01	19200	19200	POINT-TO-POINT: Y
10	A	01	19200	19200	MODE NUMBER: 01
11	E	00			SATELLITE LINK: N
12	E	00			OPERATION MODE: P
13	E	00			
14	E	00	(LOKAL/REMOTE ADDRESS SKAL VÆRE FORSKELLIGE)		
15	E	00			
16	E	00			

MUX = DCE

MELLEM MUX OG SUPERMAX ANVENDES 8834 KABEL.

MELLEM MUX OG TERMINAL ANVENDES 8801 KABEL.

MELLEM MUX OG VÆGINSTALLATION ANVENDES 8833 KABEL FRA
VÆGINST. TIL TERMINAL/PRINTER ANVENDES STANDARD TERM/PRINT KABLER.

Cables

rev. 01.09.94

1.1.7

DDE-type

Product name

System

Cable cross reference list

UNIX V

Cross reference

UNIX V



1.1

[illegible]



Cross reference.

Old part number	New part number	Subject
7358	88910140	AC power cord. DK. 2.5m
7358li	88910150	AC power cord. DK. 5.0m
7093m	Discontinued	
7093n	Discontinued	
8801	88001050	Ser. cable. Extender 5m
8801a	88001010	Ser. cable. Extender 1m
8801b	88001020	Ser. cable. Extender 2m
8801c	88001030	Ser. cable. Extender 3m
8801x	88001060	Ser. cable. Extender 10m
8802	88001150	Ser. cable. Extender 5m
8802a	88001110	Ser. cable. Extender 1m
8802b	88001120	Ser. cable. Extender 2m
8802c	88001130	Ser. cable. Extender 3m
8802x	88001160	Ser. cable. Extender 10m
8803	88001350	Ser. cable. Extender 5m
8803a	88001310	Ser. cable. Extender 1m
8803b	88001320	Ser. cable. Extender 2m
8803c	88001330	Ser. cable. Extender 3m
8803x	88001360	Ser. cable. Extender 10m
8804	88002050	Ser. cable. Busy 20 5m
8804a	88002010	Ser. cable. Busy 20 1m
8804b	88002020	Ser. cable. Busy 20 2m
8804c	88002030	Ser. cable. Busy 20 3m
8804x	88002060	Ser. cable. Busy 20 10m
8805	88002150	Ser. cable. Busy 20 5m
8805a	88002110	Ser. cable. Busy 20 1m
8805b	88002120	Ser. cable. Busy 20 2m
8805c	88002130	Ser. cable. Busy 20 3m
8805x	88002160	Ser. cable. Busy 20 10m
8806	Discontinued	
8806a	Discontinued	
8806b	Discontinued	

Cross reference.

Old part number	New part number	Subject
8806c	Discontinued	
8806x	Discontinued	
8807	88004050	Ser. cable. Busy 11 5m
8807a	88004010	Ser. cable. Busy 11 1m
8807b	88004020	Ser. cable. Busy 11 2m
8807c	88004030	Ser. cable. Busy 11 3m
8807x	88004060	Ser. cable. Busy 11 10m
8809	Discontinued	
8809a	Discontinued	
8809b	Discontinued	
8809c	Discontinued	
8809x	Discontinued	
8810	Discontinued	
8810a	Discontinued	
8810b	Discontinued	
8810c	Discontinued	
8810x	Discontinued	
8811	Discontinued	
8811a	Discontinued	
8811b	Discontinued	
8811c	Discontinued	
8811x	Discontinued	
8812	88003050	Ser. cable. Busy 4 5m
8812a	88003010	Ser. cable. Busy 4 1m
8812b	88003020	Ser. cable. Busy 4 2m
8812c	88003030	Ser. cable. Busy 4 3m
8812x	88003060	Ser. cable. Busy 4 10m
8813	Discontinued	
8813a	Discontinued	
8813b	Discontinued	
8813c	Discontinued	
8813x	Discontinued	
8814	Discontinued	
8814a	Discontinued	

Cross reference.

Old part number	New part number	Subject	
8814b	Discontinued		
8814c	Discontinued		
8814x	Discontinued		
8815	88005050	Ser. cable. Sync.	5m
8815a	88005010	Ser. cable. Sync.	1m
8815b	88005020	Ser. cable. Sync.	2m
8815c	88005030	Ser. cable. Sync.	3m
8815x	88005060	Ser. cable. Sync.	10m
8816	Discontinued		
8816a	Discontinued		
8816b	Discontinued		
8816c	Discontinued		
8816x	Discontinued		
8817	88003150	Ser. cable. Busy 4	5m
8817a	88003110	Ser. cable. Busy 4	1m
8817b	88003120	Ser. cable. Busy 4	2m
8817c	88003130	Ser. cable. Busy 4	3m
8817x	88003160	Ser. cable. Busy 4	10m
8818	Discontinued		
8818x	Discontinued		
8819	88003050	Ser. cable. Busy 4	5m
8819a	88003010	Ser. cable. Busy 4	1m
8819b	88003020	Ser. cable. Busy 4	2m
8819c	88003030	Ser. cable. Busy 4	3m
8819x	88003060	Ser. cable. Busy 4	10m
8823	88012100	Asso. printer/DDE400a	
8824	88013300	Asso. printer/DDE500	
8827	Discontinued		
8827a	Discontinued		
8827b	Discontinued		
8827c	Discontinued		
8827x	Discontinued		
8828	Discontinued		
8828a	Discontinued		

Cross reference.

Old part number	New part number	Subject
8828b	Discontinued	
8828c	Discontinued	
8828x	Discontinued	
8829	88002150	Ser. cable. Busy 20 5m
8829a	88002110	Ser. cable. Busy 20 1m
8829b	88002120	Ser. cable. Busy 20 2m
8829c	88002130	Ser. cable. Busy 20 3m
8829x	88002160	Ser. cable. Busy 20 10m
8830	88901500	Service port cable.
8831	88802150	Ser. cable. Comp/PC 5m
8831a	88802110	Ser. cable. Comp/PC 1m
8831b	88802120	Ser. cable. Comp/PC 2m
8831c	88802130	Ser. cable. Comp/PC 3m
8831x	88802160	Ser. cable. Comp/PC 10m
8832	88003150	Ser. cable. Busy 4 5m
8832a	88003110	Ser. cable. Busy 4 1m
8832b	88003120	Ser. cable. Busy 4 2m
8832c	88003130	Ser. cable. Busy 4 3m
8832x	88003160	Ser. cable. Busy 4 10m
8833	88010050	Ser. cable. MPX/wall 5m
8833a	88010010	Ser. cable. MPX/wall 1m
8833b	88010020	Ser. cable. MPX/wall 2m
8833c	88010030	Ser. cable. MPX/wall 3m
8833x	88010060	Ser. cable. MPX/wall 10m
8834	88011050	Ser. cable. Comp/MPX 5m
8834a	88011010	Ser. cable. Comp/MPX 1m
8834b	88011020	Ser. cable. Comp/MPX 2m
8834c	88011030	Ser. cable. Comp/MPX 3m
8834x	88011060	Ser. cable. Comp/MPX 10m
8836	Discontinued	
8836a	Discontinued	
8836b	Discontinued	
8836c	Discontinued	
8836x	Discontinued	

Cross reference.

Old part number	New part number	Subject
8837	Discontinued	
8841	88801250	Ser. cable. PC/modem 5m
8841a	88801210	Ser. cable. PC/modem 1m
8841c	88801230	Ser. cable. PC/modem 3m
8841z	Discontinued	
8842	88201250	Ser. cable. Extender 5m
8842a	88201210	Ser. cable. Extender 1m
8842b	88201220	Ser. cable. Extender 2m
8842c	88201230	Ser. cable. Extender 3m
8842x	88201260	Ser. cable. Extender 10m
8843	88201350	Ser. cable. Extender 5m
8843a	88201310	Ser. cable. Extender 1m
8843b	88201320	Ser. cable. Extender 2m
8843c	88201330	Ser. cable. Extender 3m
8843x	88201360	Ser. cable. Extender 10m
8844	88014300	Asso. printer/DDE480
8850	88101050	Ser. cable. Extender 5m
8850a	88101010	Ser. cable. Extender 1m
8850b	88101020	Ser. cable. Extender 2m
8850c	88101030	Ser. cable. Extender 3m
8850p	Discontinued	
8850x	88101060	Ser. cable. Extender 10m
8851	Discontinued	
8852	88301230	Parallel cable. SIOC 3m
8853	88302030	Centronics cable. 3m
8854	88303030	Parallel cable. PC. 3m
9450	88631090	Cheapernet coax cable
9451	88631050	Cheapernet cable 5m
9451a	88631010	Cheapernet cable 1m
9451b	88631020	Cheapernet cable 2m
9451c	88631030	Cheapernet cable 3m
9451x	88631060	Cheapernet cable 10m
9451z	88631000	Cheapernet cable 0.1m
9460	88601090	Ethernet coax cable

1.2-6

Cross reference.

Old part number	New part number	Subject
9460a	88601010	Ethernet coax cable 23m
9460b	88601030	Ethernet coax cable 70m
9460c	88601040	Ethernet coax cable 117m
9461a	88681010	Ethernet drop cable 3m
9461b	88681020	Ethernet drop cable 5m
9461c	88681030	Ethernet drop cable 7m
9461d	88681050	Ethernet drop cable 15m
9461e	88681060	Ethernet drop cable 20m
9461f	88681070	Ethernet drop cable 30m
9461h	88681080	Ethernet drop cable 50m
9461x	88681040	Ethernet drop cable 10m
9461as	88661010	Ethernet soft cable 1m
9461bs	88661020	Ethernet soft cable 2m
9461cs	88661030	Ethernet soft cable 3m
9461ds	88661040	Ethernet soft cable 4m
9461es	88661050	Ethernet soft cable 5m

8

Networks

rev. 01.09.94

1.0.8

DDE-type

Product name

System

Network data -IEEE 802.3

Bridge

TRANSLAN III

Bridge

TRANSLAN 350

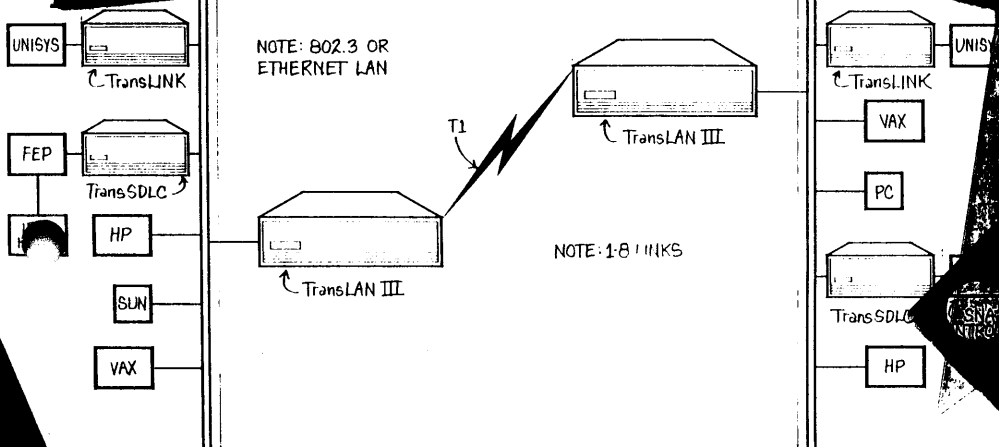


Network data - IEEE 802.3

Parameters	Ethernet	Cheapernet
Configuration	Bus, baseband	Bus, baseband
Baudrate	10 M bit/sec	10 M bit/sec
Accessmode	CSMA/CD	CSMA/CD
Protocols	XNS & TCP/IP	XNS & TCP/IP
Cabletype	Coax/yellow	Coax/black
Cabel diameter	10.3 mm	4.9 mm
Characteristic impedans	50 ohm	50 ohm
Terminal impedans	50 ohm	50 ohm
Connector type	N connector	BNC connector
Connections	N conn + adapt	BNC + T-part
Voltage level on net, nominal	0 to -2 V	0 to -2 V
Grounding, each segment	Just one place	Just one place
Cable loop-impedans, max.	5.0 ohm	Not spec.
Cable radius, min.	80 mm	50 mm
Segment length, max.	500 m (coax)	185 m (coax)
Number of units pr. seg., max.	100	30
Number of units for total net	1024	1024
Fiberoptical linkconn., max.	1000 m	1000 m
Reflections, max.	7 %	7 %
Transceiver mounning	Cable perforation	Connector & BNC tee splice
Transceiver distance, min.	2.5 m	0.5m
Transceiver mounts	On black marks	No spec.
Dropcable	Yes, allways	Only if ext.
Dropcable length, max. (blue)	50 m	50 m, if used
Dropcable length v. fan-out u.	40 m	40 m, if used
Dropcable l., max. (thin, 9903)	5 m	5 m, if used
Dropcable loop-impedance	4 ohm	4 ohm, do.
- (power pair)		
Dropcable Characteristic imp.	78 ohm	78 ohm, do.
Dropcable radius, min.	65 ohm	65 mm, do.
- (soft cable)		
Dropcable radius, min.	110 mm	110 mm, do.
- (rigid cable)		
Coupling Dropcable/transceiver	Transformer	Transformer
Isolationvoltage,	270 V AC rms.	270 V AC rms.
- Dropcable/Transceiver		
Network total extension, max.	2500 m (coax)	925 m (coax)
Between arbitrary Transceivers,		
- No. of segments, max.	3 coax +2 link	3 coax +2 link
- No. of repeaters, max.	2 coax +2 link	2 coax +2 link
Distance	> 10 times dia.	> 10 times dia.
- other kind of cables		
Between buildings	use repeaters & fiberoptics	use repeaters & fiberoptics
Between Ethernet & Cheapernet	repeaters	repeaters



TransLAN III



The 802 WAN Architects

General Description

TransLAN™ bridges are protocol-transparent remote bridges that extend multiple Ethernet or IEEE 802.3 LANs to create a high-performance, integrated wide area network based on the 802.3 standard—the 802 WAN™. TransLAN bridges have been the de facto standard since 1984 for extending Ethernet 802.3 LANs.

The TransLAN III bridge, with Distributed Load Sharing (DLS), combines the path control functions of a router with the protocol transparency of a bridge, and introduces the next generation of data-link-layer bridges—the routing bridge.

Features and Benefits

Distributed Load Sharing

- ◆ Full mesh network configurations
- ◆ Greater network performance and availability
- ◆ Uses virtually all available paths and bandwidth

High-Speed Link Support

- ◆ Supports one T1 link or up to eight lower-speed links
- ◆ Telephone lines, broadband cable, fiber optics, microwave, and satellite

Advanced Network Management Capability

- ◆ Assign class-of-service priorities to types of traffic
- ◆ Assign routes for load distribution
- ◆ Comprehensive node, LAN, link, and network statistics for traffic measurement, network planning, and fault isolation

56 Kbps Dial Support

- ◆ Extra bandwidth when needed for peak traffic

- ◆ Emergency backup, with automatic manual setup

Direct DS1 Interface Support

- ◆ Connects directly to T1 CSU
- ◆ No separate DSU equipment to buy or manage

Automatic Adaptive Learning of Network Configuration

- ◆ Easy installation
- ◆ Automatic reconfiguration as devices are added or moved

Protocol Transparency

- ◆ Transparent to all higher-level protocols, such as TCP/IP, DECnet, LAT, and XNS

Assured End-to-End Data Integrity

- ◆ Preserves original station CRC
- ◆ Full parity protection on memory in data bus

Full Compatibility and Adherence to 802.3 Standards

- ◆ Works with all Vitalink and other 802.3 WAN products
- ◆ Works with all Digital Equipment Corporation LAN Bridges

Major Capabilities

Distributed Load Sharing (DLS)

TransLAN III bridge, with DLS, combines the path control functions of a router with the protocol transparency of a bridge. DLS works with the Spanning Tree Protocol to permit the use of multiple active paths between LANs. This results in distribution of traffic throughout the network for maximum efficiency and minimum congestion. DLS provides automatic alternate routing with no single point of failure.

Traffic Analysis and Control Extensions (TACE)

TACE provides powerful capabilities for customized traffic analysis and control. Frames can be counted, forwarded, or discarded based on matching up to 48 sets of criteria for each port or network

group. The active criteria can be selected from hundreds of possible combinations of several fields, including frame format, Ethernet packet type, destination or source address, and/or any arbitrary field ranging from 1 bit to 8 bytes.

Class-of-Service (COS) Forwarding Options

Different transmit priorities can be assigned to frames on the same physical link or multiple links. For example, interactive traffic can be given priority over batch traffic or a set of devices can be given priority over all others. Traffic between two nodes having multiple links can be balanced automatically by using a "next available link" assignment.

Node Statistics Extension

Statistics are available for estimating traffic from each station, port, LAN, subnetwork, or network group for comprehensive network trend analysis.

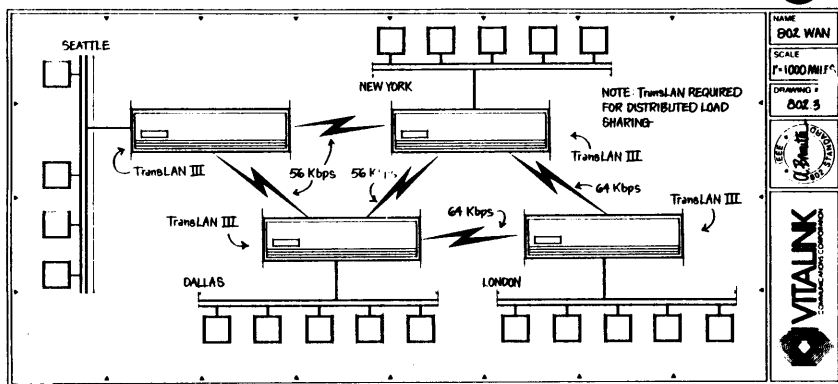
Link Support

TransLAN III supports one T1 link or eight lower-speed links. Like all TransLAN bridges, it provides maximum bandwidth efficiency by filtering local traffic and forwarding only those frames addressed to remote LAN stations. TransLAN III forwards up to 1,500 frames/second and filters 15,000 frames/second.

Protocol and User Transparency

TransLAN III is transparent to all higher-level protocols, such as DECnet, XNS, and TCP/IP. The user has simple, direct access to any compatible resources anywhere on the 802 WAN, as easily as if every resource were on the same LAN. Protocol transparency offers vendor independence: equipment from any vendor that complies with the Ethernet/802.3 standard may be part of the 802 WAN.

The 802 WAN



Specifications

LAN Interfaces (1 port)
Ethernet Version 2.0 or
IEEE 802.3
Serial Line Interfaces
(1, 2, or 8 ports)
V.35, RS 232, RS 449, DS 1
Link Speed Support
9.6 Kbps to 2.048 Mbps
Filtering Rate
15,000 frames/second

Forwarding Rate
1,500 frames/second
Aggregate Throughput
1 Port 1 T1 (duplex)
Multiport 1 Mbps (duplex)
Physical Dimensions
Inches: 5.5 H x 17.5 W x 23.5 D
Centimeters: 14.1 H x 44.5 W x 59.7 D
Weight
32 lbs (14.5 kg)
Mounting Options
Rack, cabinet, or tabletop

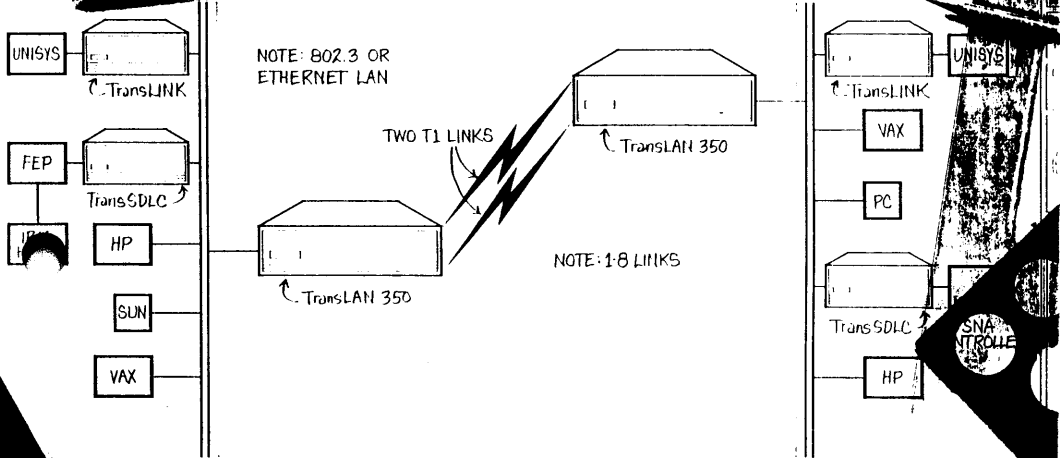
Power Requirements
100, 120, or 200-230 VAC,
200 Watts max., 47 to 63 Hz
Operating Environment
Temperature: 5° to 40° C.
Humidity: 10 to 90 %
without condensation
Network Management
Vitalink Management Services (incl.)
Hardware
Vitalink Network Processor NP3
Operator Terminal (Optional)
Diagnostic Modem (Optional)



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(800) 443-5740 Outside CA

Specifications subject to change without notice
TransLAN is a trademark of Vitalink Communications Corporation
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802 WAN is a trademark of Vitalink Communications Corporation
Ethernet is a registered trademark of Xerox Corporation
GEMC 11M 288
Litho in U.S.A.

TransLAN 350



The 802 WAN Architects

General Description

TransLAN[®] bridges are protocol-transparent remote bridges that extend multiple Ethernet or IEEE 802.3 LANs to create a high-performance, integrated wide area network based on the 802.3 standard – the 802 WAN[™]. TransLAN bridges have been the de facto standard since 1981 for extending Ethernet 802.3 LANs.

The TransLAN 350 bridge is the newest and most powerful member of the proven TransLAN family. It combines the path control functions of a router with the protocol transparency of a bridge, and introduces the next generation of data link-layer bridges – the routing bridge.

Features and Benefits

Distributed Load Sharing

- Full mesh network configurations
- Greater network performance and availability
- Uses virtually all available paths and bandwidth

Multiple High-Speed Links

- Supports two T1 links or up to eight lower-speed links
- Telephone lines, broadband cable, fiber optics, microwave, and satellite

Advanced Network Management Capability

- Assign class of service priorities to types of traffic
- Assign routes for load distribution
- Comprehensive node, LAN, link, and network statistics for traffic measurement, network planning, and fault isolation

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- Extra bandwidth when needed for peak traffic

- Emergency backup, with automatic manual setup

Direct DS1 Interface Support

- Connects directly to T1 CSU
- No separate DSU equipment to buy or manage

Automatic Adaptive Learning of Network Configuration

- Easy installation
- Automatic reconfiguration as devices are added or moved

Protocol Transparency

- Transparent to all higher-level protocols, such as TCP/IP, DECnet, LAM, and XNS

Assured End-to-End Data Integrity

- Preserves original station CRC
- Full parity protection on memory and data bus

Full Compatibility and Adherence to 802.3 Standards

- Works with all Vitalink and other 802.3 WAN products
- Works with all Digital Equipment Corporation LAN Bridges

Major Capabilities

Distributed Load Sharing (DLS)

TransLAN 350 bridge, with DLS, combines the path control functions of a router with the protocol transparency of a bridge. DLS works with the Spanning Tree Protocol to permit the use of multiple active paths between LANs. This results in distribution of traffic throughout the network for maximum efficiency and minimum congestion. DLS provides automatic alternate routing with no single point of failure.

Multiple High-Speed Link Support

TransLAN 350 has the power to support up to two T1 links or eight lower-speed links. Like all TransLAN bridges, it provides maximum bandwidth efficiency by filtering local traffic and forwarding only those frames addressed to remote

LAN stations. TransLAN 350 forwards 5,000 frames/second and filters 15,000 frames/second.

Traffic Analysis and Control Extensions (TACE)

TACE provides powerful capabilities for customized traffic analysis and control. Frames can be counted, forwarded, or discarded based on matching up to 48 sets of criteria for each port or network group. The active criteria can be selected from hundreds of possible combinations of several fields, including frame format, Ethernet packet type, destination or source address, and/or any arbitrary field ranging from 1 bit to 8 bytes.

Class-of-Service (COS)

Forwarding Options

Different transmit priorities can be assigned to frames on the same physical link or multiple links. For example, interactive traffic can be given priority

over batch traffic or a set of devices can be given priority over all others. Traffic between two nodes having multiple links can be balanced automatically by using a "next available link" assignment.

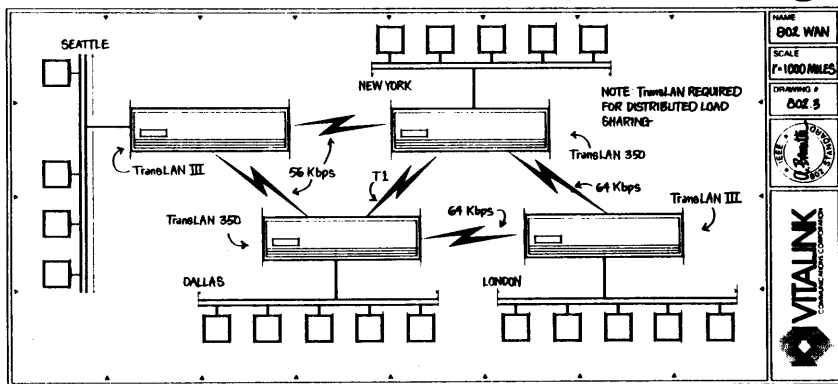
Node Statistics Extension

Statistics are available for estimating traffic from each station, port, network, subnetwork, or network group for comprehensive network trend analysis.

Protocol and User Transparency

TransLAN 350 is transparent to all higher-level protocols, such as DECnet, XNS, and TCP/IP. The user has simple direct access to any compatible resources anywhere on the 802 WAN, as easily as if every resource were on the same LAN. Protocol transparency offers vendor independence: equipment from any vendor that complies with the Ethernet/802.3 standard may be part of the 802 WAN.

The 802 WAN



Specifications

LAN Interfaces (1 port)
Ethernet Version 2.0 or
IEEE 802.3

Serial Line Interfaces
(1, 2, 4, 5, or 8 ports)
V.35, RS 232, RS 499, DS 1

Link Speed Support
9.6 Kbps to 2.048 Mbps

Filtering Rate
15,000 frames/second

Forwarding Rate
5,000 frames/second

Aggregate Throughput
1 Port 1 T1 (duplex)
2 Ports 2 T1 (duplex)
4, 5, or 8 Ports 3 Mbps (duplex)

Physical Dimensions
Inches: 5.5 H x 17.5 W x 23.5 D
Centimeters: 14.1 H x 44.5 W x 59.7 D

Weight
32 lbs (14.5 kg)

Mounting Options
Rack, cabinet, or tabletop

Power Requirements
100-120, or 200-230 VAC,
200 Watts max; 47 to 63 Hz

Operating Environment
Temperature: 5° to 40° C
Humidity: 10 to 90 %
without condensation

Network Management
Vitalink Management Services (incl.)

Hardware
Vitalink Network Processor NP5
Operator Terminal (Optional)
Diagnostic Modem (Optional)



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Specifications subject to change without notice.
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TransLAN is a registered trademark of Vitalink Communications Corporation.
802 WAN is a trademark of Vitalink Communications Corporation.
Ethernet is a registered trademark of Xerox Corporation.
GBUS: IBM 788

11/89 v1.1

Others

rev. 01.09.94

1.0.9

DDE-type

Product name

System

General:

Directory in use of Cleaning Set for Floppy Disk and Streamer.

Pin code scanner:

Scan Team 1100

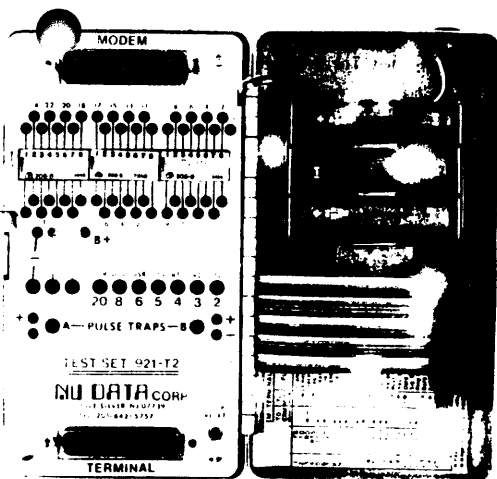
Welch Allyn Scan Team 1100

UNIX V



NU DATA

Model 921-T2 EIA Interface Tester



GENERAL DESCRIPTION

Model 921-T2 EIA Interface Tester is a pocket sized test set that is inserted between data terminal equipment and data transmission equipment to test EIA RS232C modems and terminal interconnections and to detect and correct errors at trouble. Model 921-T2 utilizes mark and space signal simulation and provides for the visual monitoring of signal rates as displayed on 10 large LEDs.

The 921-T2 provides access to all 25 interconnecting leads that can be disconnected or cross connected to any terminal by cord patching or independent switching, except for frame ground (Lead #1). The patch cords are pluggable and may be replaced with longer cords where greater length is required.

Constant monitoring of the transmit data, received data, request to send, clear to send, data set ready, carrier detect, and data terminal ready is done by means of display of seven LEDs. The additional independent leads are available for cross connection to any open pin on the terminal or modem side for monitoring positive and negative voltage from $\pm 3V$ to $\pm 24V$.

Voltage pulses of virtually undetectable duration are picked up by the 921-T2, pulse traps catch positive or negative pulses. Detection is indicated when a LED display latches on.

The front panel of the 921-T2 holds all controls and indicators and includes: 57 terminals, multi jumpers, 12 lamps, (2) 25 pin connectors for interface connection to DTE or DCE as male/female, pin, ribbon cable connector for interface with DTE or DCE.

The 921-T2 requires 3 AA cell batteries or A/C adapter, adapter is optional.

FEATURES:

- Low cost
- Rugged design — steel
- Self-contained
- Battery and A/C powered
- B+ output pin
- Visual monitoring of 7 leads plus 3 strappable monitors
- 2 pulse traps with selectable + or - triggering
- Mark and space signal simulation
- Micro miniature switch lead programming
- Easy "transparent" series insertion into circuit
- High input impedance to visual monitors
- 12 large, easy to read LEDs
- Horizontal configuration for display for easier operation
- Connectors located on bottom of panel for easy access
- EIA Cord
- Easy maintenance
- Auto power OFF by closing case

NU DATA

**Data Communications
Equipment and Systems**

NU DATA CORPORATION

32 Fairview Ave., Box 125 • Little Silver, N.J. 07739

Tel: (201) 842-5757

TELEX: 132 405

TWX: 710 722 5754

OPERATION

The Model 921-T2 is placed between the data terminal equipment such as a computer interface, and the data transmission equipment, such as a data set (modem).

There are three types of circuits in the Model 921-T2

- Through circuit control and source monitors
- Pulse trap circuits
- Auxiliary monitors

THROUGH CIRCUIT CONTROL SOURCE MONITORS

Each Data Set pin is connected to the corresponding terminal pin through a switch except Pin 1 which is permanently connected. Test points on either side of the switch allow the circuit to be monitored under normal conditions and the voltage at the data set or terminal device can be observed.

Pin 2 has a monitor circuit fix-wired to its source. If a voltage of +3 VDC minimum is applied to Pin 2, Lamp 2 (BA) will light.

Pins 3, 4, 5, 6, 8 and 20 operate in the same fashion.

PULSE TRAP DETECTION CIRCUITS

Input "+" is used to drive a corresponding lamp. This circuit is used to monitor any interface lead, normally -3V or lower, and detect any transition exceeding +3V or more. Once triggered by the transition, the lamp remains on until manually turned off by depressing the "Trap Reset". Input "-" is used to drive the lamp when the input is normally +3V or more and a transition exceeding -3V or more is detected. The lamp will also latch on until manually turned off.

In most data sets a source of steady signal level of -2VDC is available for testing use from pin 9 (+12) and pin 10 (-12) on the modem side. As an example, if it is desired to hold OFF the Request-to-Send signal (pin 4 CA) to the data set regardless of what the terminal equipment is doing, open switch 4 and interconnect pin 4 and pin 10 on the modem side by using a patch cord. The CA lead will now hold +12 VDC and the 4 (CA) lamp will light. The "B+" output pin may also be used to simulate ON conditions.

AUXILIARY MONITORS

When it is desired to monitor a connection without permanent monitor, the use of terminal patch cord is required. Patch cords are provided and are stored in the cover of the unit. They allow cross connecting various pins and also connecting the "+" or "-" auxiliary monitor circuits.

PIN	NAME	TO TERM ←	TO MOD →	FUNCTION
1	FG			Frame Grd (AA)
2	TD		→	Xmitted D (BA)
3	RD	←		Received (BB)
4	RTS		→	Req To Send (CA)
5	CTS	←		To Send (CB)
6	DSR	←		Set Ready (CC)
7	SG			Signal Grd (AB)
8	DCD	←		Data Car Det (CF)
9		←		+ DC Tst. Voltage
10		←		- DC Tst. Voltage
11				Unassigned
12	(S)DCD	←		Sec Data Carr. Det (SCF)
13	(S)CTS	←		Sec To Send (SCP)
14	(S)TD		→	Sec Xmitted Data (SBA)
15	TC	←		Xmitter Clock (DB)
16	(S)RD	←		Sec Rcvd Data (SBB)
17	RC	←		Receiver Clock (DD)
18			→	Rcvr Dbit Clk
19	(S)RTS		→	Sec Req To Send (SCA)
20	DTR	←		Data Term Rdy (CD)
21	SQ	←		Sig Qual Det (CE)
22	RI	←		Ring Indicator (CH)
23			→	Data Rate Sel (CH/CI)
24	(TC)		→	Ext Xmitter Clk (DA)
25			→	Busy

* Positive voltage equals binary zero, space on

* Negative voltage equals binary one, mark, off

**Data Communications
Equipment and Systems**

NU DATA®

NU DATA CORPORATION

32 Fairview Avenue, Box 125, Little Silver, NJ 07739

Tel: (201) 842-5757

TELEX: 132 405

TWX 710 722 5754

SECTION 1.1

Service Port	1
Hardware Clock	2
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SGD2	4
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Supermax Service Port

rev. 01.09.94

1.1.1

DDE-type

Product name

System

Service Port Function



Supermax Hardware Course

SUPERMAX I/O BUS

SERVICE PORT BUS

Modified RS 232 C interface (open collector outputs)

One unit is selected and deselected at a time

Service port functions :

1. Diagnostic Programs (test)
2. Debug mode
3. User port for remote diagnostic (SIOC1)

Select unit sequence :

Esc # (unitno) <cr>

Change from service port to user port :

input : Esc # (unitno for user port) <cr>

output : sioc (unitno for user port) running

input : ddehelp

output : this is port 0

Change the terminal or port setup :

a. 7 databit, 2 stopbit, even parity

b. 8 databit, 1 stopbit, none parity

Change back to service port :

input : setsback;exit

output : sioc (unitno for user port) running



Supermax Hardware Clock

1.1.2

rev. 01.09.94

DDE-type

Product name

System

dde2700

Real Time Clock

UNIX V & III



27-08-86

SUPERMAX HARDWARE CLOCK

Description.

The external hardware clock delivers time and date to the internal software clock. It is useful for setting the current time and date when booting the system. The power is taken from the service port, when the Supermax is turned off, the internal battery will supply power.

Part list.

- a) The Supermax hardware clock.
- b) The program `hwdate`, with documentation (`hwdate(1m)`).
- c) A kit of pull down resistors (with fuses for 12V power).
- d) Cable (stock number 7710).
- e) Operating system (SMOS) ver. 100.34c or newer.

Installation guide.

- 0. Turn off the Supermax.
- 1. Remove the terminal or the modem (if there is one) from the service port.
- 2. There must be pull-down resistors (with fuses) on one of the Supermax boards (use to be MCU 3)
- 3. Check the service port flatcable is connected to all the boards in the card cage.
- 4. Connect the cable (stock number 7710) plug no 1. to the service port.
- 4.a If the service port amplifier is present check FCN. no. 32.
- 4.b With two card cages (Supermax rack) is the service port connected via cable 8830, remove the plug from the card cage with the MCU, (typical MCU3) who should execute the program `hwdate` in `/etc/rc`, connect plug no 1 7710 to the service port.

5. Connect 7710 plug no. 2 to the hardware clock plug no. 2
6. Connect the terminal, modem or 8830 cable, that has already been removed from the service port, to the plug labled "terminal" on the hardware clock.
7. Boot the Supermax, and log in as superuser.
Use the program hwdate to set time and date in the external clock device.

Example.

```
vox>>hwdate mmddhhmmyyss
```

```
mm = month      dd = day      hh = hour (24 hour)
mm = minute     yy = year     ss = second
```

```
test the clock.
```

```
vox>>hwdate
mmddhhmmyyss
vox>>
```

Straps in the hardware clock.

- S1 Baudrate from 300 - 19.2 Kbaud.
- S2 Power back up when installed.

Installation in /etc/rc

The following example shows how the system time can be set from the file /etc/rc.

```
if [ $1 = 3 ]           # check the mcu number
then
  d=`hwdate 2>/dev/null` # call hwdate and save data
  if [ $? != 0 ]         # if no clock device available
  then
    setttime             # then get date from console
    while [ $? != 0 ]    # continue until valid date
    do
      setttime
    done
  else
    echo Current date is: `date $d` # if clock device set date
  fi
fi
```

NAME

hwdate - set or get the date from an external clock device.

SYNOPSIS

hwdate [mmddhhmmyyss]

DESCRIPTION

If no argument is given, the current date and time from an external clock device are printed. Otherwise, the clock device will be initialized with the date from the argument. The first *mm* is the month number; *dd* is the day number in the month; *hh* is the hour number (24 hour system); the second *mm* is the minute number; *yy* is the last 2 digits of the year number; *ss* is the seconds. For example:

```
hwdate 100800458517
```

sets the date to Oct 8, 12:45:17 AM, 1985. The system operates in GMT. Hwdate takes care of the conversion to and from local standard and daylight time.

EXAMPLE

Hwdate is useful for setting the current date and time when booting the system. The following example shows how the system time can be set from the rc file.

```
if [ $1 = 3 ]                # check the mcu number
then
    d=`hwdate 2>/dev/null`    # call hwdate and save date
    if [ $? != 0 ]            # if no clock device available
then →   setttime              # then get date from console
        while [ $? != 0 ]     # continue until valid date
        do
            setttime
        done
    else
        echo Current date is: `date $d`    # if clock device, set date
    fi
fi
```

DIAGNOSTICS

No permission

if your aren't the super-user and you try to change the date;

bad conversion

if the date set is syntactically incorrect;



Supermax Graphics Display - SGD1

1.1.3

rev. 01.09.94

DDE-type

Product name

System

SGD

Setup version 1.7

UNIX V

Installation

UNIX V

Diagnostic

Test

Unix Testprograms

UNIX V & III



3.1: Standard setup parameters:

When shipped from the factory, the SGD has been initialized to its standard setup parameters, i.e. the parameters that can be selected from the setup menu will then be:

A (Communication)	= Serial
B (Transmission speed)	= 19.2 k Baud
C (Data bits)	= 7
D (Stop bits)	= 1
E (Parity)	= Even
F (Busy handshake)	= XON/XOFF
G (Transmission mode)	= FDX
H (Monitor mode)	= OFF
I (Emulation)	= ANSI
J (Select keyboard)	= US
K (International)	= ON
L (Control characters)	= 8 bit
M (Keyclick volume)	= OFF
N (Bell volume)	= 4
O (Autorepeat)	= ON
P (Status line)	= ON
Q (CRT saver)	= ON

When Ethernet is selected in stead of Serial host communication (A), the menu lines B to F is changed as follows:

B: STATUS			
C: CONNECT			
D: DISCONNECT			
E: CONFIGURATION			
F: PRINTER	<u>OFF</u>	PLUG	SPOOLER

Supermax Graphic Display

These are commands to be used with Ethernet communication setup.

The factory initialisation of the SGD also includes network number as well as default ID and TYPE setting.

These settings can be checked using the STATUS command.

Pressing the B - key will give a read out as this:

B:

SGD NUMBER	870015
PORT	0
ID	sgd
TYPE	supermax

Not connected!

The network number is given by the factory and relates to the SGD serial number. It is necessary to re-enter the number only when the back-up memory has been erased (refer to chapter 4.1.2, installation).

ID and TYPE must correspond to the names on the hostcomputer that the user wants to connect to; ask the systemadministrator for these names.

To enter these names, select E (Configuration) and use the same commands as for setting up the NIOC or NTC.

Supermax Graphic Display

4.1: SGD installation:

The SGD as shipped from the factory includes:

- SGD controller box for 20 or 15 inch monitor.
- SGD Monitor, 20 or 15 inch screen.
- Keyboard (US or DK) and extender cord.
- 3 pcs. 75 ohm coaxcables, each 2 meters long.
- One cable (8804) for serial host communication.
- Two power cords.
- One Users Manual.

Data Tablet or Mouse is optionally and must be ordered seperately.

4.1.1: Setup parameters:

When delivered from the factory, the SGD has been initialized to the standard setup parameters.

When a new SGD has been installed and the cables connected as described in the users manual, it may be necessary to change the setup parameters according to the requirements of the host computer. Ask the systemadministrator for the correct parameters.

Changing the parameters by pressing SETUP, then altering the desired parameter, and finally leaving the setup state by pressing setup again, only makes the change valid until power off (or until reset, i. e. T is pressed in setup mode). In case it is desired to make the change permanent, press U (Save) after changing the selected parameter in setup mode.

The installation procedure is then:

- 1) Connect the cables as described in the users manual.

Supermax Graphic Display

- 2) Check, that the setup parameters are as required. (When using Ethernet, ensure that also ID and TYPE are as specified by the systemadministrator).
- 3) When used on Ethernet, try to execute a connect (C) command: Press C in setup mode and enter the desired portname; when the answer is "connected", press setup key, and the terminal can now be used as a normal user terminal. If the command is not successful (the answer is "remote don't answer"), check the ID (and TYPE), check that the transceiver cable and transceiver are correctly mounted and connected, and check, that the network can be used between other units on the same cable.

It may also be usefull to try to connect to the NIOC config. port in order to check the NIOC setup. When used in serial mode, the terminal can be used directly as a normal user terminal.

- 4) After installation, be sure to run the testprograms to check both the alpha board, the graphic board, and tablet/mouse (if ordered). The testprogrammes are available on a diskette SGDTEST and the programmes are: test1 for test of graphicboard, colours, and tablet; testcolour for test og alfa and palettes; then various files with drawings that can be used according to your specific host configuration.

4.1.2: Using the Debug Port to access diagnostic programs or to change network number:

Supermax Graphic Display

The printer port can under certain conditions be used as a debug port/service port.

This can be used in case you want to have access to the test-programmes included in the firmware (please refer to chapter 5, diagnostic program) or to re-enter the network number in case it has been erased from the back up memory.

The SGD will indicate this situation by blinking the four LEDs on the keyboard.

To gain access to the debug port, connect a terminal to the printer port (9600 Baud, 7 databits, 2 stopbits, even parity, DTR handshake), then press the ESC key within 5 seconds after power-on of the SGD.

The SGD will now enter the test mode and will ask you the following question:

Testprogram (Y/N):

If you now press Y, the SGD will enter the diagnostic program (refer to chapter 5).

If you press N, the SGD will enter a re-initializing sequence and ask you some more questions:

Monitor type: 1: 20" colour (80 MHz pixelrate)
 2: 15" colour (64 MHz pixelrate)
 3: 15" colour (70 MHz pixelrate)

Monitor type (1/2/3): (Answer 1, 2 or 3).

Black/White (B) or Colour (C): (Answer C or B)

Supermax Graphic Display

and then:

LAN (Y/N):

If you now press N, the SGD will directly enter the normal SGD mode, and the debug port will again operate as a printer port.

In case you press Y, the network number present in backup memory will be checked for validity, and if it is not valid, you must re-enter a valid number. This read out will be presented:

LAN number was: 080075XXXXXX. Checksum was NOT OK;

Enter new LAN Number: 080075_

After you have entered the number and pressed the return key, the normal SGD mode will be entered.

If the number is already valid you can go directly to normal SGD operation or you have the option of entering another network number. The read out will then be:

LAN number was: 080075XXXXXX. Checksum was OK;

Change LAN Number (Y/N): (Answer Y or N).

DIAGNOSTIC PROGRAM

Supermax Graphic Display

The purpose of this program is to evaluate the basic functions of the Supermax Graphic Display (SGD) terminal. The following functions can be tested with this program:

- The dynamic memory.
- The video display memory.
- The alpha CRT controller.
- The graphic CRT controller.
- The DUART's.
- The Local Area Network (LAN) controller.
- The EEPROM.

Initialization

Included in the firmware prom of the SGD is a self test, which includes the following items:

- MC68000 internal confidence test.
- Initialize and test memory.

Running the Diagnostic Program

Normally, when the power is turned on, the SGD will run the graphic firmware. If you have a terminal connected to the printer port, and you press the **ESC** key within 5 seconds after reset, the SGD will enter a test mode and will ask you the following question:

Test program Y/N:

If you type **Y** the SGD will enter the Diagnostic Program, and it should respond with the following message on the terminal.

```
gsp > _
```

When this prompt is displayed on the terminal, the SGD is ready to take commands. When typing **M <CR>** the menu will be displayed. The menu shows you all the possible tests, that might be performed on the SGD. The example shows the menu from the SGD:

```
gsp > M
A - Test main memory
B - Test main memory, byte swapped
C - Test ALPHA memory, ALPHA Palette and ALPHA chip
D - Test GRAPHIC Palette and Controller
F - Test DUART's. External loop
G - Test DUART's. Internal loop
H - Test LAN controller without transceiver
K - Test LAN controller with transceiver
I - Test interrupt
J - Test EEPROM. Content will be saved
O - Repeat test(s)
S - Test All
L - Test Network active
N - Test Network passive
W - Read/Write Network address in EEPROM
M - Menu
V - Version
R - Start Graphic Firmware
Q - Debugger
gsp >
```

A - Test Main Memory

This is a test of the main memory on the SGD. The size of the main memory is 512 kB. The following 5 tests will be executed in the order mentioned.

- **High Speed.** This routine performs a fast test of the dynamic memory mounted on the SGD module. It takes the low order word of the current address and shifts it one bit to the right and writes that value in memory. Then the memory content is read and compared to the value written and errors are indicated. All of this is repeated using the high order word of the current address. The high order word is not shifted as the low order word.
- **Bit Test.** During this test every single bit in the main memory will be written with both true and inverted values. This is done using long word operations but on a word basis which means that during pass one the value written is 00010001, during pass 2 it is FFFEFFFF, during pass 3 it is 00020002, during pass 4 it is FFDFFFFD etc. All in all 32 passes. A plus (+) is written on the terminal for each pass.
- **Address Bit Test.** During this test every single address bit is tested. This is done by writing one value in the current address if the selected address bit is zero and another value if the address bit is one. The test is performed for address bits in the range 1-19 and the test runs two times, each time with two new write values.

Address bit	Pass 1	Pass 2
0	0000	FFFF
1	FFFF	0000

Please note that the program writes the current address bit number on the terminal and that this number is in hexadecimal form, which means that the count values are 01-09, 0A-0F and 10-13.

- **Galloping Ones And Zeroes.** This test is also performed two times. First of all the memory is initialized with a default value. Then a galloping value is written in a certain address. Then all addresses which are neighbours to that first address are tested. They must still contain the default value. A neighbour is an address which only differs in one bit from the original address. When all neighbours have been tested the default value is written back in the original address. This is repeated for all addresses.

Value	Pass 1	Pass 2
0	0000	FFFF
1	FFFF	0000

B - Test main memory, byte swapped

Part of the main memory is used by the LAN controller. This unit has a different interpretation of byte 0 and byte 1 in a word, than the MC68000 has. A part of the main memory is therefore accessible by the MC68000 in a byte swapped mode. This part of memory is tested using byte swapping when writing and normal mode when reading. Only the **High Speed Test** is performed during this test.

C - Test ALPHA memory, ALPHA Palette and ALPHA chip

The ALPHA memory, which is used to contain the character bit mapping, is tested using the following tests:

- **High Speed.**
- **Bit Test.**
- **Address Bit Test.**
- **Galloping Ones And Zeroes.**

The ALPHA palette, which contains the colours for the alpha characters, is tested using an incrementing and decrementing counter.

All read/write registers on the ALPHA controller, AM8052, are tested using an incrementing and decrementing counter.

D - Test GRAPHIC Palette and Controller

The GRAPHIC palette, which contains the colours for the graphics, is tested using an incrementing and decrementing counter.

The graphic controller, HD63484, and the 1 Mb video display memory, are tested together. The video display memory is only accessible by the HD63484, so in order to test this memory the HD63484 must write the test pattern in the memory and later read the memory in order for the program to test the data. The memory is tested using the following tests:

- Bit Test.
- Address Bit Test.

If the monitor is connected to the SGD, it is possible to get a visual impression of the memory tests. The Bit Test will be seen as a grey tone scale, changing from white to black in 16 steps. The Address Bit Test will be seen as red and green vertical bars, increasing in size and suddenly changing to horizontal bars, increasing in size. When the inverted values are used the colours will change to red and blue vertical bars, increasing in size and suddenly changing to horizontal bars increasing in size.

F - Test DUART's. External loop back

On the SGD there are three DUART's, two 2681 and one 8530, used to make the communication with the host, the keyboard, the tablet and the printer port. All channels, except the printer port, which is used to connect the Diagnostic Program operator terminal, are tested one by one using the following three tests:

- All channels are tested by transmitting characters with values from 00 - FF from one channel to the same channel at different baud rates from 38400 to 300, checking that the received character is the same as the one transmitted.
- It is checked that it is possible to get an interrupt from all channels when receiving a character.
- It is checked that the DUART's are able to set and reset all the modem signals.

In order to test the serial channels with external loop you must insert 5 special plugs in the connectors on the back panel of the SGD. The plugs are described at the end of this chapter.

G - Test DUART's. Internal loop back

It is possible to configure the DUART's to a mode called internal loop. When doing that the DUART's will make an internal connection of the transmit and receive data pins. This enables the program to run the test without using the special plugs required in test F. However, it is not possible to test the modem signals in internal loop, so only the first and second test mentioned above will be made during this test.

H - Test LAN controller without Transceiver

Refer to the description of test K. The third test mentioned there will not be executed when running this test.

K - Test LAN controller with Transceiver

The Local Area Network (LAN) interface is based on Intel 82586 and SEEQ 8023A. The 82586 is the LAN controller and the 8023A is the manchester encoder/decoder. Communication between the 68000 and the 82586 is made through 64 kb of the main memory. A certain part of that memory is used to exchange commands and status information. The 82586 has some built-in test facilities and they are started when the 82586 has been initialized. If the internal test fails, no further testing will be done, the error will be reported and the program will return to the menu. Otherwise the buffer memory will be initialized with a lot of receive and transmit buffers and descriptors in order to enable the 82586 to receive and transmit packages on the network. The test goes through three passes.

- The 82586 is configured to internal loop back and will transmit a package of 1 kB taken from the transmit buffer, receive the data and put them in the receive buffer. The program will check status from the 82586 and compare received data with transmitted data.
- The 82586 is configured to external loop back and the 8023A is configured to loop back. Now the transmitted data will be gated to receive data by the manchester encoder/decoder. When configured like this the 82586 is only able to handle packages of 18 bytes. Status and data are checked.
- The 82586 is configured to external loop back and the 8023A is configured to no loop back. Now the transmitted data will be gated to receive data by the transceiver connected to the SGD. This means that during this test there will be activity on the Network cable. When configured like this the 82586 is only able to handle packages of 18 bytes. Status and data are checked.

I - Test Interrupt

The timer interrupt is tested and you can calculate the time between timer interrupts by measuring the time between two writings of **Timer interrupt** on the terminal and then divide that time by 100. Normally you should end up with 10 ms.

J - Test EEPROM. Content will be saved

All the network parameters are stored in the EEPROM. Because of that the content of the EEPROM is saved in main memory before testing it. The EEPROM is tested by writing 00 and FF into it. After that the original content is written back. The SGD will not respond to any interrupts from the service port during this test. An EEPROM is only able to perform appx. 10000 write operations, before it is destroyed and because of that you will not be allowed to run this test continuously, and you should not run it more than once when testing an SGD.

O - Repeat test(s)

All of the above mentioned tests will run one time through when selected. If, when selecting test(s), this one (O) is also selected, the test(s) will repeat itself (themselves) until otherwise canceled. It is not possible to select L, N, W, M, V, together with O.

S - Test All

This test will run one time through test A, B, C, D, G, H and I. It is possible to add the *Repeat test* option (O) to this one.

L - Test Network Active

In order to run this test properly the SGD must be connected to a transceiver and you must have at least one more SGD or NIOC connected to the Network. The test works in conjunction with the one mentioned below (test N). This test will transmit a broadcast message on the Network and then wait for any response from other units on the Network. When receiving a response, a message containing the address of the responding unit, will be printed on the terminal. After some time the test will repeat itself. Buffers are initialized in order to receive answers from 16 units.

N - Test Network Passive

In order to run this test properly the SGD must be connected to a transceiver and you must have at least one more SGD or NIOC connected to the Network. The test works in conjunction with the one mentioned above (test L). This test will wait until receiving a broadcast message from the Network and then transmit a message to the sender. One message will be written on the terminal when receiving the broadcast and another one when the answer has been transmitted.

W - Read/Write Network address in EEPROM

The individual address, assigned to all controllers connected to a Local Area Network, is located in the EEPROM. This address must be written in the EEPROM, otherwise the SGD software will not work properly. This entrance in the Diagnostic Program will show you the 6 byte address including a checksum verification. Then it is possible to insert a network address, to change the old one or just to exit without any change. Please note, that it is impossible to change the first 3 bytes of the address. They must be 080075 in all networking equipment from DDE A/S. NOTE. All numbers typed will be right adjusted when written in the EEPROM.

M - Menu

. Display the menu on the terminal.

V - Version

Display version and date.

R - Start Graphic Firmware

Restart the graphic firmware.

Q - Debugger

Go to debugging program. Return to Diagnostic Program by entering GO <CR>.

Special plugs needed to test the DUART's

Special plugs
RS-232C plug
25 pin
2 ↔ 3
4 ↔ 5
6 ↔ 20

In order to test one SGD you must use five 25 pin Cannon connectors strapped as shown.

6.1: SGD installation hints:

When assembling the SGD box after change of firmware or updating the alphaboard, i.e. when the graphic board have been removed from the alpha board connectors: Take care to ensure that the connectors are properly inserted when installing the graphic board again. Use a screwdriver inserted through the hole in the cabinet side in order to prevent the alphaboard from bending while pressing the graphic board in place by pressing the LM 337 voltage regulator down with your thumb.

Ensure that the crystal frequency (pixel frequency), the selected monitor mode (via the debug port, ref. chapter 4.1.2), and monitor version corresponds as a controller box for a 20 inch monitor will not have the correct timing for a 15 inch monitor.

When converting a 20 inch version of the graphic board to a 15 inch version, add a 150 pF capacitor from pin 11 to pin 16 of IC32. This capacitor is only present on the 15 inch version and ensures that the synchronisation of the alpha and graphic clocks works correctly also for the lower frequency used in the 15 inch version.

FWL 0821:	1. CGS1C	15"		PIN19	CG05:	PA1	GG05D
2630	2. CGS1B	20"		1. 2570	PIN 19		
				2. 2570	PIN 19		

In case the four LED's on the keyboard are all constantly ON, the processor has encountered an exeption and has stopped all processing; if power off/power on does not recover operation, consult the factory.

If the LED's are all blinking, the network number has been erased from the back up memory and must be re-entered via the debug port (refer to chapter 4.1.2, installation).

If the keyboard, the data tablet or the mouse has been disconnected from the SGD, it is necessary to power off the

Supermax Graphic Display

SGD, connect the device, and then power up the SGD again, in order to ensure the correct operation of the input device.

If the connect command is not succesfull, allthough both the transceiver and the transceiver cable has been checked, the most frequent cause is an incorrect ID for the SGD channel 0. The monitor does not show any picture at all unless the coax-cable for the green signal has been correctly connected.

In case the SGD seems completely inoperative, try to re-initialize to the standard set-up, i.e. enter the LAN number as mentioned in chapter 4.1.2 using a terminal (9600 Baud, 7 databits, 2 stopbits, even parity) connected via a 8804 serial cable to the SGD printer port.

TESTPROGRAMS

FOR THE SUPERMAX GRAPHIC DISPLAY TERMINAL.

Files:

sys3/testchar	sys5/testchar
sys3/testcolour	sys5/testcolour
sys3/ginput	sys5/ginput
sys3/hatchpattern	sys5/hatchpattern
sys3/test1	sys5/test1
sys3/hvid	sys5/hvid
sys3/cross2	sys5/cross2
sys3/SGD	sys5/sgd.t
	sys5/sgd-ansi.t

Load files from the floppy:

cd ** suitable directory **

sys3	sys5
cpio -ivmd 'sys3/*' < /dev/flop	cpio -ivmd 'sys5/*' < /dev/flop
cd sys3	cd sys5
mv SGD /etc/types	mv sgd.t sgd-ansi.t /etc/types/int

NB. The last mv is only to be done, if the labels on the supermax is out of date or missing.

System V

Setup of communication:

On a Supermax running system V, the terminal can run in to modes:

- ANSI
- DDE

If the terminal is to run in ANSI mode, the Setup entry I should be ANSI.
The supermax terminology should run as `int/sgd-ansi.t` (terminology `int/sgd-ansi.t`).

If the terminal is to run in DDE mode, the Setup entry I should be DDE.
The supermax terminology should run as `int/sgd.t` (terminology `int/sgd.t`).

Commands:

`testcolour`

- Is to be executed in DDE mode.
Prints all 256 alphanumeric characters.
It then generates a colour triangel (build of hexagons) with many colour nuances, all with the same lightintensity (just about).

`testchar test1`

- Generates a mixed picture with dots, thin lines, thick lines , filled circles and a filled 'A'.

`testchar hvid`

- Generates a white area covering the entire screen.

`testchar cross2`

- Puts up the hardware crosshair.

`ginput`

- Is to be executed in ANSI mode.
Takes input from the tablet and lists the result on the monitor. Puts up the crosshair when finished.
NB. Requires `testchar cross2` to be performed first.

`hatchpattern`

- Draws a set of vertical and horizontal lines, which hopefully is a help for adjusting the monitor.



Supermax Graphics Display - SGD2

1.1.4

rev. 01.09.94

DDE-type

Product name

System

SGD

Setup version 2.0

UNIX V

Installation

UNIX V

Diagnostic

Test

Unix Testprograms

UNIX V



3.1: Standard setup parameters:

When shipped from the factory, the SGD has been initialized to its standard setup parameters, i.e. the parameters that can be selected from the setup menu will then be:

A (Communication)	= Serial
B (Transmission speed)	= 19.2 k Baud
C (Data bits)	= 8
D (Stop bits)	= 1
E (Parity)	= OFF
F (Busy handshake)	= XON/XOFF
G (Transmission mode)	= FDX
H (Monitor mode)	= OFF
I (Emulation)	= ANSI
J (Select keyboard)	= US
K (International)	= ON
L (Control characters)	= 8 bit
M (Keyclick volume)	= OFF
N (Bell volume)	= 4
O (Autorepeat)	= ON
P (Status line)	= ON
Q (CRT saver)	= ON
T (RESET)	= NOBOOT

When Ethernet is selected in stead of Serial host communication (A), the menu lines B to F is changed as follows:

B: STATUS			
C: CONNECT			
D: DISCONNECT			
E: CONFIGURATION			
F: PRINTER	<u>OFF</u>	PLUG	SPOOLER

Supermax Graphic Display

These are commands to be used with Ethernet communication setup.

The factory initialisation of the SGD also includes network number as well as default ID and TYPE setting.

These settings can be checked using the STATUS command.

Pressing the B - key will give a read out as this:

B:

SGD NUMBER	870015
PORT	0
ID	sgd
TYPE	sgd

Not connected!

The network number is given by the factory and relates to the SGD serial number. It is necessary to re-enter the number only when the back-up memory has been erased (refer to chapter 4.1.2, installation).

ID and TYPE must correspond to the names on the hostcomputer that the user wants to connect to; ask the systemadministrator for these names.

To enter these names, select E (Configuration) and use the same commands as for setting up the NIOC or NTC.

Supermax Graphic Display

4.1: SGD installation:

The SGD as shipped from the factory includes:

- SGD controller box for 20 or 15 inch monitor.
- SGD Monitor, 20 or 15 inch screen.
- Keyboard (US or DK) and extender cord.
- 3 pcs. 75 ohm coaxcables, each 2 meters long.
- One cable (8804) for serial host communication.
- Two power cords.
- One Users Manual.
- One 5 1/4" floppy disk for the system V supermax.

Data Tablet or Mouse is optionally and must be ordered seperately.

4.1.1: Downloading the firmware from the supermax:

The SGD 2.0 version SGD downloads its firmware from the host Supermax. This requires a LAN connection between the SGD and the Supermax.

The 5 1/4" floppydisk is a newpkg format floppydisk. The software on this floppydisk is to be installed on the host Supermax.

When the software from the floppydisk is installed a Supermax nioc-channel must be set up as described in the installation of the floppydisk. The /etc/inittab table must also be edited according to the installation of the floppydisk.

When the Supermax end is setup correct, the SGD can be setup:

To setup the SGD use the printer port as service port. To access the service utility in the SGD type "esc # 0 cr". To

Supermax Graphic Display

gain access to the service port, connect a terminal to the printer port (9600 Baud, 8 databits, 1 stopbits, none parity, XON/XOFF handshake).

If the EEPROM in the SGD is uninitialized, the SGD will wait for this setup after lighting the four LED's on the keyboard.

If the EEPROM is initialized and the setup is to be changed: Pres "esc # 0 cr" to interrupt the current attempt to download. If the firmware is downloaded, a different setup menu will be entered. If you want this basic setup after the firmware is downloaded: Pres Setup (entering the setup menu) select T (pres T or t) choose BOOT and pres space. Now the SGD should be downloading again. Interrupt the downloading with "esc # 0 cr" from the service terminal.

The setup can also be used to gain access to the testprogrammes included in the firmware (please refer to chapter 5, diagnostic program).

The setup:

In the setup all answers are terminated with a carriage return. The answer can be modified with:

Backspace and right arrow moves the cursor to the left or to the right.

Up arrow inserts a blank.

Down arrow deletes a character.

DEL deletes from the cursor to the end of the answer.

If entered due to uninitialized EEPROM you will not be asked if you want the testprogram !

TESTPROGRAM (Y/N) : N

Give the answer by terminating with a carriage-return.
Lower case answers are accepted as uppercase.

Supermax Graphic Display

If you now choose Y, the SGD will enter the diagnostic program (refer to chapter 5).

If you choose N, the SGD will enter a re-initializing sequence and ask you some more questions:

Black/White (B) or Colour (C) : C (Answer C or B)

Monitor type: 1: 20" colour (80 MHz pixelrate)
2: 15" colour (64 MHz pixelrate)
3: 15" colour (70 MHz pixelrate)

Monitor type (1/2/3) : 1 (Answer 1, 2 or 3).

Size of main memory in Mbyte (1, 2, 3 or 4) : 2

If the LAN-number is initialized you get:
(Depending on the real LAN number, here the number 870016 is used as an example)

LAN number was: 080075870016. Checksum was ok;

Change LAN Number (Y/N) : N (Answer Y or N).

If you choose Y (or y) you are asked:

Enter new LAN Number: 080075870016

Here you change the 870016 to the actual lan number and press return. Hex digits are allowed in upper and lower case.

If the LAN-number is uninitialised (or garbled) you get:

LAN number was: 080075ffffff. Checksum was NOT ok;

Enter new LAN Number: 080075ffffff

Supermax Graphic Display

Here you change the ffffff to the actual lan number and press return. Hex digits are allowed in upper and lower case.

After the hardware characteristics are done, the download connection and programname is defined:

Change id : sgdload
Change type : sgd
Change connection : 870016host
Change program name : /usr/lib/sgd/boot

For each of the four questions you change the answer to the wanted text and press return.

Id and type defines how the SGD will represent itself when trying to make a connection.

Connection gives the name that the SGD will try to connect to. In this example the LAN-number 870016 is used. The name 870016host is practical when you want the SGD's to have individual access to the host. A common name for all SGD's is allowed, but that requires the host Supermax to be setup accordingly.

Program name is the name of the program to download to the SGD. The name /usr/lib/sgd/boot is recommended, but you may use any file name. (Of course there has to be a program on the host Supermax with the choosen name).

4.1.2: Setup parameters:

When delivered from the factory, the SGD has been initialized to the standard setup parameters.

When a new SGD has been installed and the cables connected as

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described in the users manual, it may be necessary to change the setup parameters according to the requirements of the host computer. Ask the systemadministrator for the correct parameters.

Changing the parameters by pressing SETUP, then altering the desired parameter, and finally leaving the setup state by pressing setup again, only makes the change valid until power off (or until reset, i. e. T is pressed in setup mode). In case it is desired to make the change permanent, press U (Save) after changing the selected parameter in setup mode.

The installation procedure is then:

- 1) Connect the cables as described in the users manual.
- 2) Check, that the setup parameters are as required. (When using Ethernet, ensure that also ID and TYPE are as specified by the systemadministrator).
- 3) When used on Ethernet, try to execute a connect (C) command: Press C in setup mode and enter the desired portname; when the answer is "connected", press setup key, and the terminal can now be used as a normal user terminal. If the command is not successful (the answer is "remote don't answer"), check the ID (and TYPE), check that the transceiver cable and transceiver are correctly mounted and connected, and check, that the network can be used between other units on the same cable.

It may also be usefull to try to connect to the NIOC config. port in order to check the NIOC setup. When used in serial mode, the terminal can be used directly as a normal user terminal.

- 4) After installation, be sure to run the testprograms

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to check both the alpha board, the graphic board, and tablet/mouse (if ordered). The testprogrammes are available on a diskette SGDTEST and the programmes are: test1 for test of graphicboard, colours, and tablet; testcolour for test of alpha and palettes; then various files with drawings that can be used according to your specific host configuration.

4.1.3: Using the Service Port after downloading:

The printer port can under certain conditions be used as a service port.

This can be used in case you want to have access to the testprogrammes included in the firmware (please refer to chapter 5, diagnostic program), change hardware characteristics or to re-enter the network number.

The SGD will indicate this situation by blinking the four LEDs on the keyboard.

To gain access to the debug port, connect a terminal to the printer port (9600 Baud, 8 databits, 1 stopbits, no parity, XON/XOFF handshake), then press the ESC key within 5 seconds after power-on of the SGD.

The SGD will now enter the test mode and will ask you the following question:

Testprogram (Y/N) : N

If you now press Y, the SGD will enter the diagnostic program (refer to chapter 5).

Supermax Graphic Display

If you press N, the SGD will enter a re-initializing sequence and ask you some more questions:

Monitor type: 1: 20" colour (80 MHz pixelrate)
2: 15" colour (64 MHz pixelrate)
3: 15" colour (70 MHz pixelrate)

Monitor type (1/2/3) : 1 (Answer 1, 2 or 3).

Black/White (B) or Colour (C) : C (Answer C or B)

LAN (Y/N):

If you now press N, the SGD will directly enter the normal SGD mode, and the debug port will again operate as a printer port.

In case you press Y, the network number present in backup memory will be checked for validity, and if it is not valid, you must re-enter a valid number. This read out will be presented:

LAN number was: 080075ffffff. Checksum was NOT ok;

Enter new LAN Number: 080075ffffff

After you have enteren the number and pressed the return key, the normal SGD mode will be entered.

If the number is allready valid you can go directly to normal SGD operation or you have the option of entering another network number. The read out will then be:

LAN number was: 080075870016. Checksum was ok;

Change LAN Number (Y/N) : N (Answer Y or N).

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If you answer N normal SGD mode will be entered.

If you answer Y you are asked to enter the new LAN number:

Enter new LAN Number: 080075870016

The underscored part is the part you can change. After entering the new LAN-number normal SGD mode will be resumed



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DIAGNOSTIC PROGRAM

Supermax Graphic Display 2

The purpose of this program is to evaluate the basic functions of the Supermax Graphic Display (SGD) terminal, second edition with the MC68020 microprocessor and MC68881 floating point coprocessor. The following functions can be tested with this program:

- The dynamic memory.
- The video display memory.
- The alpha palette.
- The alpha CRT controller.
- The graphic palette.
- The graphic CRT controller.
- The DUART's.
- The Local Area Network (LAN) controller.
- The EEPROM.

Initialization

Included in the firmware prom of the SGD is a self test, which includes the following items:

- MC68020 internal confidence test.
- Initialize and test memory.
- MC68881 FPC internal confidence test.

Running the Diagnostic Program

Normally, when the power is turned on and the self test has been completed, the SGD will run the graphic firmware. The self test is completed when you hear a BEEP from the keyboard. If you have a terminal connected to the printer port, you can type the following sequence from that terminal:

```
ESC
#
0
<CR>
```

When doing that the SGD will enter a test mode and will ask you the following question:

Test program Y/N:

If you type Y <CR> the SGD will enter the Diagnostic Program, and it should respond with the following message on the terminal.

```
sgd20 > _
```

When this prompt is displayed on the terminal, the SGD is ready to take commands. When typing M <CR> the menu will be displayed. The menu shows you all the possible tests, that might be performed on the SGD. The example shows the menu from the SGD:

```
sgd20 > M
A - Test main memory
B - Test buffer memory, normal and byte swapped
C - Test ALPHA memory, ALPHA Palette and ALPHA chip
D - Test GRAPHIC Palette
E - Test GRAPHIC Controller
F - Test DUART's. External loop
G - Test DUART's. Internal loop
H - Test LAN controller without transceiver
K - Test LAN controller with transceiver
I - Test interrupt
J - Test EEPROM. Content will be saved
O - Repeat test(s)
S - Test All
N - Network Monitor
W - Read/Write Network address in EEPROM
M - Menu
V - Version
R - Start Graphic Firmware
Q - Debugger
sgd20 >
```

A - Test Main Memory

This is a test of the main memory on the SGD. The main memory is 1 - 4 Mb used by the MC68020 for program and data. The following 5 tests will be executed in the order mentioned.

- **High Speed.** This routine performs a fast test of the dynamic memory mounted on the SGD module. It takes the low order word of the current address and shifts it one bit to the right and writes that value in memory. Then the memory content is read and compared to the value written and errors are indicated. All of this is repeated using the high order word of the current address. The high order word is not shifted as the low order word.
- **Bit Test.** During this test every single bit in the main memory will be written with both true and inverted values. This is done using long word operations which means that during pass one the value written is 00000001, during pass 2 it is FFFFFFFE, during pass 3 it is 00000002, during pass 4 it is FFFFFFFD etc. All in all 64 passes. A plus (+) is written on the terminal for each pass.
- **Address Bit Test.** During this test every single address bit is tested. This is done by writing one value in the current address if the selected address bit is zero and another value if the address bit is one. The test is performed for address bits in the range 1-21 and the test runs two times, each time with two new write values.

Address bit	Pass 1	Pass 2
0	0000	FFFF
1	FFFF	0000

Please note that the program writes the current address bit number on the terminal and that this number is in hexadecimal form, which means that the count values are 01-09, 0A-0F and 10-15.

- **Galloping Ones And Zeroes.** This test is also performed two times. First of all the memory is initialized with a default value. Then a galloping value is written in a certain address. Then all addresses which are neighbours to that first address are tested. They must still contain the default value. A neighbour is an address which only differs in one bit from the original address. When all neighbours have been tested the default value is written back in the original address. This is repeated for all addresses.

Value	Pass 1	Pass 2
0	00000000	FFFFFFFF
1	FFFFFFFF	00000000

- **Byte Write Test.** The MC68020 is able to do a long word operation even though the address being referenced is not on a long word boundary. This is called **Dynamic Bus Sizing**. In other words, if the MC68020 writes to an address on a long word boundary, the long word will be written in one operation. But if the address is not on a long word boundary, the operation will be split into two operations as shown below:

Dynamic Bus Sizing		
Boundary	1. operation	2. operation
0	1 long word	
1	3 bytes	1 byte
2	1 word	1 word
3	1 byte	3 bytes

This test will write the long word FFAA5500 using long word operations, but using the four different boundaries. By doing that both byte, word and long word operations will be performed.

B - Test buffer memory, normal and byte swapped

The buffer memory consists of 512 kB used by the LAN controller and the ALPHA controller. The following 5 tests will be executed in the order mentioned.

- High Speed.
- Bit Test.
- Address Bit Test.
- Galloping Ones And Zeroes.
- Byte Write Test.

Part of the buffer memory is used by the LAN controller. This unit has a different interpretation of byte 0 and byte 1 in a word, than the MC68020 has. The buffer memory is therefore accessible by the MC68020 in a byte swapped mode. This part of the memory is tested using byte swapping when writing and normal mode when reading. Only the **High Speed Test** is performed during this test.

C - Test ALPHA memory, ALPHA Palette and ALPHA chip

The ALPHA memory, which is used to contain the character bit mapping, is tested using the following tests:

- **High Speed.**
- **Bit Test.**
- **Address Bit Test.**
- **Galloping Ones And Zeroes.**
- **Byte Write Test.**

The ALPHA palette, which contains the colours for the alpha characters, is tested using an incrementing and decrementing counter.

All read/write registers on the ALPHA controller, AM8052, are tested using an incrementing and decrementing counter.

D - Test GRAPHIC Palette

The GRAPHIC palette, which contains the colours for the graphics, is tested using an incrementing and decrementing counter. This is seen on the monitor as blocks of fading grey tone scales. Then an address bit test is performed in order to check the addressing of the palette. This is the addressing from the MC68020 that is checked. There is no way for the program to check that the addressing of the palette from the video display memory is correct, so it must be done visually. There is a built-in delay for the human eye to be able to check the test. The test runs 3 passes, one for each colour, and on the monitor you will see, first, blocks of fading red tone scales, second, blocks of fading green tone scales and third, blocks of fading blue tone scales.

E - Test GRAPHIC Controller

The graphic controller, HD63484, and the 1 Mb video display memory, are tested together. The video display memory is only accessible by the HD63484, so in order to test this memory the HD63484 must write the test pattern in the memory and later read the memory in order for the program to test the data. The memory is tested using the following tests:

- **Bit Test.**
- **Address Bit Test.**

If the monitor is connected to the SGD, it is possible to get a visual impression of the memory tests. The **Bit Test** will be seen as a grey tone scale, changing from white to black in 16 steps. The **Address Bit Test** will be seen as red and green vertical bars, increasing in size and suddenly changing to horizontal bars, increasing in size. When the inverted values are used the colours will change to red and blue vertical bars, increasing in size and suddenly changing to horizontal bars increasing in size.

NOTE. In order to cancel this test you must use Ctrl D. Otherwise the graphic controller might need a power off reset.

F - Test DUART's. External loop back

On the SGD there are three DUART's, two 2681 and one 8530, used to make the communication with the host, the keyboard, the tablet and the printer port. All channels, except the printer port, which is used to connect the Diagnostic Program operator terminal, are tested one by one using the following three tests:

- All channels are tested by transmitting characters with values from 00 - FF from one channel to the same channel at different baud rates from 38400 to 300, checking that the received character is the same as the one transmitted.
- It is checked that it is possible to get an interrupt from all channels when receiving a character.
- It is checked that the DUART's are able to set and reset all the modem signals.

In order to test the serial channels with external loop you must insert 5 special plugs in the connectors on the back panel of the SGD. The plugs are described at the end of this chapter.

G - Test DUART's. Internal loop back

It is possible to configure the DUART's to a mode called internal loop. When doing that the DUART's will make an internal connection of the transmit and receive data pins. This enables the program to run the test without using the special plugs required in test F. However, it is not possible to test the modem signals in internal loop, so only the first and second test mentioned above will be made during this test.

H - Test LAN controller without Transceiver

Refer to the description of test K. The third test mentioned there will not be executed when running this test.

K - Test LAN controller with Transceiver

The Local Area Network (LAN) interface is based on Intel 82586 and SEEQ 8023A. The 82586 is the LAN controller and the 8023A is the manchester encoder/decoder. Communication between the MC68020 and the 82586 is made through 64 kb of the main memory. A certain part of that memory is used to exchange commands and status information. The 82586 has some built-in test facilities and they are started when the 82586 has been initialized. If the internal test fails, no further testing will be done, the error will be reported and the program will return to the menu. Otherwise the buffer memory will be initialized with a lot of receive and transmit buffers and descriptors in order to enable the 82586 to receive and transmit packages on the network. The test goes through three passes.

- The 82586 is configured to internal loop back and will transmit a package of 1 kB taken from the transmit buffer, receive the data and put them in the receive buffer. The program will check status from the 82586 and compare received data with transmitted data.
- The 82586 is configured to external loop back and the 8023A is configured to loop back. Now the transmitted data will be gated to receive data by the manchester encoder/decoder. When configured like this the 82586 is only able to handle packages of 18 bytes. Status and data are checked.
- The 82586 is configured to external loop back and the 8023A is configured to no loop back. Now the transmitted data will be gated to receive data by the transceiver connected to the SGD. This means that during this test there will be activity on the Network cable. When configured like this the 82586 is only able to handle packages of 18 bytes. Status and data are checked.

I - Test Interrupt

The timer interrupt is tested and you can calculate the time between timer interrupts by measuring the time between two writings of **Timer Interrupt** on the terminal and then divide that time by 100. Normally you should end up with 10 ms.

J - Test EEPROM. Content will be saved

All the network parameters are stored in the EEPROM. Because of that the content of the EEPROM is saved in main memory before testing it. The EEPROM is tested by writing and incrementing and a decrementing counter. After that the original content is written back. The SGD will not respond to any interrupts from the service port during this test. An EEPROM is only able to perform appx. 10000 write operations, before it is destroyed and because of that you will not be allowed to run this test continuously, and you should not run it more than once when testing an SGD.

O - Repeat test(s)

All of the above mentioned tests will run one time through when selected. If, when selecting test(s), this one (O) is also selected, the test(s) will repeat itself (themselves) until otherwise canceled.

S - Test All

This test will run one time through test A, B, C, D, E, G, H and I. It is possible to add the *Repeat test* option (O) to this one.

N - Network Monitor

This entry is used to check the local area network. The LAN controller will receive all packages on the network and you can see statistics of the received packages by typing R.

W - Read/Write Network address in EEPROM

The individual address, assigned to all controllers connected to a Local Area Network, is located in the EEPROM. This address must be written in the EEPROM, otherwise the SGD software will not work properly. This entrance in the Diagnostic Program will show you the 6 byte address including a checksum verification. Then it is possible to insert a network address, to change the old one or just to exit without any change. Please note, that it is impossible to change the first 3 bytes of the address. They must be 080075 in all networking equipment from DDE A/S.

NOTE. All numbers typed will be right adjusted when written in the EEPROM.

M - Menu

Display the menu on the terminal.

V - Version

Display version and date.

R - Start Graphic Firmware

Restart the graphic firmware.

Q - Debugger

Go to debugging program. Return to Diagnostic Program by entering **DP <CR>**.

Program control

It is possible to control program execution by using some special control characters as mentioned below.

- **Ctrl C.** This is used to cancel a running test. Program execution stops and the prompt will be displayed on the terminal.
- **Ctrl D.** This is used to cancel test E. Program execution stops at an appropriate place in order to leave the graphic controller in a well known situation.
- **Ctrl S.** This is used to send *XOFF* character to the program, which will stop printing on the terminal.
- **Ctrl Q.** This is used to send *XON* character to the program, which will start printing again.

The or <RUB> key will delete all inputs in the current command line and issue a new prompt.

Special plugs needed to test the DUART's

Special plugs	
RS-232C plug	
25 pin	
2	↔ 3
4	↔ 5
6	↔ 20

In order to test one SGD you must use five 25 pin Cannon connectors strapped as shown.

Supermax Graphic Display

6.1: SGD installation hints:

When assembling the SGD box after change of firmware or updating the alphaboard, i.e. when the graphic board has been removed from the alpha board connectors: Take care to ensure that the connectors are properly inserted when installing the graphic board again. Use a screwdriver inserted through the hole in the cabinet side in order to prevent the alphaboard from bending while pressing the graphic board in place by pressing the LM 337 voltage regulator down with your thumb.

Ensure that the crystal frequency (pixel frequency), the selected monitor mode (via the debug port, ref. chapter 4.1.2), and monitor version corresponds as a controller box for a 20 inch monitor will not have the correct timing for a 15 inch monitor.

When converting a 20 inch version of the graphic board to a 15 inch version, add a 150 pF capacitor from pin 11 to pin 16 of IC32. This capacitor is only present on the 15 inch version and ensures that the synchronisation of the alpha and graphic clocks works ~~correctly~~ also for the lower frequency used in the 15 inch version.

In case the four LED's on the keyboard are all constantly ON, the processor has encountered an exeption and has stopped all processing: if power off/power on does not recover operation, consult the factory.

If the LED's are all blinking, the network number has been erased from the back up memory and must be re-entered via the service port (refer to chapter 4.1.1, installation).

When downloading the firmware from the Supermax the four LED's are used to indicate the status of the process of downloading:

Supermax Graphic Display

0001: Start.

0011: Connected.

01xx: Giving orders to Supermax.

1xxx: Recieving data from Supermax.

Especially the state 1001 is seen for a long time, it appears twice. 1. time it is transferring the program from the Supermax. 2. time it is transferring the initialized data from the Supermax.

If the SGD stop in the state 0001 without reaching state 0011, the id, type or connection set in the basic setup from the service port should be checked against the nameaccept, idaccent and typeaccept in the nioc-port that is to be used for the download. However if more than one SGD uses the same niocchannel for downloading, this can explain why the channel is inaccessible at the moment.

If the download seems permanently blocked try these ideas: Turn the SGD off and on, kill the Supermax host program with 'fuser -k /dev/ttyzz' (ttyzz is the download tty line e.g. tty73) and flush remaining characters on the line with 'cat /dev/ttyzz'.

If the keyboard, the data tablet or the mouse has been disconnected from the SGD, it is necessary to power off the SGD, connect the device, and then power up the SGD again, in order to ensure the correct operation of the input device.

If the connect command is not succesfull, although both the transceiver and the transceiver cable has been checked, the most frequent cause is an incorrect ID for the SGD channel 0. The monitor does not show any picture at all unless the coax-cable for the green signal has been correctly connected.

TESTPROGRAMS FOR THE SUPERMAX GRAPHIC DISPLAY TERMINAL.

Files:

testchar
testcolour
ginput
hatchpattern
test1
hvid
cross2
sgd.t
sgd-ansi.t

Load files from the floppy:

```
cd ** suitable directory **
```

```
cpio -ivmdB < /dev/flop  
mv sgd-ansi.t /etc/types/int
```

NB. The last mv is only to be done, if the tabs on the supermax is out of date or missing.

System V

Setup of communication:

On a Supermax running system V, the terminal must be selected to ANSI mode emulation.

The supermax terminology should run as `int/sgd-ansi.t` (terminology `int/sgd-ansi.t`).

Commands:

`testcolour`

- Prints all 256 alphanumeric characters. Also prints all 8 colours of the alpha colour palette.
It then generates a colour triangle (build of hexagons) with many colour nuances, all with the same lightintensity (just about).

`testchar test1`

- Generates a mixed picture with dots, thin lines, thick lines , filled circles and a filled 'A'.

`testchar hvid`

- Generates a white area covering the entire screen.

`testchar cross2`

- Puts up the hardware crosshair.

`ginput`

- Is to be executed in ANSI mode.
Takes input from the tablet and lists the result on the monitor. Puts up the crosshair when finished.
NB. Requires `testchar cross2` to be performed first.

`hatchpattern`

- Draws a set of vertical and horizontal lines, which hopefully is a help for adjusting the monitor.

Supermax Network Controller - NTC1

1.1.5

rev. 01.09.94

DDE-type

Product name

System

NTC 1300

Driver overview

UNIX V



OVERSIGHT OVER DRIVERE TIL NTC'en

PORT

	<u>0-1</u>	<u>2-3</u>	<u>4-5</u>	<u>6-7</u>
75188	ICD3	ICD2	ICD1	ICD0
75189	ICD7	ICD6	ICD5	ICD4



Supermax NTC2

Installation

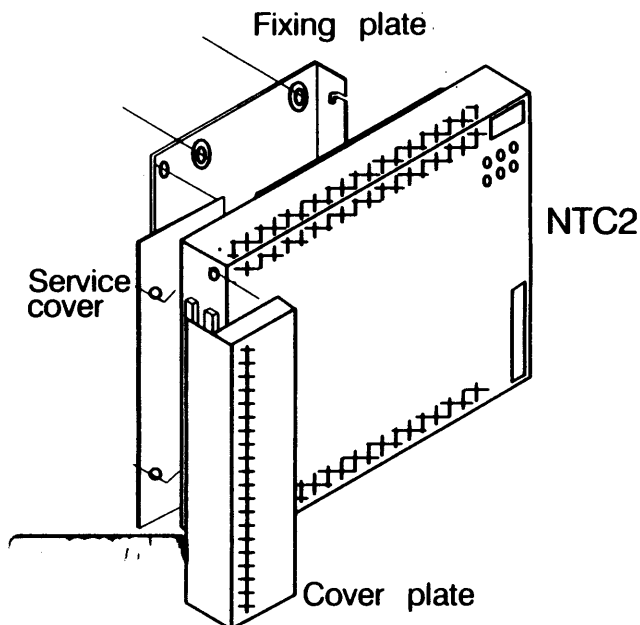


Figure 5-1: NTC2 overview

Mounting the NTC2 on the wall

With the required clearances (see *Figure 5-2*) in mind, mark the three holes on the wall. Mount the fixing plate using three wood screws no. 12 and three matching rawlplugs.

Supermax NTC2

Remove the cover for the RS-232C plugs, by pushing it upwards and pulling it out.

Plug the external transceiver into the 15 pin plug, either directly or with the use of a drop cable. If the transceiver is mounted directly on the NTC2, it can be secured onto the service cover.

NOTE: Always secure the slide latch, for a safe connection.

Connect the terminal and/or printer cables to the NTC2.

Plug the power cord into an AC outlet.

Mount the cover for the RS-232C plugs.

Place the NTC2 on the fixing plate and the installation is complete.

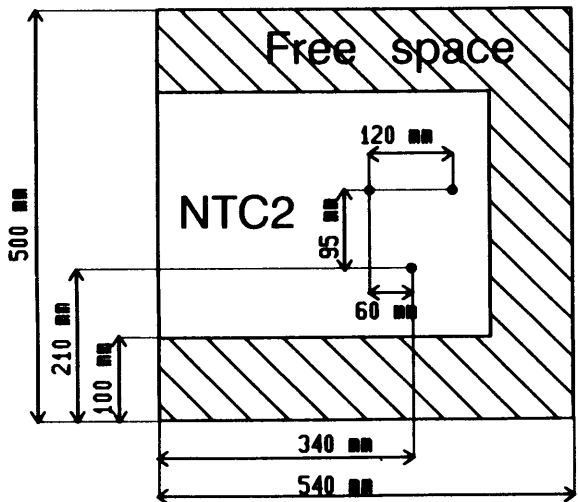


Figure 5-2: Mounting dimensions

Internal transceiver

When changing the NTC2 from an external transceiver to an internal transceiver, the NTC2 is removed from the fixing plate and the back cover is removed. The plate including the 15 pin plug is removed and dismantled. The new transceiver including the plate containing the BNC plug is mounted in the same position as the old one. The dismantled 15 pin plug is plugged into the new transceiver.

220V/110V

Remove the back cover of the NTC2. The AC mains is connected to a terminal strip on connectors 1 and 4. The transformer is connected to the terminal strip on connectors 1, 2, 3 and 4.

220V There is a connection between connectors 2 and 3.

110V There is a connection between connectors 1 and 3 and between connectors 2 and 4.

Installing a parallel port

Remove the NTC2 from the fixing plate and then remove the service cover and the back cover. The 25 pin plug on port 3 or 7 is removed. The flat cable and the 20 pin header on CAN3 or CAN7 are removed. The new 25 pin plug is mounted in the same position and the 26 pin header is connected to on the socket marked CENTRO.

Upgrading from 4 to 8 serial ports

Remove the NTC2 from the fixing plate and then remove the service cover. The plate covering the four spare positions is now removed. Mounting of the four 25 pin plugs can now take place and the four 20 pin headers can be connected to the sockets marked CAN3 - 7.

Replacing drivers/receivers

Remove the NTC2 from the fixing plate and then remove the service cover. This makes the serial line drivers and line receivers easily accessible and they can be replaced without problem.

Supermax NTC2

Debug switch

On the right side of the cabinet there is a small hole through which the debug switch SWD is accessible. It can be activated using a small pin or equivalent with a dimension of $\varnothing 2-3$ mm.



Supermax NTC2

Diagnostic Program

The purpose of this program is to evaluate the basic functions of the Supermax Network Terminal Controller 2 (NTC2) with the MC68000 microprocessor. The following functions can be tested with this program:

- The dynamic memory.
- The fault detection circuitry.
- The DUART's.
- The Local Area Network (*LAN*) controller.
- The parallel printer port.

Initialization

Included in the boot prom of the NTC2 is a self test, which includes the following items:

- MC68000 internal confidence test.
- Initialize ~~write protect~~ memory.
- Initialize and test memory.
- Local Area Network (*LAN*) controller test.
- Check for parallel printer.
- DUART test.

During the self test the 3 red LED's will light according to the following scheme.

Status LED's			
ON	ON	ON	Self test running
OFF	ON	ON	Self test completed or Running Diagnostic Program
ON	ON	OFF	Error during self test or Self test aborted or DIAnogstic selected in config process

Table 3-1: Status LED's

Running the Diagnostic Program

Normally, when the power is turned on and the self test has been completed, the NTC2 will run the terminal controlling software. The Diagnostic Program can be entered in two different ways. In both cases, a terminal must be connected to port 0 of the NTC2.

- Connection, from a terminal on port 0 on the NTC2, to the configuration process enables access to the Diagnostic Program of the NTC2. After selection of the entry, the following select sequence must be typed on the terminal.

ESC

0
<CR>

By doing this the NTC2 will enter the Diagnostic Program. The baud rate, parity, number of bits per character and number of stop bits on port 0 will be the same as configured by the NTC2 software.

- If, during the self test phase, the debug switch, SWD, of the NTC2 is activated, the self test is aborted. The terminal on port 0 must have the baud rate set to 9600, parity EVEN, number of bits per character 7 and number of stop bits 1. The select sequence shown above must be typed on the terminal, resulting in the following question:

**** NTC2 SELF TEST ABORTED ****

Try to continue? Select **DEBUGGER** or **DIAGNOSTIC PROGRAM (D/T)**:

If **D** is typed, the NTC2 will enter a debugging program.

If **T** is typed, the NTC2 will enter the Diagnostic Program. .

If the self test fails, the program will stop and wait for the select sequence to be typed. When that is done the program will write an error message on the terminal and ask whether it should enter the debugging program or the Diagnostic Program.

When the NTC2 enters the Diagnostic Program it should respond with the following message on the terminal.

ntc2 > _

When this prompt is displayed on the terminal, the NTC2 is ready to take commands. When typing **M** <CR> the menu will be displayed. The menu shows all the possible tests, that might be performed on the NTC2. The example shows the menu from the NTC2:

Supermax NTC2

```
ntc2 > M
Network address: 0x080075000000   Number of DUART channels: 8
A - Test memory
B - Test write protect memory
C - Test write protect
D - Test parallel printer interface
F - Test DUART's. External loop
G - Test DUART's. Internal loop
H - Test LAN controller without transceiver
K - Test LAN controller with transceiver
I - Test timer interrupt
S - Test all
O - Repeat test(s)
N - Network monitor
J - Test EEPROM. Content will be saved
L - Write to parallel printer
P - Set test parameters
Z - Reset NTC2
Q - Debugger
V - Version
M - Menu
ntc2 >
```

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A - Test memory

This is a test of the memory on the NTC2. The memory is 512 kb used by the MC68000 for program and data and by the 82586 LAN controller for buffers. The following 5 tests will be executed during this test.

- **High Speed.** This routine performs a fast test of the dynamic memory mounted on the NTC2 module. It takes the low order word of the current address and shifts it one bit to the right and writes that value in memory. Then the memory content is

read and compared to the value written and errors are indicated. All of this is repeated using the high order word of the current address. The high order word is not shifted as is the low order word.

- **Bit Test.** During this test every single bit in the main memory will be written with both true and inverted values. This is carried out by using long word operations on a word basis. This means:

During pass 1 the value used is 00010001.

During pass 2 the value used is FFFEFFFFE.

During pass 3 the value used is 00020002.

During pass 4 the value used is FFFDFFFD.

Etc.

✓ All in all 32 passes. A plus (+) is written on the terminal for each pass.

- **Address Bit Test.** During this test every single address bit is tested. This is done by writing one value in the current address if the selected address bit is zero and another value if the address bit is one. The test is performed for address bits in the range 1-18 and the test runs twice, each time with two new write values.

Address bit	Pass 1	Pass 2
0	0000	FFFF
1	FFFF	0000

Table 3-2: Address Bit test pattern

- **Galloping Ones and Zeroes.** This test is also performed twice. First of all the memory is initialized with a default value. Then a galloping value is written in a certain address. After this all the addresses, which are neighbours to that first address, are tested. They must still contain the default value. A neighbour is an address which only differs in one bit from the original address. When all neighbours have been tested the default value is written back in the original address. This is repeated for all addresses.

Value	Pass 1	Pass 2
0	0000	FFFF
1	FFFF	0000

Table 3-3: Galloping Ones and Zeroes test pattern

- **Read-Modify-Write Test.** The MC68000 microprocessor has a feature which makes it possible in one operation to read a byte in memory, test the byte, set one bit in the byte and to write it back again. This is called *Read-Modify-Write* and the test will initialize memory with a ~~default value~~ and then perform the *Test And Set (TAS)* instruction on all memory locations and then check for correct memory content.

B – Test write protect memory

The write protect memory consists of 2 x 1024 bits used to implement the write protect feature of the NTC2. The first block is used to implement write protect seen from the MC68000 and the second block is used for the LAN controller. One bit at a time is set in the memory and the memory is then checked. The bit is then moved through the memory, each time checking for correct content. This process is repeated using inverted values.

C – Test write protect

The write protect feature of the NTC2 is tested during this test. The test is divided into two parts.

1. A test concerning the the MC68000 is performed. One bit at a time is set in the write protect memory. It is then checked that the write access from the MC68000 gives the expected Bus Error. The bit is then cleared and it is checked, that the write access is in order.
2. A test concerning the LAN controller is then performed. Only one write protect bit is set and a check is made that when the LAN controller makes a write access to the memory, a Bus Error occurs. The bit is then cleared and it is checked, that the write access is in order.

D – Test parallel printer interface

This test will transmit all characters from 0x00 to 0xFF to the parallel printer interface. When one character has been transmitted the program can read that character from the interface and check that it is correct. It is recommended to disconnect the parallel printer from the interface, when running this test.

F – Test DUART's. External loop back

On the NTC2 there are two or four DUART's, used to make the communication with the terminals. The DUART's are all of the type 2681. All channels, except the port 0, which is used to connect the Diagnostic Program operator terminal, are tested one by one using the following four tests:

- It is checked that the DUART's are able to set and reset all the modem signals.
- All channels are tested by transmitting characters with values from 00 – FF from one channel to the same channel at a fixed baud rate of 9600, checking that the received character is the same as the one transmitted.
- It is checked that it is possible to set and clear interrupts to the priority encoder.
- All channels are tested by transmitting characters with values from 00 – FF from one channel to the same channel at different baud rates from 38400 to 300, checking that the received character is the same as the one transmitted.

In order to test the serial channels with external loop back, insert 2, 3, 6 or 7 special plugs in the connectors on the back panel of the NTC2. The plugs are described at the end of this chapter.

G – Test DUART's. Internal loop back

It is possible to configure the DUART's to a mode called internal loop. When doing that the DUART's will make an internal connection of the transmit and receive data pins. This enables the program to run the test without using the special plugs required in test F. However, it is not possible to test the modem signals in internal loop, so

Supermax NTC2

only the second, third and fourth test mentioned above will be made during this test.

H – Test LAN controller without Transceiver

Refer to the description of test **K**. The third test mentioned there will not be executed when running this test.

K – Test LAN controller with Transceiver

The Local Area Network (*LAN*) interface is based on Intel 82586 and SEEQ 8023A. The 82586 is the LAN controller and the 8023A is the manchester encoder/decoder. Communication between the MC68000 and the 82586 is made through ~~64 kb~~ of the memory. A certain part of that memory is used to exchange commands and status information. The 82586 has some built-in test facilities and they are started up, when the 82586 has been initialized. If the internal test fails, no further testing will be done, the error will be reported and the program will return to the menu. Otherwise the buffer memory will be initialized with numerous receive and transmit buffers and descriptors in order to enable the 82586 to receive and transmit packages on the network. The test is made in three stages.

- The 82586 is configured to internal loop back and will transmit a package of 1 kB taken from the transmit buffer, receive the data and store them in the receive buffer. The program will check the status from the 82586 and compare the data received with the data transmitted.
- The 82586 is configured to external loop back and the 8023A is configured to loop back. Now the transmitted data will be gated to receive data by the manchester encoder/decoder. When configured like this the 82586 is only able to handle packages of 18 bytes. Status and data are checked.
- The 82586 is configured to external loop back and the 8023A is configured to no loop back. Now the transmitted data will be gated to receive data by the transceiver connected to the NTC2. This means that during this test there will be activity on the Network cable. When configured like this the 82586 is only able to handle packages of 18 bytes. Status and data are checked.

When the test is completed a statistic is written on the terminal, giving all kinds of information about the transmission.

I – Test timer interrupt

Timer interrupts are tested. Time can be calculated between timer interrupts by measuring the time between two "writings" of **Timer interrupt** on the terminal and then dividing that time by 100. The result should be 10ms.

S – Test All

This test will run one time through test A, B, C, G, H and I. It is possible to add the *Repeat test* option (*O*) to this one.

O – Repeat test(s)

All of the above mentioned tests will run one time through when selected. If, when selecting test(s), this one (*O*) is also selected, the test(s) will repeat itself (themselves) until otherwise canceled.

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N – Network Monitor

This entry is used to check the local area network. The LAN controller will receive all packages on the network and you can see statistics of the received packages by typing **R**.

J – Test ~~EEPROM~~. Content will be saved

The NTC2 can be mounted with a static RAM instead of the EEPROM and in that case, this test is not applicable. The content of the EEPROM is saved in main memory before testing it. The EEPROM is tested by writing an incrementing and a decrementing counter. After that the original content is written back. The NTC2 will not respond to any interrupts from the service port during this test. An EEPROM is only able to perform appx. 10000 write operations, before it is destroyed. Because of this, the test will not be allowed to run continuously and should not be carried out more than once while testing the NTC2.

Supermax NTC2

L – Write to parallel printer

This test will write the menu to the parallel printer, checking all interface signals. The operator must visually inspect if the written text is correct.

P – Set test parameters

The following test parameter can be set for the NTC2:

- Parallel printer interface installed.
- Select number of DUART's.

Z – Reset NTC2

A reset of all the peripherals on the NTC2 is performed and the program will restart from the reset vector in the EPROM.

Q – Debugger

Go to debugging program. Return to Diagnostic Program by entering **GO <CR>**.

V – Version

Display version and date.

M – Menu

Display the menu on the terminal.

Program control

It is possible to control program execution by using some special control characters as mentioned below.

- **Ctrl C.** This is used to cancel a running test. Program execution stops and the prompt will be displayed on the terminal.
- **Ctrl S.** This is used to send *XOFF* character to the program, which will stop printing on the terminal.

- **Ctrl Q.** This is used to send *XON* character to the program, which will start printing again.
- **Ctrl N.** This is used to disable printing on the terminal, but program execution continues.
- **Ctrl P.** This is used to enable printing on the terminal after a **Ctrl N** has been received.

The **** or **<RUB>** key will delete all inputs in the current command line and issue a new prompt.

Selecting and deselecting the NTC2

The NTC2 is selected upon start of the Diagnostic Program. To deselect the NTC2, type the sequence shown below.

```
<ESC>
#
1-F
<CR>
```

In order to select the NTC2, type **0** instead of the **1-F** in the select sequence above.

Special plugs needed to test the DUART's

In order to test one NTC2, 2, 3, 6 or 7 25 pin Cannon connectors strapped as shown below, must be used.

Special plugs	
RS-232C plug	
25 pin	
2	↔ 3
4	↔ 5
6	↔ 20

Table 3-4: Special plugs

Parallel Printer Interface on the NTC2

PS(0)	Handshake signal, /STROBE
PS(1)	Handshake signal, /ACK
PS(2)	Handshake signal, BUSY
PS(3)	Printer out of paper, PE
PS(4)	Printer ready to receive data
PS(5)	Printer error, /FAULT
PS(6)	Interface ready to printer (active low)
PS(7)	Data ready from printer (active low)

Table 3-5: Parallel interface status

Error register on the NTC2

ER(0)	RAM status 0
ER(1)	RAM status 1
ER(2-6)	Not used
ER(7)	Power fail
ER(8)	Address strobe from CPU
ER(9)	Write protect violation LAN
ER(10)	Write protect violation CPU
ER(11)	Parity error low byte
ER(12)	Parity error high byte
ER(13)	Write to EPROM
ER(14)	Time out error
ER(15)	Watchdog error

Table 3-6: Error Register



5. Light Emitting Diodes (LEDs).

An LED is one of the small "lamps" positioned on the NTC2. The LEDs are used by the NTC2 to give status messages to its surroundings.

NTC2 has two green and four red LEDs placed in two rows with three LEDs in each.

5.1. Green LEDs.

One of the two green LEDs indicates that NTC2's voltage supply is O.K.. It must be switched on permanently. The other flickers when there is activity on the network.

5.2. Red LEDs.

The red LED next to the two green ones are only switched on in case of error. Immediately after this diode has been switched on, the NTC2 will attempt to boot (see below).

The remaining three LEDs function as follows (■ switched on, _ switched off):

Stage	Indication	Action
A	■ ■ ■	The unit resets or runs hardware auto-test.
B	■ _ ■	The NTC2 requests the Supermax to be booted.
C	_ ■ ■	The unit awaits reply, is booting or running test programs.
D	_ _ ■	Booted software initializes.
E	_ _ _	Normal operation/No errors.
F	_ ■ _	The netserver program reads from NTC2.



G ■ _ _ Error in connection with initialization of the LAN controller. All NTC2 activity stops.

H ■ ■ _ Either an error has been detected in connection with the auto-test or the DIAGNOSTIC command has been used (appendix B.3).

The principle is that no red LEDs are switched on during normal NTC2 operation.

In case of normal start-up after power cut, the LEDs will pass through the stages A-B-C-D-E, perhaps with a few shifts between stage C back to stage B. If after three attempts the NTC2 does not establish connection with a Supermax computer, it will reset and start again. This implies that it will call continuously with a frequency of under three calls per minute.



A. Troubleshooting.

This appendix contains a guide to troubleshooting in connection with NTC2 application.

For further information consult corresponding appendix in the guide .

Network Administrator's Guide to Supermax LAN

Generally, NTC2 troubleshooting is effected via the unit's LEDs - see section 5., "Light Emitting Diodes".

A.1. NTC2 stops in Stage G eller H.

The NTC2 will not attempt to boot, if during start-up it detects a major hardware defect. In this case the LEDs will indicate that the NTC2 remains in stage G or H.

If it does not help to turn the NTC2 off and on again, contact the distributor or DDE's support group. For further action the "NTC2 Diagnostic Program" is required.

A.2. NTC2 cannot boot.

This state is characterized by a slow LED shift between stage B and C.

- Check that the unit is connected to the LAN.
- Check that the netserver is running on the Supermax that is to boot the NTC2 , e.g. by means of the command *status* from the *sysadm* menu *netserver*.
- Check the *log* file by means of the *sysadm* procedure *displog*. The *log* file will show which NTC2s have called *netserver* - no matter whether booting has been effected or not. Further, if the Supermax received the call, the reason why the NTC2 was not booted will be indicated as well.



A.3. NTC2 Does Not Reply to the COMMAND Character.

The NTC2 is in stage E and the red LEDs are switched off indicating normal operation.

- Try pressing Control-Q. If the terminal has a special "hold screen" key, press it.
- Check by means of the *netadm*-program's function <CONNECT> and a *show* command on the port in question whether the COMMAND character is switched on and whether the character displayed matches the key you press.
- Check that the terminal's and NTC2's baud rate, parity, number of stop bits and number of data bits match. If not, the MEMORY E command will display a status which is not "O.K.".
- Check by means of the MEMORY U command (see appendix B) whether CTS is on. If not, check whether the cable is properly installed and whether it is the correct type of cable.
- If everything appears to be in order: try to switch the terminal off and on again.

Supermax Network Controller - NTC2

1.1.6

rev. 01.09.94

DDE-type

Product name

System

Light Emitting Diodes

Trouble Shooting



Installationshåndbog
Dansk Data Elektronik A/S
1. Januar 1992

Vare nr. 94000120
Version 1.0

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Dansk Data Elektronik A/S
DDE Service Division

Installationshåndbog

Dansk Data Elektronik A/S

1. Januar 1992

Denne håndbog dækker alt om installation af Supermax datamater - lige fra evt. edb-rum skal vælges, til systemet er fuldt køreklart.

Vi håber, at De må finde svar på alle de spørgsmål, der kan opstå ved installation af vore produkter. De kan også kontakte en af vores serviceafdelinger, for nærmere oplysninger.

DDE Service Division

- 1. udgave - 1.6.1990
- 2. udgave - 3.6.1991
- 3. udgave - 1.1.1992



Installationshåndbog
01.01.1992

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1 Indledning

Professional installation.

DDE leverer EDS løsninger, som tilgodeser vore kunders individuelle behov, herunder at få udført det bedst tænkelige installationsforløb.

Derfor stiller DDE en række krav til el-installatøren om arbejdsmetoder, valg af materialer og i det hele taget til en professional indstilling til opgaverne.

Det er de samme krav, vi stiller til vores eget personale.

Supermax-datatæten

DDE udvikler og producerer Supermax-datatæten, der er en modulopbygget flerbruger maskine. Det betyder, at en model beregnet til få brugere kan udbygges til en model beregnet til flere hundrede brugere. Derfor er der også forskel på de krav, der stilles til såvel installation som omgivelser.

DDE-Autorisation af el-installatør.

Sidst i bogen findes en erklæring, som skal indsendes til DDE's service division, såfremt DDE-autorisation ønskes. Dette gælder også ved fornyelse af autorisation i overensstemmelse med indholdet af denne udgave af installationshåndbogen.

Tidligere installationshåndbog udgår.

Denne installationshåndbog erstatter installationshåndbog for "Supermax og SPC/1" af 2.4.1986, der udgår, og udgaverne 1.6.1990 og 3.6.1991.

Alt nyt installationsarbejde skal udføres efter reglerne i henværende installationshåndbog.

Eksisterende installationsarbejde, udført efter reglerne i den tidligere udgave, anses fortsat at leve op til DDE's krav.

2 Installations- og driftsbetingelser

For at sikre en tilfredsstillende og stabil driftssituation, er det absolut nødvendigt, at el-installationen er korrekt dimensioneret og udført.

Efterfølgende afsnit omhandler DDE's krav, samt anvisninger for el-installation.

2.1 Netforsyning

For at sikre anlægget den fornødne effekt samt en støjfri strømforsyning, skal edb-anlægget tilsluttes sin egen 2-polede gruppe.

Er der tilsluttet mere end 4 ydre enheder (terminaler, printere, pc'ere, ntc'ere), anbefales det at oprette en special gruppetafle udelukkende til edb-udstyret. Se eksemplet afsnit 2.1.1. Denne edb-gruppetafle skal forsynes direkte fra bygningens hovedtafle, her anvendes skærmet kabel, hvor skærmen jordes i begge ender. Hovedledningen til denne gruppe overstrømsbeskyttes af en smeltesikring. Sikringens mærkestrøm skal mindst være det dobbelte af den samlede totalbelastning fra datamat, terminaler, printere ntc'ere og andet udstyr tilsluttet gruppen.

Er der indrettet specielt lokale til datamaten med klimaanlæg etc. anbefales det at placere gruppetafle i samme lokale.

Bemærkninger vedr. gruppetafle:

- a) Der må kun anvendes 2-polede grupper.
- b) Der må kun anvendes gruppeafbrydere med smeltesikringer, og ikke automatsikringer, maksimalafbrydere e.l. på grund af forekomst af store pulsstrømme.
- c) Datamaten skal altid tilsluttes sin egen gruppe.
- d) Strømforsyningen til ydre enheder opdeles i grupper ud fra enten bygningens fysiske udstrækning eller fordelt på ntc'ere.

- e) Hver af ovennævnte gruppe beskyttes med FI- relæ aldrig HFI-relæ.
- f) Tavlen opmærkes således at det er muligt, at se hvilke grupper sættilge stikkontakter er forsynet fra.
- g) Netforsyning til klimaanlæg, belysning, rengøringsudstyr m.m. må ikke tages fra disse tavler/grupper.

Netforsyningen skal udføres under hensyntagen til udstyrets brug af såkaldte switchmode powersupplies, som belaster nettet med kraftige spidsstrømme. Mens man normalt vælger ledningsdimensioner ud fra den maksimale effekt, skal der her tages hensyn til det maksimalt tilladte spændingsfald på nettet. Spændingsfaldet må ikke overstige 15,6 volt spids.

Ved udvælgelse af kabeldimension for en given kabelstrækning, kan man i de tilfælde, hvor der er tale om almindelige 10A og 16A grupper anvende tabellerne i afsnit 3.

For Supermax kabinetter, samt enheder med strømforbrug større end 1000 VA (eks. laserprintere under udskrift - ca. 1000 VA), er det meget vigtigt at overholde ovennævnte krav til kabeldimension, samt at man i gruppe-fordelingen tager hensyn til f.eks. printerens placering.

Kabler fra edb-gruppetavlen skal være skærmede, og skærmen skal være jordnet.

Netforsyning til datamater afsluttes i dæse med nøgleafbryder.

Netforsyning til terminaler, printere og lignende afsluttes i stikkontakt med jord - I.K's edb-stikkontakt med skrå ben.

2.1.1 Eksempel på gruppetafle for edb-udstyr

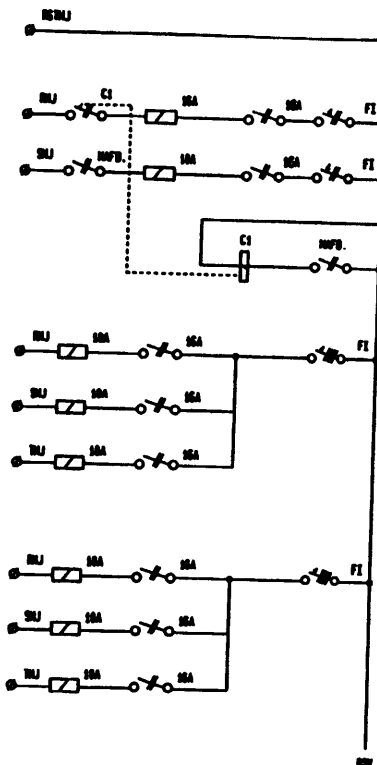
Tilgang fra hoved-
tavle (eks. 5x16)

Afg. til Supermax

Afg. til modemreol

1. Etage
Ydre enheder

2. Etage
Ydre enheder



Tilgang fra hovedtavle samt kabel ud til stik dimensioneres ud fra anvisningen i afsnit 3.

2.1.2 Krav til netforsyning

Spænding	Spændings område	Frekvens
V AC.	V AC.	Hz
440 2N	330 - 456	47 - 63

- eller

230	192 - 264	47 - 63
-----	-----------	---------

- afhængig af den enkelte Supermax kabinet installation.

2.1.3 Elektrisk støj

Der kan undtagelsesvis være tilfælde, hvor eksterne elektriske installationer vil påvirke anlægget enten ved støj, eller udsving i forsyningsspændingen, uden at disse forhold kan lokaliseres eller udelukkes.

DDE's servicedivision er til enhver tid indstillet på at hjælpe med at løse sådanne problemer evt. ved tilslutning af magnetstabilisator, nødstrømsanlæg eller lignende. Se også afsnit 2.6.

Omkostninger i forbindelse med ovenstående forhold er ikke omfattet af evt. vedligeholdelsesaftale, og må således afholdes af brugeren.

2.1.4 EMC, elektrisk ud- og indstråling

Supermax kabinetterne (Supermax 4, 6, 12, og 24, samt Supermax Disk) er designet til at overholde kravene specificeret i

- VDE 0871 Class B og FCC Part 15 Subpart J Class B.

2.1.5 Sikkertæthed

Supermax kabinetterne (Supermax 4, 6, 12, og 24, samt Supermax Disk) er designet til at overholde kravene specificeret i

- IEC 950, EN 60950 og UL 1950.

2.1.6 Funktionsjord

Funktionsjord til edb-installationen skal udføres som enten:

Jording med kobber-elektrode med en overgangsmodstand på mindre end 10 Ohm til neutralt jord, eller ifølge stærkstrømsreglementet, hvor jording sker direkte til edb-gruppetavle uden andre tilslutninger. Andre brugegenstande skal have separat kabel til elektrode.

Eller som nulling udført i eller umiddelbart uden for transformere, hvor dette er tilladt.

Udstyr tilsluttet datamaten uden samme elforsyning og jordingsanlæg som denne, skal på datakommunikationssiden være galvanisk adskilt v.h.a. lokalnet, modemer e.l. da forskelle i jordpotentiale vil udligne gennem udstyrets kommunikationsporte og ødelægge disse.

2.2 Effektforbrug

Beskrivelse	Effekt	Beskrivelse	Effekt
Supermax 4	540 W	Supermax Compact	550 W
Supermax 6	1380 W	Supermax Slimline	660 W
Supermax 12	1840 W	Supermax Vertical	1400 W
Supermax 24	3680 W	Supermax Rack	1650 W
Supermax Disk kabinet	1380 W	Rack add-on kabinet	990 W
Supermax NTC2	20 W	Vertical add-on kabinet	1400 W
Submodul Term32 panel	15 W	Slimline disk kabinet	660 W
XTerminal	< 100 W	Vertical disk kabinet	770 W
Terminal	< 100 W	Gigapack disk kabinet	660 W
Matrixprinter	< 200 W	Supermax SGD	100 W
PC	< 200 W	Supermax NTC	40 W
Skrivehjulsprinter	< 350 W	SIOC II bagpanel	60 W
Laserprinter *)	<1000 W	SPC/1 alle modeller	210 W
		SPC/1 diskabinet	450 W

Alle kabinetter inkluderer kort og diske.

*) under udskrift

2.3 Elektrisk installation af Supermax kabinetter

Model	Spænding V AC	Spændingsområde V AC	Strøm A	Frekvens Hz	Kabeldimension mm ²	Sikring A
4	230	192-264	2	47-63	3 x 1.00	T2
6	230	192-264	3	47-63	3 x 1.5	T3.15
12	230	192-264	6	47-63	3 x 1.5	T6.3
24	400 2N	330-456	2x6	47-63	4 x 1.5	T6.3
	230	192-264	12	47-63	3 x 2.5	T12
Disk	400 2N	330-456	2x3	47-63	4 x 1.5	T3.15
	230	192-264	6	47-63	3 x 1.5	T6.3
	230	192-264	3	47-63	3 x 1.5	T3.15

Supermax kabinet spændingsforsyningskabling :

1 fase installation

2 fase installation

Farve	Navn
Brun	L
Blå	N
Gul/Grøn	E

Farve	Navn
Brun	L1
Sort	L2
Blå	N
Gul/Grøn	E

Oversigt :

L - Line
N - Neutral
E - Earth

2.4 Omgivelsestemperatur, luftfugtighed og støv

Ved opretholdelse af de angivne ideelle miljø forhold minimeres risikoen for fejl, ligesom udstyrets levetid forlænges.

Temperatur: 10 - 35 grader Celcius, målt 1 meter fra udstyret.

Maksimal temperaturvariation er 8 grader Celcius pr. time. Udstyret må ikke være påvirket af direkte sollys, når det er under drift.

NB: Den anbefalede temperatur er 21 grader Celcius.

Luftfugtighed: 20 - 80 % relativ, ikke kondenserende. Maksimal ændringshastighed er 10 % pr. time.

NB: Den anbefalede luftfugtighed er 50 %

Forhold mellem temperatur og luftfugtighed :

Temperatur	Relativ luftfugtighed	Specifik luftfugtighed
10°C	20 - 80%	0.001-0.005kg H ₂ O/kg luft
20°C	20 - 80%	0.003-0.012kg H ₂ O/kg luft
30°C	20 - 75%	0.005-0.019kg H ₂ O/kg luft
35°C	20 - 34%	0.009-0.015kg H ₂ O/kg luft

Støv: Ved installationer med streamer- og især video-drev, hvor der forekommer problemer, må den omgivende lufts indhold af partikler ikke overstige flg.:

Partikelstørrelse i micron (μ)	Max. antal partikler pr. m ²
< 1.0	4×10^7
1.0 til 1.5	4×10^6
1.5 til 5.0	4×10^5
5.0 til 10.0	4×10^4
> 10.0	4×10^3

2.5 Friareal/vægt

Ydre dimensioner for SUPERMAX:

Model/Kabinet	Højde	Bredde	Dybde	Vægt	Note
	mm.	mm.	mm.	kg.	
SUPERMAX 24	890	550	1140	220	
SUPERMAX 12	890	550	840	160	
SUPERMAX 6	890	280	850	110	
SUPERMAX 4	580	260	650	45	
SUPERMAX DISK	890	280	850	135	
NTC2	300	440	100	6	
RACK (3)	935	545	850	160	1.
RACK (5)	1470	545	850	230	1.
VERTICAL	695	298	795	60	2.
SLIMLINE	695	196	795	50	
COMPACT	550	196	550	32	

Note: 1. Fuldt udbygget med kortskuffer/diskskuffer

Note: 2. Samme data gælder gigapack disc kabinet

Følgende pladskrav må sikres datamaten:

Model/Kabinet	Over	Foran	Bag	Venstre	Højre	Note
	mm.	mm.	mm.	mm.	mm.	
SUPERMAX 24	1000	700	700	700	250	3. 4.
SUPERMAX 12	1000	700	700	700	250	
SUPERMAX 6	1000	700	700	700	250	
SUPERMAX 4	1000	700	700	700	250	
SUPERMAX 4	500	200	200	100	200	
SUPERMAX DISK	1000	700	700	700	250	
NTC2	100	500	*) 100	100	100	5.
RACK 3/5	1000	1400	500	100	400	
VERTICAL	1000	400	400	400	400	
SLIMLINE	1000	400	400	400	400	
COMPACT	1000	400	400	200	200	

*) friareal under NTC2 (NTC2 er monteret på væg)

Note: 3. Pladskrav ved service

Note: 4. Pladskrav under normale omstændigheder

Note: 5. Pladskrav ved service (vippet frem fra væg)

2.6 Nødstrømsanlæg

Til Supermax-serien kan der, til opretholdelse af forsyningsspænding ved strømafbrydelse, leveres No-Break systemer (UPS - Uninterruptable Power Supply) på 1000VA, 2000VA, 3000VA og 5000VA. Dette udstyr bevirker kun kontrolleret nedlukning, med deraf følgende bevarelse af data, og muliggør derfor ikke fortsat drift. No-Break systemer stabiliserer også ved netspændingsvariationer.

2.7 Kontrolleret nedlukning ved overtemperatur i datamater

Ved at give et signal til datamater af Supermax-serien, kan man starte en kontrolleret nedlukning før strømmen afbrydes. Bilaget næste side er et eksempel, der viser hvorledes denne facilitet kan udnyttes til kontrolleret nedlukning af datamaten ved for høj temperatur i datamaterummet.

Beskrivelse:

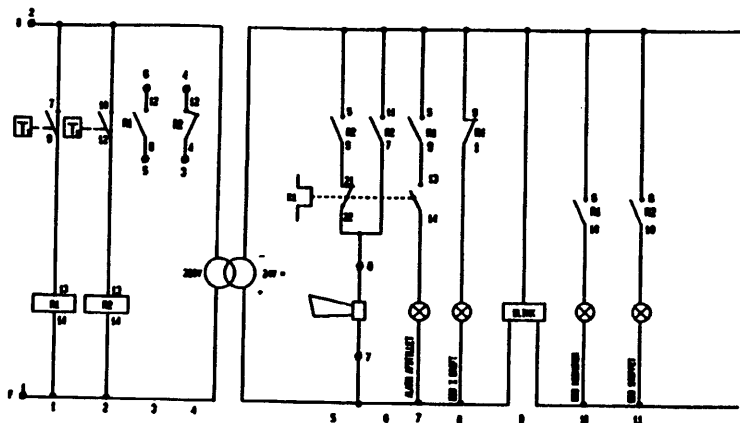
Nedlukningen foregår i to tempi.

- 1) Ved temperatur T_1 - typisk 30°C - giver relæet fra temperatur-boksen signal til datamaten om nedlukning samtidigt gives en akustisk alarm.

Fra alarmen er gået, til datamaten er lukket ned, vil der være en af datamaten forud bestemt tid (typisk 10 -15 min.) til at rette fejlen, genstarte køleanlæg lufte ud eller lignende.

- 2) Ved temperatur T_2 - maksimalt 35°C - afbrydes der for strømmen til datamaten og der gives akustisk alarm.
Systemet skal herefter genstartes manuelt.

Denne facilitet kan benyttes sammen med no-break anlægget.



3 Forsyningskabler

Forsyningskabler skal dimensioneres efter nedenstående tabel eller beregnings-metode for at overholde krav til maksimale spændingsvariationer.

Der er angivet to tabeller der kan bruges til 10 og 16 A grupper, samt et formelsæt, der kan benyttes, hvor tabellerne ikke slår til. Dette gælder for Supermax, samt enheder med strømforbrug større end 1000 VA.

3.1 Dimensionering ved brug af tabel

Afstanden fra hovedtavle til brugssted måles og nærmeste større værdi findes i tabellens første søjle. Kabeldimensionen aflæses derefter i anden søjle.

10 A EDB-GRUPPETAVLE		
MAX. AFSTAND	TVÆRSNIT	MODSTAND/METER
16.1 m	1.5 mm ²	12.10 mohm/m
26.8 m	2.5 mm ²	7.28 mohm/m
42.8 m	4.0 mm ²	4.56 mohm/m
63.3 m	6.0 mm ²	3.08 mohm/m
106.6 m	10.0 mm ²	1.83 mohm/m
169.6 m	16.0 mm ²	1.15 mohm/m
267.9 m	25.0 mm ²	0.728 mohm/m

16 A EDB-GRUPPETAVLE		
MAX. AFSTAND	TVÆRSNIT	MODSTAND/METER
16.7 m	2.5 mm ²	7.28 mohm/m
26.6 m	4.0 mm ²	4.56 mohm/m
39.5 m	6.0 mm ²	3.08 mohm/m
66.4 m	10.0 mm ²	1.83 mohm/m
105.7 m	16.0 mm ²	1.15 mohm/m
167.4 m	25.0 mm ²	0.728 mohm/m
232.1 m	35.0 mm ²	0.525 mohm/m

3.2 Dimensionering ved beregning

Beregning af forsyningskablers dimension anvendes hvor tabellerne ikke kan bruges direkte. Forholdet mellem effektiv- og spidsstrøm er sat til 4, og maksimal spændingsfald er sat til 11 volt, grundet brugen af switchmode powersupplies i edb-udstyret.

Maksimum spændingsfald : 11 volt_{eff} = 15.6 volt_{spids}

Spidsstrøm : $A \times 4 = \text{strøm}_{\text{spids}}$ [A = gruppens sikringsstørrelse]

Maksimum modstand i installation : $R_{\text{max}} = V_{\text{spids}} / I_{\text{spids}}$

Kabeltypen vælges ud fra : $R_{\text{spec}} = R_{\text{max}} / \text{afstand} \times 2$

R_{spec} kan så findes i tabellernes tredje søjle som nærmeste værdi mindre end den beregnede, eller der kan anvendes data fra kabel-leve-randøren.

3.2.1 Eksempel

Der benyttes 10 A gruppe og afstand fra gruppetafle er 18 meter.

I tabellen over 10 A grupper findes nærmeste større tal i første søjle. Det er 26.8 og i anden søjle kan så ses at der skal bruges 2.5 mm² kabel.

Beregnes ovenstående eksempel fås.

$$\text{strøm}_{\text{spids}} = 10 \times 4 = 40 \text{ A}$$

$$R_{\text{max}} = 15.6 / 40 = 390 \text{ mohm}$$

$$R_{\text{spec}} = 390 / (18 \times 2) = 10.8$$

Derefter aflases nærmeste mindre værdi i tredje søjle. Det er 7.28 og igen ses at kabel dimensionen bliver 2.5 mm².

4 Forholdsregler ved fast installation

Trækning af kabler skal udføres af en DDE autoriseret installatør, eller efter aftale med DDE's Service Division. Se adresselista i afsnit 10.

Der skal anvendes DDE godkendt kabel- og stikmateriel, leveret af DDE eller af installatøren. Installationsmaterialer i øvrigt: Se afsnit 5.

Datastik skal være 25 polet hunstik for lodde-, crimp - eller skære/-klemme montering. Datastik monteres enten direkte i kabelkanaler eller underlag af LK-NES type 104D0336 - underlag for stikkontakt

Denne faste installation kræver et mellem-kabel ved terminal/printer og Supermax, der monteres af DDE's tekniker.

Ved nogle Supermax konfigurationer kan mellem-kabel undgås ved direkte kabelføring til Supermax. Stiktypen skal så være 25 polet hanstik monterede med kappe. Dette skal aftales med DDE's tekniker.

Signalkablet incl. mellemkabel må ikke overskride 50 meter.

For alle kabler og datastik gælder, det at de skal afmærkes synligt og tydeligt med samme nummer i hver ende. Opmærknings-nummeret kan eksempelvis bestå af lokalenummer-stiknummer.

Alle faste installationer trækkes så vidt muligt i kabelkanaler, der skal være med adskilte spor, således at stærkstrømskabler og datakabler er adskilte. På denne måde opnås respektafstand ved kabelføring.

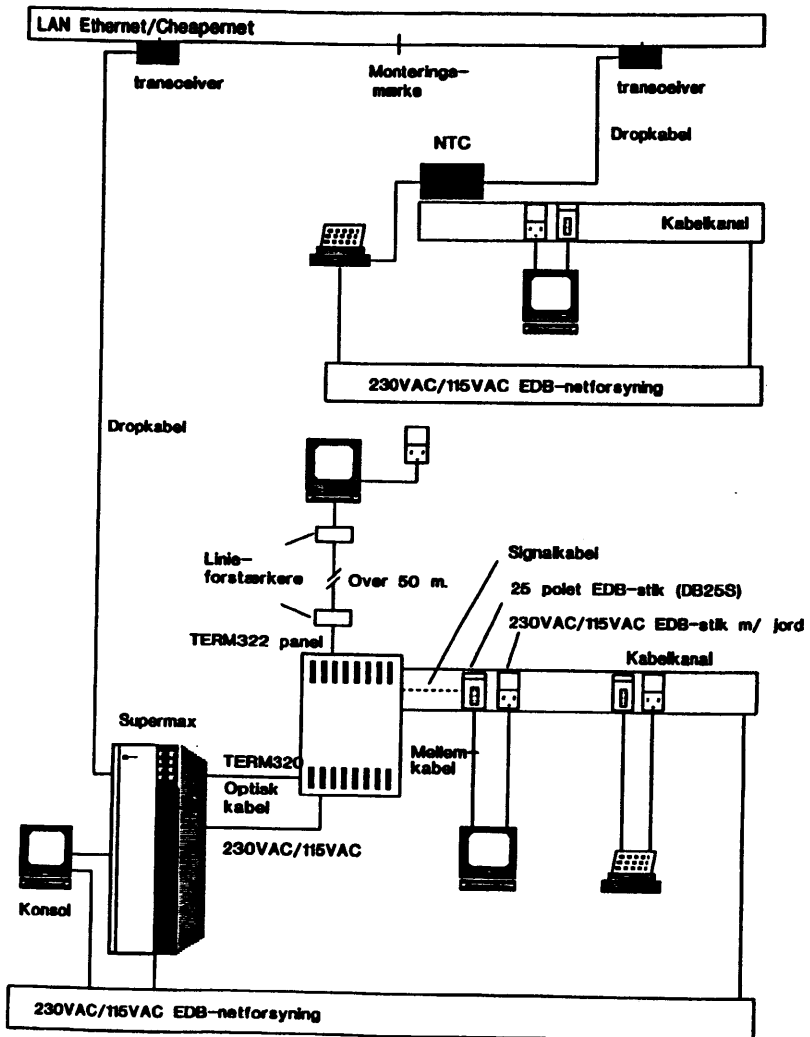
Udførte el-installationstegninger skal indsættes i kundens edb-logbog.

4.1 Respektafstand

Der tilsikres signalkablerne følgende minimale respektafstande til stærkstrøms-kabler:

Stærkstrøm	Afstand til signalkabel
≤ 10 A	5 cm
≤ 25 A	30 cm
> 25 A	50 cm

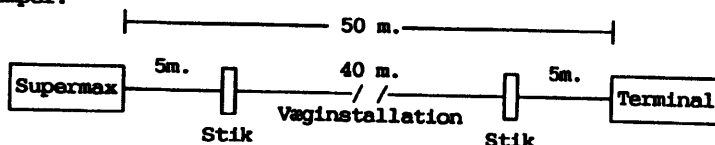
4.2 Eksempel på fast installation



4.3 Fast installation under 50 meter

Kabel skal være LiVCY 8 x 0.25 mm² flerkoret tråd med skærm. Der må ikke benyttes pænsnoede kabler. Kablet må ikke sløjfes fra brugssted til brugssted, og skal derved være ubrudt fra datamat til bruger. Den totale kabellængde, fra Supermax til ydre enhed, må således ikke overskride 50 meter.

Eksempel:



Materiale-beskrivelse for kabellængder under 50 meter.

Kabeltype: LiVCY 8 x 0.25 mm² DDE varenr. 90880100

Stiktype: Hunstik 25 polet (loddemontering) DDE varenr. 90881010
 Hunstik 25 polet (skære/klemme) DDE varenr. 90881020
 Hunstik 25 polet (crimp) DDE varenr. 90881030

Vær opmærksom på, at såfremt man anvender stik af skære/klemme-type, er det ekstra vigtigt at anvende den specificerede kabeltype, hvor de 8 ledere har samme isoleringstykkel.

4.3.1 Monteringsvejledning for 25-polet datastik

Stik 1				Stik 2	
Pin	Farve	Signal	Retning	Pin	
2	Blå	TxD	->	2	
3	Grøn	RxD	<-	3	
4	Gul	RTS	->	4	
5	Hvid	CTS	<-	5	
6	Grå (Sort)	DSR	<-	6	
7	Brun	GND		7	
8	L.Rød (Violet)	CD	<-	8	
20	Rød	DTR	->	20	
Kappe		Skærm		Kappe	

Skærmen monteres med en kabelsko, som skrues på kappen på stikket i vægdåsen. Dette skal ske i begge ender af kablet og skal sikre den elektriske forbindelse. Der skal ikke bruges skærmet plastdåse i installationen.

4.4 Fast installation over 50 meter

4.4.1 Linieforstærker

DDE varenummer: 16500400

Anvendelse

Anvendes hvor terminaler/printere er anbragt over 50 meter fra Supermax'en, dog må denne type linieforstærker kun anvendes indenfor samme matrikelnr. Kan også anvendes hvis galvansk adskillelse er påkrævet.

Der fremføres et kabel for hver terminal eller printertilslutning.

Alternativer

Modem/multiplexere på APL-linie eller evt. lokal telefonlinie. Se afsnit 4.4.3 om modem/multiplexere.

Montering

Linieforstærkeren monteres i kabelkanal i forbindelse med DB25S vægstik. Evt. på hyldeplade under computargulv.

Kabelkanal skal være med skillerum, hvis der også er fremført 220V i kanalen.

Strømforsyning

Forsynes fra SIOC'ens eller MIOC'ens/terminalens pin 20 (DTR).

Kabeltyper

Kabel varenr. 88010050 i Supermax ende. Standard terminal/printer-kabel i terminal-/printer ende. Se figur næste side.

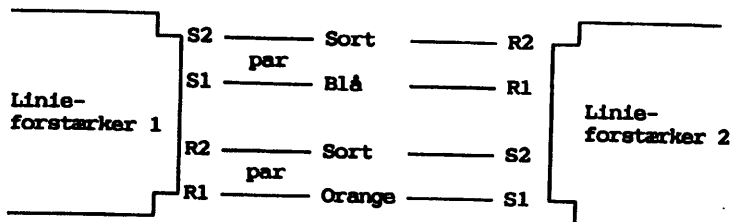
4-tråds parsnoet kabel type PT/CN-1 2x2x0,6 svarende til AVG 19.

Begrænsninger

Transmissionshastighed	Max. afstand
19200 baud	3 km
9600 baud	6 km
4800 baud	9 km
2400 baud	14 km
1200 baud	16 km

Kabelforbindelse mellem linieforstærkere

a) linieforstærker -> linieforstærker.



b) linieforstærker -> DB25S Vægstik

Som kabelforbindelse mellem linieforstærker og DB25S vægstik fremstilles et kabel bestående af følgende:

1/2 meter 8-leder multikabel

DB25S datastikdåse (hun)

DB25S datastik (hun)

Kabelforbindelsen udføres på følgende måde i terminal-enden.

Linieforstærker

Vægstik.

Pin	Signal	Dir.	Colour	Dir.	Signal	Pin
3	RxD	<-	Blå	<-	TxD	2
2	TxD	->	Grøn	->	RxD	3
5	CTS	<-	Gul	<-	RTS	4
20	DTR	<-	Hvid	<-	DSR	6
4	RTS	<-	Grå	<-	CTS	5
7	GND		Brun		GND	7
6	DSR	<-	Rød	<-	DTR	20

I Supermax-enden forbindes lige over.

4.4.2 Typegodkendt lokalmodem

Asynkron linedriver godkendt for tilslutning til 4 tråds APL-linie.
Økonomisk alternativ til modem/multiplexer.

Anvendelse

- a) Hvor tæt placerede bygninger skal forbindes via APL-linie.
- b) I lokale installationer med afstande over 50 meter.

Begrænsninger

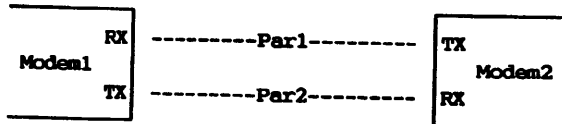
Transmissionshastighed	Max. afstand
19200 baud	3 km
9600 baud	6 km
4800 baud	9 km
2400 baud	14 km
1200 baud	16 km

NB: Leverandørens opgivelser. Der tages forbehold for evt. dårlig liniekvalitet i forbindelse med APL-linier. Ligeledes skal man være opmærksom på at APL-linier ofte går via nærmeste central. Konsulter derfor telefonselskabet.

Tilslutning

- a) 4-tråds APL-linie leveret af telefonselskabet.
- b) 4-tråds parskoet kabel type PT/CN-1 2x2x0,6.

Modemmerne forbindes således:



Det skal bemærkes at fasingen er uden betydning.

4.4.3 Modemmer og multiplexere

Modulært opbygget modem og statistisk multiplexer med 4, 10 ell. 16 serielle RS232 porte. Der anvendes 2 modem/multiplexere pr. kabelstrækning.

Anvendelse

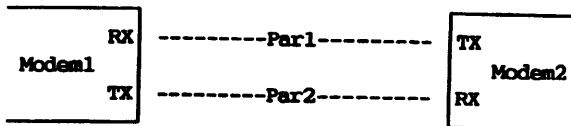
- a) Fortrinsvis i forbindelse med APL-linie, hvor data-overførsel mellem flere adresser/matrikelnumre ønskes.
- b) I lokalinstallation hvor terminaler/printere er anbragt over 50 meter fra Supermax'en.

Placering

Placeres i moderskab eller på hylde min. 25x60 cm. Undgå placering i depotrum hvor der opbevares rengøringsmidler eller andre kemikalier samt rum med høj luftfugtighed.

Tilslutning

- a) 4-tråds APL-linie leveret af telefonselskabet. Modemet og multiplexeren leveres fra DDE monteret med 2 stk. trepolede telefonstik mærket hhv. Sende og Modtage.
- b) 4-tråds parskoet kabel type PT/CN-1 2x2x0,6 evt. trukket af installatøren.
- c) Modemerne forbindes således, idet det skal bemærkes, at fasningen er uden betydning.



- d) Mellem multiplexer og Supermax anvendes kabel type 88011050
- e) Mellem multiplexer og DB25S vægstik anvendes kabeltype 880100L0
- f) Ønskes terminaler og printere tilsluttet direkte til multiplexer anvendes typisk 880010L0 kabel og evt. 880011L0 afhængigt af om den tilsluttede enhed er forsynet med han- eller hunstik.

5 Anvendte DDE-materialer

Linieforstærker	Vare nr. 16500400
Typegodkendt lokalmodem	Vare nr. Kontakt DDE
Multikabel 8-leder type LiVCY 8x0.25 Rulle á 100 meter	Vare nr. 90880100 x 100
Kabel 4 tråds parskoet type PT/CN-1 2x2x0,6 Rulle á 100 meter	Vare nr. 90880200 x 100
Kabel 8-leder konfektioneret 5 meter Term/print --> datamat	Vare nr. 88002050
Kabel 8-leder konfektioneret 5 meter Term/print/datamat --> modem	Vare nr. 88001050
Kabel 8-leder konfektioneret 5 meter Forlangerkabel	Vare nr. 88001150
Kabel 8-leder konfektioneret 5 meter Codex 6015 --> vægstik	Vare nr. 88010050
Kabel 8-leder konfektioneret 5 meter Codex 6015 --> datamat	Vare nr. 88011050
DB25S datastikdåse (hun)	
LK vare nr. 108 D 5024 grå	Vare nr. 90881321
LK vare nr. 108 D 6024 hvid	Vare nr. 90881322
DB25P 25 pol. datastik indsats (hun)	
LK vare nr. 108 D 7024	Vare nr. 90881020
DB25P 25 pol. datastik indsats (han)	
LK vare nr. 108 D 7026	Vare nr. 90881120
DB25 Kappe for 25 pol. datastik (metal)	Vare nr. 90881200
Codex 6015 Mux med 4 porte	Vare nr. 16500200
Codex 6015 add-on mux med 6 porte	Vare nr. 16500250
Codex 6015 Integral Modem	Vare nr. 16500300
Cheapermet (Thinnert) coax kabel	Vare nr. 88631090
Ethernet (Thicknet) coax kabel	Vare nr. 88601090

Priser kan rekvireres ved henvendelse til DDE.

Alle DDE-kabler leveres med tydeligt angivet kabelnummer i begge ender og med metaliseret kapper med fingerskruer.

5.1 Anvendt kabel materiale

Følgende liste er en beskrivelse af de forskellige kabler som benyttes til DDE's standard kabler.

Iøvrigt henvises til "Supermax Cable Description", Vare nr. 94880011.

- * LiVCY 8 x 0.25 mm². - til serielle kabler.
- * LiVCY 12 x 0.25 mm². - til serielle kabler.
- * LiVCY 25 x 0.25 mm². - til parallelle kabler.
- * 3M 3659-50 - til parallelle kabler.
- * Belden 9880 mm². - til Ethernet kabler, Vare nr. 886010x0.
- * Belden PRO 9907 mm². - til Cheapernet kabler, Vare nr. 886310x0.
- * Belden PRO 9903 mm². - til tynde drop kabler, Vare nr. 886610x0.
- * Belden PRO 9901 mm². - til tykke drop kabler, Vare nr. 886810x0.
- * H05 VV-F 3G1 mm². - til strømførende kabler.

Tekniske specifikationer for LiVCY:

Leder	flerkoret tråd	14 x 0.15 mm
Isolation	PVC	0.30 mm
Skærm	Fortinnede kobber leder 85%	-
Yderste beklædning	PVC	-

Tekniske specifikationer for 3M 3659-50:

Leder	Fortinnede flerkoret tråd	28 AWG 7 x 36
Isolation	PVC	-
Skærm	Aluminiums film folie og fortinnede kobber leder 90%	-
Yderste beklædning	PVC	-

Tekniske specifikationer for H05 VV-F 3G1 mm²:

Leder	kobber leder	Multileder
Isolation	PVC	-
Yderste beklædning	PVC	8.4 mm

6 Lokalnetinstallation

DDE's lokalnet (Ethernet og Cheapernet) anvender coaxialkabel som forbindelse mellem de tilsluttede enheder. Kablet afsluttes med en termineringsmodstand i begge ender. Et sådant stykke afsluttet kabel kaldes et segment. Hvert segment jordforbindes eet og kun eet sted, og stik, samleled samt afslutninger sikres mod tilfældig jordforbindelse ved plastkappeisolering eller omvikling med isolerbånd.

Alle angivelser af DDE-varenumre dækker et antal forskellige fabrikater og typer; kun komponenter godkendt under det pågældende varenummer må anvendes ved installationen.

Flere segmenter kan sammenkobles til et større net v.h.a. repeatere, broer og/eller fiberoptiske linkforbindelser.

Der skelnes mellem to fysisk forskellige kabler, Ethernet-kabler og Cheapernet-kabler. Kablerne er af forskellig diameter og bøjelighed. Der benyttes dog samme transmissionshastighed (10 Mb/s) og samme pakkeformat på de to kabeltyper. De tilsluttede enheder (MIOC'er, NTC'er, PC'er, etc.) fungerer ens uanset kabeltype.

Fordelen ved Ethernet er, at det kan benyttes over længere strækninger og med flere transceivere end Cheapernet, mens fordelene ved Cheapernet er, at det er prisbilligt, og at det kan føres direkte frem til f.eks. PC'er og benytte den indbyggede transceiver på PC Lokalnet Interface-kortet.

6.1 Ethernet og Cheapernet kabling

Ethernet og Cheapernet kan anvendes sammen i en installation, hvor der f.eks. er behov for Cheapernet for tilslutning af PC'er og Ethernet for at opnå en stor udstrekning af nettet. Ofte anvendes f.eks. et eller flere Cheapernet segmenter på hver etage eller afsnit af en bygning, mens der så anvendes Ethernet til at forbinde etagerne sammen. Ethernet og Cheapernet skal kobles sammen ved anvendelse af repeatere; der må ikke bruges direkte sammenkobling. Tilladte længder, afstand mellem tilslutninger, stik, m.m. fremgår af nedenstående tabel med nøgletal for hhv. Ethernet og Cheapernet.

6.2 Transceivere

Transceivere benyttes for tilslutning af alle typer enheder til Ethernet samt for tilslutning til Cheapernet af enheder, der ikke har indbygget transceiver (PC'er og multiport repeaters har oftest indbyggede transceivere). Forbindelsen fra enhed til transceiver etableres med et dropkabel. Tilladte længder fremgår af nedenstående tabel med nøgletal. En multiport transceiver, også kaldet fan-out enhed, forbinder et antal (ofte 8) dropkabler til en enkelt transceiver, hvilket kan anvendes til at nedbringe antallet af transceivere på coaxkablet.

6.3 Repeatere

Almindelig repeater

Anvendes til sammenkobling af 2 kabelsegmenter via to dropkabler og 2 transceivere. Den almindelige type repeater videregiver data bit for bit mellem kabelsegmenterne. Dens opgave er at regenerere amplitude og timing for signalet, når det udsendes på det nye segment. Transceiverne til den almindelige type repeater skal være af typen NO SQE uden test signal.

Fiberoptisk repeater

Anvendes til sammenkobling af 2 kabelsegmenter over større fysisk afstand (op til 1000 meter) via en mellemliggende fiberoptisk linkforbindelse. Der anvendes 2 optiske repeaters, som tilsluttes hver sit kabelsegment via et dropkabel og en transceiver; repeaterne forbindes indbyrdes med 2 lyslederkabler (evt. eet kabel med 2 optiske fibre). Optiske fibre undgår problemer med elektromagnetisk støj og jordpotentialforskelle og anvendes derfor ved transmission mellem separate bygninger eller i industrimiljø. Data sendes bit for bit mellem segmenterne, d.v.s. kræver NO SQE type transceiver.

Multiport repeater

Anvendes til sammenkobling (stjernetkobling) af 8 kabelsegmenter; 2 kabelsegmenter via dropkabler og transceivere samt 6 Cheapernet kabelsegmenter med direkte (BNC) tilslutning til den ene ende af segmentet (multiport repeateren har interne afslutningsled på BNC tilslutningerne). De enkelte segmenter kan som oftest til- og fra-kobles separat v.h.a. switches på forpladen. Data sendes bit for bit mellem segmenterne, d.v.s. kræver NO SQE type transceiver.

Buffer repeater

Anvendes til sammenkobling af 2 kabelsegmenter ligesom den almindelige repeater, men med den afgørende forskel, at data ikke videresendes bit for bit, men opsamles og videresendes pakke for pakke, så snart der er ledigt på det andet segment. Dette muliggør tilslutning af segmenter ud over de i standarden nævnte begrænsninger på højst tre segmenter samt to linkforbindelser mellem vilkårlige enheder.

Filter repeater

Anvendes på samme måde som buffer repeateren, men med den tilføjelse, at filter typen begrænser omfanget af data sendt mellem de to segmenter, da en pakke ikke videresendes, hvis modtageren findes på det første segment. Endvidere kan der opsættes acces-begrænsninger på videre-sendingen. Data sendes pakke for pakke.

6.4 Sammenkobling af flere netværk

Når flere separate lokalnet skal forbindes sammen til eet logisk set sammenhængende net via en teleforbindelse (oftest 64 kb/s eller 2 Mb/s) anvendes netværksbroer. Ved 2Mb/s forbindelser anvendes desuden et V35 til G703 modem, mens teleselskabernes ved 64 kb/s forbindelser leverer linjerne med modem-interface direkte til V35. Ved sammenkobling af netværk med broer eller repeater af buffer/filter typen er der i princippet ingen begrænsning på antallet af sammenkoblede net; i praksis vil grænsen sættes af tidsforsinkelsen mellem nettene, idet f.eks. svar på systempakker skal kunne nå tilbage inden udløb af time-out.

6.5 Slut-test

Efter installation gennemmåles hvert segment (alle transceivere, mellemkabler og PC'er skal være tilsluttet), idet det kontrolleres, at reflektioner, langder, loop-modstand, jording, antal tilsluttede enheder, samt at afstande herimellem ligger inden for de tilladte grænser.

Grænsen for reflektioner, på et vilkårligt sted på en netværksinstallation, er iflg. standarden, IEEE 802.3, mindre end 7 % peak-peak, målt med et reflektometer, og for sammenkobling af 2 kabler mindre end 4 % peak-peak.

Installatøren udsteder certifikat, der angiver resultat af slut-test.

6.6 Nøgletal for lokalt net

<u>Parameter:</u>	<u>Ethernet:</u>	<u>Cheapernet:</u>
Konfiguration:	Bus, baseband	Bus, baseband
Bithastighed:	10 Mbit/sek	10 Mbit/sek
Accesmetode:	CSMA/CD	CSMA/CD
Protokoller:	XNS, TCP, OSI	XNS, TCP, OSI
Kabeltype:	Coaxial	Coaxial
Kabel diameter:	10,3 mm	4,95 mm
Karakteristisk impedans:	50 ohm	50 ohm
Afslutningsmodstand:	50 ohm	50 ohm
Stik type:	N connector	BNC connector
Samlinger:	N conn + adaptor	BNC + T-led
Spændingsniveau på net, nominelt:	0 til -2 V	0 til -2 V
Jording, hvert segment:	Netop kun i den ene ende af et segment	Ingen
Segment loopmodstand, max:	5,0 ohm	10,0 ohm
Bøjningsradier, mindst:	80 mm	50 mm
Segmentlængde, max.:	500 meter	185 meter
Antal enheder, max. (pr. segment):	100	30
Antal enheder, max. (hale nettet):	1024	1024
Fiberoptisk linkforbindelse, max:	1000 meter	1000 meter
Reflektioner, max.:	7 %	7 %
På sætning af transceivere:	Kabel gennembøres	Stik og T-led
Transceiverafstand, mindst:	2,5 meter	0,5 meter
På sætningssteder:	På sorte mærker.	Ingen spec.
Dropkabel:	Ja, altid.	Kun hvis ext.
Dropkabel længde, max (tykt):	50 meter.	50 m hvis brugt
Dropkabel længde v. fan-out enhed:	40 meter.	40 m hvis brugt
Dropkabel længde, max (tyndt, 9903):	5 meter.	5 m hvis brugt
Dropkabel loopmodstand (power par):	4 ohm.	4 ohm, do.
Karakteristisk imp. dropkabel:	78 ohm.	78 ohm, do.
Bøjningsradier, mindst (blødt kabel):	65 mm.	65 mm, do.
Bøjningsradier, mindst (stift kabel):	110 mm.	110 mm, do.

<u>Parameter:</u>	<u>Ethernet:</u>	<u>Cheasernet:</u>
Kobling v. dropkabel/transceiver:	Transformer.	Transformer.
Isolationsspænding, drop/transceiver:	270 V AC rms.	270 V AC rms.
Netværk udstrækning, totalt:	2500 meter.	925 meter.
Mellem vilkårlige transceivere,		
Antal segmenter, max:	3 coax+2 link	3 coax+2 link
Antal repeaters, max:	2 alm.+2 link	2 alm.+2 link
Respektafstand:	> 10 gange elkabel diameter. - tommelfingerregel.	
Mellem bygninger:	Anvend repeaters og fiberoptik.	
Sammenkobling mellem Ethernet og Cheasernet:	Anvend repeater !!	

7 Indretning af edb-rum

7.1 Valg af rum

Ved valg af egnet rum skal der tages hensyn til følgende forhold:

Rummets størrelse

SUPERMAX type (her skal man også tænke på fremtidige udvidelser), og evt. modemreol, konsolararbejdsplads, manualreol m.m., samt teknikers arbejdsplads.

Køling (evt. fremtidig)

Temperaturen må ikke overstige 35 grader celsius. Det kan være svært at etablere køling i rum uden ydervægge.

Sollys

Direkte sollys bør undgås af hensyn til temperaturen.

Trafik

Af hensyn til støvgener bør rummet ikke benyttes til gennemgående trafik. Der kan ligeledes være sikkerhedsmæssige hensyn i forbindelse med adgangen til edb-rummet.

Printere

Det bør kun være en eventuel system-printer, der står i edb-rummet, bedst i et støjafskærmet kabinet (støjdæmpet).

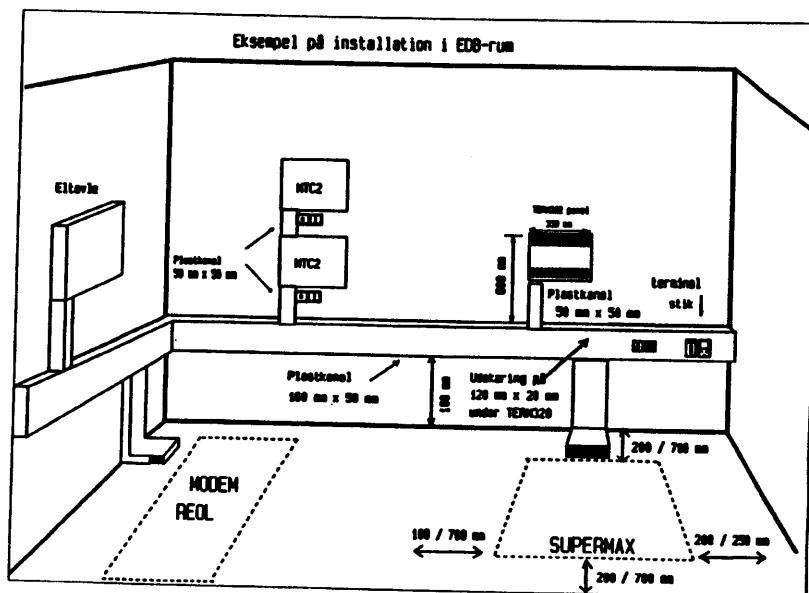
Kalderrum

På grund af risiko for stigende vandstand i kloakken bør placering af datamat og andet edb-udstyr i kalderrum undgås.

7.2 Indretning

Når et passende rum er valgt melder spørgsmålet om lokalets udstyr sig. Allerede på dette tidspunkt er det vigtigt at tænke på fremtidige udvidelser, således at man fra starten planlægger indretningen hensigtsmæssigt.

Det kan anbefales at benytte kabelkanaler for totalt at skjule kabler, således at pant udseende opnås allerede fra starten. Se nedenstående eksempel på indretning.



Hævet gulv

Hævet gulv giver mulighed for optimal køling, antistatisk gulv og skjult kabelføring. Det er en fordel, hvor enhederne ikke er anbragt for tæt sammen i rummet og giver større fleksibilitet ved senere udvidelser. Skjult kabelføring i gulvet bør kombineres med anvendelse af kabelkanaler således at alle kabler er af vejen.

Gulvbelægning

Linoleum kan anbefales da dette materiale erfaringsmæssigt yder størst mulig beskyttelse mod statisk elektricitet, et forhold som har betydning for driftsikkerheden. Samtidig vil rengøring blive lettet, ligesom materialet er meget slidstærkt.

Støvfaste overflader

Alle overflader i rummet - også rummet under et eventuelt hævet gulv - skal være støvfaste.

Vær opmærksom på, at mineraluld og glasuld afgiver støv, hvis ikke overfladen er lukket og beskyttet.

Støv

På lokaliteter, som af forskellige årsager kan være særlig støvfylde, vil det være nødvendigt at filtrere den luft, som et klima-anlæg tilfører lokalet. Støvafgivende objekter (printer og papir til printere) bør ikke placeres i edb-rummet. DDE kan anviser forhandler og installatør af en sådan filtrering. Se ellers krav i forbindelse med installationer med video-streamere i afsnit 2.4.

Brand

Elektronisk udstyr kan ved fejl i ekstreme tilfælde starte en brand, der kan opstå ved kortslutning, komponentfejl, overbelastning m.v. Et slukningsanlæg kan i de fleste tilfælde hindre store værdier i at gå tabt. Evt. kan forsikringselskabet stille krav om et sådan anlæg. Kontakt forsikringselskabet i alle tilfælde.

Belysning

Belysningen skal være tilstrækkelig og jævnt fordelt over lokalet og således at der sikres en god kraftig arbejdsbelysning.

Servicearbejdsplads

Udstyret til servicearbejdspladsen bør omfatte bord, stol, arbejdsbelysning, telefon/serviceboks og to 230V stikkontakter.

Sikkerhedskopier

Et brandskab til sikkerhedskopier bør overvejes (evt. kan sikkerhedskopier opbevares i en anden bygning).

Køling af edb-rum

Hvis driftstemperaturen ikke kan holdes tilstrækkelig lav (ca. 21°C), skal der etableres et køleanlæg. Anlægget placeres hensigtsmæssigt således at evt. kondensvand eller lækager ikke forårsager skader på andet udstyr.

8 Vejledning til indretning af arbejdspladser

8.1 Kontoret

Forberedelse til terminaler og PC'ere

Inden kontoret tages i brug, bør der tages hensyn til de krav edb-udstyret stiller og de faktorer det påvirker.

Terminaler og PC'ere kræver separat 220V strømforsyning med jord, samt tilslutning til selve datamaten.

Kabler føres bedst i kabelkanaler, hvor de er nemme at komme til. Af hensyn til udseende anvendes ensartede kontakter til stærkstrøm og dataudstyr. DDE anbefaler LK kontakter, og LK edb-stik kan bestilles gennem DDE med DDE varenummer.

Lys og varme

Edb-udstyr udvikler varme, hvorfor der bør være mulighed for udluftning eller afkøling, således at den mest behagelige temperatur opnås.

Terminalen placeres således at sollys ikke generer, hvilket bedst opnås ved at lade lyset komme ind fra siden. Såfremt terminalen ikke står nær et vindue, kan det anbefales at anskaffe en lampe med asymmetrisk lys til læsning af papirer i forbindelse med terminalarbejdet.

Møbler

Terminalens tastatur er at sammenligne med en skrivemaskine, hvorfor der tages samme hensyn som til denne. Det vil sige, at tastaturet anbringes således at underarmene er vinkelret med tastaturet, og stolen ikke er højere end at personens ben når gulvet. Samtidig bør skærmen være i øjenhøjde.

For at opnå den bedste ergonomiske arbejdsstilling, kan der med fordel anvendes et specielt terminalbord.

Støj

Almindelige terminaler udmærker sig ved ikke at støje, da de ikke indeholder en blæser. PC'ere er derimod ofte forsynet med blæser, diskette- og diskdrev, hvorfor nogen støj må påregnes fra disse.

Printere i kontoret bør være af en type, der ikke støjer, eller monteret i støjafskærmningskabinetter.

8.2 Printere

Generelt

Af hensyn til varme, papirstøv, støj og ozon bør printere generelt placeres i separate rum.

Laserprintere kan udsende ozon, der påvirker indeklimaet i uheldig retning. Derfor skal der sørges for udluftning. Såfremt dette ikke kan lade sig gøre, må laserprinterens forsynes med ozonfilter, der kan bestilles hos DDE.

Luftudskiftning eller ventilation kan samtidig medvirke til at rummet, hvor printerne står, har den rette temperatur.

Såfremt der bruges matrix printere, kan støjen fra disse virke generende. Denne støj kan reduceres ved anvendelse af specielle lydskabinetter.

Strømforsyning

Printere kræver separat 230V strømforsyning med jord, samt tilslutning til selve datamaten.

Printere har ofte stort strømforbrug, hvilket bør iagttages ved dimensionering af el-forsyning. DDE kan oplyse om strømforbrug for alle printere DDE forhandler.

Makulering

Udskrifterne fra printere indeholder til tider oplysninger af fortrolig karakter. Derfor bør der opstilles makulator til destruktion af papir i nærhed af brugerne. Makulatoren må ikke tilsluttes samme strømforsyning som printerne, da disse kan generes af elektrisk støj.

9 Tilslutning af "fremmed" udstyr

9.1 Tilslutning af andet udstyr til DDE anlæg

Tilslutning af andre fabrikater aftales på forhånd med DDE.

Ved tilslutning af udstyr med specifikationer der er forskellige fra DDE's, skal de strengeste specifikationer overholdes.

Undersøgelse af udstyr, udfærdigelse af kabler og type-filer udføres i fast tilbud.

9.2 Tilslutning af DDE udstyr til bestående anlæg

Tilslutning aftales på forhånd med DDE.

Tilslutning kan ske til andet udstyr som benytter samme interfaces som DDE. Ved tilslutning til udstyr med specifikationer der er forskellige fra DDE's, skal de strengeste specifikationer overholdes.

Undersøgelse af kompatibilitet og tilslutning kan ske i fast tilbud.

10 Adresseliste

Henvendelse vedr. administrative spørgsmål bedes rettet til Service Divisionen i Herlev.

Service Divisionen

Dansk Data Elektronik A/S
Vesterlundsvej 14
2730 Herlev
Tlf. nr. 42845011
Fax nr. 42845220

10.1 Serviceafdelinger

Tekniske spørgsmål, samt spørgsmål om installationstidspunkt for en given leverance, bedes rettet til nærmeste lokale serviceafdeling. Hvis denne lejlighedsvis er ubemandet, henvises til International System Support (ISS) i Herlev (samme adresse som Service Divisionen).

København, Nordsjælland, Bornholm og udland.

Dansk Data Elektronik A/S
Herlev Hovedgade 207
2730 Herlev
Tlf. nr. 42 845011
Fax nr. 42 845220

Øvrige Sjælland og Lolland-Falster.

Dansk Data Elektronik A/S
Industrivej 9-11
4700 Næstved
Tlf. nr. 53 737888
Fax nr. 53 737997

Sydlige Jylland og Fyn m.m.

Indtil 1/3-1992 -

Dansk Data Elektronik A/S
H.C. Ørstedsvvej 3
6000 Kolding
Tlf. nr. 75 541888
Fax nr. 75 541038

Efter 1/3-1992 -

Dansk Data Elektronik A/S
Vindingvej 2 C
7100 Vejle
Tlf. nr. 75 722600
Fax nr. 75 722776

Midt-Jylland.

Dansk Data Elektronik A/S
Bohrsvej 5
8600 Silkeborg
Tlf. nr. 86 813788
Fax nr. 86 813250

Nordjylland.

Dansk Data Elektronik A/S
Lucernevej, Klokkeholm
9230 Hjallerup
Tlf. nr. 98 284544
Fax nr. 98 284565

11 DDE-Autorisation af el-installatør (DDE part)

Undertegnede el-installatør, der har autorisation fra el-forsynings-selskaberne, erklærer sig hermed indforstået med indholdet af DDE's dokument 'Installationshåndbog', version ____ / ____ -199 ____.

Installatøren er indstillet på udelukkende at anvende velegnet værktøj og vil bemande opgaverne med kvalificeret personale, der er vant til at arbejde med svagstrømskomponenter

Såfremt kunden henvender sig til installatøren for udførelse af edbinstallation i forbindelse med Supermax-udstyr, forpligter installatøren sig til at kontakte DDE, samt at anvende DDE-godkendt materiel.

DDE påtager sig kun ansvaret for arbejde udført af vore teknikere samt for materialer leveret af DDE.

_____, den ____ / ____ -199 ____

Herlev, den ____ / ____ -199 ____

Installatørens underskrift
og stempel

Dansk Data Elektronik A/S

Erklæringen underskrives in duplo og indsendes til DDE's sekretariat. Herefter godkender el-installatøren og returnerer den ene autorisationen med DDE's påtegning.



12 DDE-Autorisation af el-installatør (El-installatør part)

Undertegnede el-installatør, der har autorisation fra el-forsynings-selskaberne, erklærer sig hermed indforstået med indholdet af DDE's dokument 'Installationshåndbog', version ____ / ____ -199__.

Installatøren er indstillet på udelukkende at anvende velegnet værktøj og vil bemande opgaverne med kvalificeret personale, der er vant til at arbejde med svagstrømskomponenter

Såfremt kunden henvender sig til installatøren for udførelse af edb-installation i forbindelse med Supermax-udstyr, forpligter installatøren sig til at kontakte DDE, samt at anvende DDE-godkendt materiel.

DDE påtager sig kun ansvaret for arbejde udført af vore teknikere samt for materialer leveret af DDE.

_____, den ____ / ____ -199__

Harlev, den ____ / ____ -199__

Installatørens underskrift
og stempel

Dansk Data Elektronik A/S

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Installation Guide
Dansk Data Elektronik A/S
1st May 1992

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Installation Guide

Dansk Data Elektronik A/S

1st May 1992

This guide covers everything on installation of Supermax computers - right from choosing the computer room to the system is fully installed.

We hope that you will find an answer to all the questions that can arise during installation of our products. You are also welcome to call one of our service divisions for more information.

DDE Service Division

1st published - 1.5.1992



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01.05.1992

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1 Introduction

Professional Installation

DDE delivers computer solutions that consider our customers individual needs, including the best possible installation process.

That is the reason why DDE makes a number of demands to the electrician on work method, choice of material and to his professional attitude towards the tasks.

It is the same demands we make to our staff.

The Supermax Computer

DDE develops and produces the Supermax Computer, it is a multiuser module computer. This means that a model intended for few users can be extended to a model for several hundred users. That of course makes a difference to the demands the computer makes on both the installation and the surroundings.

DDE Authorization of Electrician

On the last page of this manual, there is a statement to send to your local DDE's service department, if you require a DDE authorization.

Final test

After installation every segment is measured to ensure, that signal, cable-lengths, loop-resistance, earthing, number of connected units plus the distances between these are within the allowed specifications, according to this guide.

Furthermore every network-segment is measured to ensure (all transceivers, extension cables and PC's must be connected), that signal reflections (reflectometer) are within the allowed specifications, - which is reflections less than 7 % pp anywhere on the network (according to the standard IEEE 802.3).

The installer or electrician issues a certificate, that states the result of the final tests.

2 Installation and Working Conditions

To secure a satisfactory and stable operating situation it is absolutely necessary that the electric installation is dimensioned and carried out correctly.

The following section is about DDE's demands plus description of the electric installation.

2.1 Mains Supply

To ensure that the installation has sufficient power and noiseless electricity supply, the data processing equipment must be connected to it's own dedicated main supply.

If more than 4 units (terminals, printers, PC's, (Network Terminal Controller's (NTC)) are connected, we recommend that a dedicated mains supply distribution panel is established solely for the computer equipment. See example in section 2.1.1.4. This mains distribution board must be supplied directly from the main board in the building.

Screened data cables are used and the screen must be earthed at both ends. The main cable must be overcurrent protected by a safety fuse, the rated current of the fuse must be at least the double of the total united carrying capacity from computers, terminals, printers, ntc's and other equipment, that is connected to the distribution panel.

If a data cable is earthed at both ends, and a terminal is connected to a non cpu dedicated supply, the earth loop currents may occur.

If a special room has been adapted to the computer with air conditioning plant and so on, we recommend that the distribution panel is situated in the same room.

Remarks Regarding Distribution panel:

Electricity regulations according to the local regulations.

a) Only 2-poled switches must be used.

- b) Only multi-cell switch with safety fuse must be used and not automatic or circuit breaker types, because of huge pulse currents, especially during switching on/off equipment.
- c) The computer is always to be connected to it's own distribution fused trip.
- d) The current supply for external units is divided into rings.
- e) Each of the ringop must be protected with fused trip never earth leak circuit breaker.
- f) The distribution panel is clearly marked in a way to make it possible to see from which plug socket each ring gets it's supply.
- g) The electricity supply for the air-conditioning plant, lighting, cleaning equipment and so on must not come from this distribution panel.

The electricity supply is to be carried out with consideration for the use of switchmode power supplies in the equipment, which take huge peak current. As you usually choose the cable dimensioning from the maximum power, here you have to consider the maximum allowed voltage drop on the network. The voltage drop must not exceed 15.6 volt peak or according to local electricity regulations.

When you dimension the cable for a given cable length, you can use the tables in section 3, for 10A and 16A rings or consult the local electricity regulations for this information.

Because of laser printers and other equipment with a high electricity consumption (app. 1000 W) it is very important to keep the mentioned demands on the cable dimension, and that you consider the placing of the printers, when you divide into rings.

Data cables from the data cluster board must be screened, and the screen must be earthed.

The network supply for the computers is terminated in a box with key cut-out in front or directly in the key cut-out or according to the local electricity regulations.

2.1.1 Electricity Supply requirements

Voltage	Voltage range	Frequency
V AC.	V AC.	Hz
440 2N	330 - 456	47 - 63

- or

230	192 - 264	47 - 63
-----	-----------	---------

- or

115	96 - 132	47 - 63
-----	----------	---------

Please refer to the local electricity regulations.

2.1.2 Electric Noise

There can be incidents, where external electric installations can affect the plant either with noise, or deviations in the voltage, and these conditions cannot be located or excluded.

DDE's service division is willing to help solving such problems at any time by for instance to connect mains conditioning equipment, like Uninterruptable Power Supplies.

The costs in connection with the rectification of these conditions is not included in the maintenance agreement.

2.1.3 EMC

The Supermax cabinets (Supermax 4, 6, 12, 24 and Supermax Disk) are designed to meet the requirements specified in EN 55022, VDE 0871 class B and FCC Part 15 Subpart J class B.

2.1.4 Safety

The Supermax cabinets (Supermax 4, 6, 12, 24 and Supermax Disk) are designed to meet the requirements specified in IEC 950, EN 60950 and UL 1950.

2.1.5 Function Earth

Please refer to the local electricity regulations.

Equipment, that is connected to the computer but on a different mains supply and earthing system, must be galvanic separated on the data communication side. This can be achieved by network, modem, optoisolated line drivers. This is due to the possibility of earth loop currents arising through differences in earth potential. This can easily lead to the destruction of electronic equipment.

2.2 Electricity Consumption

Description	Rating	Description	Rating
Supermax 4	540 W	Supermax Compact	550 W
Supermax 6	1380 W	Supermax Slimline	660 W
Supermax 12	1840 W	Supermax Vertical	1400 W
Supermax 24	3680 W	Supermax Rack	1650 W
Supermax Disk cabinet	1380 W	Rack add-on cabinet	990 W
		Vertical add-on cabinet	1400 W
Supermax NTC2	20 W	Slimline disk cabinet	660 W
Submodul Term322 panel	15 W	Vertical disk cabinet	770 W
		Gigapack disk cabinet	660 W
XTerminal	< 100 W	Supermax SGD	100 W
Terminal	< 100 W	Supermax NTC	40 W
Matrixprinter	< 200 W	SIOC II backpanel	60 W
PC	< 200 W		
Daisy wheel printer	< 350 W	SPC/1 alle modeller	210 W
Laserprinter (print)	<1000 W	SPC/1 diskcabinet	450 W
RIP	< ? W		
LCG	< ? W	UPS (1000 - 5000)	<5000 W
Pel Box	< ? W		

All cabinets includes cards and disks. The power ratings is based on calculations with AC-voltage of 220V.

2.2.1 Supermax Cabinets.

Model	Voltage V AC	Voltage range V AC	Current A	Frequency Hz	Cable dimension mm ²	Fuse A
-------	-----------------	-----------------------	--------------	-----------------	------------------------------------	-----------

4	115	96-132	4	47-63	3 x 0.75	T4
	230	192-264	2	47-63	3 x 1.00	T2

6	115	96-132	6	47-63	3 x 1.5	T6.3
	230	192-264	3	47-63	3 x 1.5	T3.15

12	115	96-132	12	47-63	3 x 2.5	T12
	230	192-264	6	47-63	3 x 1.5	T6.3

24	115	96-132	24	47-63	3 x 4	T25
	230	192-264	12	47-63	3 x 2.5	T12
	200 2N	165-228	2x12	47-63	4 x 2.5	T12
	400 2N	330-456	2x6	47-63	4 x 1.5	T6.3

Disk	115	96-132	6	47-63	3 x 1.5	T6.3
	115	96-132	12	47-63	3 x 1.5	T12
	200 2N	165-228	2x6	47-63	4 x 1.5	T6.3
	230	192-264	3	47-63	3 x 1.5	T3.15
	230	192-264	6	47-63	3 x 1.5	T6.3
	400 2N	330-456	2x3	47-63	4 x 1.5	T3.15

Supermax cabinet power supply cabling:

1 phase installation

Wire colour	Name
Brown	L
Blue	N
Yellow/Green	E

2 phase installation

Wire colour	Name
Brown	L1
Black	L2
Blue	N
Yellow/Green	E

2.3 Surrounding Temperature and Humidity of the Atmosphere.

Temperature: 10 - 35 degrees Celcius, measured 1 meter from the equipment.

Maximum temperature variation is 8 degrees Celcius per hour.

The equipment must not be influenced by direct sunlight, when it is operating.

The recommended temperature is 21 degrees Celcius.

Humidity of the atmosphere: 20 - 80 % relative, not condensing.
Maximum alteration rate is 10 % per hour.

The recommended humidity of the atmosphere is 50 %.

Relationship between temperature and humidity :

Temperature	Relative humidity	Specific humidity
10°C	20 - 80%	0.001-0.005kg H ₂ O/kg air
20°C	20 - 80%	0.003-0.012kg H ₂ O/kg air
30°C	20 - 75%	0.005-0.019kg H ₂ O/kg air
35°C	20 - 34%	0.009-0.015kg H ₂ O/kg air

Dust: Installations incl. streamer drive (especially video-streamer), where problems arises, the amount and size of particles in the enviroments must follow this table:

Particle size in micron (μ)	Max. amount of particle per m^2
< 1.0	4×10^7
1.0 til 1.5	4×10^6
1.5 til 5.0	4×10^5
5.0 til 10.0	4×10^4
> 10.0	4×10^3

2.4 Open Space / Weight

External dimensions for SUPERMAX:

Model/Cabinet	Height	Width	Depth	Weight	Note
	mm.	mm.	mm.	kg.	
SUPERMAX 24	890	550	1140	220	
SUPERMAX 12	890	550	840	160	
SUPERMAX 6	890	280	850	110	
SUPERMAX 4	580	260	650	45	
SUPERMAX DISK	890	280	850	135	
NTC2	300	440	100	6	
RACK (3)	935	545	850	160	1.
RACK (5)	1470	545	850	230	1.
VERTICAL	695	298	795	60	
SLIMLINE	695	196	795	50	2.
COMPACT	550	196	550	32	

Note: 1. Fully built with card drawers/disk drawers

Note: 2. Same data goes for gigapack disk cabinet

The following space requirements to the computer:

Model/Cabinet	Over	Front	Behind	Left	Right	Note
	mm.	mm.	mm.	mm.	mm.	
SUPERMAX 24	1000	700	700	700	250	3. 4.
SUPERMAX 12	1000	700	700	700	250	
SUPERMAX 6	1000	700	700	700	250	
SUPERMAX 4	1000	700	700	700	250	
SUPERMAX 4	500	200	200	100	200	
SUPERMAX DISK	1000	700	700	700	250	5.
NTC2	100	500	*) 100	100	100	
RACK 3/5	1000	1400	500	100	400	
VERTICAL	1000	400	400	400	400	
SLIMLINE	1000	400	400	400	400	
COMPACT	1000	400	400	200	200	

*) space under NTC2 (mounted on the wall)

Note: 3. Demand for space for service.

Note: 4. Demand for space under normal conditions.

Note: 5. Demand for space for service (out from the wall)

2.5 Emergency shutdown during power cut

For the Supermax series we can deliver Uninterruptable Power Supply (UPS) on 1000VA, 2000 VA, 3000 VA and 5000 VA. This equipment causes only controlled shutdown and does not prolong the working hours at power-cut.

2.6 Controlled Shut Down at High Temperature in Computer Room

By giving the computers in the Supermax series a signal, a controlled shut down can be completed before the power is disconnected. This example, shows how this facility can be used for a controlled shut down at too high temperatures in the computer room.

Description:

Shut down comes in two stages.

- 1) At temperature T1 - typically 30° C - the relay from the temperature box gives a signal to the computer to shut down and also sounds an acoustic alarm.

From the alarm is given until the computer is shut down, there will be a time-limit previously set by the computer (typically 10 - 15 min.) to correct the error, restart the cooling system, ventilate the room or something like that.

- 2) At temperature T2 - maximum 35° C - the power to the computer is disconnected and an acoustic alarm is given. The system must be started manually afterwards.

This facility can be used together with the UPS.

3 Electricity Power Cables

The electricity power cables must be dimensioned according to your local electricity regulations.

4 Precautions at Installation

Installation of mains cables must be made by qualified electrician. Data cables may be installed by the electrician, a DDE installation technician or by an installation company, which DDE can advise.

Only cables and plugs agreed by DDE can be used, either supplied by DDE or the electrician.

Data connectors must be 25-poled female end for solder-, crimp - or cut/clip mounting. Data connectors are mounted either directly in the cable channel or the local in the local used plug. Please check with your local electricity regulations.

Two spare sockets must be available for the DDE technical service equipment.

The data cables total length must not exceed 50 metres. All cables and data connectors go that they must be marked clearly with the same number in both ends. The marking number could for example consist of room number-plug number (see section "Static installation more than 50 metres").

All stationary installations is as far as possible put in cable channels with separated sections, so that the power current cable and the computer cables are separated. In this way a respect distance is obtained at cabling. Avoid laying cables parallel to very high power conductors.

Extension cables should not be used to connect terminals and printers to the nearest mains socket, as excessive noise can be generated on the spur cable by printers switching on/off.

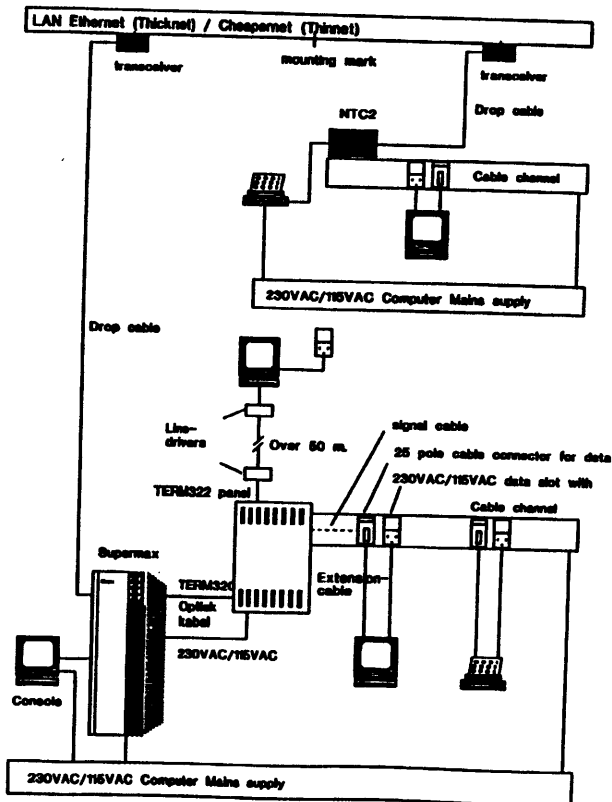
Electric installation drawings must be put in the customer's computer-log book. Further installation materials: see section 5.

4.1 Distance between data and signal cabling

The signal cables should be separated from the mains cable by the following minimum distances:

<u>Power current</u>	<u>Distance to signal cable</u>
< 10 A	5 cm
< 25 A	30 cm
> 25 A	50 cm

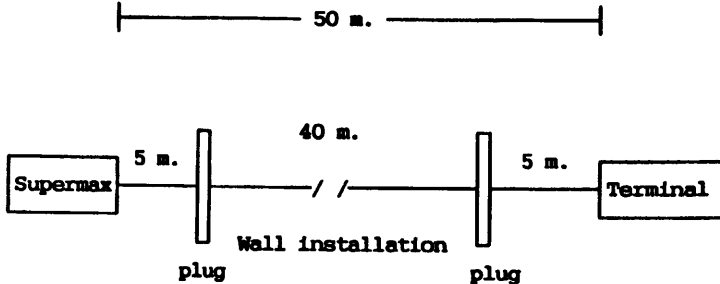
4.2 Example on Stationary Installation



4.3 Equipment installation less than 50 meters from the computer

Cables must be the type LiVCY 8 x 0.25 mm² multi-wire with screen, or according to the local regulations. No twisted pairs can be used. The total cable length from Supermax to external unit must not exceed 50 metres.

Example:



Material description for cable lengths less than 50 metres.

Cable type : LiVCY 8 x 0.25 mm² DDE number 90880100

Plug type: Female end 25 pole (solder mounting) DDE number 90881010
 Female end 25 pole (cut/clip) DDE number 90881020
 Female end 25 pole (crimp) DDE number 90881030

4.3.1 Connection Guide for 25 pin data cables - wall socket to computer

Plug 1

Plug 2

Pin	Colour	Signal	Course	Pin
2	Blue	TxD	->	2
3	Green	RxD	<-	3
4	Yellow	RTS	->	4
5	White	CTS	<-	5
6	Grey (Black)	DSR	<-	6
7	Brown	GND		7
8	L.Red(Violet)	CD	<-	8
20	Red	DTR	->	20
Cap		Screen		Cap

The screen is mounted with cable socket, that is screwed on to the plug in the wall outlet. This goes for both ends of the cable and shall control the electric connection. No screened plastic socket is used in the installation.

4.4 Static installation more than 50 metres

4.4.1 Line drivers

DDE part number: 16500400

Application

This is used where terminals/printers are situated more than 50 metres from the Supermax, only this type of line drivers can be used within the same plants.

A cable is carried through for each terminal or printer junction.

Alternatives

Modems/multiplexes on leased-line or eventually local telephone line. See section 4.4.3 on modems/multiplexers.

Mounting the line driver

The remote line driver can be mounted in the cable channel near the DB25S wall plug.

Electricity supply

Is supplied from the sioc/terminal's pin 20 (DTR) - no AC required.

Cable Types

Cable part number 88010050 in the Supermax end. Standard terminal-/printer cable in the terminal-/printer end. See figure on the next page.

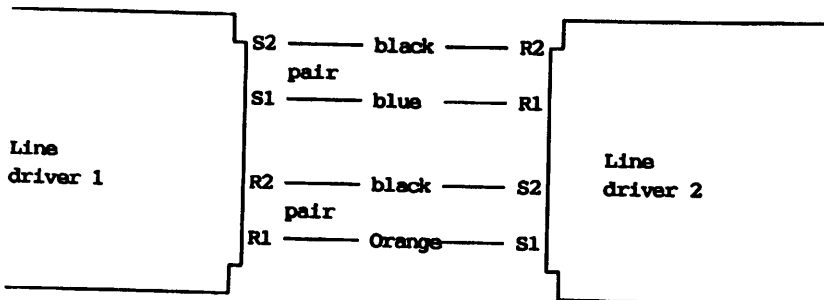
4 thread twisted pair type PT/CN-1 2x2x0.6 corresponding to the cable type - AVG 19.

Limits

Transmission speed	Max distance
19200 baud	3 km
9600 baud	6 km
4800 baud	9 km
2400 baud	14 km
1200 baud	16 km

Cable Connection between Line Amplifiers

a) Line driver -> line driver



b) Line driver -> DB25S Wall plug outlet

As cable connection between line amplifier and DB25S wall plug outlet a cable is produced that consists of the following:

1/2 meter 8-conductor multi cable

DB25S data socket (female)

DB25S data slot outlet (female)

The cable connection is performed in the following way in the terminal end.

Line amplifier

Wall plug outlet

Pin	Signal	Dir.	Colour	Dir	Signal	Pin
3	RxD	<-	Blue	<-	TxD	2
2	TxD	->	Green	->	RxD	3
5	CTS	<-	Yellow	<-	RTS	4
20	DTR	<-	White	<-	DSR	6
4	RTS	<-	Grey	<-	CTS	5
7	Ground		Brown		Ground	7
6	DSR	<-	Red	<-	DTR	20

At the Supermax end it is connected straight pin to pin (ie. 2->2, 3->3, ..).

4.4.2 Approved Local Modem

NB: Please check with your local telecom.

Asynchronous line driver acknowledged for connection to leased telephone line. Economic alternative to modem/multiplexer.

Application

- When closely placed buildings are connected with leased telephone lines.
- In local installations with distances over 50 metres.

Limits

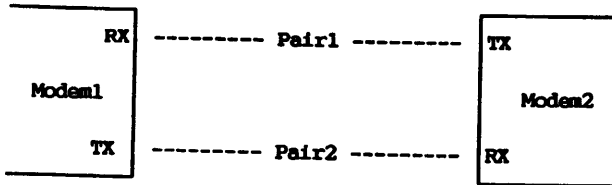
Transmission speed	Max distance
19200 baud	3 km
9600 baud	6 km
4800 baud	9 km
2400 baud	14 km
1200 baud	16 km

NB: The supplier's specifications. We make reservation for eventual bad line quality in connection with leased telephone lines. Please note too, that these lines often goes through the local telephone exchange. Therefore consult the telephone company.

Connection

- a) 4 leased telephone lines delivered by the telephone company.
- b) 4x2 twisted pair telephone cables of the type PT/CN-1 2x2x0.6.

The modems are connected like this:



Please note that the phasing is of no importance.

4.4.3 Modems and Multiplexers

Modems built up by modules and statistic multiplexes with 4, 10 or 16 serial RS232 ports. 2 modems/multiplexes are used per cable length.

Application

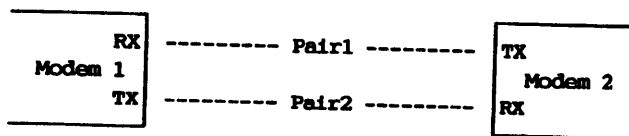
- a) Mostly in connection with leased telephone line, where data transmissions between more addresses/title numbers is wanted.
- b) In local installation where terminals/printers are situated more than 50 metres from the Supermax.

Placing

The unit should be placed in a modem cabinet or on a shelf (size 25x60 cm). Avoid placing in store room, where cleaning materials or other chemicals are stored or rooms with high humidity of the atmosphere.

Connection

- a) 4 leased telephone lines delivered by the telephone company. The modem and the multiplexor are delivered from DDE mounted with 2 three-poled telephone plug outlets marked Send and Receive.
- b) 4x2 twisted pair type PT/CN-1 2x2x0.6 eventually layed by the electrician.
- c) The modems are connected in this way. Please note the phasing is of no importance.



- d) Between the multiplexer and Supermax, cable type 88011050 is used.
- e) Between the multiplexer and DB25S wall plug outlet cable type 880100L0 is used.
- f) If you want to connect terminals and printers directly to the multiplexer cable 880010L0 typically is used and eventually 880011L0, depending on whether the connected unit is mounted with male or female plug outlet.

5 Applied Materials

Line amplifier	DDE no. 16500400
Approved local modem	DDE no. (Contact DDE)
Multiple cable 8-lead type LIYCY 8x0.25 Roll of 100 metres	DDE no. 90880100 x 100
Cable 4-thread twisted pair type PT/CN-1 2x2x0.6 Roll of 100 metres	DDE no. 90880200 x 100
Cable 8-conductor ready-made 5 metres term/print --> computer	DDE no. 88002050
Cable 8-conductor ready-made 5 metres term/print/computer --> modem	DDE no. 8001050
Cable 8-conductor ready-made 5 metres extension cable	DDE no. 88001150
Cable 8-conductor ready-made 5 metres Codex 6015 --> wall plug outlet	DDE no. 880010050
Cable 8-conductor ready-made 5 metres Codex 6015 --> computer	DDE no. 880011050
DB25S data socket (female) LK trade no. 108 D 5024 grey LK trade no. 108 D 6024 white	DDE no. 90881321 DDE no. 90881322
DB25P 25 pole data slot insertion (fem) LK trade no. 108 D 7024	DDE no. 90881020
DB25P 25 pole data slot insertion(male) LK trade no. 108 D 7026	DDE no. 90881120
DB25 cap for 25 pole data slot (metal)	DDE no. 90881200
Codex 6015 Mux with 4 ports	DDE no. 16500200
Codex 6015 add-on mux with 6 ports	DDE no. 16500250
Codex 6015 Integral Modem	DDE no. 16500300
Cheapermet (Thinnet) coax cable	DDE no. 88631090
Ethernet (Thicknet) coax cable	DDE no. 88601090

Please contact DDE for prices.

6 Local Network Installation

DDE's local network (Ethernet and Cheapernet) uses coaxial cable as connection between the connected units. The cable has terminators at both ends. This is called a segment. Every segment must have earth connection in only one end and one place, junction and terminators must be secured against incidental earth connection by plastic cap insulation or wrapping insulation tape.

All specifications of DDE part numbers cover a number of various manufactures and types; only components acknowledged under the DDE P-number in question must be used at installation.

More segments can be linked together to form a larger network by means of repeaters, bridges and/or fibre-optic link connections.

We distinguish between two physically different cables, Ethernet-cables and Cheapernet-cables. The cables are of different diameter and flexibility. But the same transmission speed (10 Mb/s) and same packet format is used for the two types of cable. The connected units (Network I/O Controller (NIOC), Multiple I/O Controller (MIOC), Network Terminal Controller (NTC), Personal Computer (PC), and so on) perform identically no matter what cable type.

The advantage of Ethernet is, that it can be used over long distances and with more transceivers than Cheapernet, but the advantage of Cheapernet is, that it is low-priced, and it can be carried through directly to for instance PC's via the built-in transceiver in the PC network Interface card.

6.1 Ethernet and Cheapernet Cabling

Ethernet and Cheapernet can be used at the same time in one installation, when there is a need for Cheapernet to connect PC's and Ethernet to obtain larger extension of the network. Often one or more Cheapernet segments are used in one location or section of a building, while Ethernet is used to connect the locations. Ethernet and Cheapernet can be linked together by using repeaters; no direct linking must be used. Allowed lengths, distance between connections, plugs, and more appears from the table below with key figures for both Ethernet and Cheapernet.

6.2 Transceivers

Transceivers are used to connect all types of units to Ethernet plus connection of units without built-in transceivers to Ethernet (PC's and multiport repeaters have often built-in transceivers). The connection from unit to transceiver is established with a drop cable. Allowed lengths appears from the table below with key figures. A multiport transceiver, also called fan-out unit, connects a number (mostly 8) drop cables to only one transceiver, which can be used to bring down the number of transceivers on the coax cable.

6.3 Repeaters

Common Repeaters

Is used to connect two cable segments through two drop cables and two transceivers. The common type of repeater retransmits data bit for bit between the cable segments. It's task is to regenerate amplitude and timing for the signal, when it is transmitted on the new segment. The transceivers for the common type of repeaters must be of the NO SQE type without test signal.

Fibre-optic Repeater

Is used to connect 2 cable segments at larger physical distances (up to 1000 metres) through an intervening fibre-optic link connection. 2 optical repeaters are used, which are connected each to their own cable segment through a drop cable and a transceiver; the repeaters are mutual connected with 2 fibre-optic cables (eventually one cable with two optical fibre). Optical fibre avoid problems with electromagnetic noise and earth potential differences and is therefore used at transmission between separate buildings or in industry environments. Data is sent bit for bit between the segments, this means it demands NO SQE type transceiver.

Multiport Repeater

Is used to connect (star connection) 8 cable segments; 2 cable segments through drop cables and transceivers plus 6 Cheapernet cable segments with direct (BNC) connection to the other end of the segment (the multiport repeater has internal ending sections on BNC connections). Each segment can often be connected and disconnected separately by means of switches on the front plate. Data is sent bit for bit between the segments, it demands NO SQE type transceiver.

Buffer Repeater

Is used to connect 2 cable segments as the common repeater, but with the significant difference, that data is not transmitted bit for bit, but is collected and retransmitted parcel for parcel, as soon as there is access on the other segment. This makes it possible to connect segments beyond the limits mentioned in the standard of no more than 3 segments plus two link connections between arbitrary units.

Filter Repeater

Is used in the same way as the buffer repeater, but with the addition, that the filter type limits the extend of data transmitted between two segments, as a parcel is not retransmissioned, if the receiver is found on the first segment. Furthermore you can make access-limits on the retransmission. Data is sent packet for packet.

6.4 Internetworking

When more separate local networks is to be connected to one logical communicating network through a telephone connection (most often 64 kb/s or 3 Mb/s) network bridges are used. At 2Mb/s connections furthermore a V35 to G703 modem is used, while the telephone companies at 64 kb/s connections delivers the lines with modem interface directly to V35. At connection of networks with bridges or repeaters of the buffer/filter type in principle there are no limits on the number of internetworking; in practice the limit is set by the time delay between the networks, as for instance answer on system parcels must be able to return before time-out.

6.5 Final Tests

After installation every segment is measured to ensure (all transceivers, extension cables and PC's must be connected), that signal reflections (reflectometer), lengths, loop-resistance, earthing, number of connected units plus the distances between these are within the allowed specifications, - which is reflections less than 7 % pp anywhere on the network (according to the standard IEEE 802.3).

The installer or electrician issues a certificate, that states the result of the final tests.

6.6 Key Figures for Local Network

Parameter:	Ethernet:	Chespernet:
Configuration:	Bus, base band	Bus, base band
Baudrate:	10 Mbit/sec	10 Mbit/sec
Access method:	CSMA/CD	CSMA/CD
Protocols:	XNS & TCP/IP	XNS & TCP/IP
Cable type:	Coaxial	Coaxial
Cable diameter:	10.3 mm	4.95 mm
Characteristic impedance:	50 ohm	50 ohm
Terminator impedance:	50 ohm	50 ohm
Plug type:	N connector	BNC connector
Junctions:	N conn + adaptor	BNC + T-link

(Continued)

Parameter:	Ethernet:	Cheapernet:
Voltage level on network, nominal:	0 to -2 V	0 to -2 V
Earthing, every segment:	Only one place	Only one place
Segment loop-resistance, max:	5.0 ohm	10.0 ohm
Cable flexibility radius, min.:	80 mm	50 mm
Segment length, max.:	500 metres	185 metres
Number units, max.(per segment):	100	30
Number units, max.(whole network):	1024	1024
Fibre-optic link connection, max.:	1000 metres	1000 metres
Reflections, max.:	7 %	7 %
Connecting transceivers:	Cable pierced	Plug and T-link
Transceiver distance, min.:	2.5 metres	0.5 metres
Connection spots:	On black marks.	No spec.
Drop cables:	Yes always	Only if ext.
Drop cable length, max.(blue type):	50 metres	50 m if used
Drop cable length at fan-out unit:	40 metres	40 m do
Drop cable length, max. (thin,9903):	5 metres	5 m do
Drop cable loop-resistance (power pair):	4 ohm	4 ohm do
Characteristic imp. drop cable:	78 ohm	78 ohm do
Flexibility radii, min. (soft cable):	65 mm	65 mm do
Flexibility radii, min. (stiff cable):	110 mm	110 mm do
Conn. at drop cable/transceiver:	Transformer	Transformer
Insulation tension, drop/transceiver:	270 V AC rms	270 V AC rms
Network extension, totally:	2500 metres	925 metres
Between arbitrary transceivers,		
Number units, max:	3 coax + 2 link	3 coax + 2 link
Number repeaters,max:	2 comm.+ 2 link	2 comm.+ 2 link
Respect distance:	> 10 times cable diameter - the thumb-and-finger rule.	
Between buildings:	Use repeaters and fiberoptic.	
Connecting Ethernet and Cheapernet:	Use repeaters!!	

7 Establishment of Computer Room

7.1 Choosing Computer room

When you choose a suitable room, please consider the following conditions:

The size of the room

SUPERMAX type (also consider future extensions) eventual modem shelves, console terminal, manual shelves and so on.

Cooling (eventually future)

The temperature must not exceed 35 degrees Celsius. It can be difficult to establish cooling in room without outer walls.

Sunlight

Direct sunlight must be avoided because of the temperature.

Traffic

Because of dust nuisance, the room must not be used by through traffic. Likewise there can be security considerations in connection with access to the computer room.

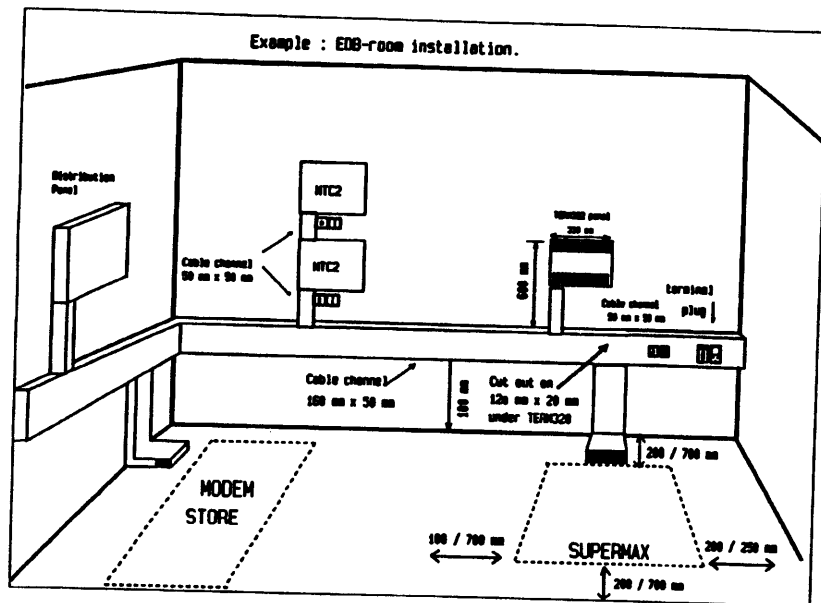
Printers

Only an eventual system printer should be in the computer room.

7.2 Establishment

When a suitable room has been chosen, the question of equipment for the room arises. As early as this, it is important to consider future extensions, so that you from the start plan the establishment in an appropriate way.

It is recommendable to use cable channels to hide the cables totally, to obtain a nice appearance from the start. See the example on establishment below.



Elevated floor

Elevated floor gives possibility of optimum cooling, antistatic floors and concealed cabling. This is an advantage, where units do not stand too close in the room and gives more flexibility at later extension. Concealed cabling in the floor should be combined with the use of cable channels so that all cables are out of the way.

Flooring

Linolium is recommended, as this material gives the highest protection against static electricity. At the same time it simplifies the cleaning. High levels of static electricity can reduce the reliability of the computer.

Dust firm surfaces

All surfaces in the room - also in the space under an eventual raised floor - must exclude dust.

Please consider, that mineral wool and glass wool liberates dust, if the surface is sealed.

Dust

In localities that of various reasons are especially dusty, it is necessary to filter the air that an air-conditioning plant supplies to the room, likewise dust liberating objects (printer and paper for the printers) should not be placed in the computer room. DDE can recommend supplier and service of such filtration.

Fire

Electronic equipment can start a fire, for instance by short circuit, component error, overloading and so on. Suitable precautions against fire can prevent these problems.

Lighting

The lighting must be sufficient and equally distributed in the room and in that way secure good strong work lighting.

Console terminal

The equipment for the console terminal should include table, chair, work lighting, telephone/service modem and two mains sockets.

Safety copies (removable medium)

A fire protected box should be considered for the safety copies (the safety copies can eventually be stored in an other building). One set to be stored off site.

Cooling of Computer Room

If the operating temperature cannot be kept sufficiently low, it is necessary to establish an air conditioning plant. The plant must be placed in an appropriate way to prevent eventual condensation water or that leakage does not damage the other equipment in the room.

8 Guide to Establishment of Working Stations

8.1 The Office

Preparation for terminals and PC's

Before you start using the office, consider the demands of the data processing equipment and the factors it influences.

Terminals and PC's demands separate main electricity supply with earth connection plus connection to the computer.

It is easiest to have access to the cables if they are laid in cable channels. Because of the appearance, use uniform sockets for power current and data processing equipment.

Please check with your local electricity regulations.

Light and warmth

Data processing equipment develop warmth, therefore there must be possibility for ventilation or cooling, to obtain the most agreeable temperature.

The terminal/workstation must be placed in such a way that sunlight does not cause glare.

Furniture

The keyboard of the terminal can be compared with a typewriter, therefore the same considerations must be taken here as for the typewriter. That means, that the keyboard is placed so that the underarms are perpendicular to the keyboard, and that the chair is not higher than the person's feet reach the floor. At the same time the screen must be in eye-height.

To obtain the best ergonomic working position, you can with advantage use a special terminal table.

Noise

Ordinary terminals make no noise, as they do not contain a fan. On the contrary PC's often include fans, diskette- and disk drives, therefore some noise must be expected from these.

Printers in the office must be of a noiseless type (e.g. lasers) or built in a no-noise cabinet (e.g. matrix).

8.2 Printers

Because of warmth, paper dust, noise and ozone generally the printers should be placed in separate rooms.

Many laser printers releases ozone, therefore ventilation is necessary. If this is impossible, the laser printer must be provided with minozone filter, that can be ordered from DDE.

Ventilation will at the same time contribute to keeping the right temperature in the room, where the printer is placed.

If you use matrix printers, the noise can be very bothering. This noise can be reduced by using special sound cabinets.

Electricity supply

NB: Please check with your local electricity regulations.

The printer often has a high electricity consumption, which must be considered at dimensioning the electricity supply. DDE can inform you of the electricity consumption on all the printers that DDE distribute.

Shredder

The output from the printers sometimes contain information that is confidential. Therefore a shredder to destruction of paper should be placed near the users. The shredder must not be connected to the same electricity supply as the printers or terminals, because the shredder generates noise.

9 Connection of "Foreign" Equipment

9.1 Connection of other equipment to DDE equipment

Connection of other manufacture must be agreed beforehand with DDE.

- 1) Contracts for each company, who has agreed to this.
- 2) Full details of the configuration ie. cables, hardware, software.
- 3) Acceptance of specification agreed by all suppliers and the customer.
- 4) All described in logbook.

9.2 Connection of DDE Equipment to Existing Equipment

The connection must be agreed beforehand with DDE.

- 1) Contracts for each company, who has agreed to this.
- 2) Full details of the configuration ie. cables, hardware, software.
- 3) Acceptance of specification agreed by all suppliers and the customer.
- 4) All described in logbook.

10 Address List

Please make all inquiries regarding administrative questions to the local DDE subsidiary - or to the DDE International System Support (ISS) of the Service Division in DDE.

10.1 Service Division

ISS

Dansk Data Elektronik A/S
Vesterlundsvej 14
2730 Herlev
Denmark
Phone (+45) 42 84 50 11
Fax (+45) 42 84 52 20

10.2 Subsidiaries

All technical questions and questions about the time of installation of a given delivery, are made to the nearest local subsidiary.

Sweden

DDE Sverige AB
Kanalvägen 12
S-194 61 Uplands Väsby
Sweden
Phone (+46) 760 74040
Fax (+46) 760 74485

Norway

DDE Norge A/S
Svovelstikka 1,
Postbox 6437, Etterstad
N-0605 Oslo
Norway
Phone (+47) 2 672267
Fax (+47) 2 672215

England

DDE Great Britain Limited
2-4 Oxford Road, Newbury
Berkshire RG13 1PA
England
Phone (+44) 635 550909
Fax (+44) 635 550900

Belgium

DDE Belgium N.V.
Excelsiorlaan 45
B-1930 Zaventem
Belgium
Phone (+32) 2 725 1225
Fax (+32) 2 726 0305

Spain

Dansk Data Elektronik S.A.
Comte d'Urgell n° 240, 6° -B
E-08036 Barcelona
Spain
Phone (+34) 3 4301619
Fax (+34) 3 4307356

Italy

Dansk Data Elektronik Italia S.r.l
Via Cantu 29
I-20092 Cinisello Balsamo (MI)
Italy
Phone (+39) 2 66014381
Fax (+39) 2 66014380

New Zealand

Dansk Data Elektronik (NZ) Limited
598 Main Street
Palmerston North
New Zealand
Phone (+64) 6 356 1544
Fax (+64) 6 357 1522

11 DDE Authorization to Electrician (DDE part)

The undersigned electrician, that has authorization from the electricity and power companies, hereby agrees to the contents of the DDE document called "Installation Manual". Any deviation must be agreed, before work is carried out, with a DDE technician and confirmed in writing.

The electrician agrees to only use suitable tools and to man the tasks with qualified personnel, who are experienced with low current components.

If the customer contracts the electrician to carry out the computer installation in connection with Supermax equipment, he commits himself to contact DDE plus to use material acknowledged by DDE.

DDE only take the responsibility for work made by our technicians and for materials delivered by DDE.

_____, the ____ / ____ - _____ the ____ / ____ - _____

Electrician signature

Dansk Data Elektronik A/S

The statement is undersigned in duplicate and is sent to the nearest DDE Company or to DDE Service Devision in Denmark. DDE acknowledge the electrician and return one of the authorizations with DDE's attestation.



12 DDE Authorization to Electrician (Electrician part)

The undersigned electrician, that has authorization from the electricity and power companies, hereby agrees to the contents of the DDE document called "Installation Manual". Any deviation must be agreed, before work is carried out, with a DDE technician and confirmed in writing.

The electrician agrees to only use suitable tools and to man the tasks with qualified personnel, who are experienced with low current components.

If the customer contracts the electrician to carry out the computer installation in connection with Supermax equipment, he commits himself to contact DDE plus to use material acknowledged by DDE.

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_____, the ____ / - _____ the ____ / - _____

Electrician signature

Dansk Data Elektronik A/S

The statement is undersigned in duplicate and is sent to the nearest DDE Company or to DDE Service Division in Denmark. DDE acknowledge the electrician and return one of the authorizations with DDE's attestation.



Others

1.1.10

rev. 01.09.94

DDE-type

Product name

System

General:

Directory in use of Cleaning Set for Floppy Disk and Streamer.

Pin code scanner:

ScanTeam 1100

Welch Allyn Scan Team 1100

UNIX V



Directory in use of Cleaning Set for Floppy Disk and Streamer.

Streamer Driver:

The cleaning set includes 2 cleaning Floppy Discs and a special cleaning fluid. Each Floppy Disc may be used about 15 times. DDE serial no. 7308.

- 1) All Floppy Disc Drives on Supermax are double-sided, so before use, you have to remove the punched cardboard covering one read/print ball.
- 2) Pour about 2 ml. cleaning fluid into the disc.
- 3) Login on the console - and run a shell.
- 4) Execute the command: "cat /dev/flop > /dev/null" and press return.
- 5) Insert cleaning Floppy Disc and close Floppy Disk Drive.
- 6) Wait for About 30 sec. - Open Floppy Disk Drives and remove cleaning Floppy Disk.
- 7) Log out.

PS: It is important to use the shell command, before closing Floppy Disc Drive.

Streamer Station:

The cleaning set includes 1 special cartridge with cleaning fluid. The sponge sitting on the cleaning cartridge is only to be used once, on each side. dde serial no. 7327.

- 1) Insert cleaning cartridge to the streamer.
- 2) Login on the console - and start a shell.
- 3) Execute the command "cat /dev/stream > /dev/null".
- 4) Wait for about 30 sec. - Open the streamer and remove the cleaning unit.
- 5) Log out.

Generelly.

The Floppy Disc Drive is to be cleaned on the demand, i.e. more Floppy Discs rejected, once or twice a year.

The Streamer Station is to be cleaned once or twice a month.

POST-NUMMER: pro0059
DATO: 900313
KLASSEMÆRKE: 2600
PRODUKTOMRÅDE: Tilbehør
PRODUKTCHEF: Jack Pedersen / JAP

PRODUKT: Rensesæt til diskettedrev, streamer og videostreamer
VARENUMMER: 90010007 / 90020003 / 90020004 / 90020006

BESKRIVELSE: VEJLEDNING I BRUG AF RENSESÆT TIL DISKETTEDREV, STREAMER OG VIDEOSTREAMER

DISKETTEDREV:

Rensesættet består af 2 stk. rensedisketter samt en speciel renservæske. Hver diskette kan bruges ca. 15 gange. Ved bestilling angives varenummer 90010007.

- 1) Alle diskettedrev på Supermax er af dobbeltsidet type. Derfor skal den perforerede lap på rensedisketten, der side og dækker for det ene læse/skrivehoved, fjernes inden brug.
- 2) Herefter hældes den medfølgende renservæske på disketten (ca. 2 ml).
- 3) Log ind på konsollen - og start en shell.
- 4) Tast "cat /dev/flop > /dev/null & <cr>". Det er vigtigt at udføre shell-kommandoen, før diskettedrevet lukkes.
- 5) Indsæt rensedisketten og luk diskettedrevet.
- 6) Vent i ca. 30 sekunder. Åbn diskettedrevet og fjern rensedisketten.
- 7) Log ud.

Diskettedrevet renses efter behov. Det vil sige efter, at flere disketter er blevet afvist, eller 1 - 2 gange pr. år.

STREAMER:

Rensesættet består af 1 stk. special-kassette med 5 udskiftelige svampe samt renservæske. Den svamp, der sidder på rensekassetten, bruges kun 1 gang på hver side. Ved bestilling angives varenummer 90020003. Ekstra 10 svampe kan leveres. Ved bestilling angives varenummer 90020004.

- 1) Indsæt rensekassetten i streameren.
- 2) Log ind på konsollen - og start en shell.
- 3) Tast "cat /dev/stream > /dev/null".
- 4) Vent ca. 10 sekunder. Streameren åbnes, og rensekassett fjernes.
- 5) Log ud.

Streameren skal renses ca. 1 gang pr. måned. Derudover

anbefales det at rense streameren efter ibrugtagning af nye bånd.

VIDEOSTREAMER:

Videorenssebånd leveres med varenummer 90020006 og er beregnet til 3 rensninger.

- 1) Åbn videodrevet og sæt renssebåndet i.
- 2) Luk videodrevet og vent ca. 1 minut, mens drevet selv trækker båndet frem.
- 3) Når rensningen er færdig, åbner videodrevet selv, og båndet kan tages ud.

Videostreameren renses efter 30 Gigabytes dataoverførsel. Efter 3 rensninger kasseres renssebåndet.

