
Title:

DRAWINGS FOR TCP 701.

 **REGNECENTRALEN**

RC SYSTEM LIBRARY: FALKONERALLE 1 DK-2000 COPENHAGEN F

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Author: Knud E. Hansen

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Abstract:

This paper describes the TCP 701, Diagnostic Panel to the RC 3603 Central Processing Unit.

(21 pages)

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	LOGIC DIAGRAMS:	
	LD1	Dwg. No. A12949
	LD2	Dwg. No. A12950
	LD3	Dwg. No. A12951
	LD4	Dwg. No. A12952
	LD5	Dwg. No. A12953
	LD6	Dwg. No. A12954
	LD7	Dwg. No. A12955
	LD8	Dwg. No. A12796
	ASSEMBLY DRAWINGS:	
	COMPONENT MOUNTING version 1....	Dwg. No. A24862
	COMPONENT MOUNTING version 2....	Dwg. No. A24868
	JACK LISTS:	
	J1.....	Dwg. No. A24860
	J2.....	Dwg. No. A24861
	EXTERNAL CABLE:	
	CBL 498.....	Dwg. No. A12956

On fig. 1.0 is shown a blockdiagram for the TCP 701, Diagnostic Panel to CPU 708. All the shown logic circuits are further described in the following sections.

PANEL BUS

1.1

Refer to circuit diagram LD 2-3-4-5.

The panel bus $\bar{\tau}$, PAN BUS 0-15 is a 16 bits bidirectional data bus used to transfer data between CPU and TCP 701. The direction of the bus is determined by the signal $\bar{\tau}$, CON DATA ($\bar{\tau}$, CONtrol DATA).

If $\bar{\tau}$, CON DATA = 0, the contents of the Data Switches are placed on $\bar{\tau}$, PAN BUS 0-15. The contents of $\bar{\tau}$, PAN BUS 0-15 are always displayed on the data lights.

FUNCTION SWITCH ENCODER

1.2

Refer to circuit diagram LD 1.

From the Diagnostic Panel is transmitted a 4 bits value ($\bar{\tau}$, CON 0-2, $\bar{\tau}$, CPU MODE) to indicate which switch the operator has pushed. The STROBE signal indicates when $\bar{\tau}$, CON 0-2 and $\bar{\tau}$, CPU MODE are valid. On fig. 1.2 is shown the relation between $\bar{\tau}$, CON 0-2, $\bar{\tau}$, CPU MODE and the function switches.

The function switches (except RESET and STOP) are disabled:

- 1) if $\bar{\tau}$, DIS SWITCH = 0 (the CPU is running) or
- 2) $\bar{\tau}$, LOCK = 0 (signal from an external lock switch).

RESET and STOP are only disabled by $\bar{\tau}$, LOCK.

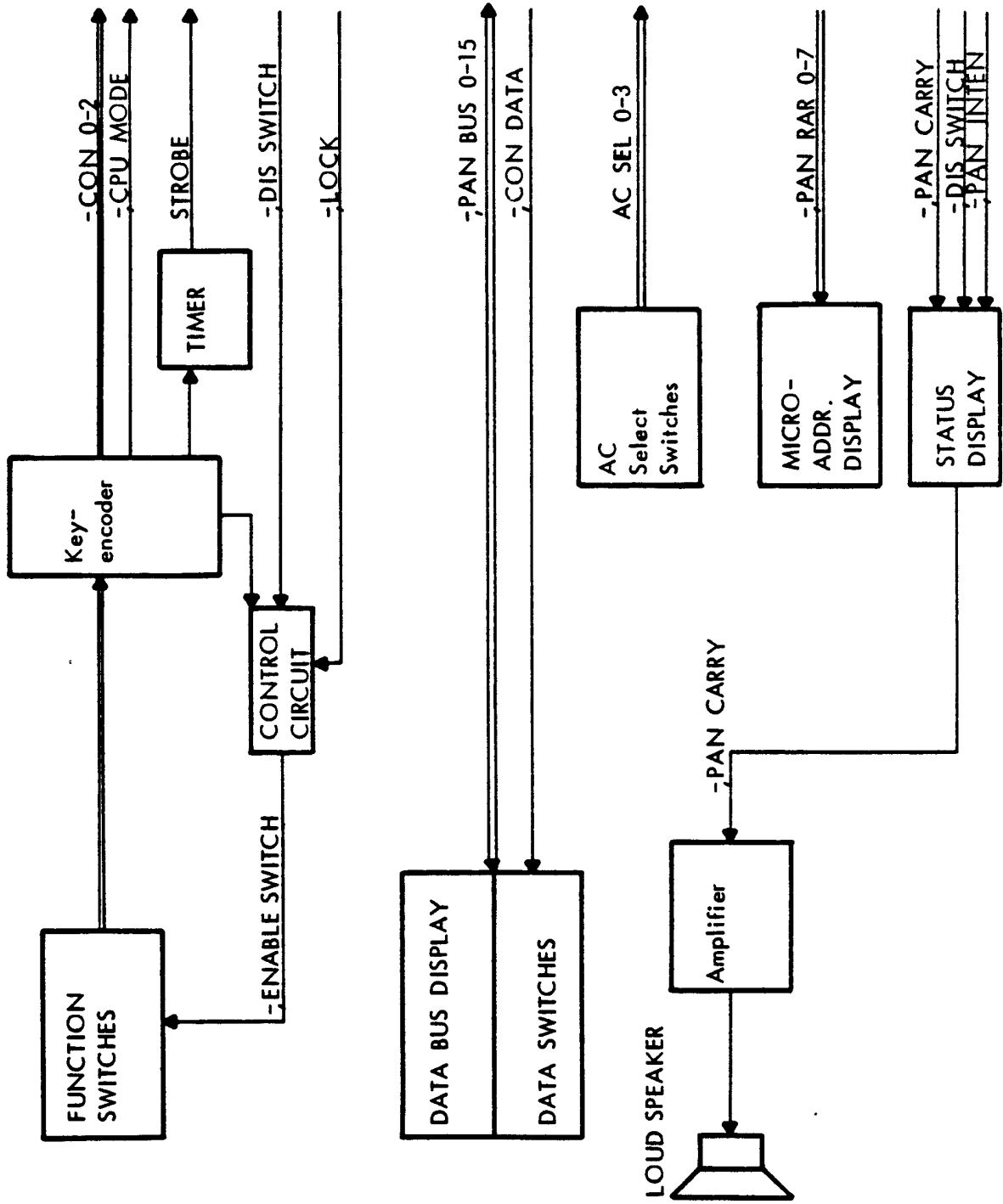


FIG. 1.0
BLOCKDIAGRAM

Function Switch	CON			CPU MODE
	0	1	1	
RESET	1	1	1	1
STOP	0	1	1	1
SPARE	1	0	1	1
CONTinue	0	0	1	1
INSTR STEP	1	1	0	1
MICRO STEP	0	1	0	1
SPARE	1	0	0	1
AUTO	0	0	0	1
START	1	1	1	0
EXAM REG	0	1	1	0
DEP REG	1	0	1	0
EXAM MEM	0	0	1	0
EXAM NEXT	1	1	0	0
DEP MEM	0	1	0	0
DEP NEXT	1	0	0	0
SPARE	0	0	0	0

Fig. 1.2

DIAGNOSTIC PANEL
FUNCTION SWITCH ENCODER

MICRO ADDR DISPLAY

1.3

Refer to circuit diagram LD 6.

8 lights displaying the signals \bar{P} , PAN RAR 0-7 (\bar{P} , PANel Rom Address Register bit 0-7).

STATUS DISPLAY

1.4

Refer to circuit diagram LD 6.

3 lights displaying the signals \bar{P} , DIS SWITCH, RUN, \bar{P} , PAN INTEN and \bar{P} , PAN CARRY.

\bar{P} , PAN CARRY (\bar{P} , PANel CARRY) indicates the state of the carry register in the CPU.

\bar{P} , PAN INTEN (\bar{P} , PANel INTerrupt ENable) indicates the state of the interrupt Enable Flip/Flop in the CPU.

\bar{P} , DIS SWITCH (\bar{P} , DISable SWITCH) indicates the RUN/STOP state of the CPU.

AC SEL SWITCHES

1.5

Refer to circuit diagram LD 6.

4 switches used as a 4 bits register select address (AC SEL 0-3).

AMPLIFIER - LOUDSPEAKER

1.6

Refer to circuit diagram LD 7.

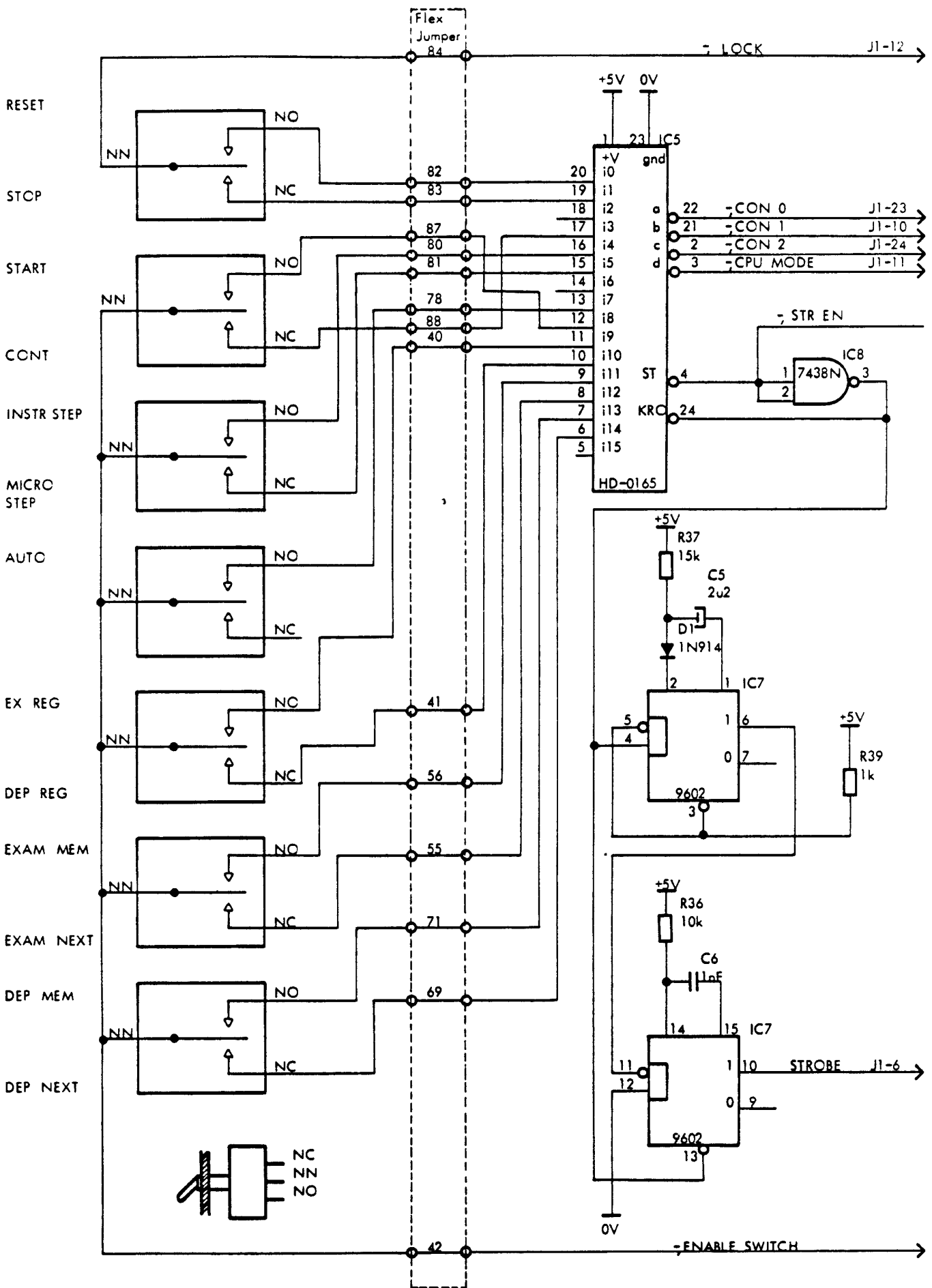
The signal \bar{P} , PAN CARRY (refer to section 1.4) is used to drive a loudspeaker.

RECOMMENDED SPARE PARTS LIST

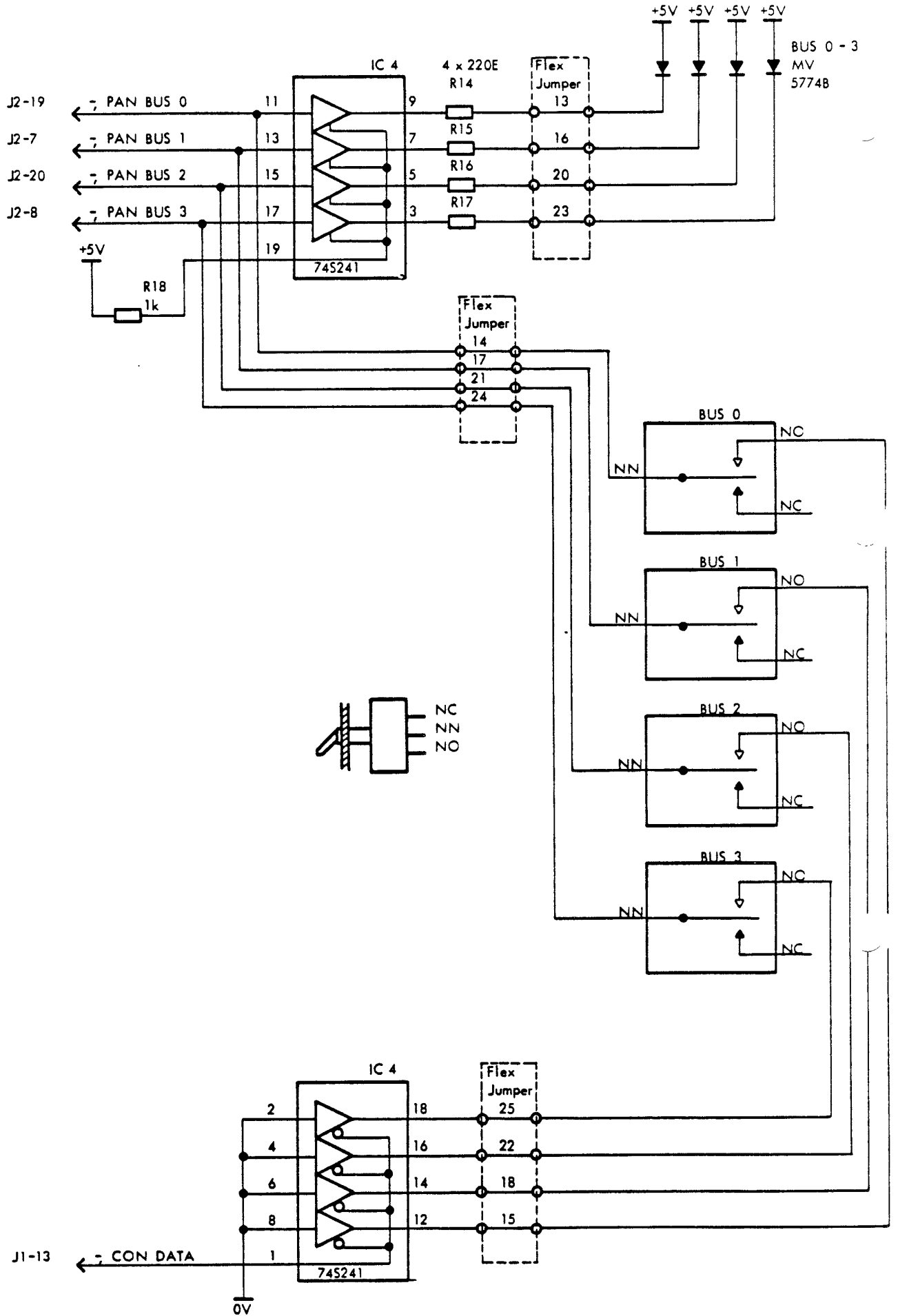
2

- 1 HD-0165
- 1 74S241
- 1 LM 386
- 1 9602
- 1 7438
- 1 75451 P
- 1 C & K 7101-P3P-P9 - CBE Switch
- 1 C & K 7105-P3P-P9 - CBE Switch
- 1 MV 5774B Led

761130 KNEH, 7/0217 OKJ



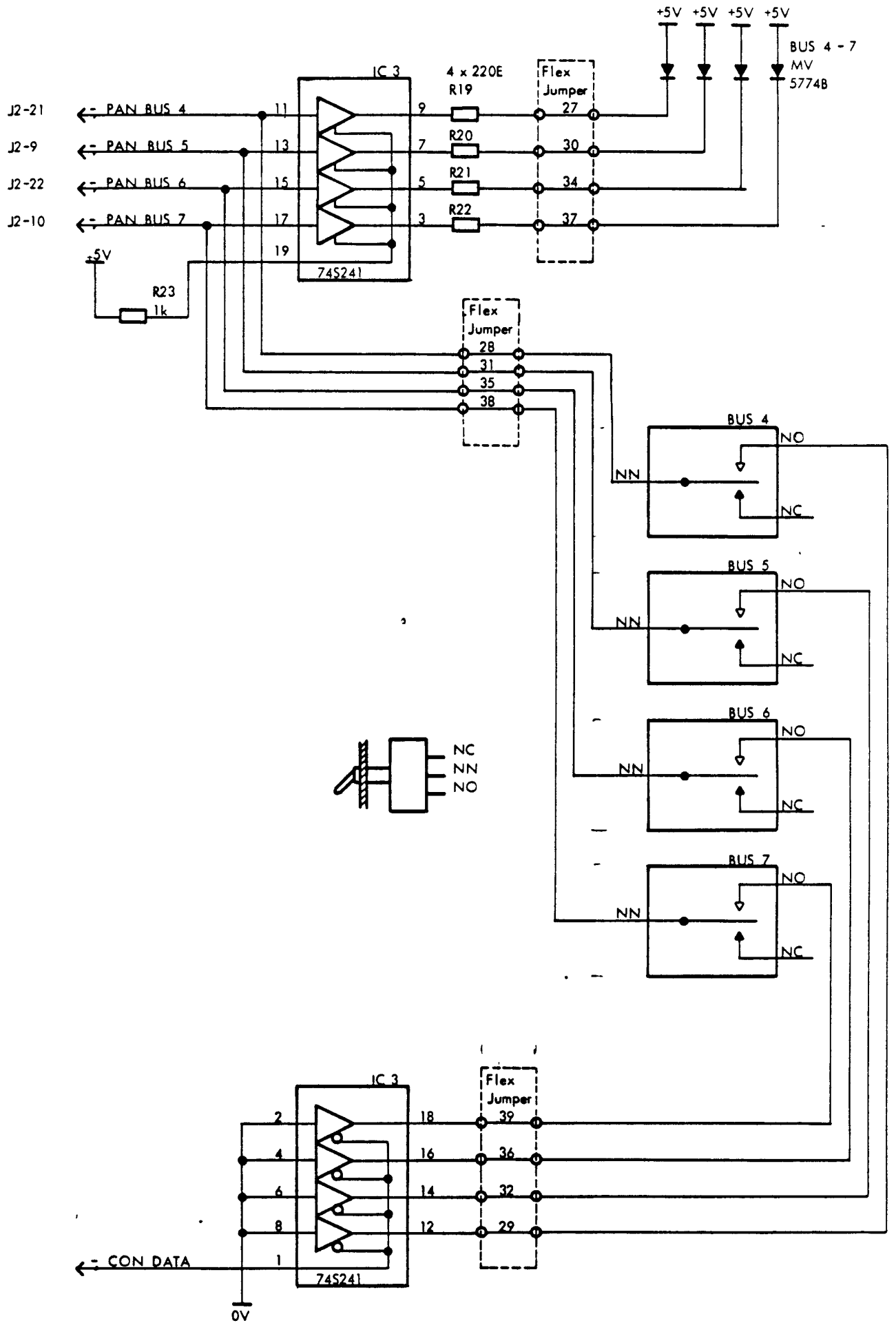
761130 KNEH. 770217 OKJ



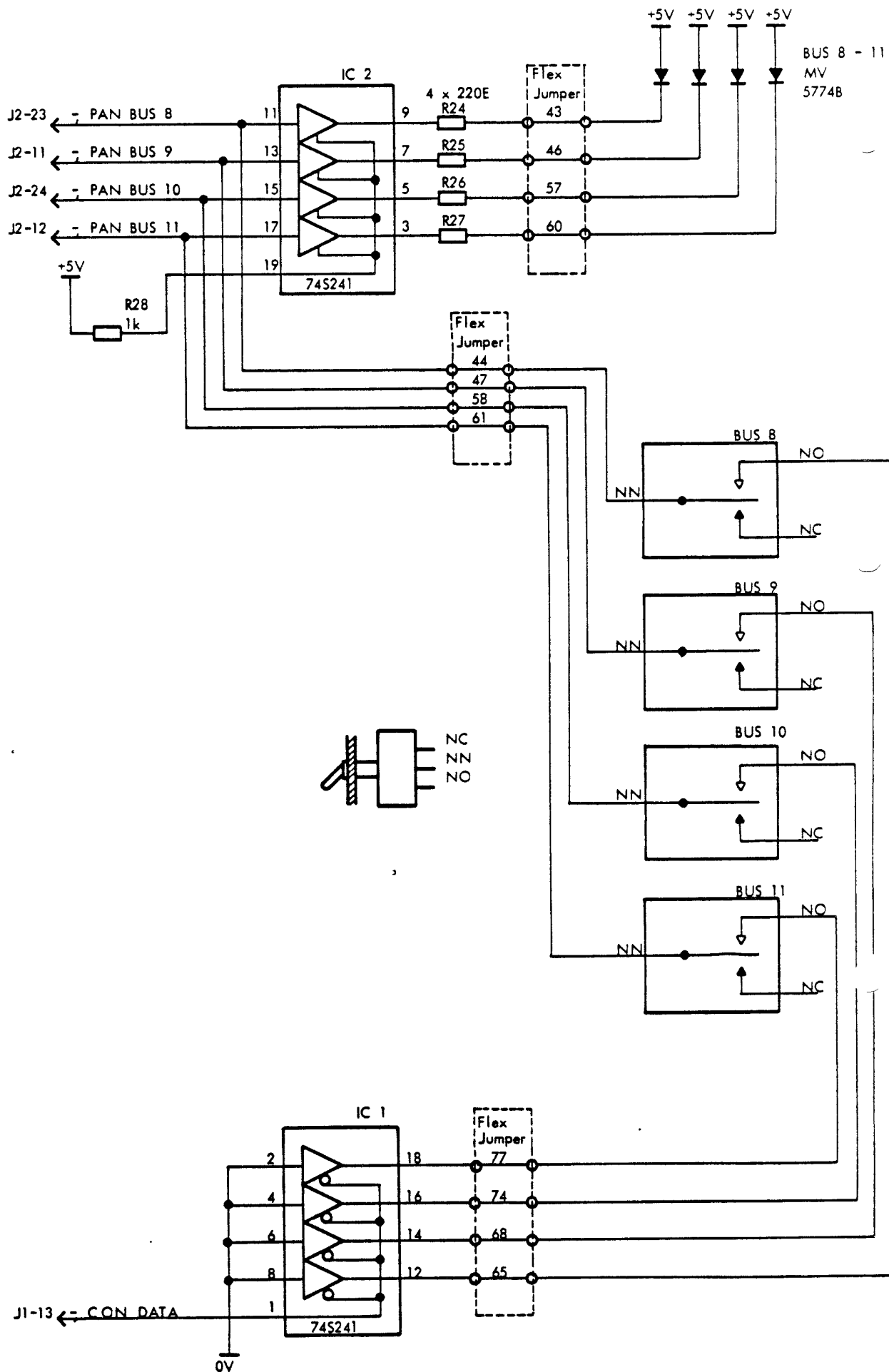
TCP 701
A12950

DATA SWITCHES AND INDICATORS
BIT 0 - 3
Circuit Diagram

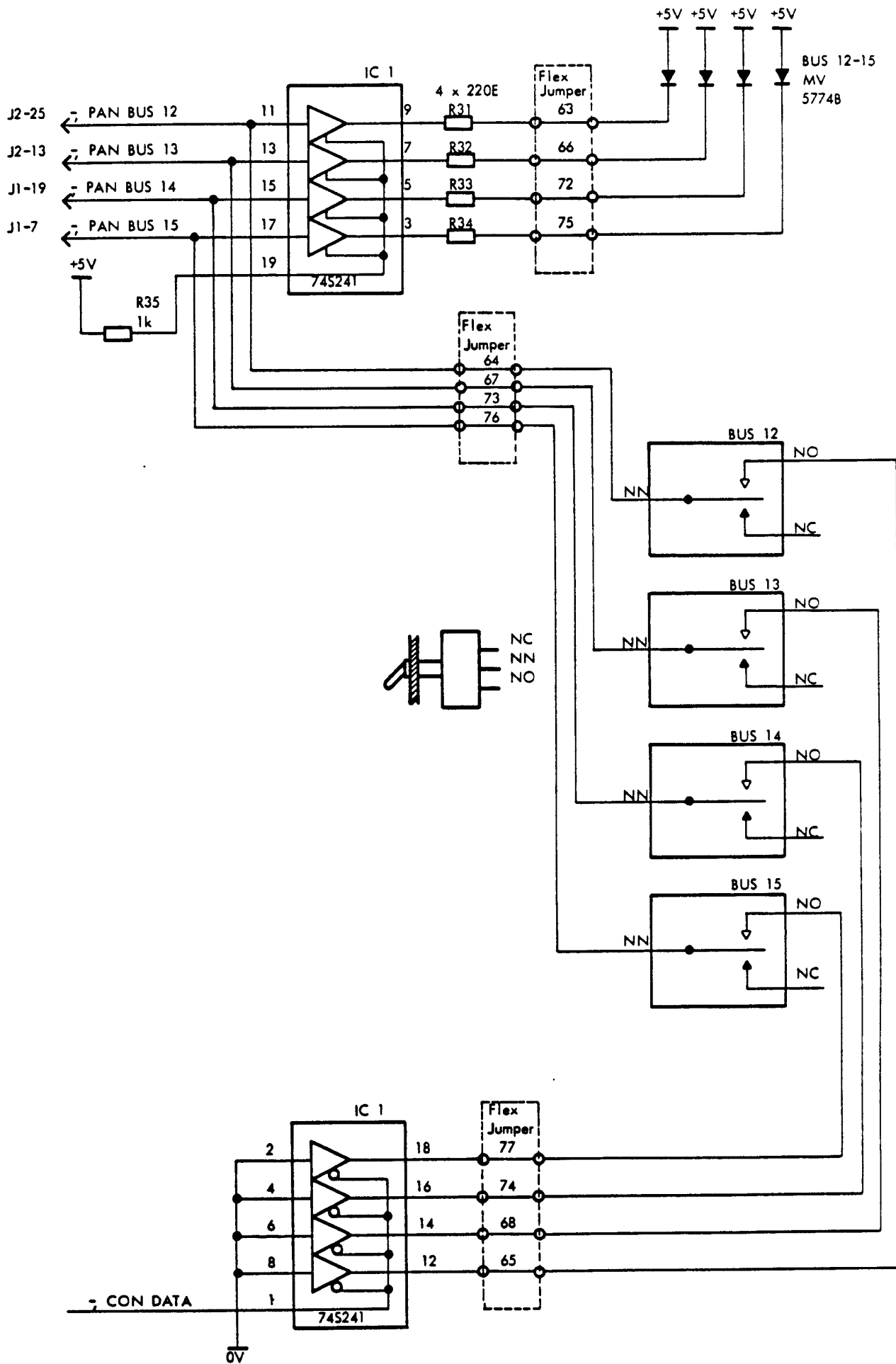
761130 KNEH,770217 OKJ



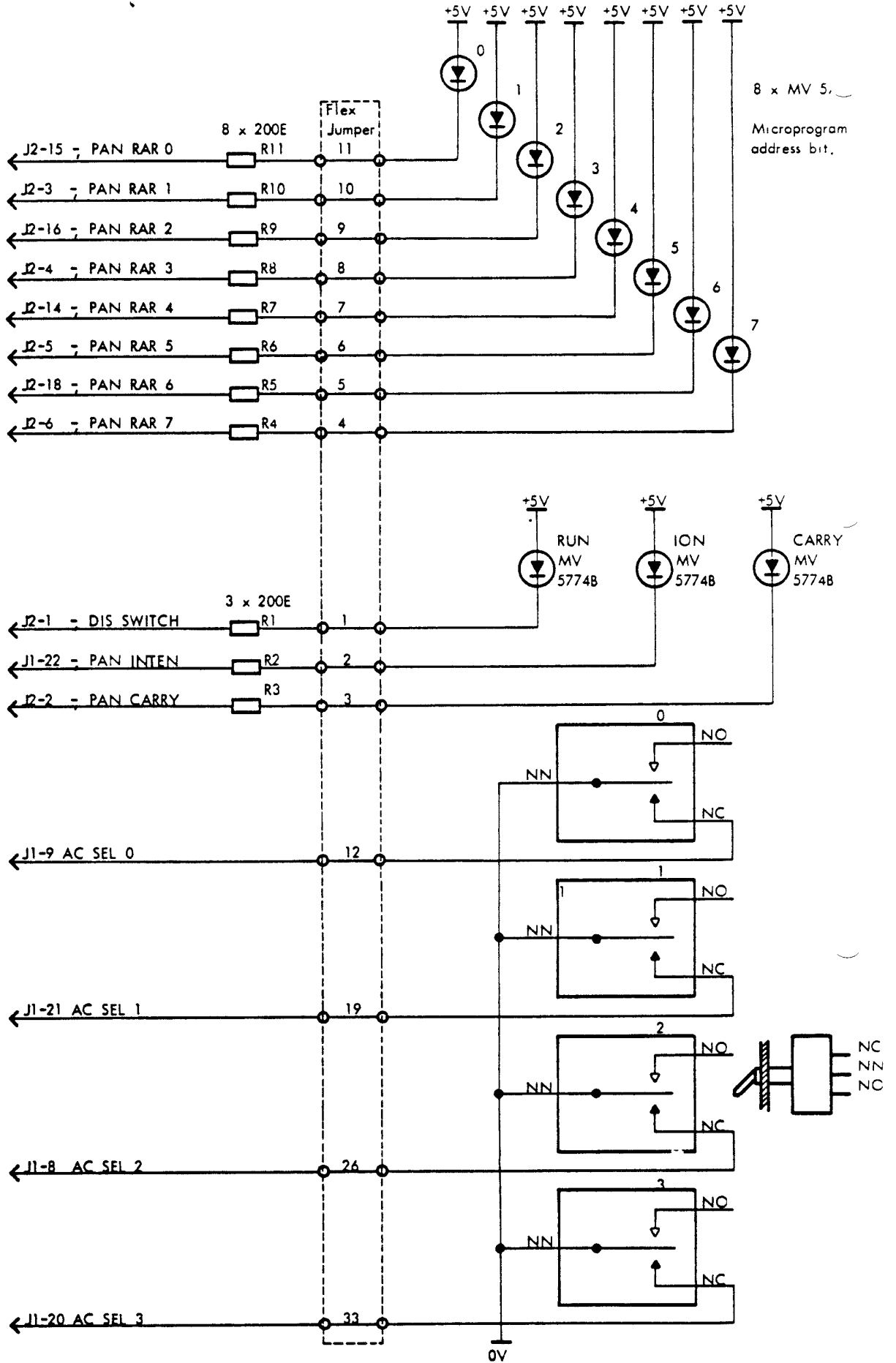
761130 KNEH, 770217 OKJ



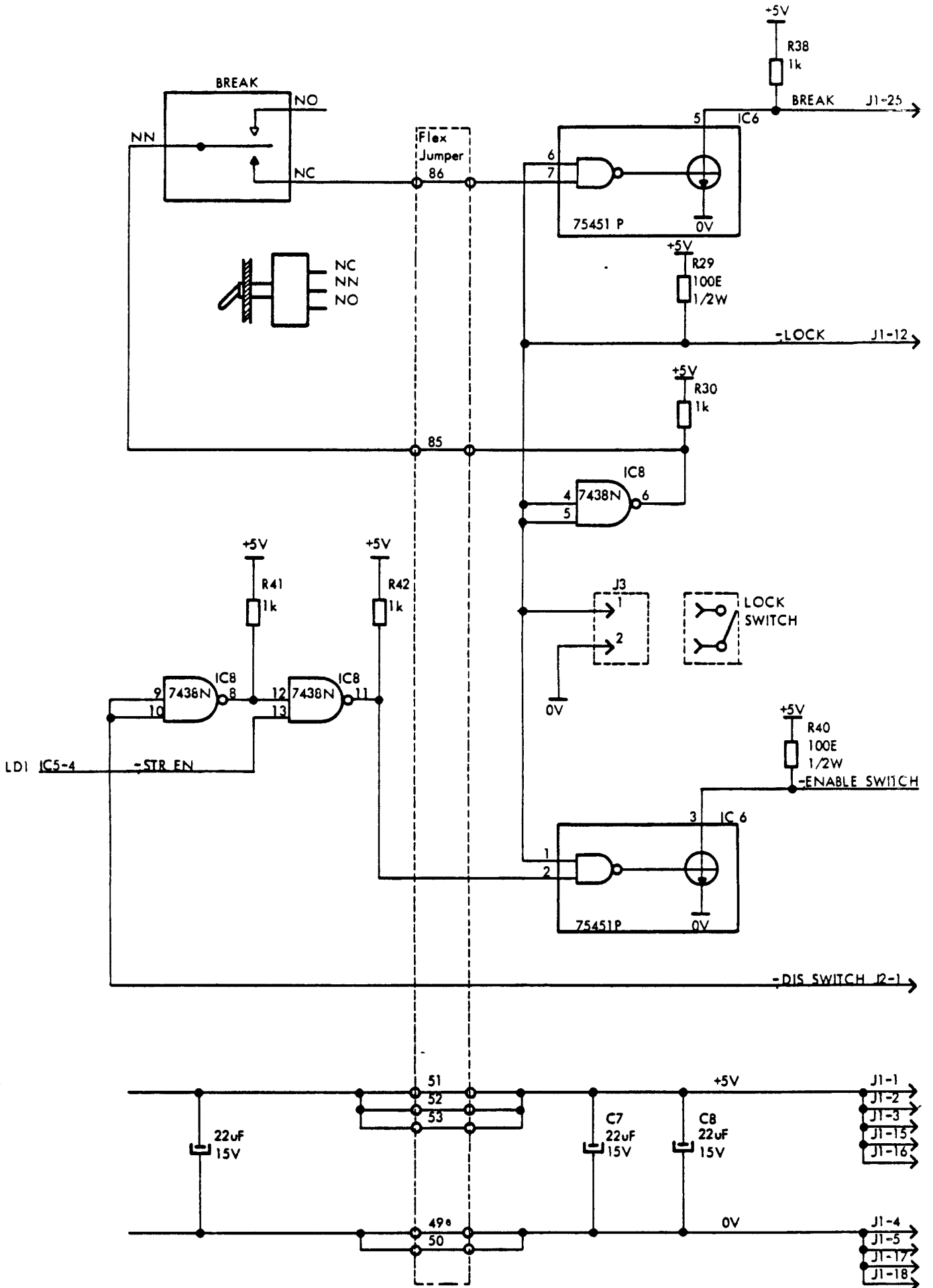
761130 VNEH. 770217 OKJ

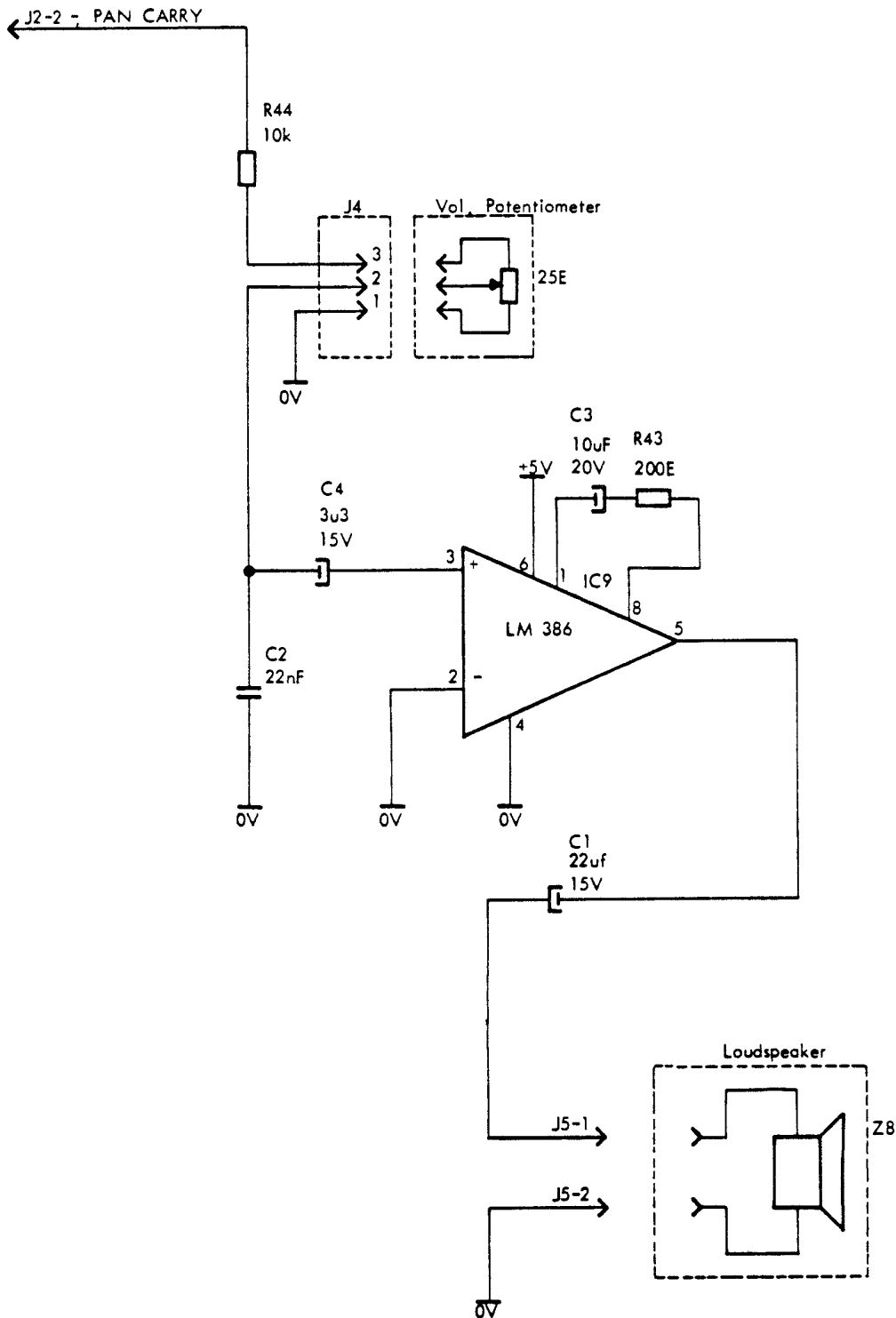


761130 KNEH, 770217 OKJ



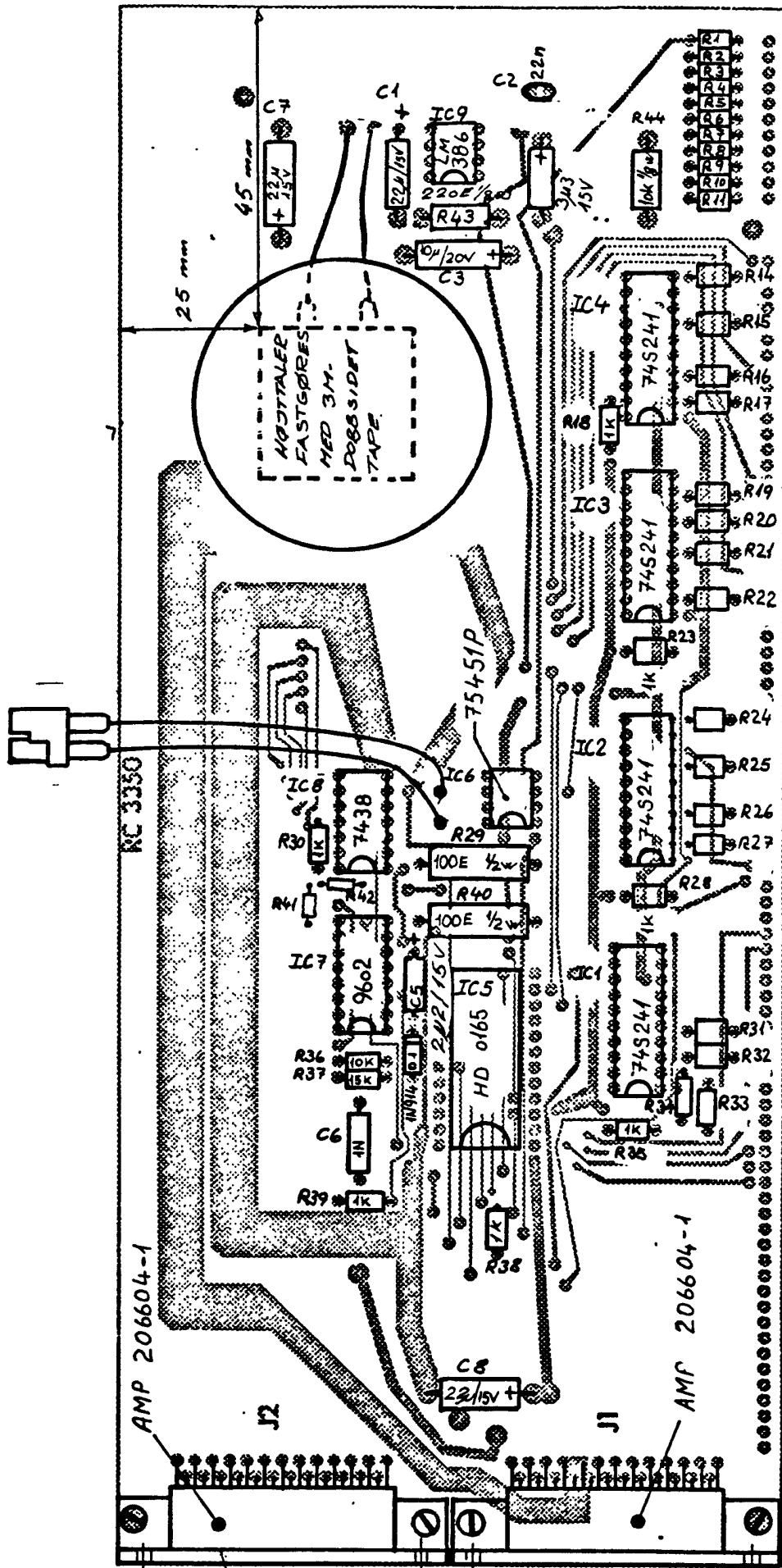
761130 KNEH. /70217 OKJ





761028 BJ 761101 OKJ

770218 KNEH 770218



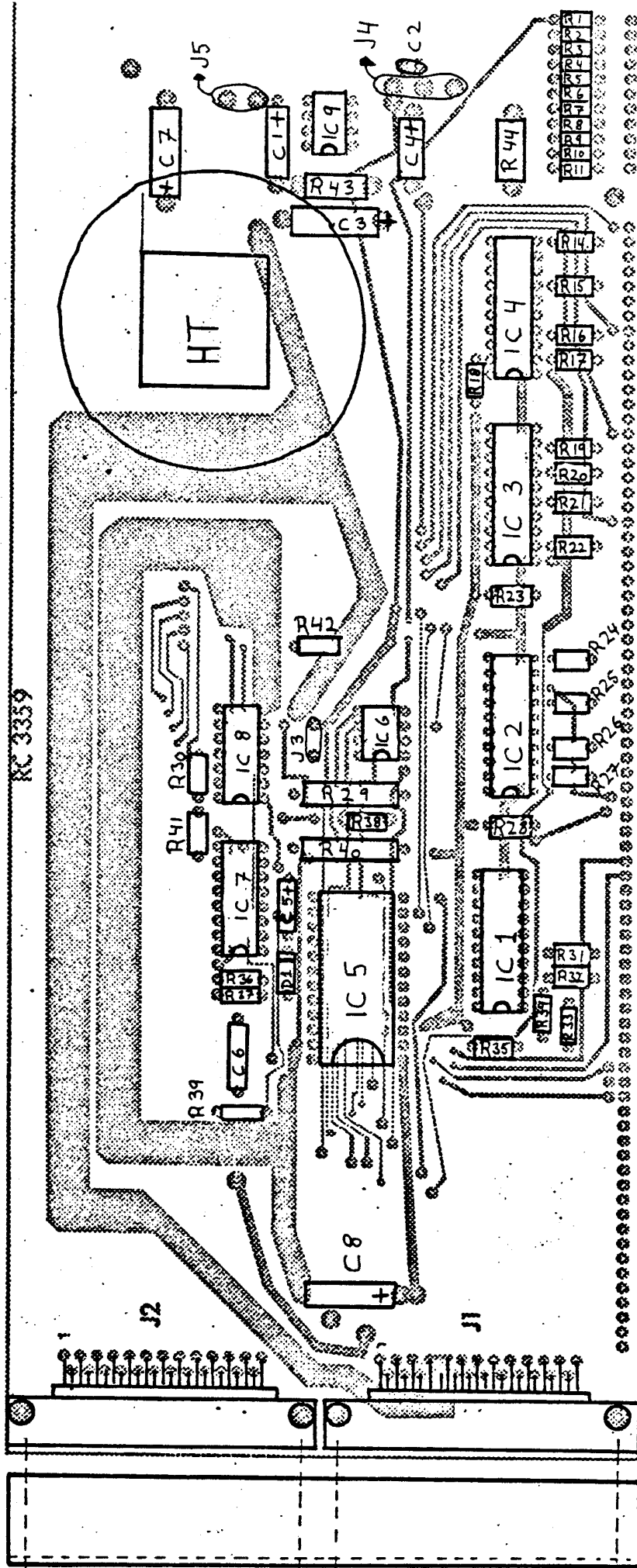
ALL OTHER RESISTORS: 220E 1/20w.

VERSION 1.

TCP 701
A24862

ASSEMBLY DRAWING (COMPONENT SIDE).

770218 KNEH 770317 NBL



TCP 701
A24868

ASSEMBLY DRAWING

VERSION 2.

DBSL: 064

A/S REGNECENTRALEN

Designed by

770201 KNEH 770218 OKJ

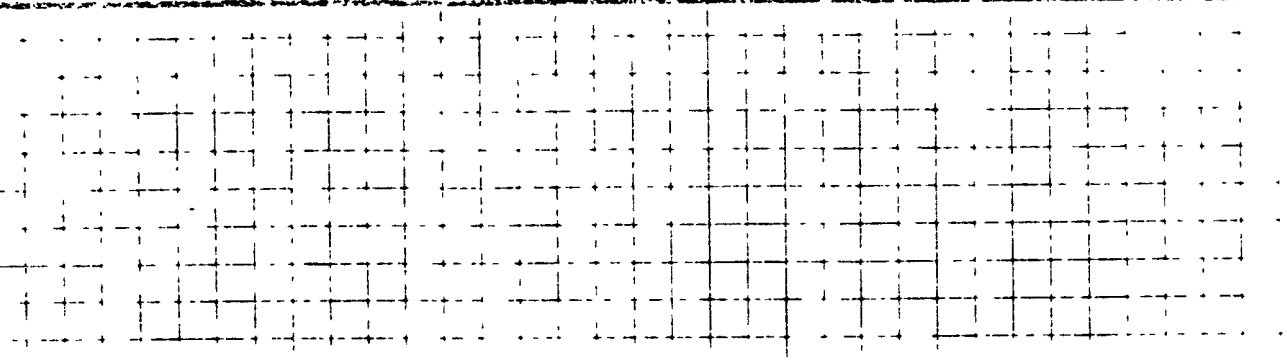
Drawn by

Dwg. Office Check

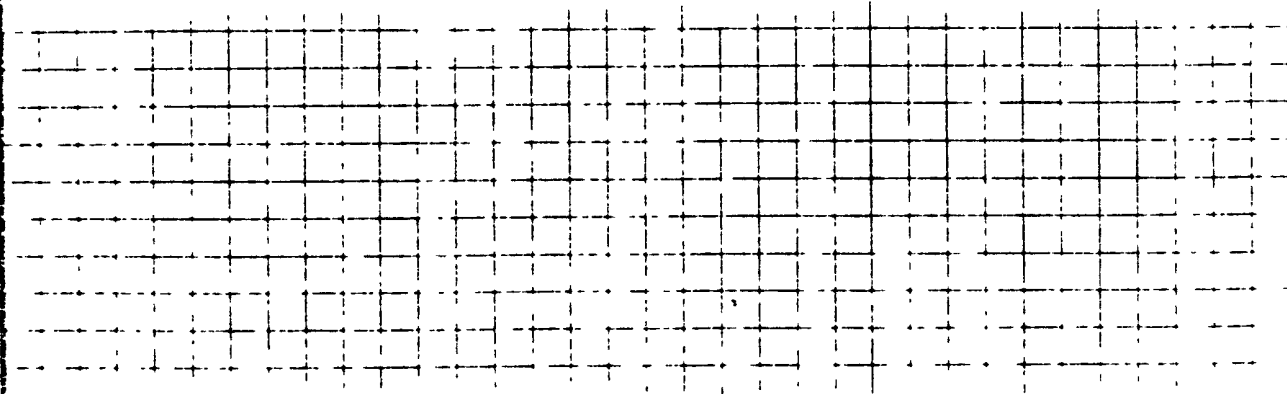
Design Check

Ref. to ECN

Approved by Dwn. No.



J1 ITT Cannon, type DB - 25S		
PIN	GEN. ADR.	SIGNAL NAME
1		+5V
2		+5V
3		+5V
4		0V
5		0V
6		STROBE
7		-PAN BUS 15
8		AC SEL 2
9		AC SEL 0
10		-CON 1
11		-CPU MODE
12		-LOCK
13		-CON DATA
14		
15		+5V
16		+5V
17		0V
18		0V
19		-PAN BUS 14
20		AC SEL 3
21		AC SEL 1
22		-PAN INTEN
23		-CON 0
24		-CON 2
25		BREAK



Unit
TCP 701

Dwg No
A24860

Jacklist

J1

DBSL: 064

AC doc VB 201

A/S REGNOCENTRALEN

Designed by

7/02/1 KNEH

Drawn by

7/02/18 OKJ

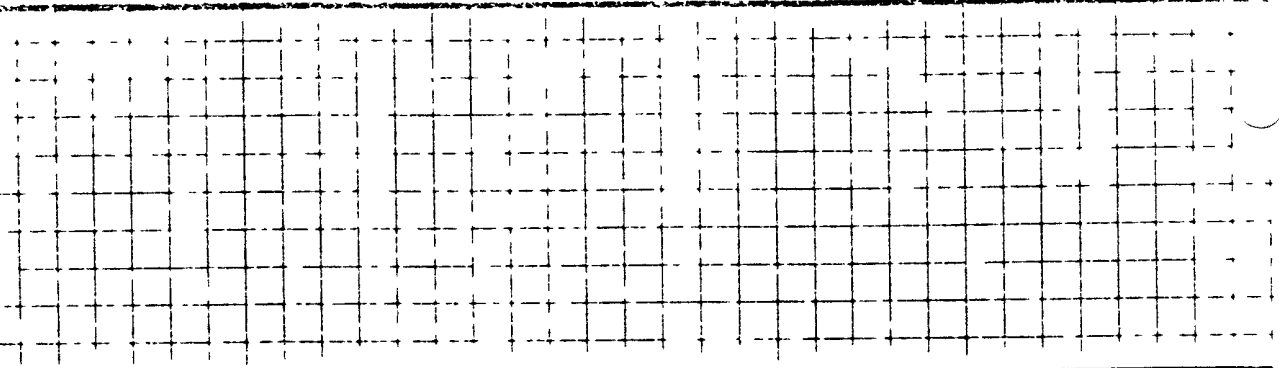
Dwg Off ce Check

Des gn Check

Replaces Dwg No

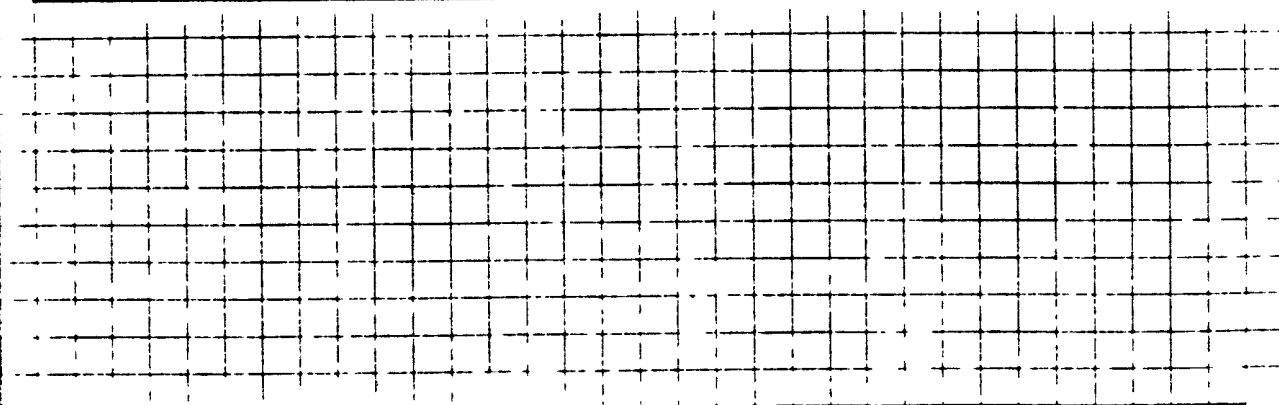
dup to ECN

Replaced by Dwg No



J2
ITT Cannon, type DB - 25 S

PIN	GEN. ADR.	SIGNAL NAME
1		- DIS SWITCH
2		- PAN CARRY
3		- PAN RAR 1
4		- PAN RAR 3
5		- PAN RAR 5
6		- PAN RAR 7
7		- PAN BUS 1
8		- PAN BUS 3
9		- PAN BUS 5
10		- PAN BUS 7
11		- PAN BUS 9
12		- PAN BUS 11
13		- PAN BUS 13
14		
15		- PAN RAR 0
16		- PAN RAR 2
17		- PAN RAR 4
18		- PAN RAR 6
19		- PAN BUS 0
20		- PAN BUS 2
21		- PAN BUS 4
22		- PAN BUS 6
23		- PAN BUS 8
24		- PAN BUS 10
25		- PAN BUS 12



Unit
TCP 701

Dwg No
A24861

Jacklist

J2

CONNECTOR I : CANNON DBC 25S - F0
CONNECTOR II : CANNON DBC 25S - F0
CONNECTOR III: EDGECONNECTOR 2 x 25 POL. SOLDER.
CABLE: DATWYLER 0,25 TYPE 2755.

III PIN		II PIN	III PIN	I PIN
B13	- DIS SWITCH	1	B22	+5V
B19	- PAN CARRY	2	B21	+5V
B7	- PAN RAR 1	3	B20	+5V
B5	- PAN RAR 3	4	A25	0V
B3	- PAN RAR 5	5	A24	0V
B1	- PAN RAR 7	6	A21	STROBE
A2	- PAN BUS 1	7	A16	- PAN BUS 15
A4	- PAN BUS 3	8	B10	AC SEL 2
A6	- PAN BUS 5	9	B12	AC SEL 0
A8	- PAN BUS 7	10	A18	- CON 1
A10	- PAN BUS 9	11	A20	- CPU MODE
A12	- PAN BUS 11	12	B18	- LOCK
A14	- PAN BUS 13	13	A22	- CON DATA
B8	- PAN RAR 0	15	A23	+5V
B6	- PAN RAR 2	16	B23	+5V
B4	- PAN RAR 4	17	B25	0V
B2	- PAN RAR 6	18	B24	0V
A1	- PAN BUS 0	19	A15	- PAN BUS 14
A3	- PAN BUS 2	20	B9	AC SEL 3
A5	- PAN BUS 4	21	B11	AC SEL 1
A7	- PAN BUS 6	22	B17	- PAN INTEN
A9	- PAN BUS 8	23	A17	- CON 0
A11	- PAN BUS 10	24	A19	- CON 2
A13	- PAN BUS 12	25	B14	BREAK
			B15	
			B16	

770219 OKJ

770216 BJ

