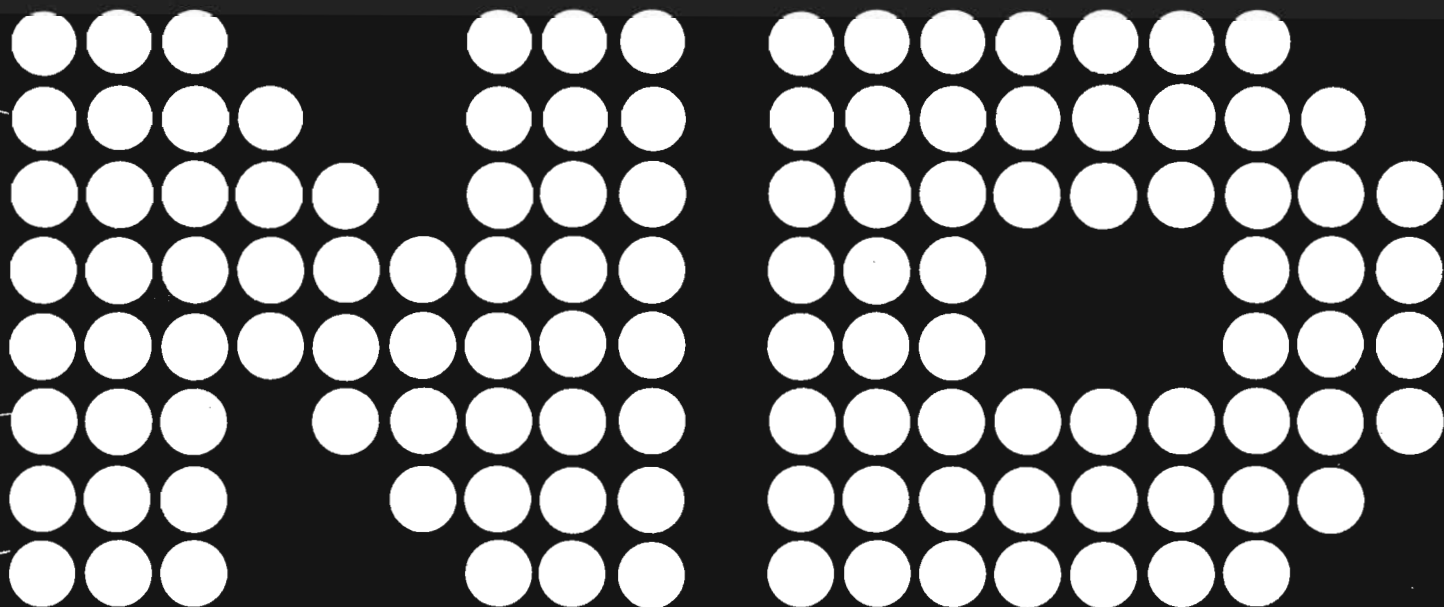


BUS-SWITCH

†††

# A/S NORSK DATA-ELEKTRONIKK



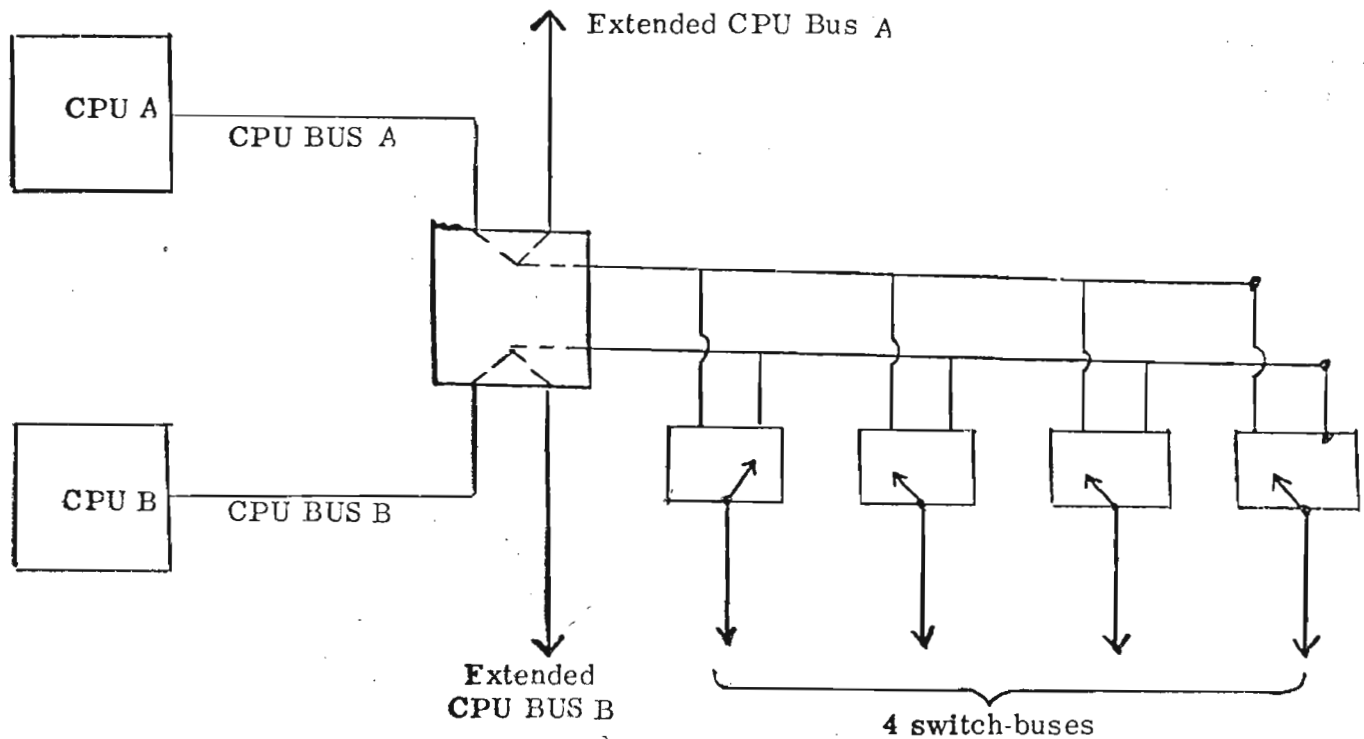


## BUS-SWITCH



It is often useful to transfer the control of peripheral devices from one CPU to another. A bus switch is designed for this purpose.

A bus switch is shown schematic in the following figure.

Bus-Switch**CPU BUS**

Standard NORD-10 I/O bus from CPU or bus controller.

Extended CPU Bus

Standard NORD-10 I/O bus from the bus switch. This bus is a direct extension of a CPU bus and cannot be switched to the other CPU bus.

Switch-bus

Standard NORD-10 I/O bus from the bus-switch. It is possible to connect up to four switch-buses to one bus-switch. Each of the four buses may independently select one of the two CPU buses as source bus. The selection of source bus is controlled by an external signal, select signal. The select signal is usually given by a toggle-switch.

CARD POSITIONS

BUS SWITCH

24		
23		
22		
21		
20		
19		
18		
17		
16		
15		
14		
13		
12		
11		
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

Card positions for data, one for each switch-bus.

Data CPU B (extended).

Data CPU B (IN)

Data CPU A (extended).

Data CPU A (IN)

Card positions for control, one for each switch bus.

Control CPU B (extended)

Control CPU B (in)

Control CPU A (extended)

Control CPU A (in)

Card positions for address, one for each switch bus.

Address CPU B(extended)

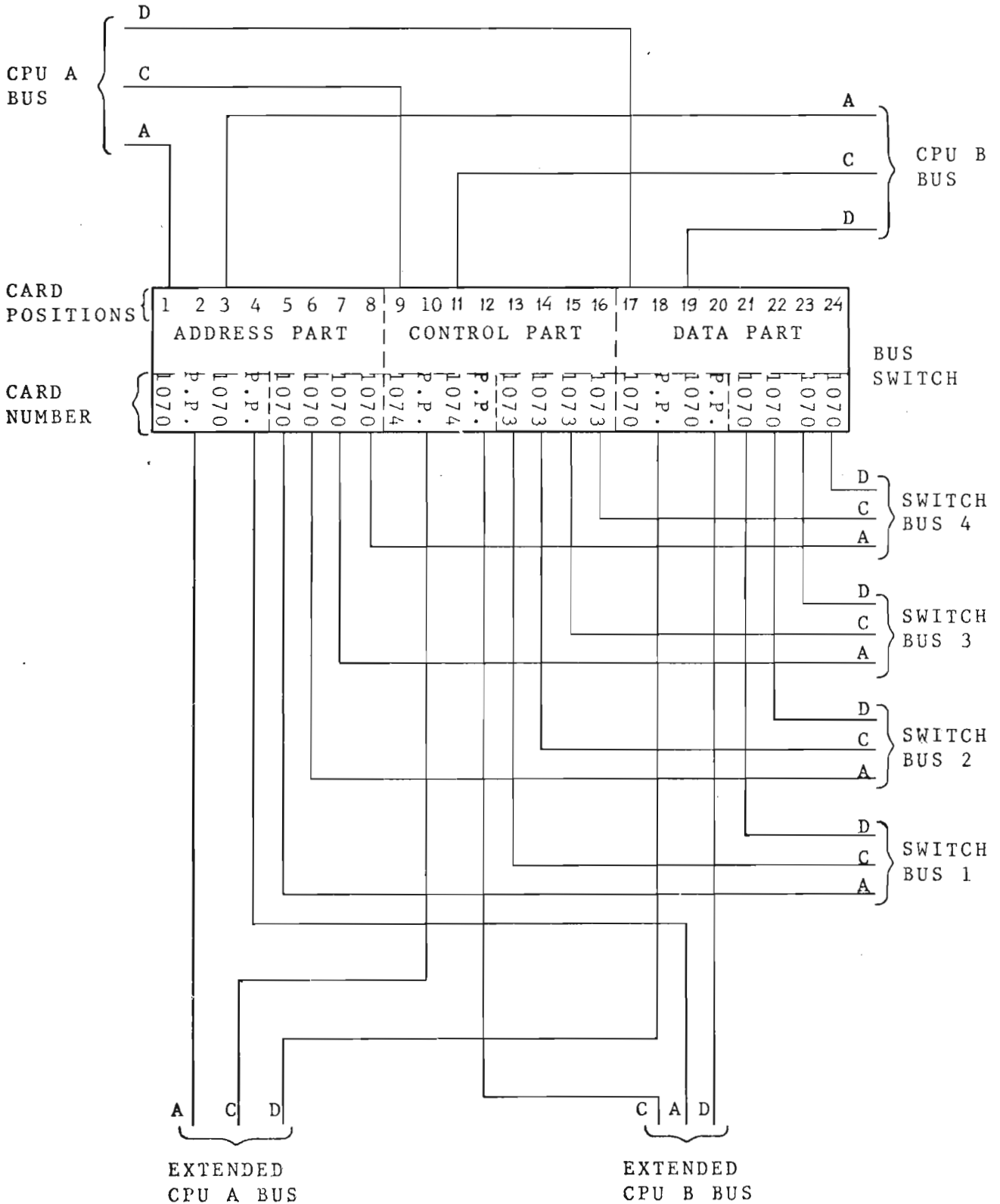
Address CPU B(in)

Address CPU A(extended)

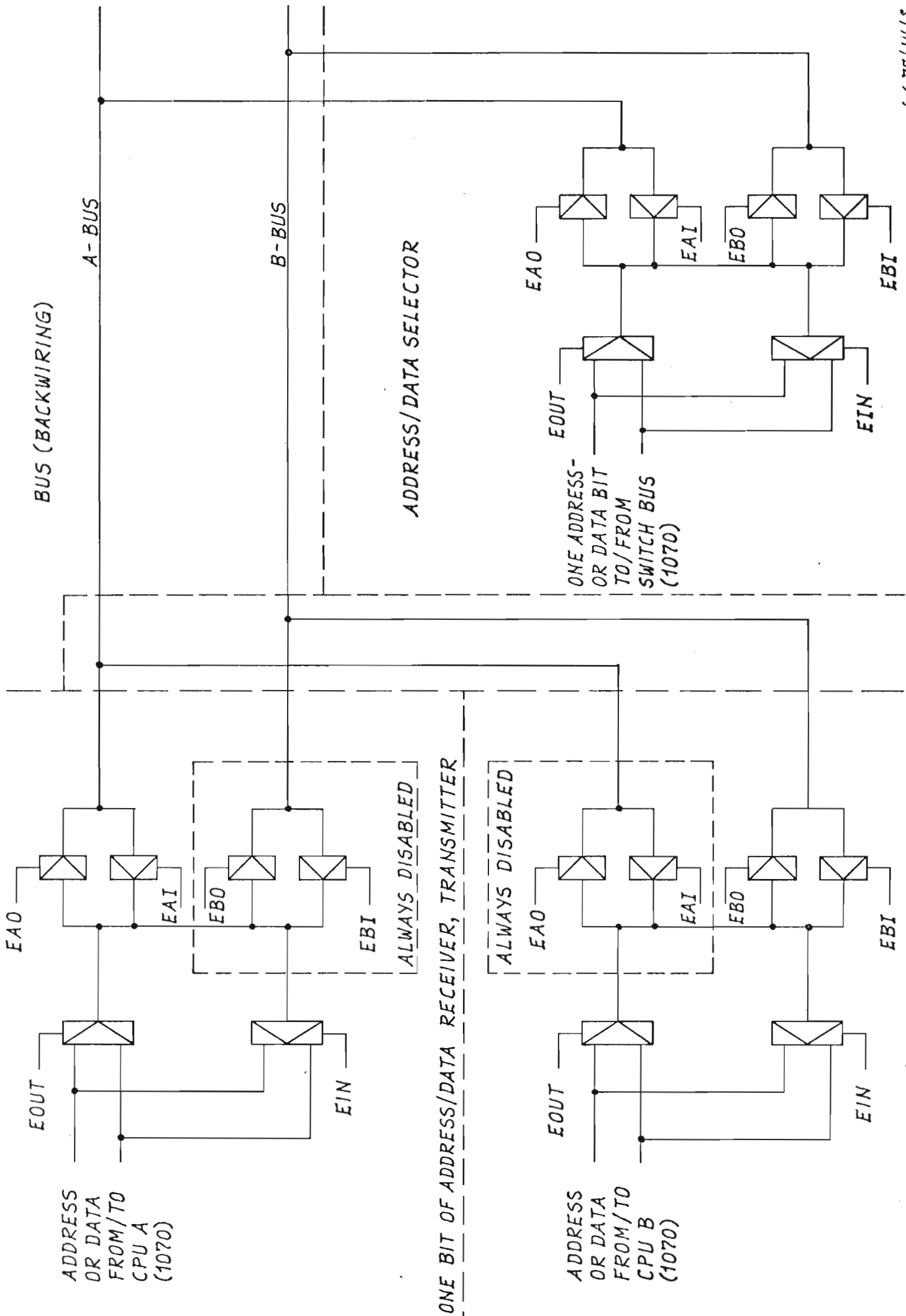
Address CPU A(in)

# BUS SWITCH

A : Address cable  
 C : Control cable  
 D : Data cable  
 P.P.: Plug position, no card



DATA AND ADDRESS PATHS IN BUS SWITCH



ONE BIT OF ADDRESS/DATA RECEIVER, TRANSMITTER

6.6.75/JH/2008

BUS SWITCH CONTROL SIGNALS

- IN: Input signal, received on 1073 from device controller.
- FAD10: Add address bit 10 to IOX address, decoded from switch on 1073 card. Decoding is described on the 1073 drawing.
- FD8: Add bit 8 to ident code. Generated on 1073.
- LOWSEL: External signal (from toggle switch) to select bus from CPU A or B. When this signal is true, CPU-A is selected.

Address and data enabling signals are generated from the two signals IN and LOWSEL.

The enabling signal generated and used on Data and Address bus selector (1070):

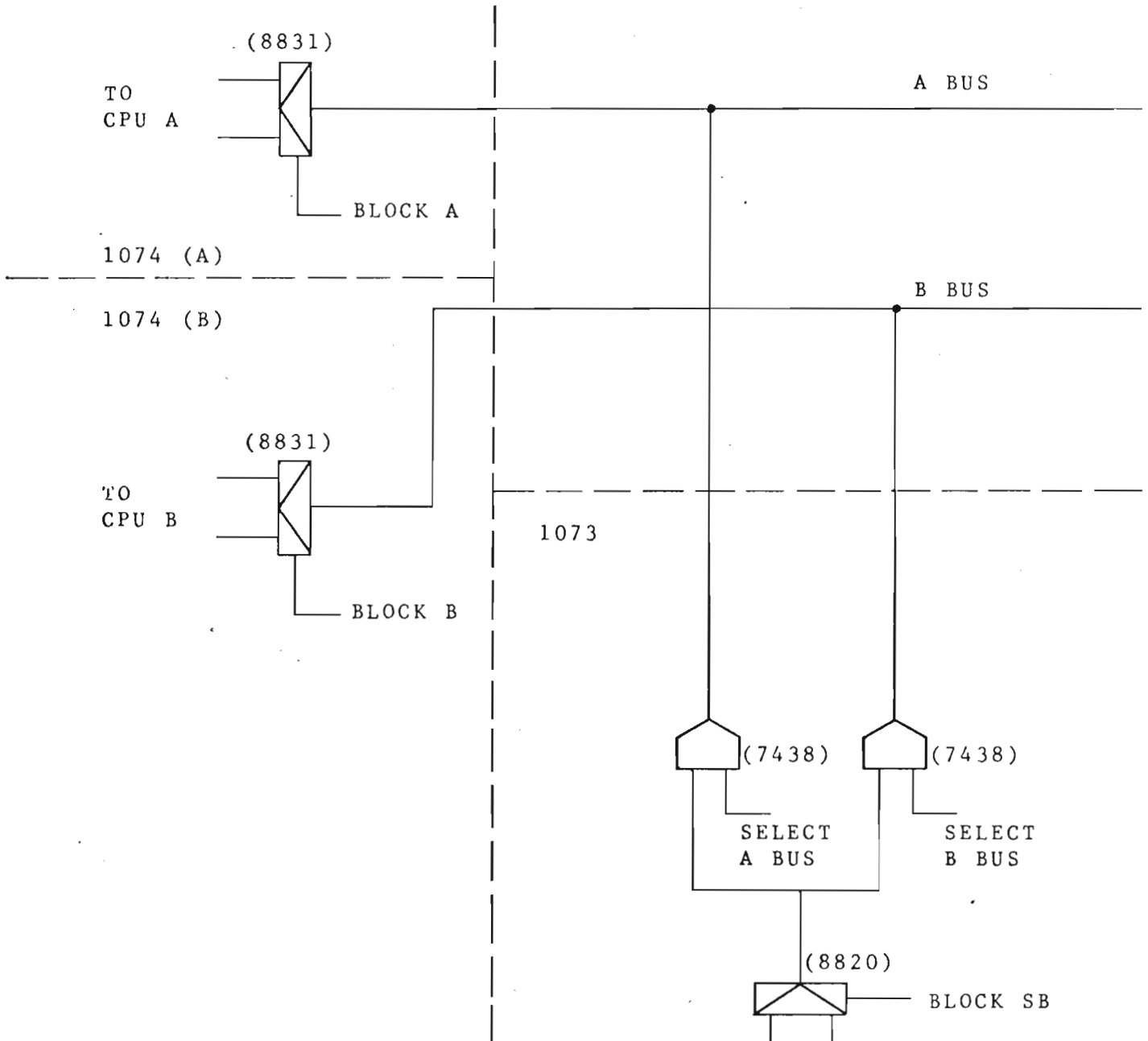
Used as CPU address/data receiver, transmitter:

- EIN: Enable address or data to CPU (INPUT)
- EOUT: Enable address or data from CPU (OUTPUT)
- EAO: Enables address/data to A-BUS
- EAI (X-Y): Enables address/data from A-BUS
- EBO (X-Y): Enables address/data to B-BUS
- ABI (X-Y): Enables address/data from B-BUS

Used as address/data selector:

- EAO (X-Y): Select address/data from A-BUS
- EAI (X-Y): Enables address/data on A-BUS
- EBO (X-Y): Select address/data from B-BUS
- EBI (X-Y): Enables address/data on B-BUS
- EOUT: Enables selected address/data out
- EIN: Enables selected address/data in

CONTROL SIGNALS TO CPU



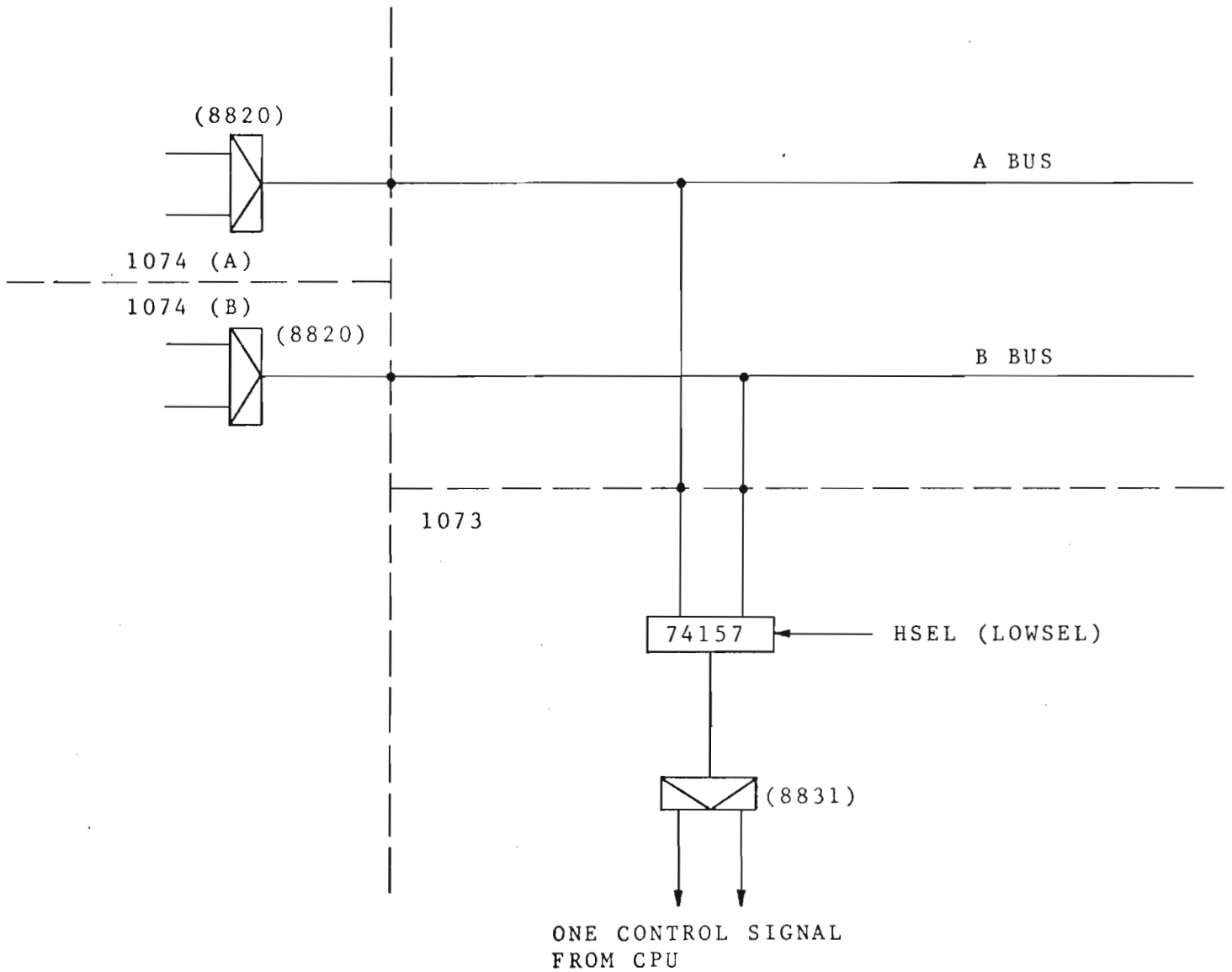
CONTROL SIGNALS TO CPU USING THIS GATING:

Input	(BINPUT)
Connect	(BCON)
Request	(BREQ)
Interrupt level 15	(BINT 15)
" " "	13 (BINT 13)
" " "	12 (BINT 12)
" " "	11 (BINT 11)
" " "	10 (BINT 10)

ONE CONTROL SIGNAL FROM SWITCH BUS



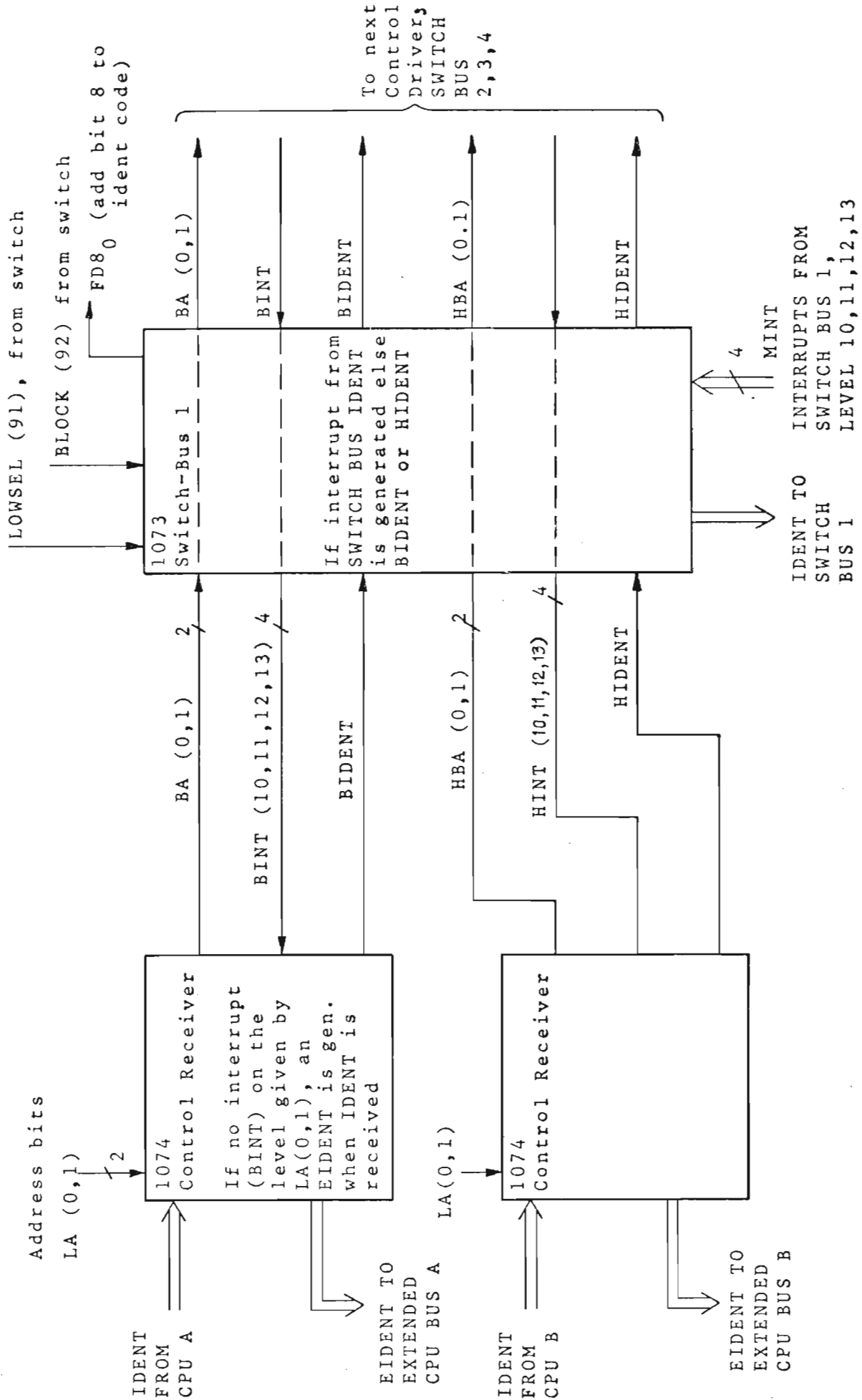
CONTROL SIGNALS FROM CPU



CONTROL SIGNALS FROM CPU USING THIS GATING:

- IOX (Special gating on 1073)
- MC Master Clear
- DRX Data Ready

IDENT - BRANCHING



A SWITCH BUS has higher priority than the EXTENDED CPU BUS. SWITCH BUS 1 has the highest priority of the SWITCH BUSES.

⇔ Differential driven lines

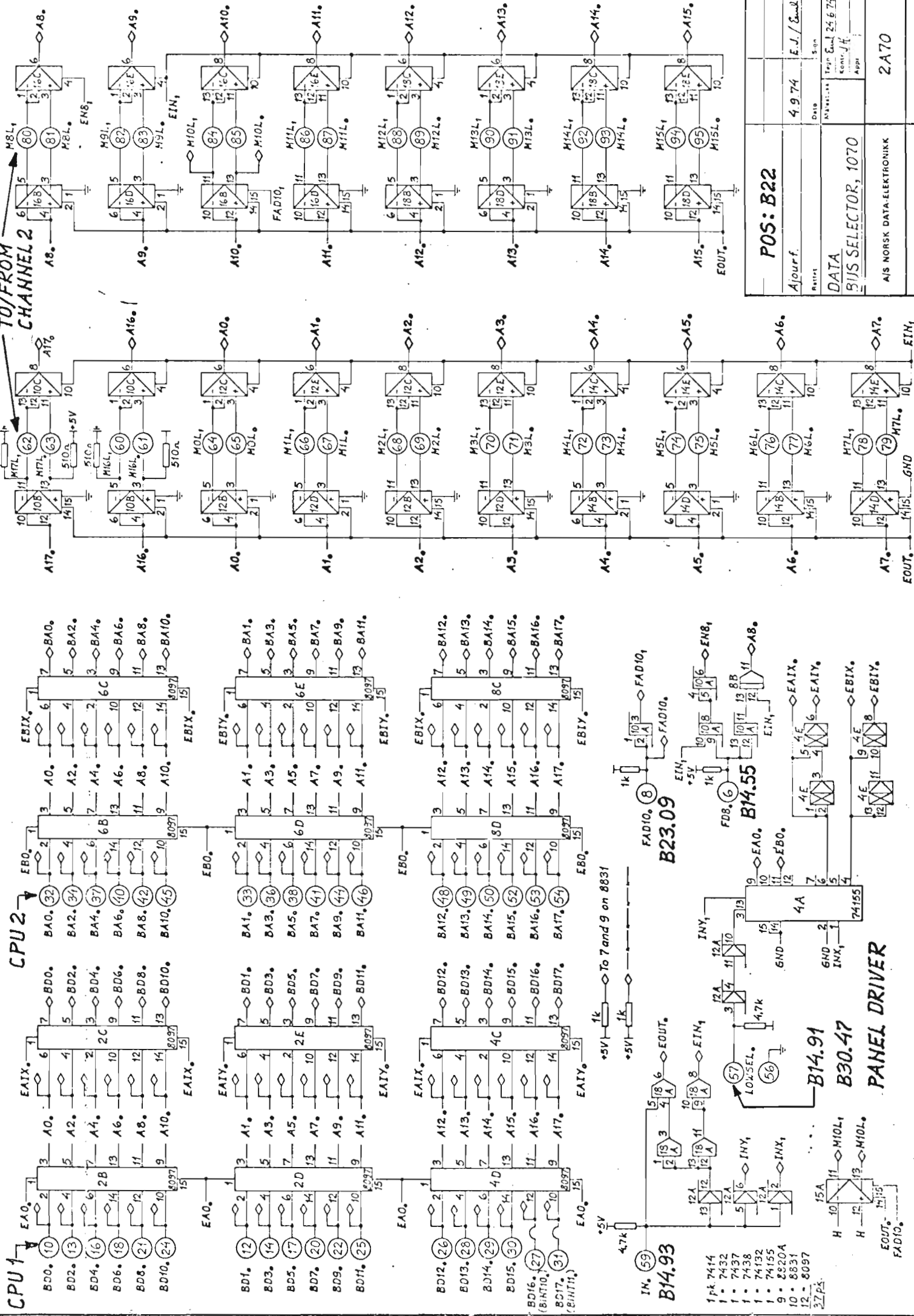




CPU 1

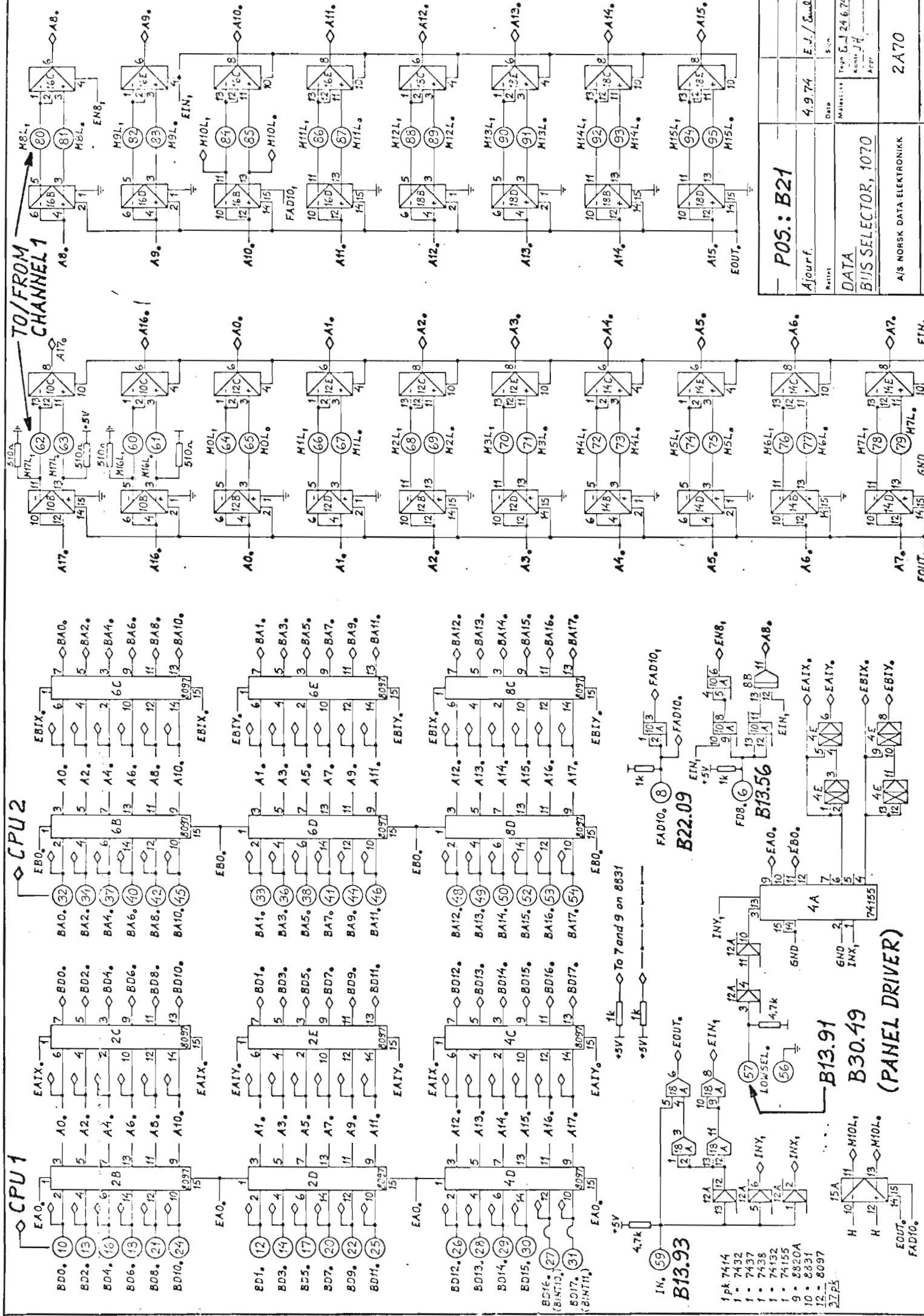
CPU 2

TO/FROM CHANNEL 2

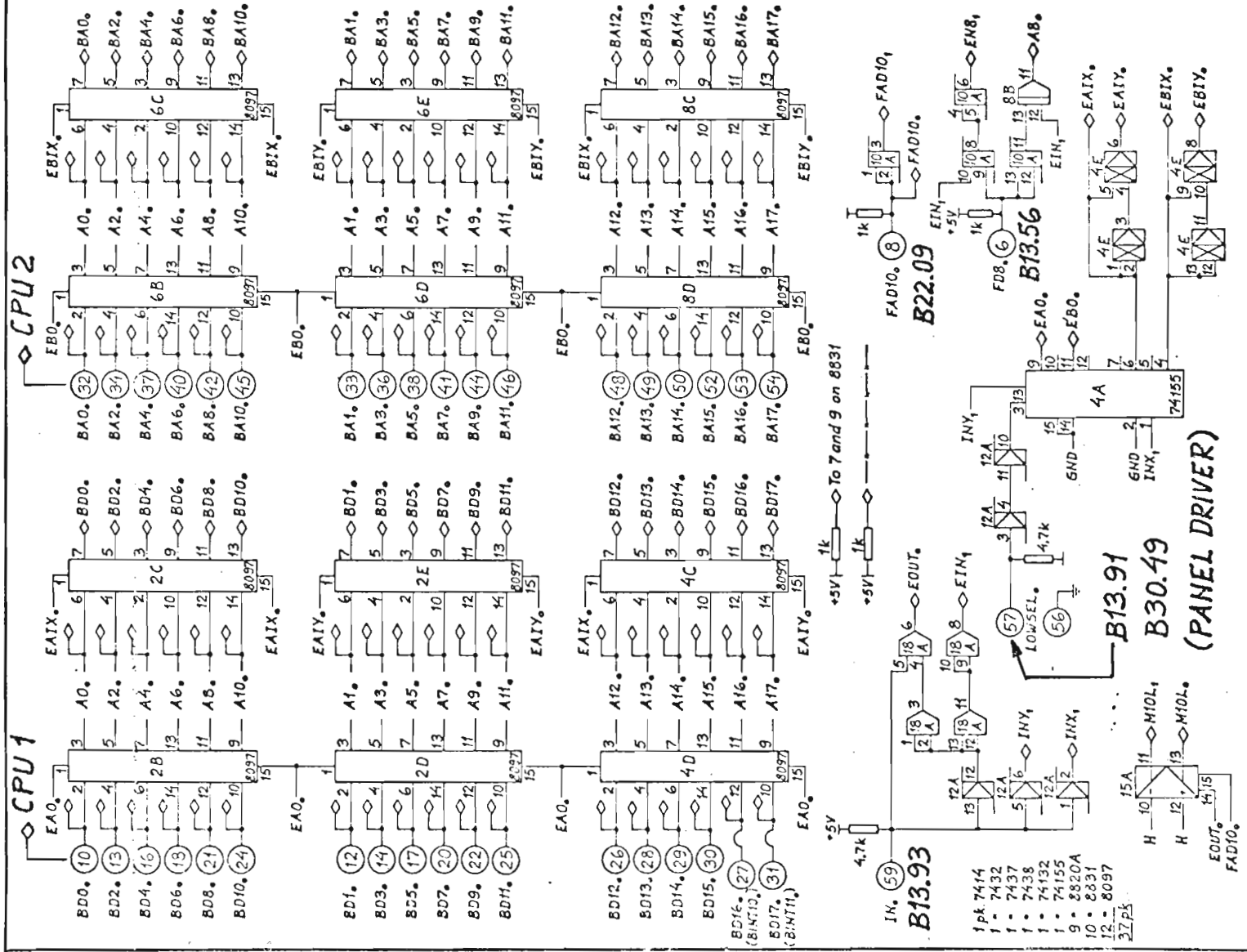


- 1 P. 7414
- 1 . 7432
- 1 . 7437
- 1 . 7438
- 1 . 74132
- 1 . 74155
- 9 . 2820A
- 10 . 8831
- 12 . 8097
- 37 P.

<b>POS: B22</b>		Date	4.9.74	E.J./E.S.
Ajourf.		Rev.	1	Appr.
DATA		Tran	24.6.75	
BIJIS SELECTOR, 1070		2A70		
A/S NORSK DATA-ELEKTRONIKK				



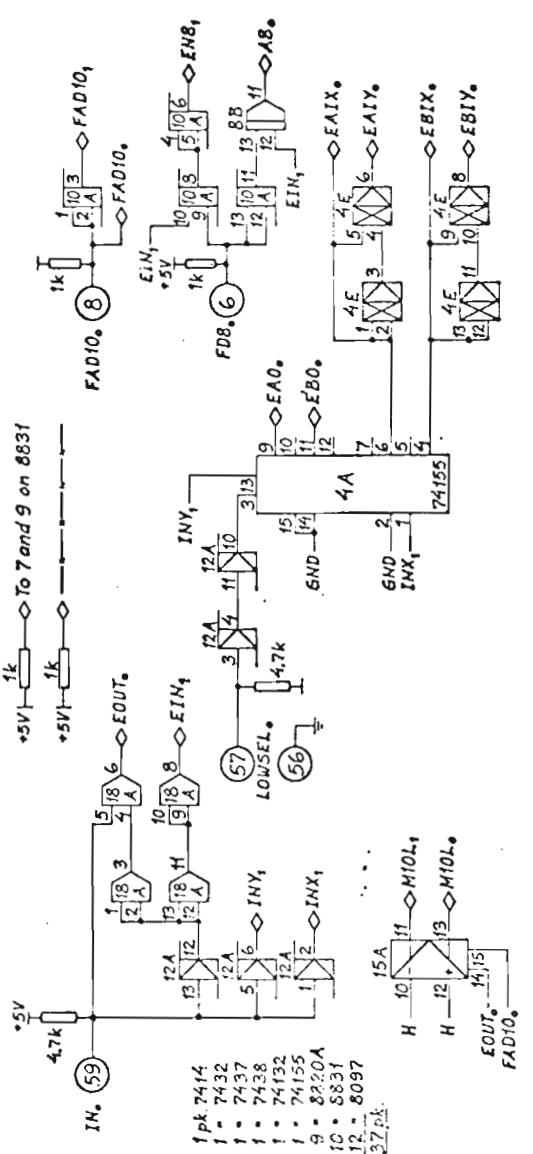
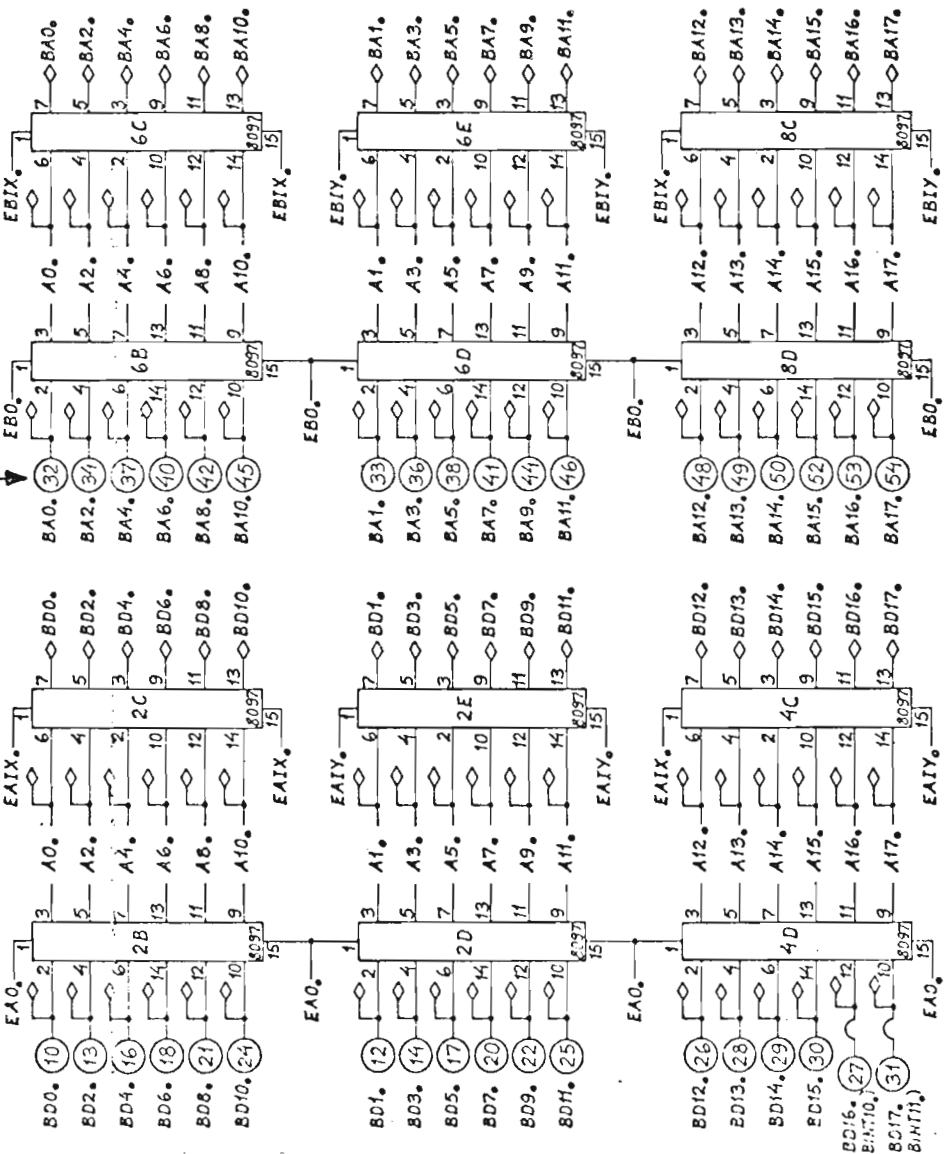
<b>POS.: B21</b>		Date	4.9.74	Rev.	E.J./E.m.d.
Ajourf.		Material	24.6.74	Appr.	
DATA		BIUS SELECTOR, 1070			
A/S NORSK DATA ELEKTRONIK		2A70			



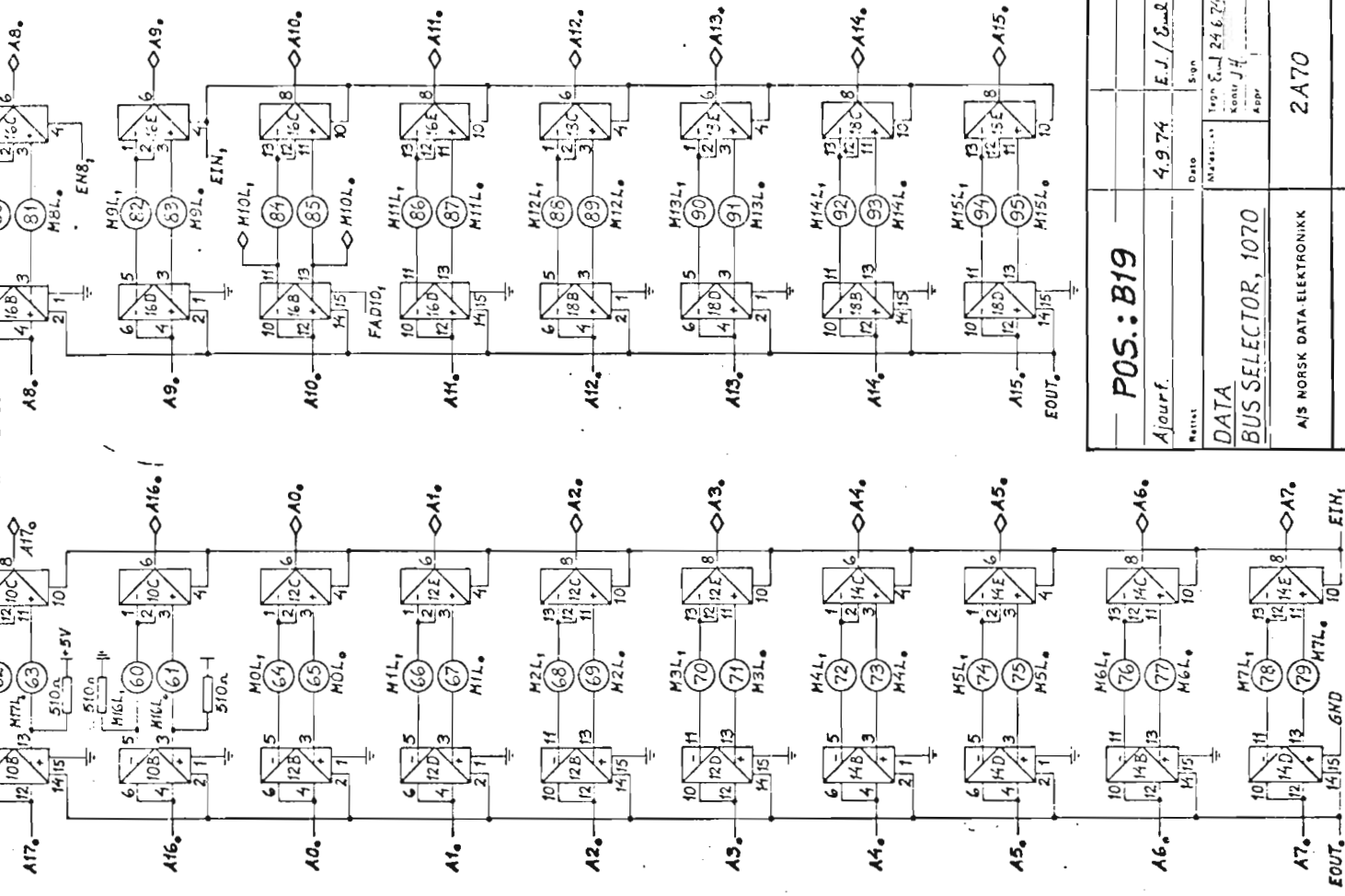
- 1pk 7414
- 1 - 7432
- 1 - 7437
- 1 - 7438
- 1 - 74132
- 1 - 74155
- 9 - 2820A
- 10 - 8831
- 12 - 8097
- 37pk

**(PANEL DRIVER)**

**DATA TO/FROM CHANNELS AND CPU 2**

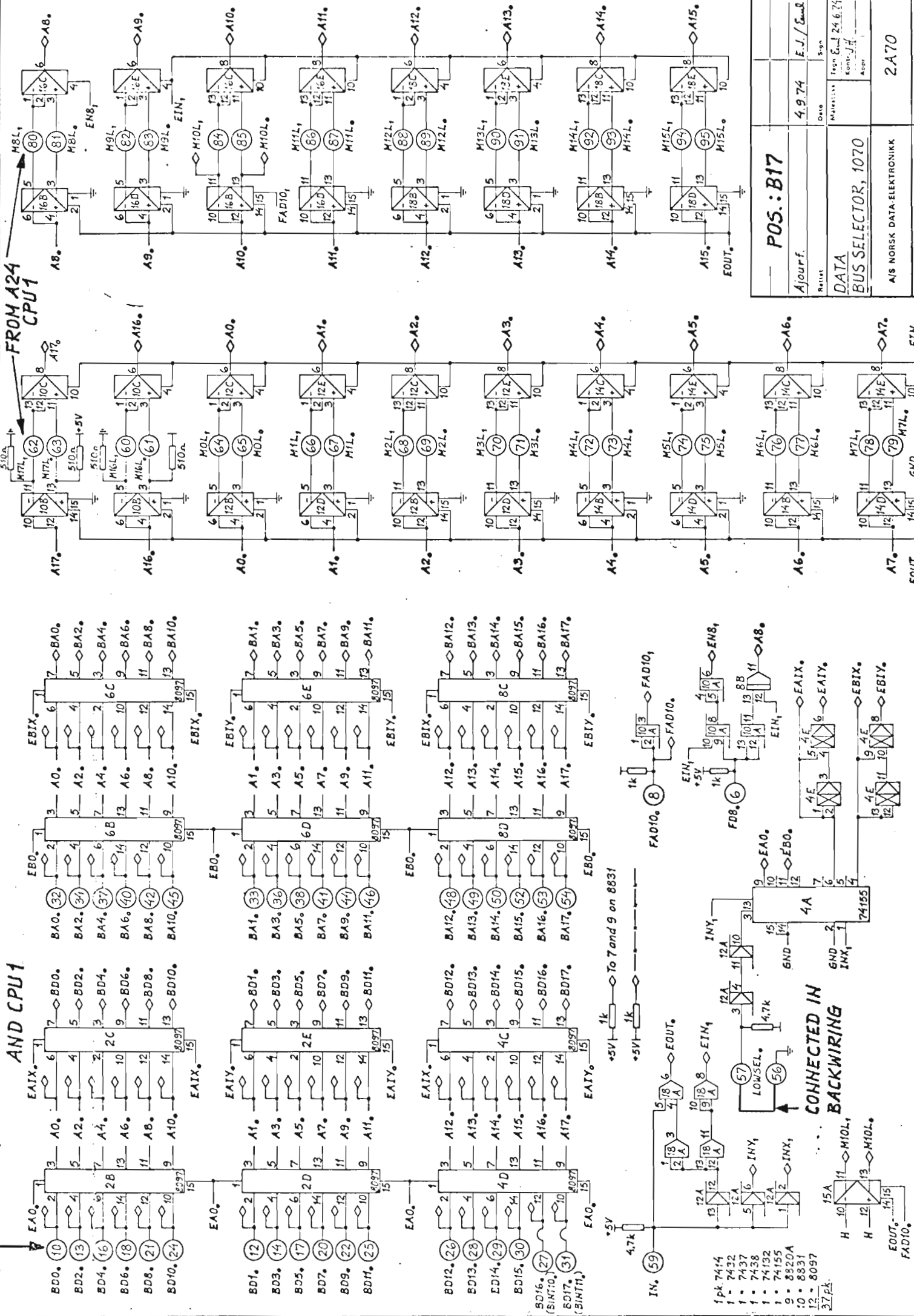


**FROM DATA CPU 2**



<b>POS.: B19</b>		Date	Sign
Ajourf.	4.9.74	E.J./E.m.l	
Matr.		Top. E.m.l 24.6.74	
Modif.		Cont. J.H.	
DATA BUS SELECTOR, 1070			
AJS NORSK DATA ELEKTRONIKK			2A70

**DATA TO/FROM CHANNELS AND CPU1**



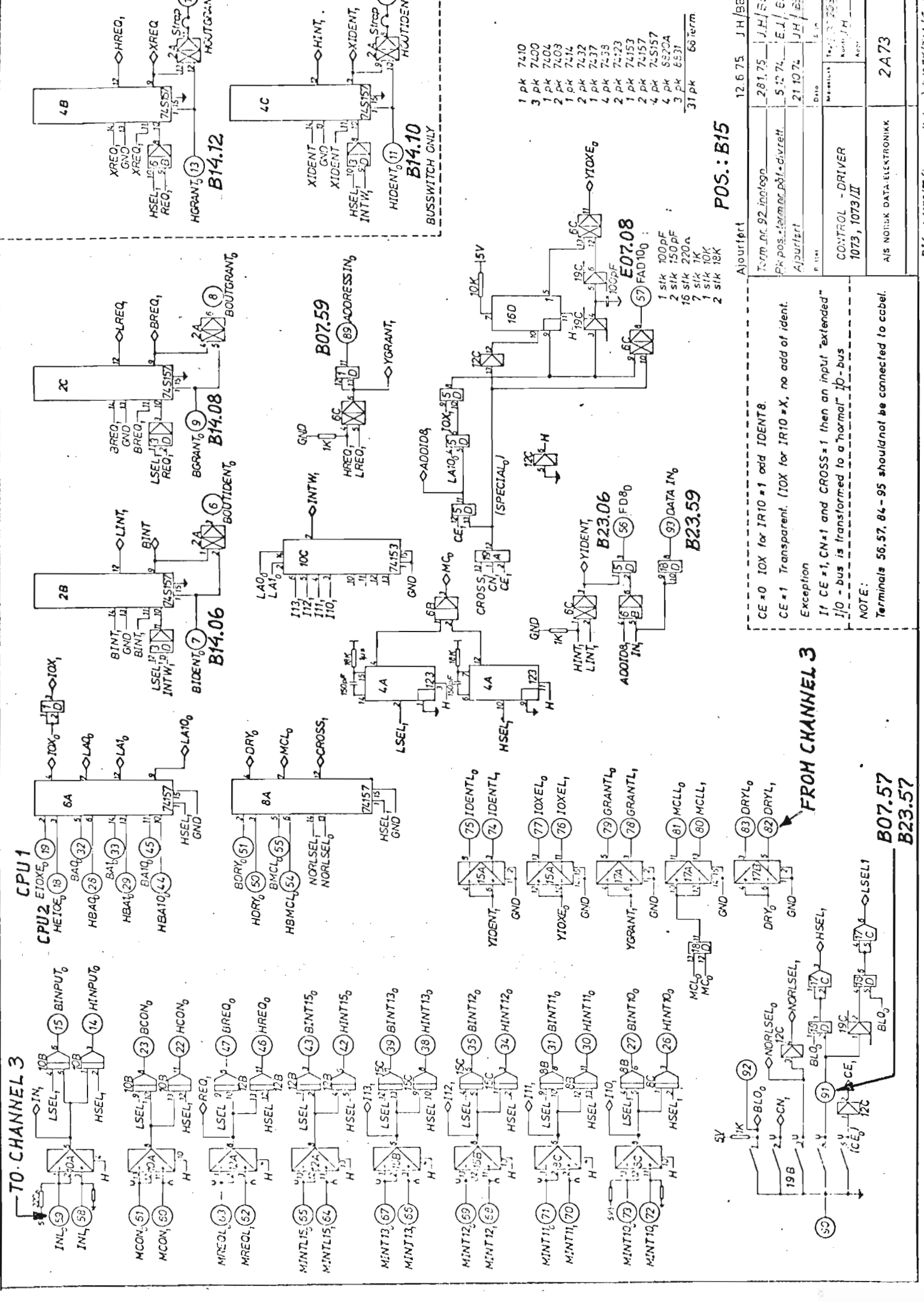
<b>POS.: B17</b>		Page	2A70
Aljourf.	Date	4.9.74	E.J./E.sml
DATA	Revisjon		
BUS SELECTOR, 1070	Material		
A/S NORSK DATA-ELEKTRONIKK	Sign		
	Reg. Sml	24.6.74	
	Contr. J.H.		
	Appr.		

**CONNECTED IN BACKWIRING**

- 1pk 7414
- 1 - 7432
- 1 - 7437
- 1 - 7438
- 1 - 74132
- 1 - 74155
- 9 - 8820A
- 0 - 8831
- 12 - 8097
- 37pk.







TO CHANNEL 3

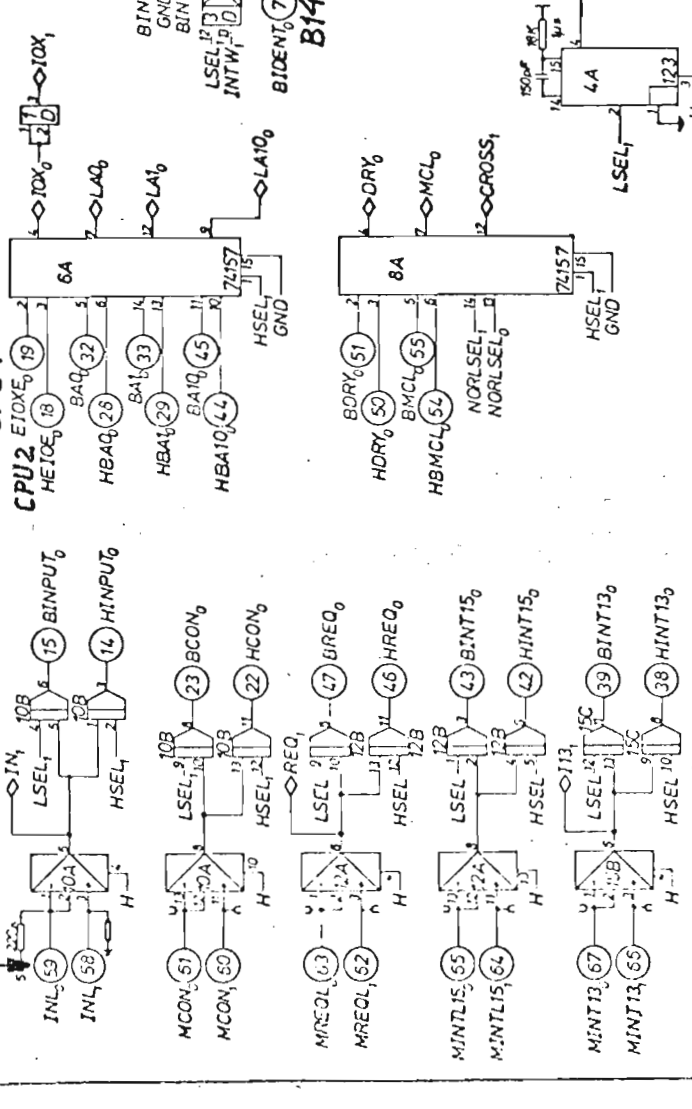
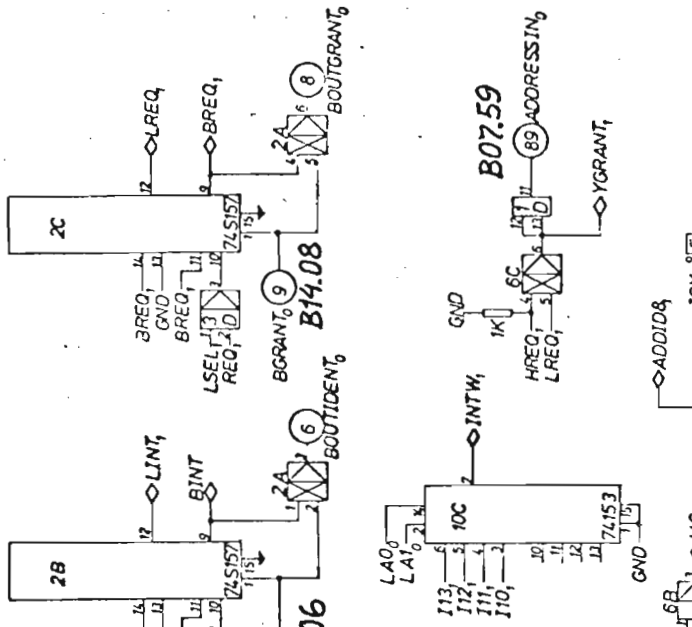
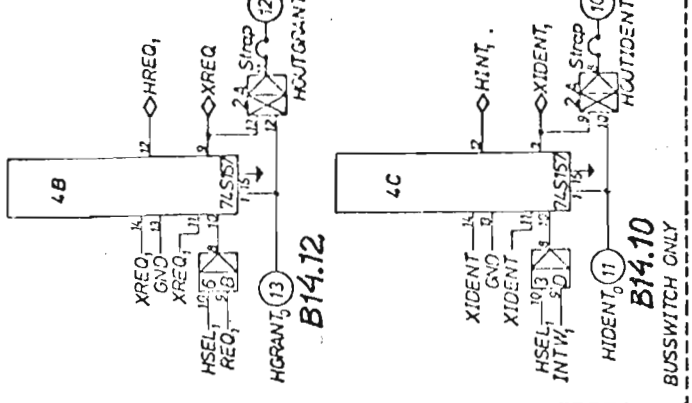
FROM CHANNEL 3

POS.: B15

Term. nr. 92	inlogn	281.75	J.H./SSO						
pk pos.	term. nr. 92 + divret.	5:12.74	E.J./SSO						
Ajourført		21.10.74	J.H./SSO						
<table border="1"> <tr> <td>DATE</td> <td>20.12.74</td> </tr> <tr> <td>REVISION</td> <td>1</td> </tr> <tr> <td>APP.</td> <td></td> </tr> </table>				DATE	20.12.74	REVISION	1	APP.	
DATE	20.12.74								
REVISION	1								
APP.									
CONTROL - DRIVER		2A73							
1073, 1073/II		AIS NORJUK DATA-ELEKTRONIKK							

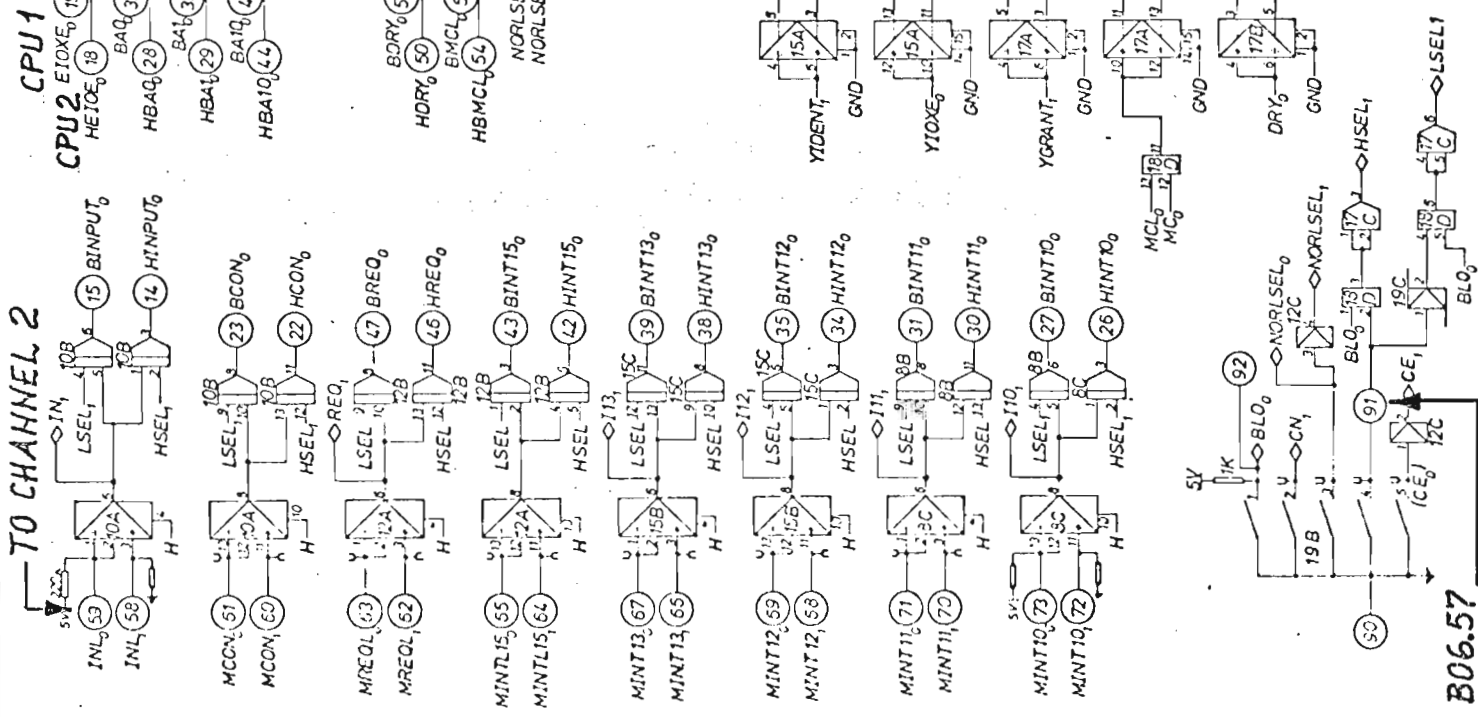
CE = 0 IOX for IR10 = 1 add IDENT8  
 CE = 1 Transparent. IOX for IR10 = X, no add of ident.  
 Exception  
 If CE = 1, CN = 1 and CROSS = 1 then an input "extended" IO - bus is transformed to a "normal" IO - bus  
 NOTE:  
 Terminals 56, 57, 84 - 95 should not be connected to cable.

- 1 pk 7410
- 3 pk 7400
- 1 pk 7404
- 2 pk 7409
- 1 pk 7414
- 2 pk 7432
- 2 pk 7437
- 4 pk 7438
- 2 pk 7423
- 1 pk 7453
- 2 pk 7457
- 4 pk 7457A
- 4 pk 8520A
- 3 pk 8531
- 31 pk 68 term



B07.57  
B23.57

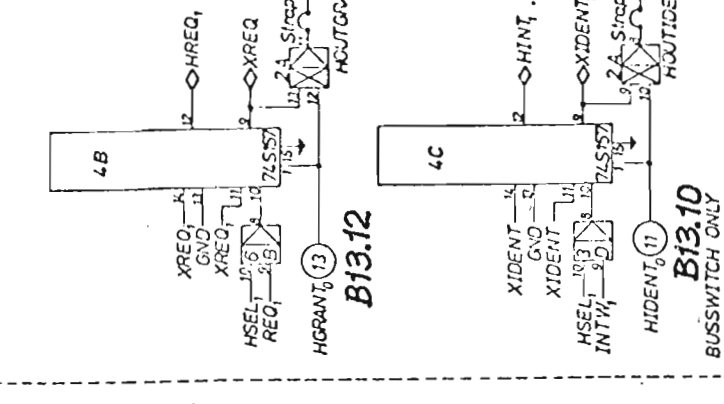
**TO CHANNEL 2**



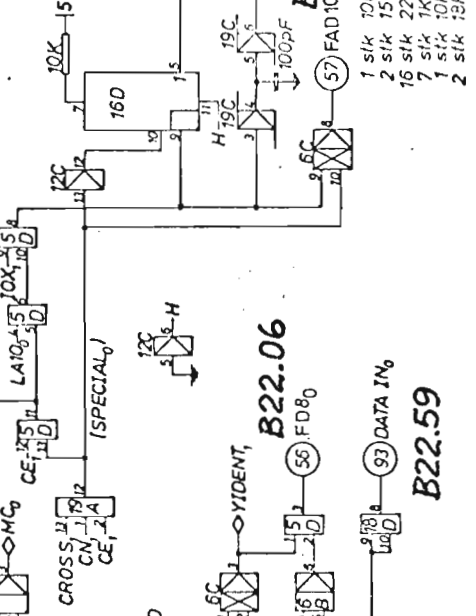
**FROM CHANNEL 2**



**B06.57**  
**B22.57**



**B13.10**  
**BUS SWITCH ONLY**



- 1 stk 7410
- 3 stk 7400
- 1 stk 7404
- 2 stk 7403
- 1 stk 7414
- 2 stk 7432
- 1 stk 7437
- 4 stk 7438
- 2 stk 7423
- 1 stk 7453
- 2 stk 7457
- 4 stk 74517
- 4 stk 5320A
- 3 stk 6531
- 31 stk 65 term

**B06.08**  
**FAD100**

- 1 stk 100PF
- 2 stk 150PF
- 16 stk 220n
- 7 stk 1K
- 1 stk 10K
- 2 stk 19K

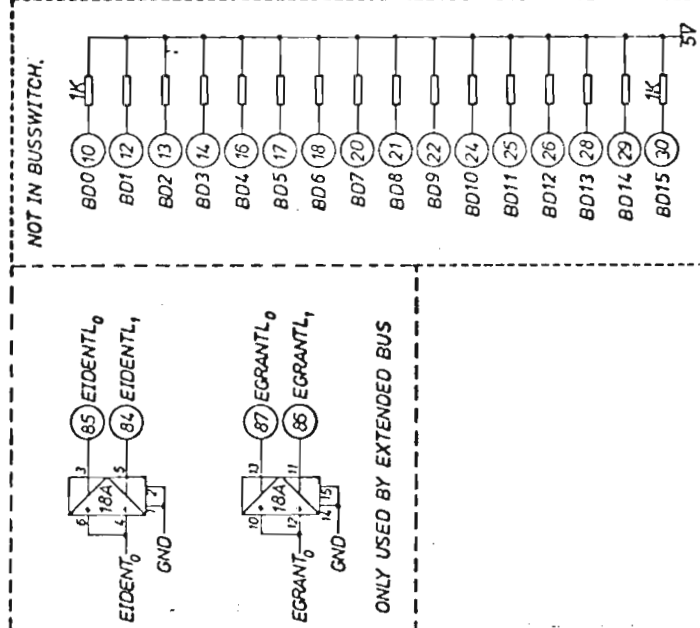
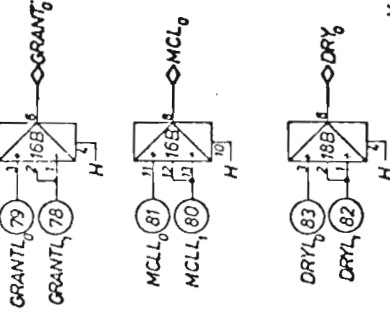
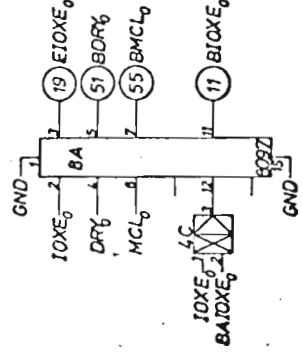
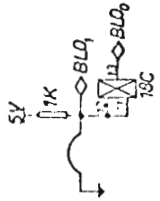
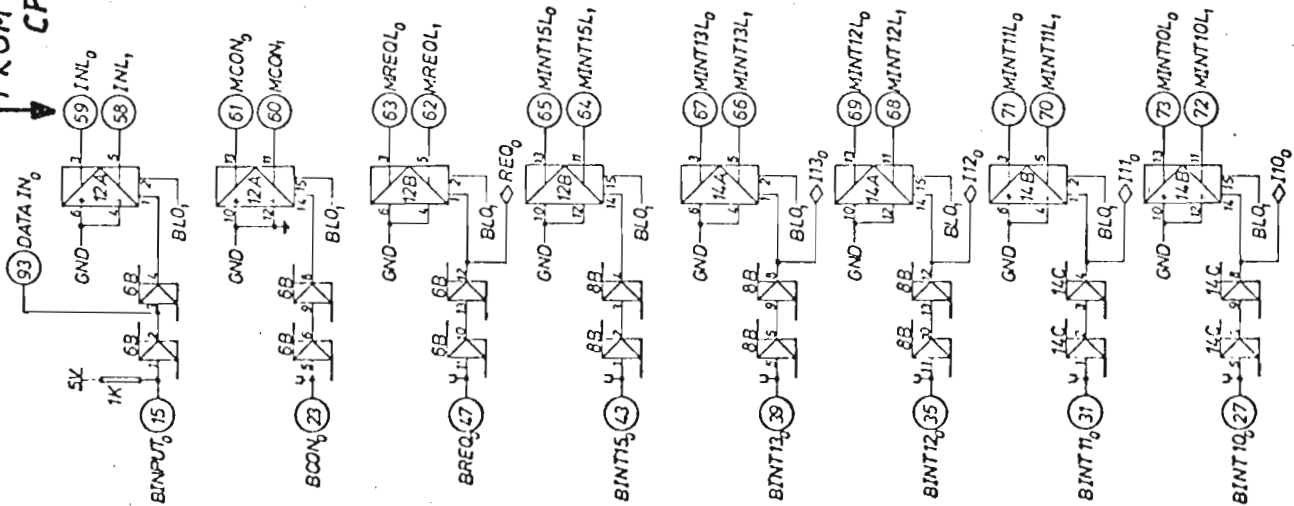
**B22.59**

NOTE:  
Terminals 56, 57, 84-95 should not be connected to cable.

Term nr. 92 integr.	281.75	JH/350
Pk-pos-termin-pbl-divref.	5.174	E.1/350
Ajourfprl	21.10%	JH/350
Modelnr		
Utdat		
Arb.nr		
Arb.navn		
CONTROL - DRIVER		
1073, 1073/II		
A/S NORSK DATA-ELEKTRONIKK		
2 A 73		



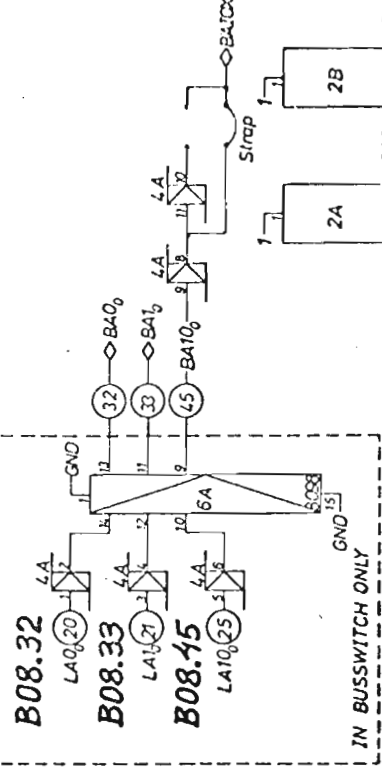
FROM CONTROL  
CPU 2



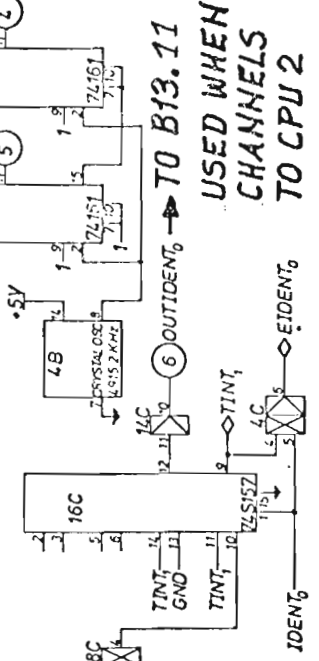
B08.32

B08.33

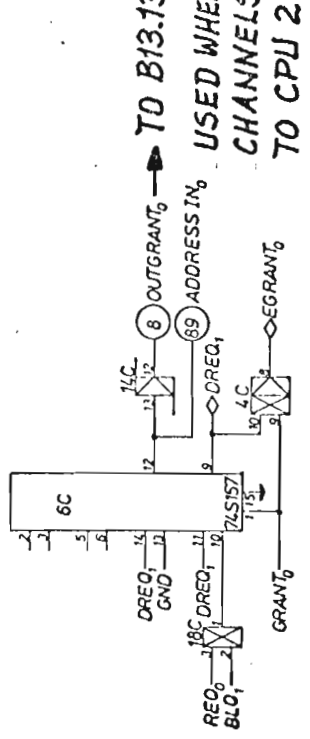
B08.45



IN BUSSWITCH ONLY



USED WHEN CHANNELS TO CPU 2  
USED WHEN CHANNELS TO B13.11

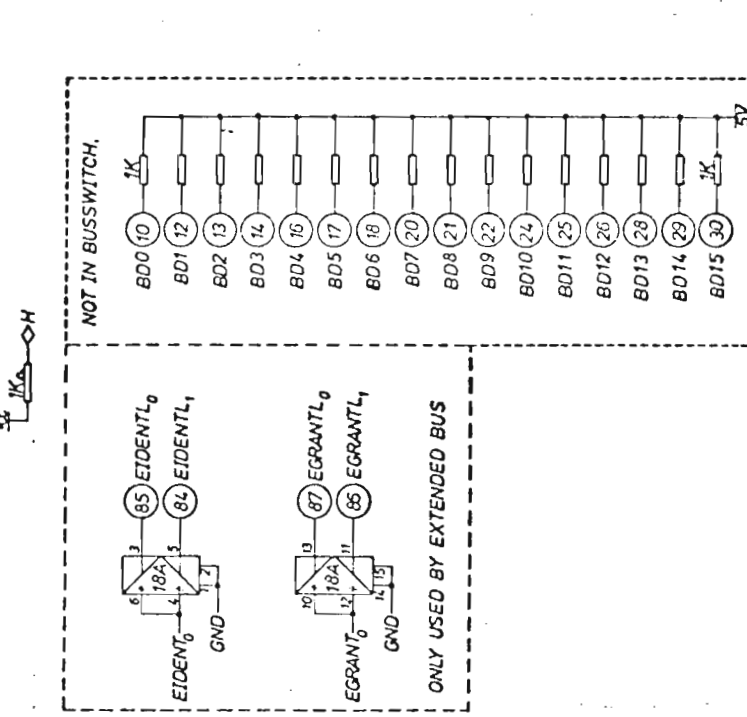
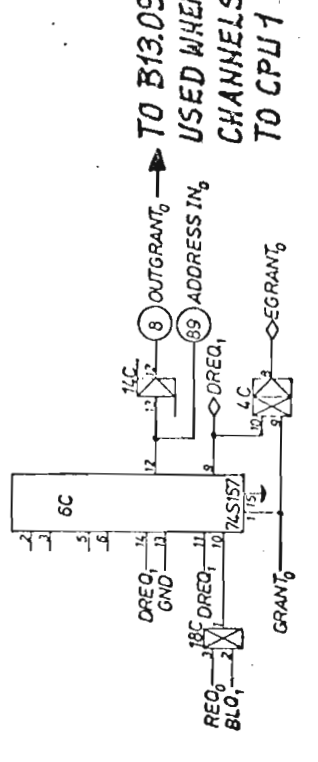
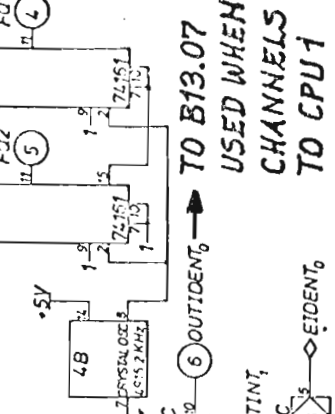
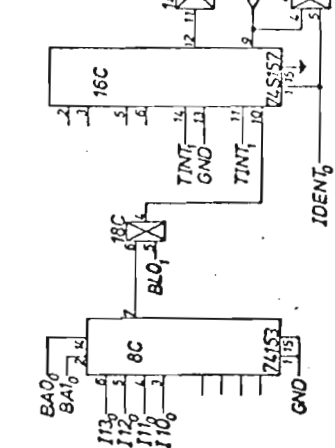
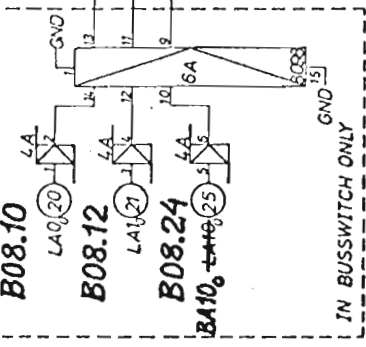
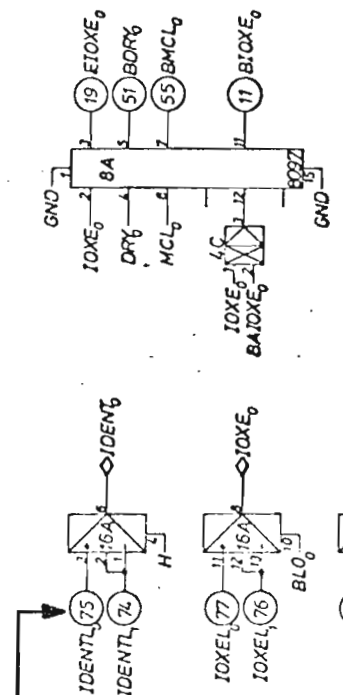
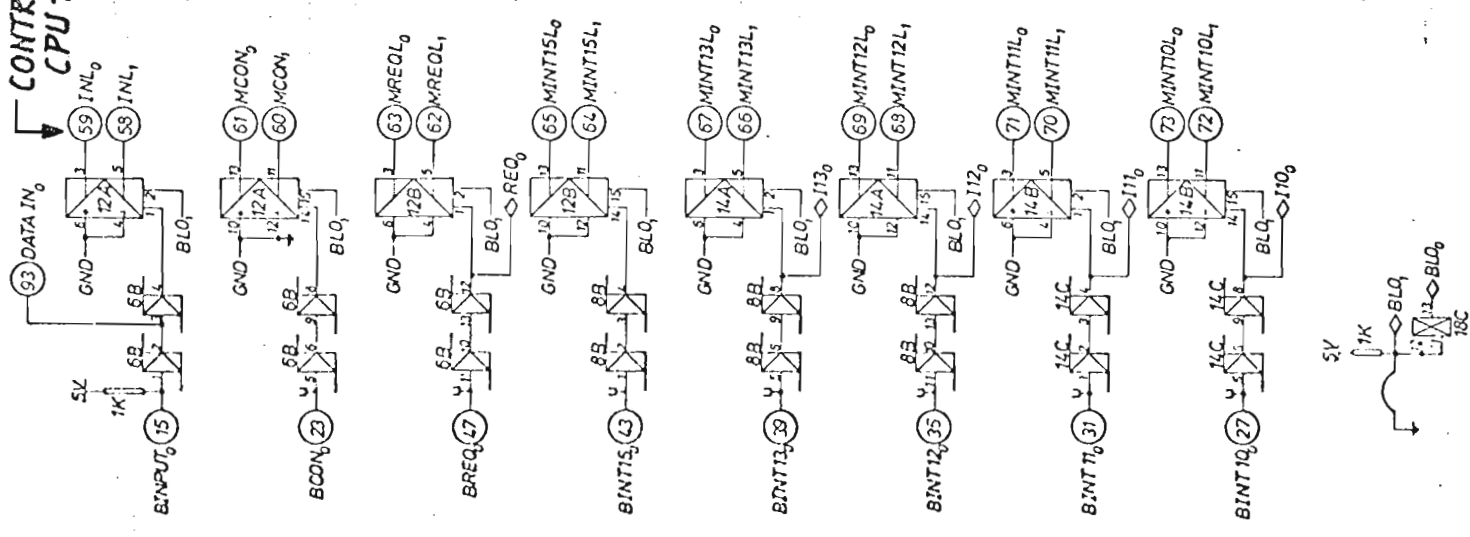


- 2 pk 74151
- 1 pk 7402
- 1 pk 7413
- 1 pk 74153
- 2 pk 74157
- 1 pk 8097
- 1 pk 8098
- 3 pk 8320A
- 5 pk 8331
- 21 pk 52 term.
- 10stk 1K $\Omega$

POS.: B11

Approved	9.1.75	J.H. BSO
Pk pos. påført - rettet	6.12.74	E.J. BSO
Revised	Date	5 in
MANUFACTURED	Part No. 20374	Rev. H
CONTROL RECEIVER	1074/III	
A/S NORSK DATA-ELEKTRONIKK		2A74

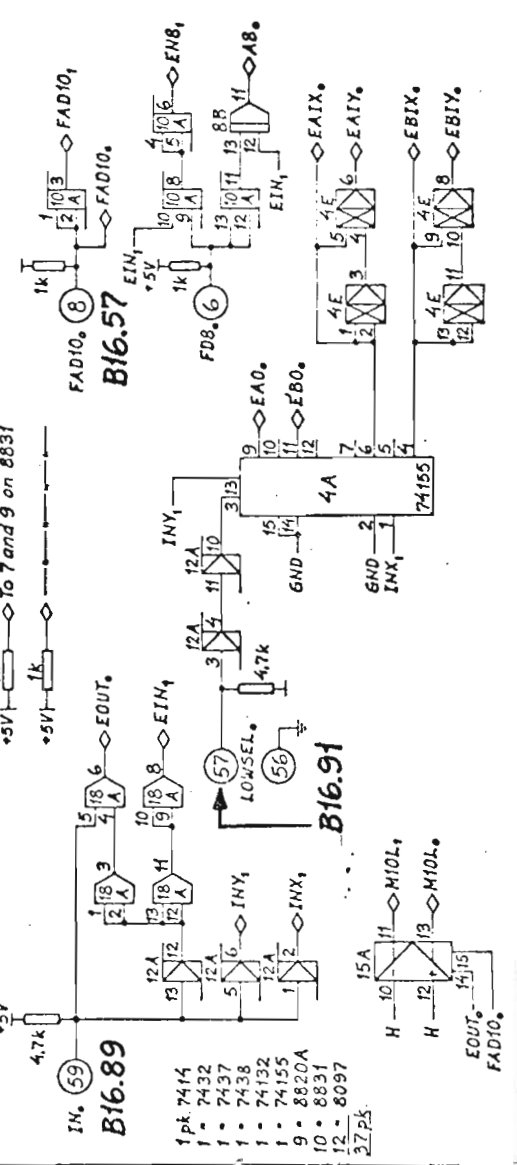
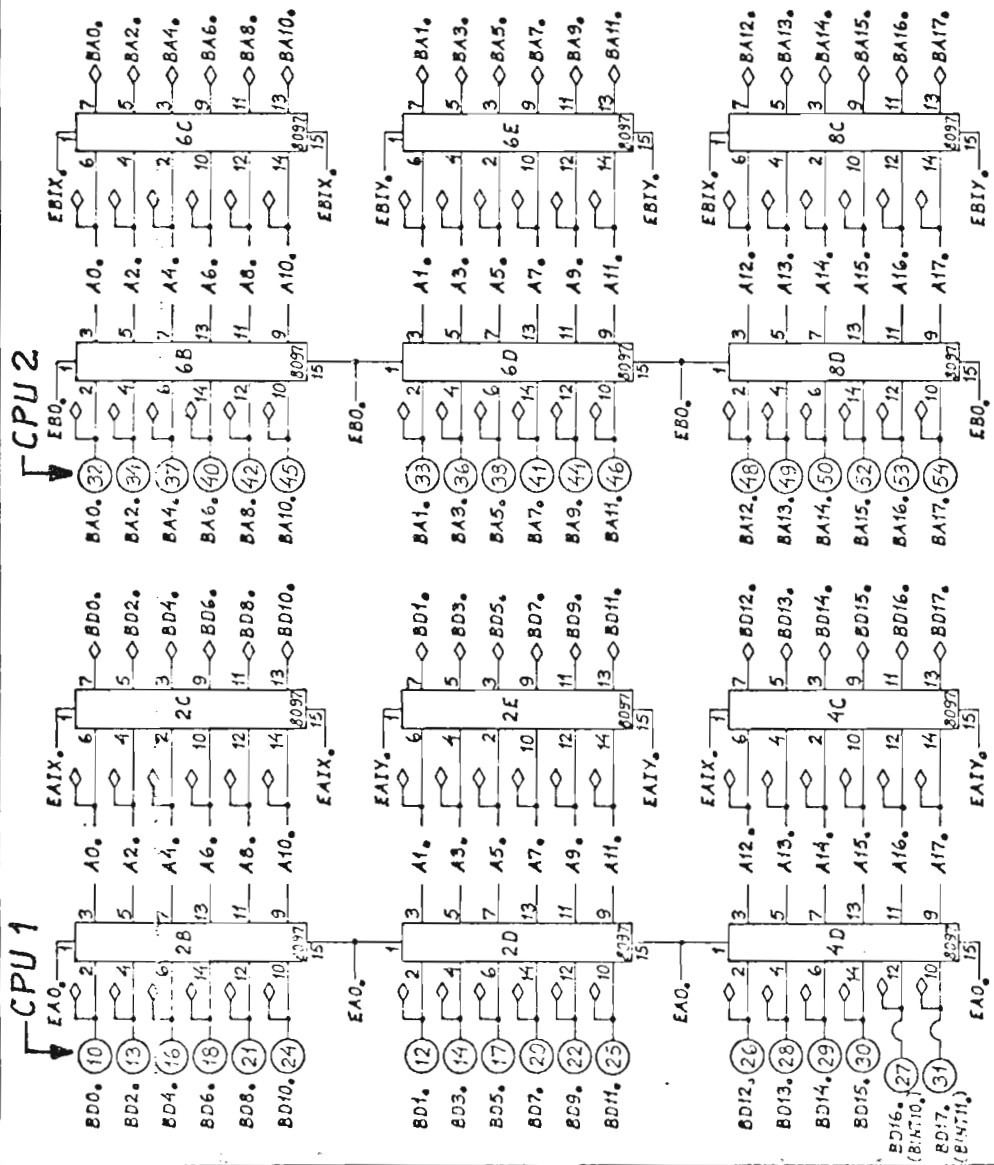
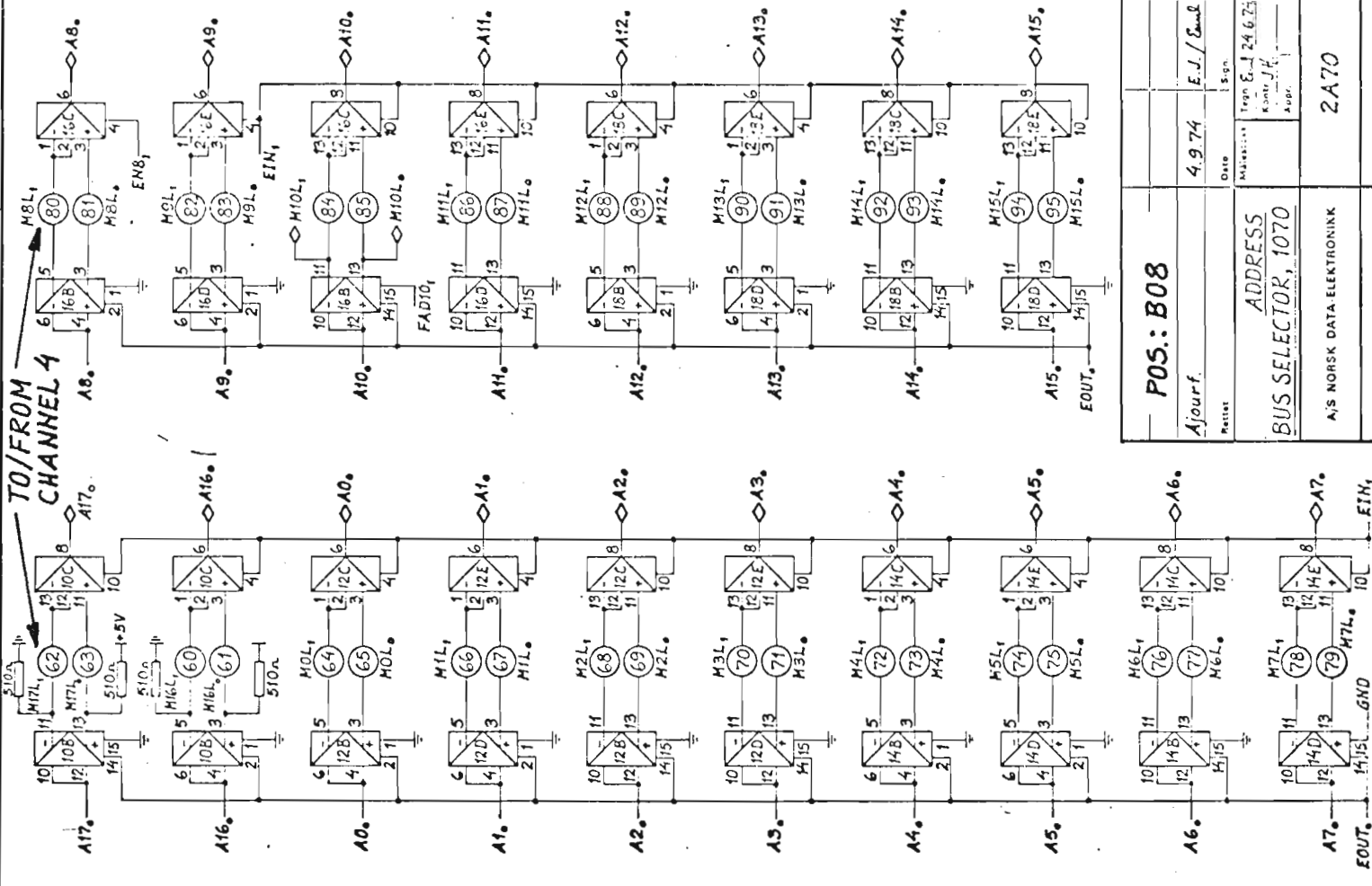
FROM A22  
CONTROL  
CPU 1



**POS: B09**

Manufacturer	91.75	J.H./B50
Date	6.12.74	E.J./B50
Material	CONTROL RECEIVER	1074/III
Part No.	2A74	

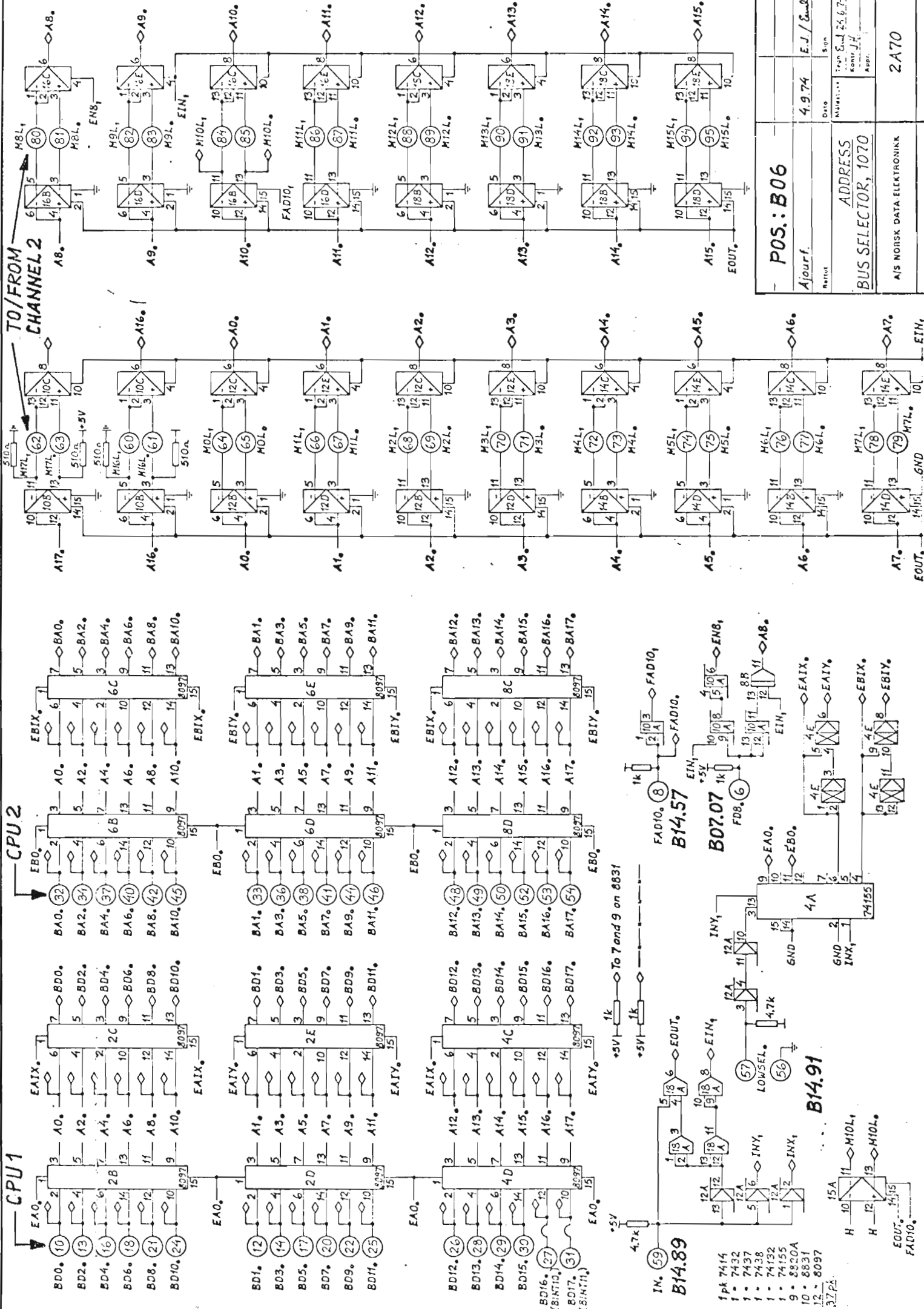
- 2 pk 74161
- 1 pk 7402
- 1 pk 7432
- 4 pk 7414
- 1 pk 74153
- 2 pk 74157
- 1 pk 8097
- 1 pk 8099
- 3 pk 8320A
- 3 pk 8331
- 21 pk 521arm.
- 10 stk 1K $\Omega$



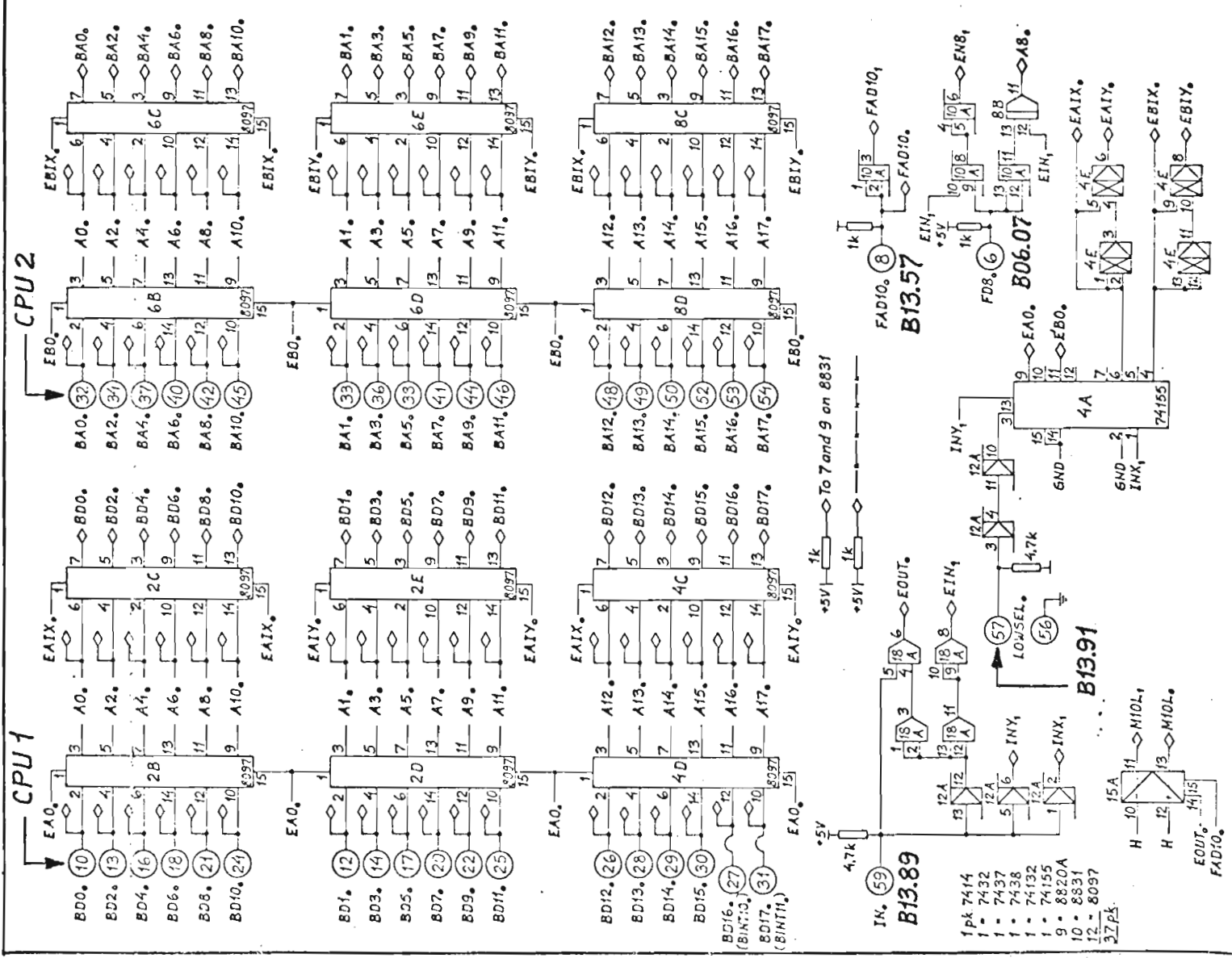
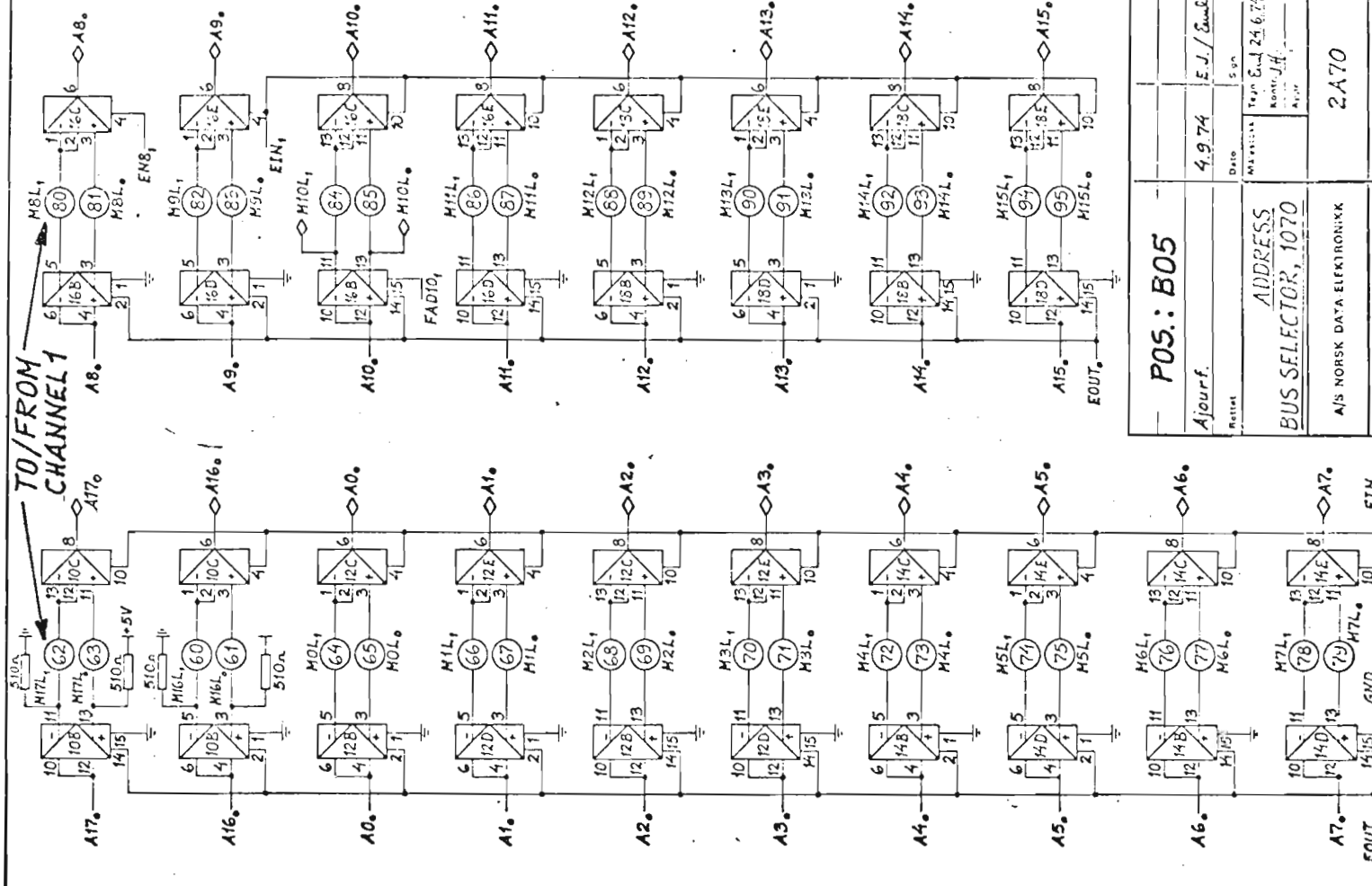
<b>POS.: B08</b>	
Ajourf.	4.9.74
Præst.	E.J./E.S.M.
ADDRESS	
BUS SELECTOR, 1070	
A/S NORSK DATA ELEKTRONIK	
Date	18.9.74
Material	Regn. E. 1 24 6 75
Author	K. J. J.
Drawn	2A70







<b>POS.: B06</b>	
Ajourf.	Date
Revisi	4.9.74
E.J. / E.und	
ADDRESS	
BUS SELECTOR, 1070	
ANS NORSK DATA-ELEKTRONIKK	
2A70	



**POS.: B05**

Ajourf.	4.9.74	E.J./Eund
Matrice		
Date		5 sep
Mat. n°		
Techn. Exam.	24.6.74	
Revisé	J.H.	
Appr.		

**ADDRESS**

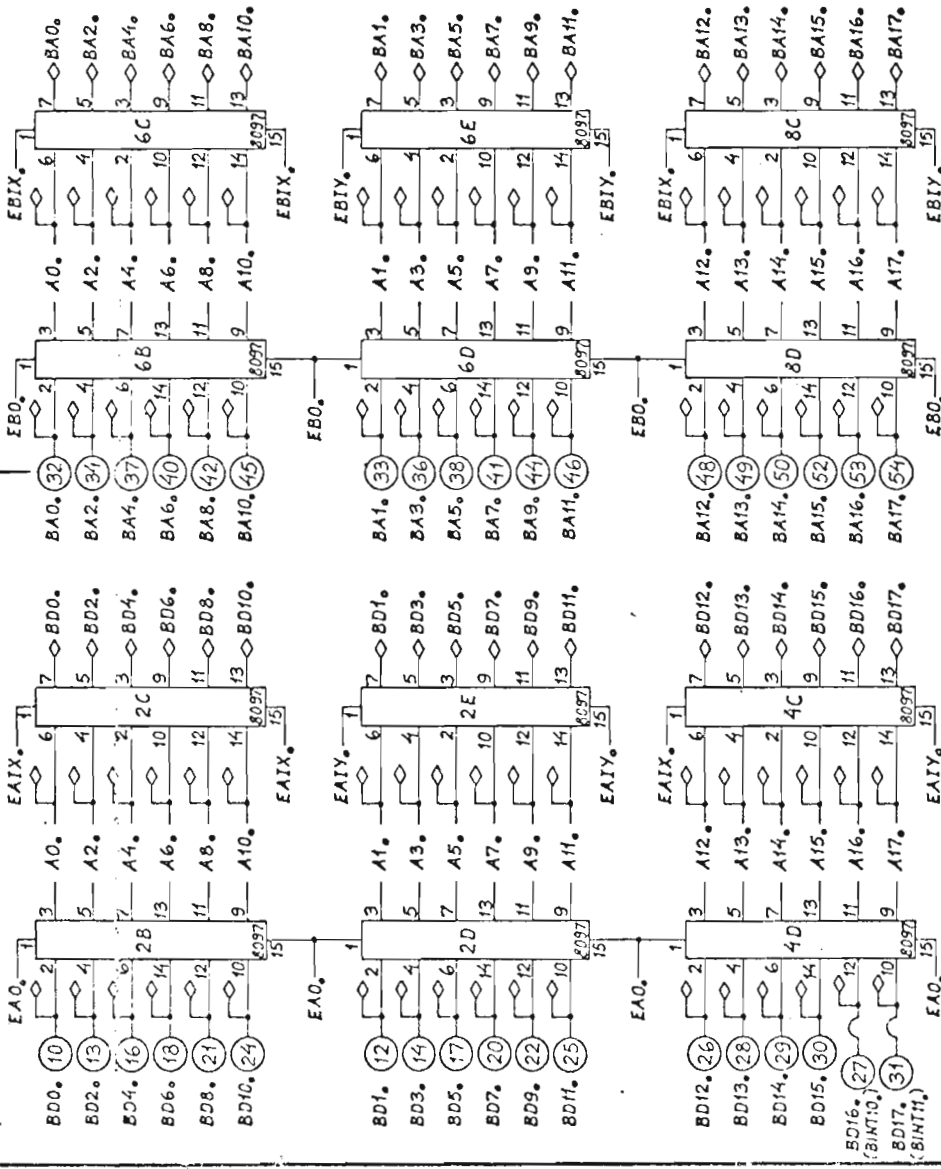
**BUS SELECTOR, 1070**

ANS NORSK DATA ELEKTRONIKK

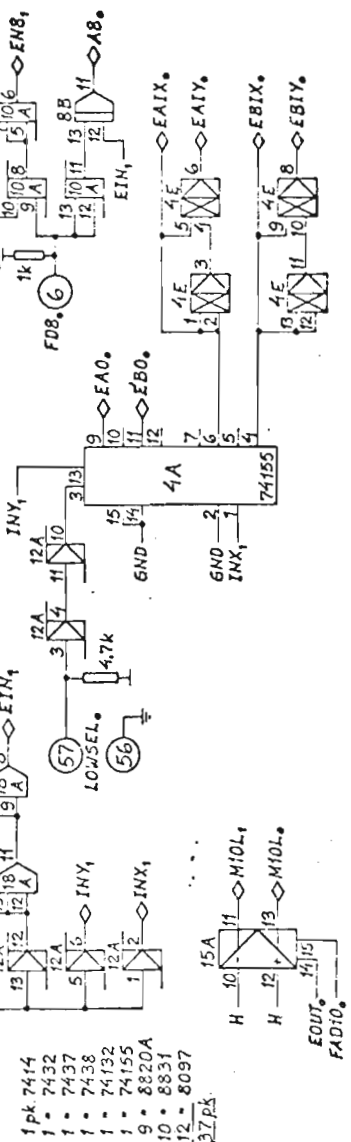
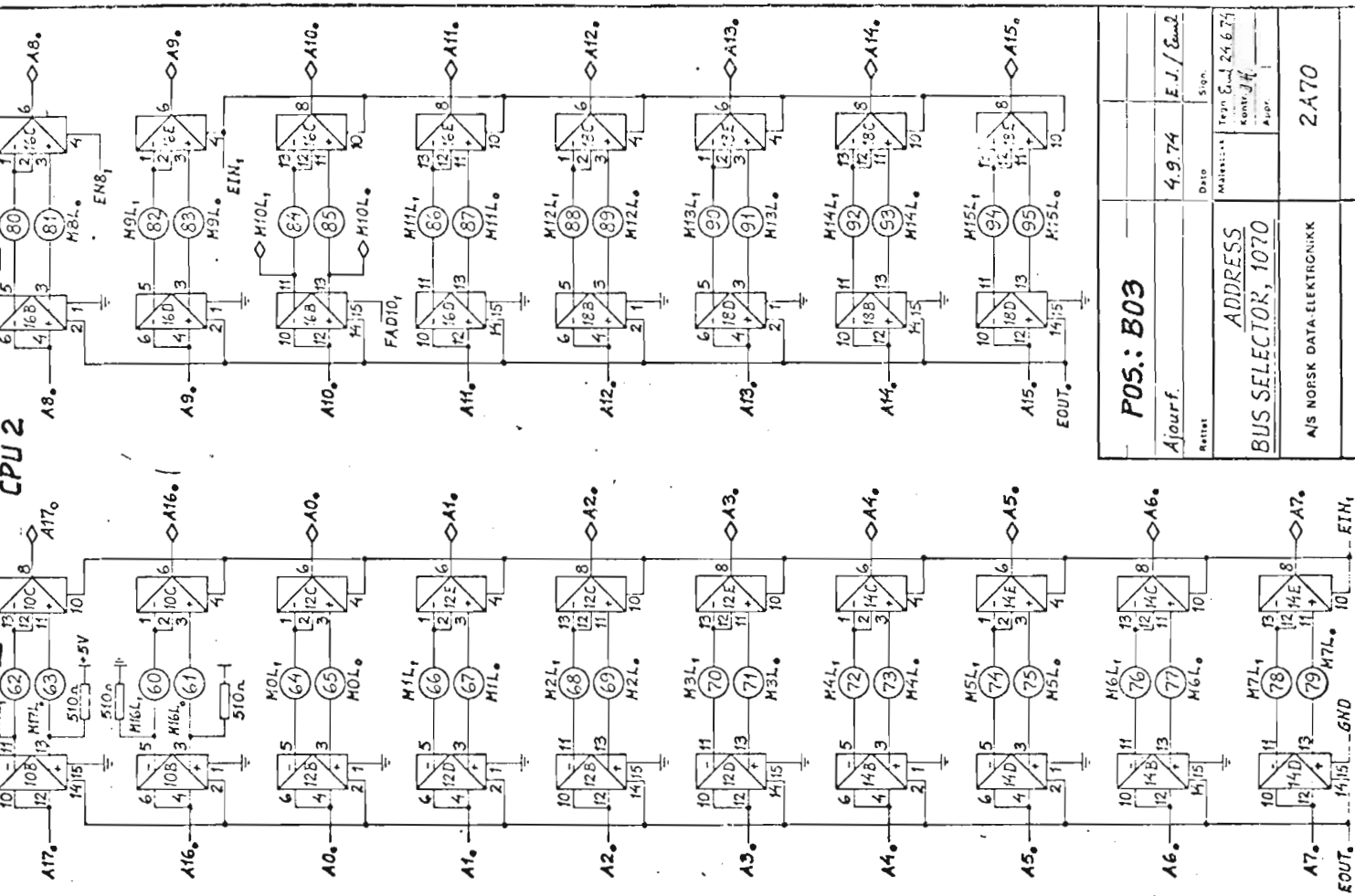
**2A70**

- 1pk 7414
- 1- 7432
- 1- 7437
- 1- 7438
- 1- 74132
- 1- 74155
- 9- 8820A
- 10- 8531
- 12- 8097
- 37Pk

ADDRESS TO CHANNELS

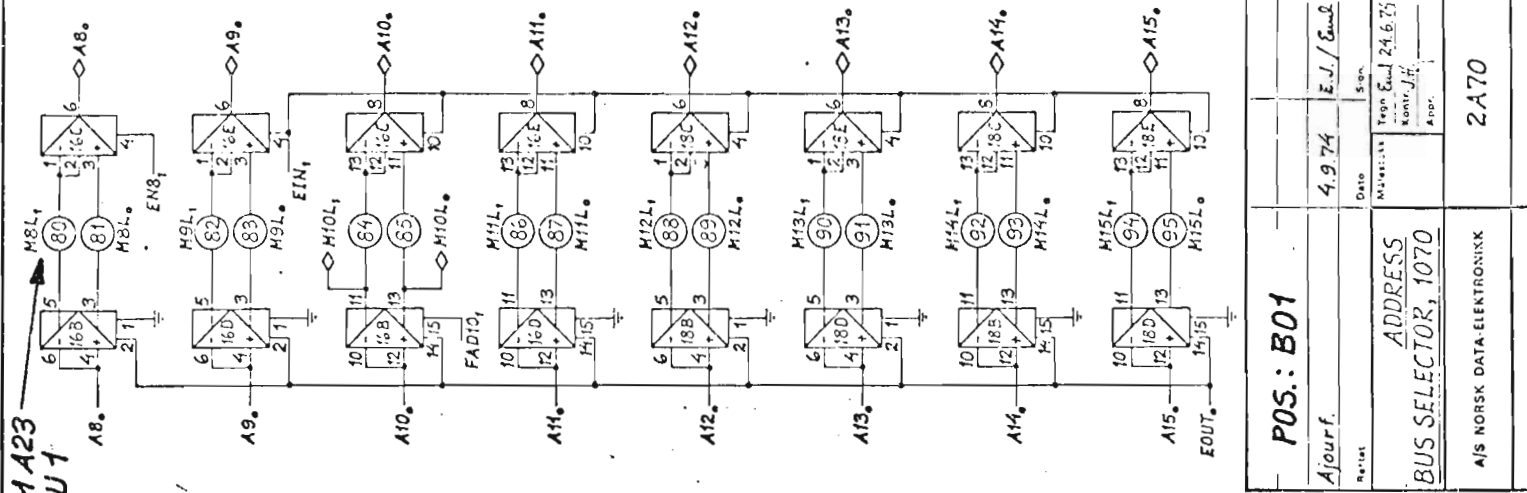
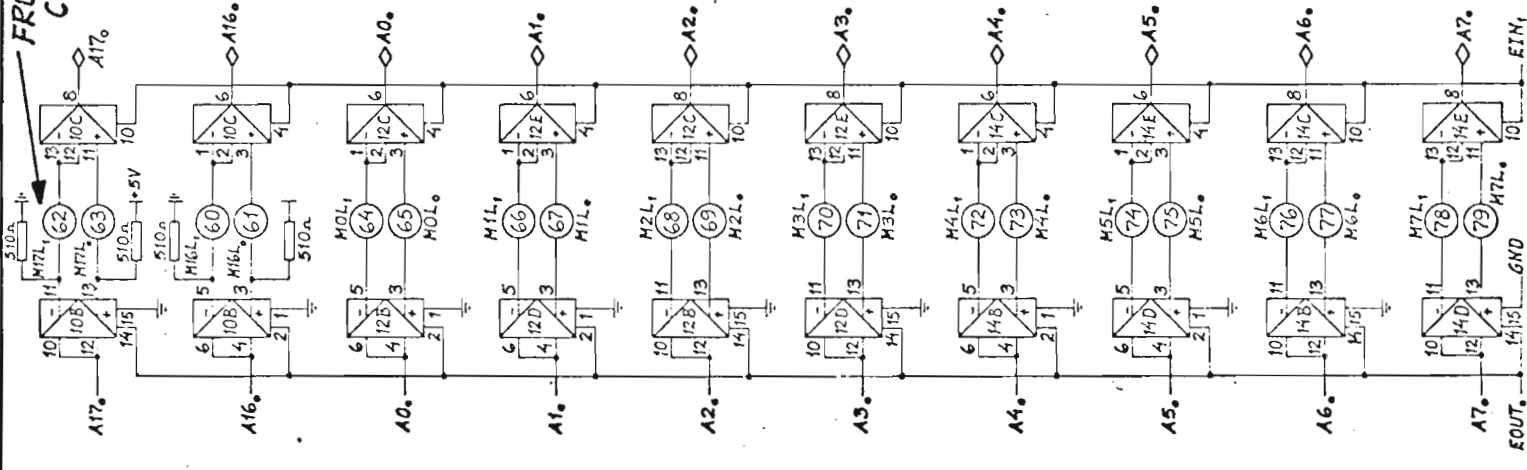
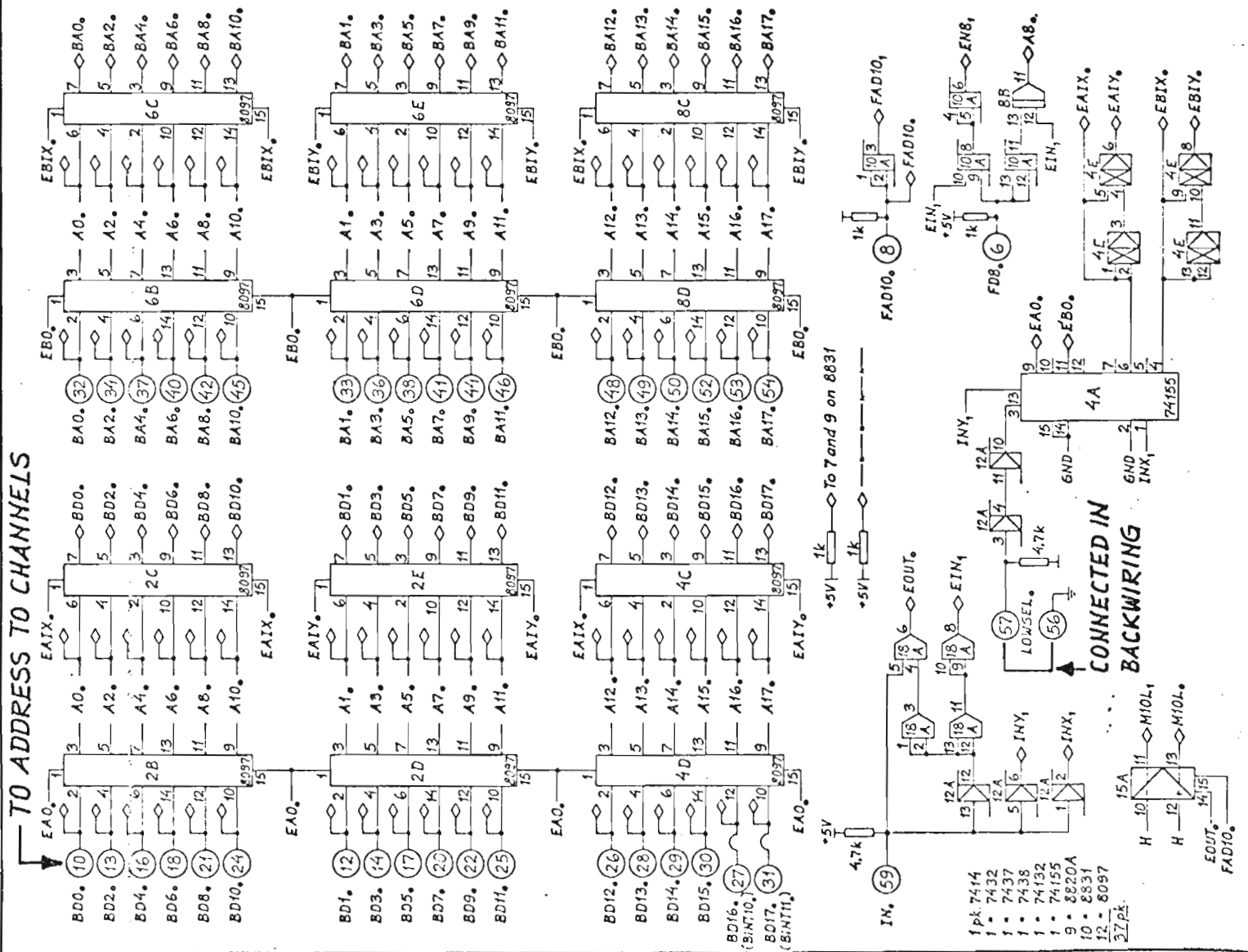


FROM ADDR. CPU 2



<b>POS.: B03</b>		Date	E. J. / E. J.
Ajourf.		Matériel	Tron. E. J. 24.6.77
ADDRESS		Sign.	
BUS SELECTOR, 1070		Appr.	
A/S NORSK DATA-ELEKTRONIK			2 A70

# TO ADDRESS TO CHANNELS



FROM A23 CPU 1

POS.: B01

Ajourf.		Page	
4.9.74		E.J./E.L.L.	
Date		Norsk	
Matrikelnr.		Kontrollnr.	
BUS SELECTOR, 1070		Ajour.	
AIS NORSK DATA-ELEKTRONIKK		2A70	

- CONNECTED IN BACKWIRING
- 1pk 7414
  - 1 - 7432
  - 1 - 7437
  - 1 - 7438
  - 1 - 74132
  - 1 - 74155
  - 1 - 8820A
  - 9 - 8831
  - 12 - 8097
  - 27pk.



NO.	SIGNAL	POLARITY	PLUG BERG (CPU POS.)		PLUGG BERG	Color
			A23	B 01		
1	EA 15 L	0	BERG	88	95	RED/BLACK
	EA 15 L	1	"	89	94	BLACK
2	EA 14 L	0	"	86	93	BROWN/BLACK
	EA 14 L	1	"	87	92	BLACK
3	EA 13 L	0	"	84	91	RED/BROWN
	EA 13 L	1	"	85	90	BLACK
4	EA 12 L	0	"	82	89	BROWN
	EA 12 L	1	"	83	88	BLACK
5	EA 11 L	0	"	80	87	RED/GREEN
	EA 11 L	1	"	81	86	BLACK
6	EA 10 L	0	"	78	85	RED
	EA 10 L	1	"	79	84	BLACK
7	EA 9 L	0	"	76	83	BLUE/BLACK
	EA 9 L	1	"	77	82	BLACK
8	EA 8 L	0	"	74	81	ORANGE
	EA 8 L	1	"	75	80	BLACK
9	EA 7 L	0	"	72	79	BLUE/BROWN
	EA 7 L	1	"	73	78	BLACK
10	EA 6 L	0	"	70	77	YELLOW
	EA 6 L	1	"	71	76	BLACK
11	EA 5 L	0	"	68	75	BLUE/GREEN
	EA 5 L	1	"	69	74	BLACK
12	EA 4 L	0	"	66	73	GREEN/BLACK
	EA 4 L	1	"	67	72	BLACK
13	EA 3 L	0	"	64	71	WHITE/BLACK
	EA 3 L	1	"	65	70	BLACK
14	EA 2 L	0	"	62	69	BLUE
	EA 2 L	1	"	63	68	BLACK
15	EA 1 L	0	"	60	67	WHITE/BROWN
	EA 1 L	1	"	61	66	BLACK
16	EA 0 L	0	"	58	65	VIOLET
	EA 0 L	1	"	59	64	BLACK
17	EA 17 L	0	"	92	63	
	EA 17 L	1	"	93	62	
18	EA 16 L	0	"	90	61	
	EA 16 L	1	"	91	60	
19			"			
20			"			

EXTERN CHANNEL FROM CPU

DRAWN BY TS/eml	Remarks  CPU I CPU CABINET	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 17/7/74			

NO.	SIGNAL	POLARITY	PLUG BERG (CPU POS.)	PLUG BURNDY	PLUG BERG BUS SWITCH RACK	
			A23	BSA 2	B 03	
1	EA 15 L	0	BERG 88	A	95	RED/BLACK
	EA 15 L	1	" 89	C	94	BLACK
2	EA 14 L	0	" 86	B	93	BROWN/BLACK
	EA 14 L	1	" 87	D	92	BLACK
3	EA 13 L	0	" 84	E	91	RED/BROWN
	EA 13 L	1	" 85	H	90	BLACK
4	EA 12 L	0	" 82	F	89	BROWN
	EA 12 L	1	" 83	J	88	BLACK
5	EA 11 L	0	" 80	K	87	RED/GREEN
	EA 11 L	1	" 81	M	86	BLACK
6	EA 10 L	0	" 78	L	85	RED
	EA 10 L	1	" 79	N	84	BLACK
7	EA 9 L	0	" 76	P	83	BLUE/BLACK
	EA 9 L	1	" 77	S	82	BLACK
8	EA 8 L	0	" 74	R	81	ORANGE
	EA 8 L	1	" 75	T	80	BLACK
9	EA 7 L	0	" 72	U	79	BLUE/BROWN
	EA 7 L	1	" 73	W	78	BLACK
10	EA 6 L	0	" 70	V	77	YELLOW
	EA 6 L	1	" 71	X	76	BLACK
11	EA 5 L	0	" 68	Y	75	BLUE/GREEN
	EA 5 L	1	" 69	AA	74	BLACK
12	EA 4 L	0	" 66	Z	73	GREEN/BLACK
	EA 4 L	1	" 67	BB	72	BLACK
13	EA 3 L	0	" 64	CC	71	WHITE/BLACK
	EA 3 L	1	" 65	EE	70	BLACK
14	EA 2 L	0	" 62	DD	69	BLUE
	EA 2 L	1	" 63	FF	68	BLACK
15	EA 1 L	0	" 60	HH	67	WHITE/BROWN
	EA 1 L	1	" 61	KK	66	BLACK
16	EA 0 L	0	" 58	JJ	65	VIOLET
	EA 0 L	1	" 59	LL	64	BLACK
17	EA 17 L	0	" 92	MM	63	RED/BLACK
	EA 17 L	1	" 93	PP	62	BLACK
18	EA 16 L	0	" 90	NN	61	BROWN/BLACK
	EA 16 L	1	" 91	RR	60	BLACK
19			"	SS		
			"	UU		
20			"	TT		
			"	VV		

**EXTERN CHANNEL FROM CPU 2**

DRAWN BY <u>TS/eml</u>	Remarks	Replacement for	Date
APPROVED BY	<b>CPU 2</b>	Replaced by	Date
DATE <u>17/7/74</u>			

NO.	SIGNAL	POLARITY	B PLUG B 5 BERG (CPU POS.)	PLUG BURNDY	C RACK POS.	
1	EA 15 L	0	BERG 95		I/O RACK 4	BERG 65
	EA 15 L	1	" 94		"	" 64
2	EA 14 L	0	" 93		"	" 63
	EA 14 L	1	" 92		"	" 62
3	EA 13 L	0	" 91		"	" 61
	EA 13 L	1	" 90		"	" 60
4	EA 12 L	0	" 89		"	" 59
	EA 12 L	1	" 88		"	" 58
5	EA 11 L	0	" 87		I/O RACK 3	BERG 65
	EA 11 L	1	" 86		"	" 64
6	EA 10 L	0	" 85		"	" 63
	EA 10 L	1	" 84		"	" 62
7	EA 9 L	0	" 83		"	" 61
	EA 9 L	1	" 82		"	" 60
8	EA 8 L	0	" 81		"	" 59
	EA 8 L	1	" 80		"	" 58
9	EA 7 L	0	" 79		I/O RACK 2	BERG 65
	EA 7 L	1	" 78		"	" 64
10	EA 6 L	0	" 77		"	" 63
	EA 6 L	1	" 76		"	" 62
11	EA 5 L	0	" 75		"	" 61
	EA 5 L	1	" 74		"	" 60
12	EA 4 L	0	" 73		"	" 59
	EA 4 L	1	" 72		"	" 58
13	EA 3 L	0	" 71		I/O RACK 1	BERG 65
	EA 3 L	1	" 70		"	" 64
14	EA 2 L	0	" 69		"	" 63
	EA 2 L	1	" 68		"	" 62
15	EA 1 L	0	" 67		"	" 61
	EA 1 L	1	" 66		"	" 60
16	EA 0 L	0	" 65		"	" 59
	EA 0 L	1	" 64		"	" 58
17	EA 17 L	0	" 63			
	EA 17 L	1	" 62			
18	EA 16 L	0	" 61			
	EA 16 L	1	" 60			
19			"			
20			"			
21			"			

BUS SWITCH CHANNEL I

DRAWN BY TM/eml	Remarks CPU I CPU CABINET	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 15/8/73			

NO.	SIGNAL	POLARITY	CPU 1 PLUG BERG BUS SWITCH B 6	PLUG BURNDY 2 BCA	CPU 2 RACK POS.	
1	EA 15 L	0	BERG 95	A	I/O RACK 4	BERG 65
	EA 15 L	1	" 94	C		"
2	EA 14 L	0	" 93	B	" C4	" 63
	EA 14 L	1	" 92	D		"
3	EA 13 L	0	" 91	E	"	" 61
	EA 13 L	1	" 90	H		"
4	EA 12 L	0	" 89	F	"	" 59
	EA 12 L	1	" 88	J		"
5	EA 11 L	0	" 87	K	I/O RACK 3	" 65
	EA 11 L	1	" 86	M		"
6	EA 10 L	0	" 85	L	" C3	" 63
	EA 10 L	1	" 84	N		"
7	EA 9 L	0	" 83	P	"	" 61
	EA 9 L	1	" 82	S		"
8	EA 8 L	0	" 81	R	"	" 59
	EA 8 L	1	" 80	T		"
9	EA 7 L	0	" 79	U	I/O RACK 2	" 65
	EA 7 L	1	" 78	W		"
10	EA 6 L	0	" 77	V	" C2	" 63
	EA 6 L	1	" 76	X		"
11	EA 5 L	0	" 75	Y	"	" 61
	EA 5 L	1	" 74	AA		"
12	EA 4 L	0	" 73	Z	"	" 59
	EA 4 L	1	" 72	BB		"
13	EA 3 L	0	" 71	CC	I/O RACK 1	" 65
	EA 3 L	1	" 70	EE		"
14	EA 2 L	0	" 69	DD	" C1	" 63
	EA 2 L	1	" 68	FF		"
15	EA 1 L	0	" 67	HH	"	" 61
	EA 1 L	1	" 66	KK		"
16	EA 0 L	0	" 65	JJ	"	" 59
	EA 0 L	1	" 64	LL		"
17			" 63			
			" 62			
18			" 61			
			" 60			
19			" 59			
			" 58			
20			" 57			
			" 56			

BUS SWITCH CHANNEL 2

DRAWN BY TM/eml	Remarks CPU 2 CPU CABINET	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 15/8/73			



A/S NORSK DATA-  
ELEKTRONIKK

Title

BUS SWITCH INPUT.  
CONTROL

Drawing no.

NORD-10

NO.	SIGNAL	POLARITY	PLUG BERG (CPU POS.)		PLUG BERG	B 09
			A22			
1			BERG	93		
			"	94		
2			"	93		
			"	92		
3			"	91		
			"	90		
4			"	89		
			"	88		
5			"	87		
			"	86		
6			"	85		
			"	84		
7	EDRYL	0	"	83	83	RED/BLACK
	EDRYL	1	"	82	82	BLACK
8	EMCL	0	"	81	81	BROWN/BLACK
	EMCL	1	"	80	80	BLACK
9	EGRANTL	0	"	79	79	RED/BROWN
	EGRANTL	1	"	78	78	BLACK
10	EIOXEL	0	"	77	77	BROWN
	EIOXEL	1	"	76	76	BLACK
11	EIDENTL	0	"	75	75	RED/GREEN
	EIDENTL	1	"	74	74	BLACK
12	EI 10 L	0	"	73	73	RED
	EI 10 L	1	"	72	72	BLACK
13	EI 11 L	0	"	71	71	BLUE/BLACK
	EI 11 L	1	"	70	70	BLACK
14	EI 12 L	0	"	69	69	ORANGE
	EI 12 L	1	"	68	68	BLACK
15	EI 13 L	0	"	67	67	BLUE/BROWN
	EI 13 L	1	"	66	66	BLACK
16	EI 15 L	0	"	65	65	YELLOW
	EI 15 L	1	"	64	64	BLACK
17	EREQL	0	"	63	63	BLUE/GREEN
	EREQL	1	"	62	62	BLACK
18	ECONL	0	"	61	61	GREEN/BLACK
	ECONL	1	"	60	60	BLACK
19	EINL	0	"	59	59	WHITE/BLACK
	EINL	1	"	58	58	BLACK
20			"	57		
			"	56		

EXTERN CHANNEL FROM CPU

DRAWN BY TS/eml  
APPROVED BY  
DATE 17/7/74

Remarks

CPU I  
CPU CABINET

Replacement for Date  
Replaced by Date

NO.	SIGNAL	POLARITY	PLUG BERG (CPU POS.)		PLUG BURNDY	PLUG BERG BUS SWITCH RACK		
			A22	BCS 2		B 11		
1			BERG 95	A				
			" 94	C				
2			" 93	B				
			" 92	D				
3			" 91	E				
			" 90	H				
4			" 89	F				
			" 88	J				
5			" 87	K				
			" 86	M				
6			" 85	L				
			" 84	N				
7	EDRYL	0	" 83	P		BERG 83	RED/BLACK	
	EDRYL	1	" 82	S		82	BLACK	
8	EMCL	0	" 81	R		81	BROWN/BLACK	
	EMCL	1	" 80	T		80	BLACK	
9	EGRANTL	0	" 79	U		79	RED/BROWN	
	EGRANTL	1	" 78	W		78	BLACK	
10	EIOXEL	0	" 77	V		77	BROWN	
	EIOXEL	1	" 76	X		76	BLACK	
11	EIDENTL	0	" 75	Y		75	RED/GREEN	
	EIDENTL	1	" 74	AA		74	BLACK	
12	EI 10 L	0	" 73	Z		73	RED	
	EI 10 L	1	" 72	BB		72	BLACK	
13	EI 11 L	0	" 71	CC		71	BLUE/BLACK	
	EI 11 L	1	" 70	EE		70	BLACK	
14	EI 12 L	0	" 69	DD		69	ORANGE	
	EI 12 L	1	" 68	FF		68	BLACK	
15	EI 13 L	0	" 67	HH		67	BLUE/BROWN	
	EI 13 L	1	" 66	KK		66	BLACK	
16	EI 15 L	0	" 65	JJ		65	YELLOW	
	EI 15 L	1	" 64	LL		64	BLACK	
17	EREQL	0	" 63	MM		63	BLUE/GREEN	
	EREQL	1	" 62	PP		62	BLACK	
18	ECONL	0	" 61	NN		61	GREEN/BLACK	
	ECONL	1	" 60	RR		60	BLACK	
19	EINL	0	" 59	SS		59	WHITE/BLACK	
	EINL	1	" 58	UU		58	BLACK	
20			" 57	TT				
			" 56	VV				

EXTERN CHANNEL FROM CPU 2

DRAWN BY TS/eml	Remarks  CPU 2	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 17/7/74			

NO.	SIGNAL	POLARITY	PLUG BERG (CPU POS.)		PLUG BERG C 5
			B 13		
1			BERG	95	
			"	94	
2			"	93	
			"	92	
3			"	91	
			"	90	
4			"	89	
			"	88	
5			"	87	
			"	86	
6			"	85	
			"	84	
7	EDRYL	0	"	83	BERG 83
	EDRYL	1	"	82	" 82
8	EMCL	0	"	81	" 81
	EMCL	1	"	80	" 80
9	EGRANTL	0	"	79	" 79
	EGRANTL	1	"	78	" 78
10	EIOXEL	0	"	77	" 77
	EIOXEL	1	"	76	" 76
11	EIDENTL	0	"	75	" 75
	EIDENTL	1	"	74	" 74
12	EI 10 L	0	"	73	" 73
	EI 10 L	1	"	72	" 72
13	EI 11 L	0	"	71	" 71
	EI 11 L	1	"	70	" 70
14	EI 12 L	0	"	69	" 69
	EI 12 L	1	"	68	" 68
15	EI 13 L	0	"	67	" 67
	EI 13 L	1	"	66	" 66
16	EI 15 L	0	"	65	" 65
	EI 15 L	1	"	64	" 64
17	EREQL	0	"	63	" 63
	EREQL	1	"	62	" 62
18	ECONL	0	"	61	" 61
	ECONL	1	"	60	" 60
19	EINL	0	"	59	" 59
	EINL	1	"	58	" 58
20			"	57	
			"	56	
21			"	55	
			"	54	

BUS SWITCH CHANNEL 1

DRAWN BY TM/eml APPROVED BY DATE 16/8/73	Remarks CPU 1 CPU CABINET	Replacement for Date
		Replaced by Date

NO.	SIGNAL	POLARITY	CPU 2 PLUG BERG BUS SWITCH B 14		CPU 2 PLUG BERG B 5		PLUGG BURNDY 2 BCC
			BERG	95	BERG	83	
1			"	94			
2			"	93			
			"	92			
3			"	91			
			"	90			
4			"	89			
			"	88			
5			"	87			
			"	86			
6			"	85			
			"	84			
7	EDRYL	0	"	83	BERG	83	P
	EDRYL	1	"	82	"	82	S
8	EMCL	0	"	81	"	81	R
	EMCL	1	"	80	"	80	T
9	EGRANTL	0	"	79	"	79	U
	EGRANTL	1	"	78	"	78	W
10	EIOXEL	0	"	77	"	77	V
	EIOXEL	1	BUS CHANNEL 2	"	"	76	X
11	EIDENTL	0	"	75	"	75	Y
	EIDENTL	1	"	74	"	74	AA
12	EI 10 L	0	"	73	"	73	Z
	EI 10 L	1	"	72	"	72	BB
13	EI 11 L	0	"	71	"	71	CC
	EI 11 L	1	"	70	"	70	EE
14	EI 12 L	0	"	69	"	69	DD
	EI 12 L	1	"	68	"	68	FF
15	EI 13 L	0	"	67	"	67	HH
	EI 13 L	1	"	66	"	66	KK
16	EI 15 L	0	"	65	"	65	JJ
	EI 15 L	1	"	64	"	64	LL
17	EREQL	0	"	63	"	63	MM
	EREQL	1	"	62	"	62	PP
18	ECONL	0	"	61	"	61	NN
	ECONL	1	"	60	"	60	RR
19	EINL	0	"	59	"	59	SS
	EINL	1	"	58	"	58	UU
20			"	57			TT
			"	56			

BUS SWITCH CHANNEL 2

DRAWN BY	TM/eml	Remarks CPU 2 CPU CABINET	Replacement for	Date
APPROVED BY			Replaced by	Date
DATE	16/8/73			

NO.	SIGNAL	POLARITY	PLUG BERG (CPU POS.)		PLUG BERG	B 17	
			A24				
1	ED 15 L	0	BERG	88		95	RED/BLACK
	ED 15 L	1	"	89		94	BLACK
2	ED 14 L	0	"	86		93	BROWN/BLACK
	ED 14 L	1	"	87		92	BLACK
3	ED 13 L	0	"	84		91	RED/BROWN
	ED 13 L	1	"	85		90	BLACK
4	ED 12 L	0	"	82		89	BROWN
	ED 12 L	1	"	83		88	BLACK
5	ED 11 L	0	"	80		87	RED/GREEN
	ED 11 L	1	"	81		86	BLACK
6	ED 10 L	0	"	78		85	RED
	ED 10 L	1	"	79		84	BLACK
7	ED 9 L	0	"	76		83	BLUE/BLACK
	ED 9 L	1	"	77		82	BLACK
8	ED 8 L	0	"	74		81	ORANGE
	ED 8 L	1	"	75		80	BLACK
9	ED 7 L	0	"	72		79	BLUE/BROWN
	ED 7 L	1	"	73		78	BLACK
10	ED 6 L	0	"	70		77	YELLOW
	ED 6 L	1	"	71		76	BLACK
11	ED 5 L	0	"	68		75	BLUE/GREEN
	ED 5 L	1	"	69		74	BLACK
12	ED 4 L	0	"	66		73	GREEN/BLACK
	ED 4 L	1	"	67		72	BLACK
13	ED 3 L	0	"	64		71	WHITE/BLACK
	ED 3 L	1	"	65		70	BLACK
14	ED 2 L	0	"	62		69	BLUE
	ED 2 L	1	"	63		68	BLACK
15	ED 1 L	0	"	60		67	WHITE/BROWN
	ED 1 L	1	"	61		66	BLACK
16	ED 0 L	0	"	58		65	VIOLET
	ED 0 L	1	"	59		64	BLACK
17			"	92		63	
			"	93		62	
18			"	90		61	
			"	91		60	
19			"				
			"				
20			"				
			"				

EXTERN CHANNEL FROM CPU

DRAWN BY TS/eml	Remarks CPU I CPU CABINET	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 17/7/74			

NO.	SIGNAL	POLARITY	PLUG BERG (CPU POS.)		PLUG BURNDY	PLUG BERG BUS SWITCH RACK	
			A24	BSD 2			
1	ED 15 L	0	BERG 88	A	BERG 95	RED/BLACK	
	ED 15 L	1	" 89	C	94	BLACK	
2	ED 14 L	0	" 86	B	93	BROWN/BLACK	
	ED 14 L	1	" 87	D	92	BLACK	
3	ED 13 L	0	" 84	E	91	RED/BROWN	
	ED 13 L	1	" 85	H	90	BLACK	
4	ED 12 L	0	" 82	F	89	BROWN	
	ED 12 L	1	" 83	J	88	BLACK	
5	ED 11 L	0	" 80	K	87	RED/GREEN	
	ED 11 L	1	" 81	M	86	BLACK	
6	ED 10 L	0	" 78	L	85	RED	
	ED 10 L	1	" 79	N	84	BLACK	
7	ED 9 L	0	" 76	P	83	BLUE/BLACK	
	ED 9 L	1	" 77	S	82	BLACK	
8	ED 8 L	0	" 74	R	81	ORANGE	
	ED 8 L	1	" 75	T	80	BLACK	
9	ED 7 L	0	" 72	U	79	BLUE/BROWN	
	ED 7 L	1	" 73	W	78	BLACK	
10	ED 6 L	0	" 70	V	77	YELLOW	
	ED 6 L	1	" 71	X	76	BLACK	
11	ED 5 L	0	" 68	Y	75	BLUE/GREEN	
	ED 5 L	1	" 69	AA	74	BLACK	
12	ED 4 L	0	" 66	Z	73	GREEN/BLACK	
	ED 4 L	1	" 67	BB	72	BLACK	
13	ED 3 L	0	" 64	CC	71	WHITE/BLACK	
	ED 3 L	1	" 65	EE	70	BLACK	
14	ED 2 L	0	" 62	DD	69	BLUE	
	ED 2 L	1	" 63	FF	68	BLACK	
15	ED 1 L	0	" 60	HH	67	WHITE/BROWN	
	ED 1 L	1	" 61	KK	66	BLACK	
16	ED 0 L	0	" 58	JJ	65	VIOLET	
	ED 0 L	1	" 59	LL	64	BLACK	
17			"	MM	63		
			"	PP	62		
18			"	NN	61		
			"	RR	60		
19			"	SS			
			"	UU			
20			"	TT			
			"	VV			

EXTERN CHANNEL FROM CPU 2

DRAWN BY TS/eml	Remarks  CPU 2	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 17/7/74			

NO.	SIGNAL	POLARITY	PLUG BERG B 21 (CPU POS.)	PLUG BURNDY	C RACK POS.	
1	ED 15 L	0	BERG 95		I/O RACK 4	BERG 75
	ED 15 L	1	" 94		"	" 74
2	ED 14 L	0	" 93		"	" 73
	ED 14 L	1	" 92		"	" 72
3	ED 13 L	0	" 91		C 4	" 71
	ED 13 L	1	" 90			" 70
4	ED 12 L	0	" 89		"	" 69
	ED 12 L	1	" 88		"	" 68
5	ED 11 L	0	" 87		I/O RACK 3	BERG 75
	ED 11 L	1	" 86		"	" 74
6	ED 10 L	0	" 85		"	" 73
	ED 10 L	1	" 84		"	" 72
7	ED 9 L	0	" 83		C 3	" 71
	ED 9 L	1	" 82			" 70
8	ED 8 L	0	" 81		"	" 69
	ED 8 L	1	" 80		"	" 68
9	ED 7 L	0	" 79		I/O RACK 2	BERG 75
	ED 7 L	1	" 78		"	" 74
10	ED 6 L	0	" 77		C 2	" 73
	ED 6 L	1	" 76			" 72
11	ED 5 L	0	" 75		C 2	" 71
	ED 5 L	1	" 74			" 70
12	ED 4 L	0	" 73		"	" 69
	ED 4 L	1	" 72		"	" 68
13	ED 3 L	0	" 71		I/O RACK 1	BERG 75
	ED 3 L	1	" 70		"	" 74
14	ED 2 L	0	" 69		"	" 73
	ED 2 L	1	" 68		"	" 72
15	ED 1 L	0	" 67		C 1	" 71
	ED 1 L	1	" 66			" 70
16	ED 0 L	0	" 65		"	" 69
	ED 0 L	1	" 64		"	" 68
17			" 63			
18			" 62			
19			" 61			
20			" 60			
21			"			

BUS SWITCH CHANNEL 1

DRAWN BY TM/eml	Remarks  CPU 1 CPU CABINET	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 16/8/73			

NO.	SIGNAL	POLARITY	CPU 1		PLUG BURNDY	CPU 2		
			PLUG BERG B 22	BUS SWITCH		RACK POS. 2 BCD	RACK POS.	
1	ED 15 L	0	BERG	95	A	I/O RACK 4	BERG 75	
	ED 15 L	1	"	94	C	"	" 74	
2	ED 14 L	0	"	93	B	" B4	" 73	
	ED 14 L	1	"	92	D		" 72	
3	ED 13 L	0	"	91	E	" B4	" 71	
	ED 13 L	1	"	90	H		" 70	
4	ED 12 L	0	"	89	F	" B4	" 69	
	ED 12 L	1	"	88	J		" 68	
5	ED 11 L	0	"	87	K	I/O RACK 3	" 75	
	ED 11 L	1	"	86	M	"	" 74	
6	ED 10 L	0	"	85	L	" B3	" 73	
	ED 10 L	1	"	84	N		" 72	
7	ED 9 L	0	"	83	P	" B3	" 71	
	ED 9 L	1	"	82	S		" 70	
8	ED 8 L	0	"	81	R	" B3	" 69	
	ED 8 L	1	"	80	T		" 68	
9	ED 7 L	0	"	79	U	I/O RACK 2	" 75	
	ED 7 L	1	"	78	W	"	" 74	
10	ED 6 L	0	BUS CHANNEL 2	"	V	" B2	" 73	
	ED 6 L	1		"	X		" 72	
11	ED 5 L	0		"	75	Y	" B2	" 71
	ED 5 L	1		"	74	AA		" 70
12	ED 4 L	0		"	73	Z	" B2	" 69
	ED 4 L	1		"	72	BB		" 68
13	ED 3 L	0		"	71	CC	I/O RACK 1	" 75
	ED 3 L	1		"	70	EE	"	" 74
14	ED 2 L	0		"	69	DD	" B1	" 73
	ED 2 L	1		"	68	FF		" 72
15	ED 1 L	0		"	67	HH	" B1	" 71
	ED 1 L	1		"	66	KK		" 70
16	ED 0 L	0		"	65	JJ	" B1	" 69
	ED 0 L	1		"	64	LL		" 68
17				"	63			
				"	62			
18				"	61			
				"	60			
19				"	59			
				"	58			
20			"	57				
			"	56				

BUS SWITCH CHANNEL 2

DRAWN BY TM/eml	Remarks  <b>CPU CABINET</b>	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE 16/8/73			



A/S NORSK DATA-ELEKTRONIKK

Title

WIRING LIST FOR  
BUS SWITCH PANEL

Drawing no.

NO.	SIGNAL	POLARITY	PLUG BURNDY (PANEL)	PLUG PI ELCO NR.	COLOR CODE	PLUG BERG TO OP. PANEL CARD
1	BL 1	1	A	A	ROSA	B 30.95
	GND	0	C	C	SORT	B 30.94
2	WBL 1	1	B	B	HVIT	B 30.93
	GND	0	D	D	SORT	B 30.92
3	SEL 11	1	E	E	GRÅ	B 30.91
	GND	0	H	H	SORT	B 30.90
4	WSEL 11	1	F	F	HVIT-RØD	B 30.89
	GND	0	J	J	SORT	B 30.88
5	WSEL 12	1	K	K	VIOLETT	B 30.87
	GND	0	M	M	SORT	B 30.86
6	BL 2	1	L	L	HVIT-GRØNN	B 30.85
	GND	0	N	N	SORT	B 30.84
7	WBL 2	1	P	P	BLÅ	B 30.83
	GND	0	S	S	SORT	B 30.82
8	SEL 2	1	R	R	ORANGE-SORT	B 30.81
	GND	0	T	T	SORT	B 30.80
9	WSEL 21	1	U	U	GRØNN-SORT	B 30.79
	GND	0	W	W	SORT	B 30.78
10	WSEL 22	1	V	V	BLÅ-GRØNN	B 30.77
	GND	0	X	X	SORT	B 30.76
11	BL 3	1	Y	Y	GUL	B 30.75
	GND	0	AA	a	SORT	B 30.74
12	WBL 3	1	Z	z	BRUN-BLÅ	B 30.73
	GND	0	BB	b	SORT	B 30.72
13	SEL 3	1	CC	c	ORANGE	B 30.71
	GND	0	EE	e	SORT	B 30.70
14	WSEL 31	1	DD	d	BLÅ-SORT	B 30.69
	GND	0	FF	f	SORT	B 30.68
15	WSEL 32	1	HH	h	RØD	B 30.67
	GND	0	KK	k	SORT	B 30.66
16	BL 4	1	JJ	j	Rod/Grønn/Grå	B 30.65
	GND	0	LL	l	SORT/BRUN	B 30.64
17	WBL 4	1	MM	m	BRUN	B 30.63
	GND	0	PP	p	SORT	B 30.62
18	SEL 4	1	NN	n	RØD-BRUN	B 30.61
	GND	0	RR	r	SORT	B 30.60
19	WSEL 41	1	SS	s	BRUN-SORT	B 30.59
	GND	0	UU	u	SORT	B 30.58
20	WSEL 42	1	TT	t	RØD-SORT	B 30.57
	GND	0	VV	v	SORT	B 30.56
21	+ 5V		XX	w	Orange/ Brun	B 30.55
	+ 5V		WW	y	SORT	B 30.54

DRAWN BY	Remarks	Replacement for	Date
APPROVED BY		Replaced by	Date
DATE			

B1.10 - 2.10 - 3.10 - 4.10 - 5.10 - 6.10 - 7.10 - 8.10  
 B1.13 - 2.13 - 3.13 - 4.13 - 5.13 - 6.13 - 7.13 - 8.13  
 B1.17 -  
 B1.21 -  
 B1.25 -  
 B1.29 -

B17.34 - 18.34 - 19.34 - 20.34 - 21.34 - 22.34 - 23.34 - 24.34  
 B17.38  
 B17.42  
 B17.46  
 B17.50

B13.06 - B14.07  
 13.08 - 14.07  
 13.10 - 14.11  
 13.12 - 14.13  
 13.14 - 14.14  
 13.15 - 14.15  
 13.18 - 14.18  
 13.19 - 14.19  
 13.22 - 14.22  
 13.23 - 14.23  
 13.26 - 14.26  
 13.27 - 14.27  
 13.28 - 14.28  
 13.29 - 14.29  
 13.30 - 14.30  
 13.31 - 14.31  
 13.32 - 14.32  
 13.33 - 14.33  
 13.34 - 14.34  
 13.35 - 14.35  
 13.38 - 14.38  
 13.39 - 14.39  
 13.42 - 14.42  
 13.43 - 14.43  
 13.44 - 14.44  
 13.45 - 14.45  
 13.46 - 14.46  
 13.47 - 14.47  
 13.50 - 14.50  
 13.51 - 14.51  
 13.54 - 14.54  
 13.55 - 14.55  
 13.56 - 21.06  
 13.91 - 21.57  
 13.93 - 21.57

B14.06 - B15.07  
 14.08 - 15.09  
 14.10 - 15.11  
 14.12 - 15.13  
 14.14 - 15.14  
 14.15 - 15.15  
  
 14.56 - 22.06  
 14.91 - 22.57  
 14.93 - 22.59

B15.06 - B16.07  
 15.08 - 16.09  
 15.10 - 16.11  
 15.12 - 16.13  
 15.14 - 16.15  
 15.15 - 16.16  
  
 15.56 - 23.06  
 15.91 - 23.57  
 15.93 - 23.59

B16.56 - B24.06  
16.91 - 24.57  
16.93 - 24.59

B1.59 - B9.89  
B3.59 - B11.89  
B5.57 - B13.91  
B5.59 - B13.89  
B6.57 - B14.91  
B6.59 - B14.89  
B7.57 - B15.91  
B7.59 - B15.89  
B8.57 - B16.91  
B8.59 - B16.89

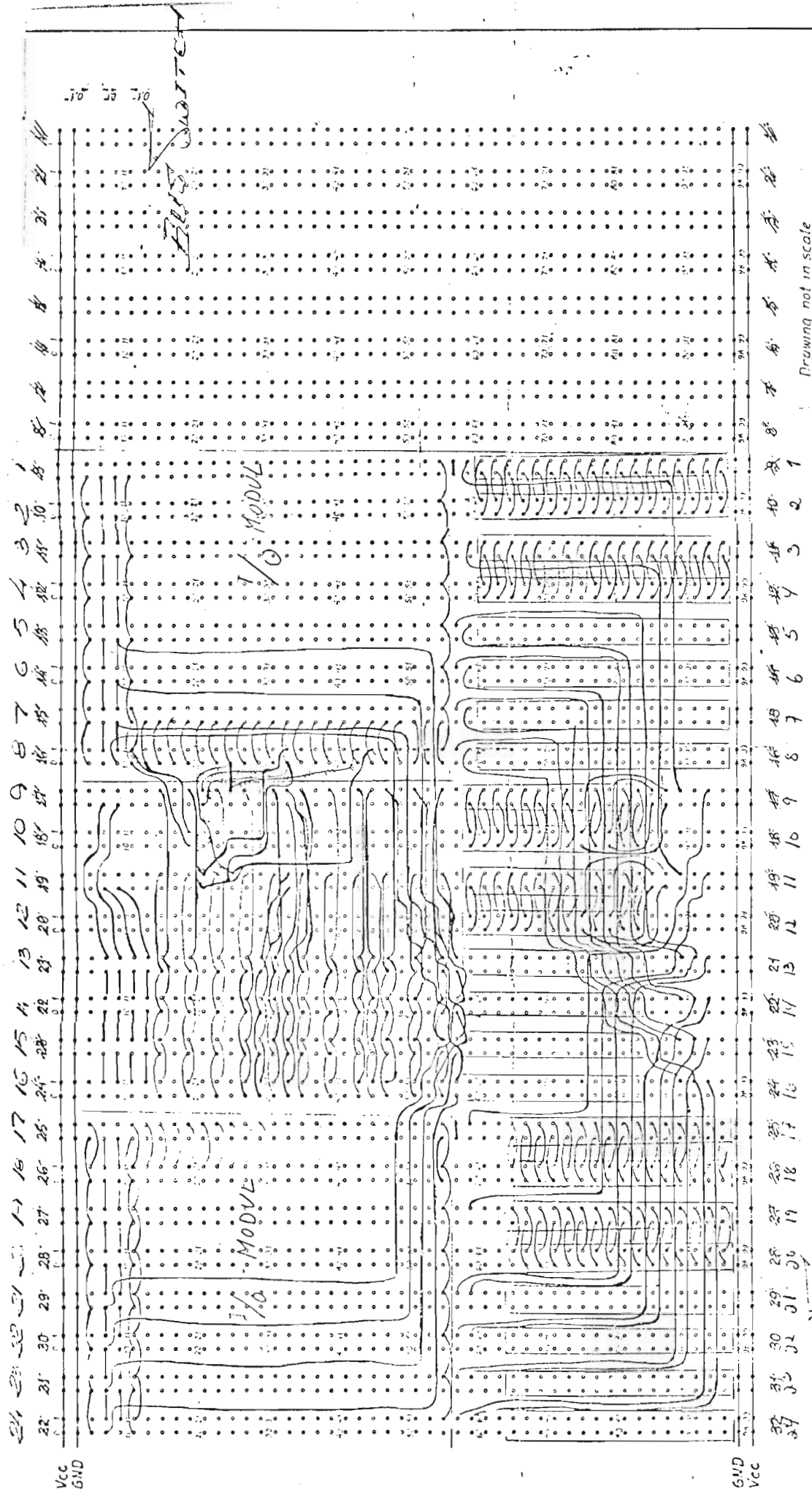
B1.04 - 2.04 - 3.04 - 4.04 - 5.04 - 6.04 - 7.04 - 8.04  
B17.04 - 18.04 - 19.04 - 20.04 - 21.04 - 22.04 - 23.04 - 24.04  
B17.10 - 18.10 - 19.10 - 20.10 - 21.10 - 22.10 - 23.10 - 24.10  
B17.11 - 18.11 - 19.11 - 20.11 - 21.11 - 22.11 - 23.11 - 24.11

Bus Switch TWEL 65.

B30.50 - B13.92  
30.49 - 13.91  
  
30.48 - B14.92  
30.47 - 14.91  
  
30.46 - B15.92  
30.45 - 15.91  
  
30.44 - B16.92  
30.43 - 16.91

"Extern" Bus Address per till 1074-cards:

CPU A	A8, 10 - A9, 20	(B7 0)
	A8, 12 - A9, 21	(B7 1)
	A8, 24 - A9, 25	(B7 10)
CPU B	A8, 32 - A11, 20	(B7 0)
	A8, 33 - A11, 21	(B7 1)
	A8, 45 - A11, 25	(B7 10)



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31

Drawing not in scale

REAR VIEW

BUS SWITCH



**- we want bits of the future**

A/S NORSK DATA-ELEKTRONIKK LØRENVEIEN 57 OSLO 5 NORWAY PHONE: 2173 71 TELEX: 18284