BUS-SWITCH

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A/S NORSK DATA-ELEKTRONIKK





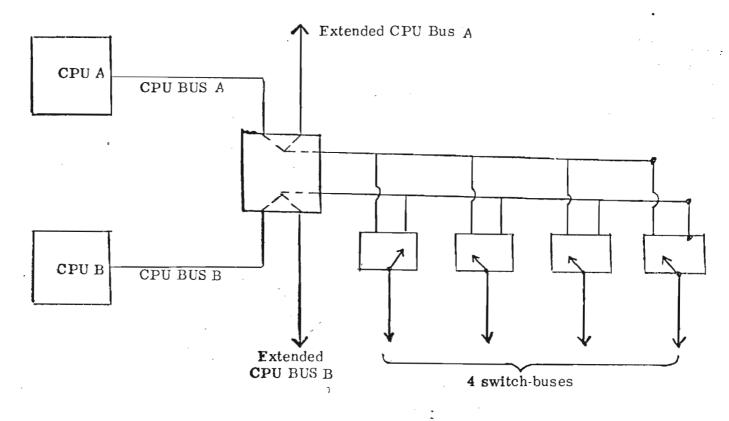
BUS-SWITCH

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

A bus switch is shown shematic 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 extention of a CPU bus and cannot be switched to the other CPU bus.

Switch-bus

 $\left\{ \cdot \right\}$

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.

5/6/75/JH/bp

A/S NORSK DATA-ELEKTRONIKK

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BUS SWITCH

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CARD POSITIONS

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

Data CPU B (extended).

Data CPU B (IN)

2

Data CPU A (extended).

Data CPU A (IN)

Card positions for control, one for each switch bus.

Control CPUB (extended)

Control CPU B (in)

Control CPU A (extended)

Control CPUA (in)

Card positions for address, one for each switch bus.

Address CPU B(extended)

Address CPU B(in)

Address CPU A (extended)

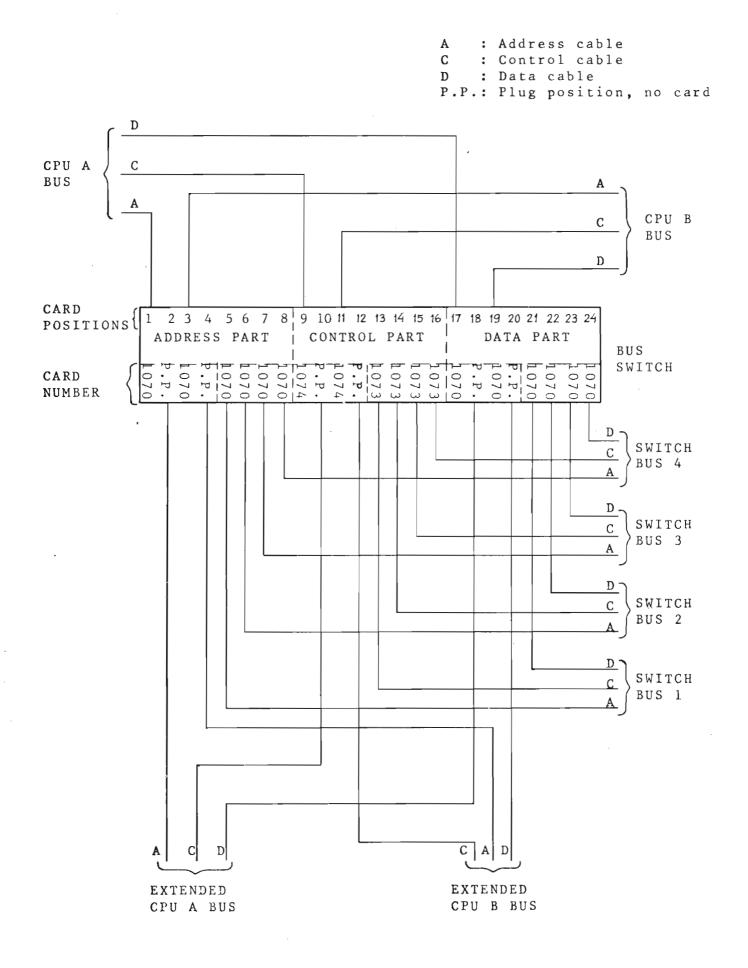
Address CPU A(in)

5/6/75/JH/bp

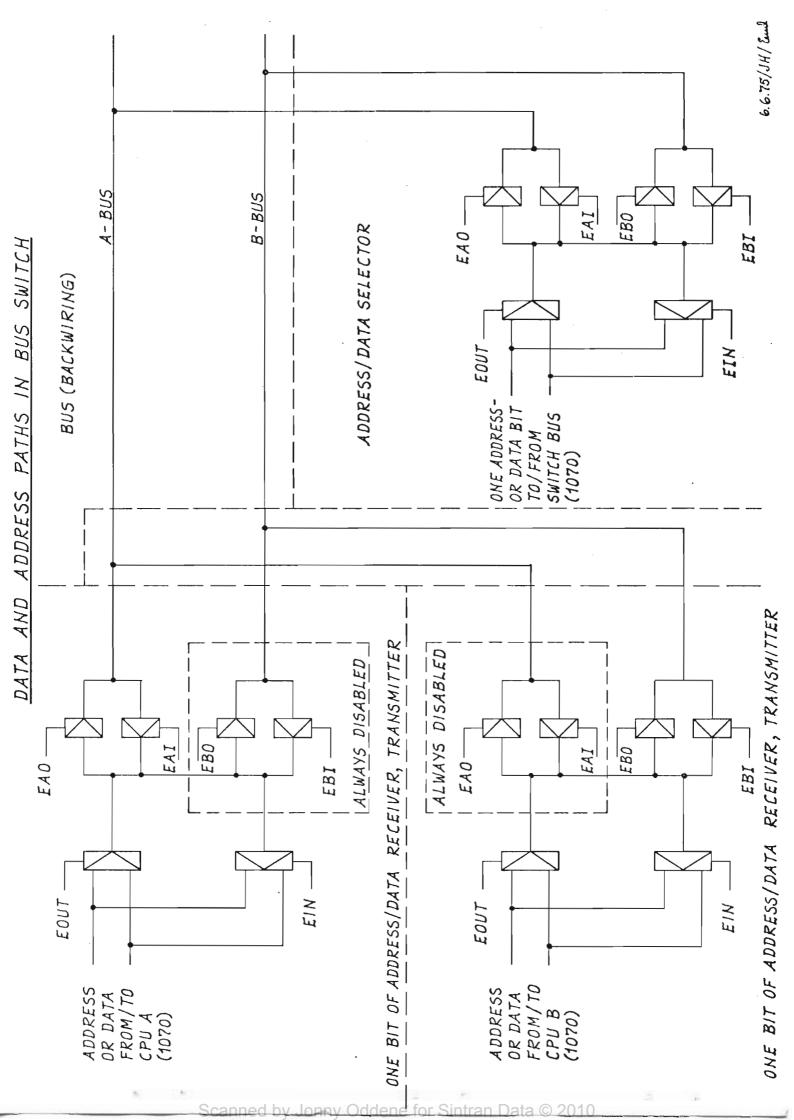
BUS SWITCH

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5/6/75/JH/em1



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.
LOWSE L:	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):

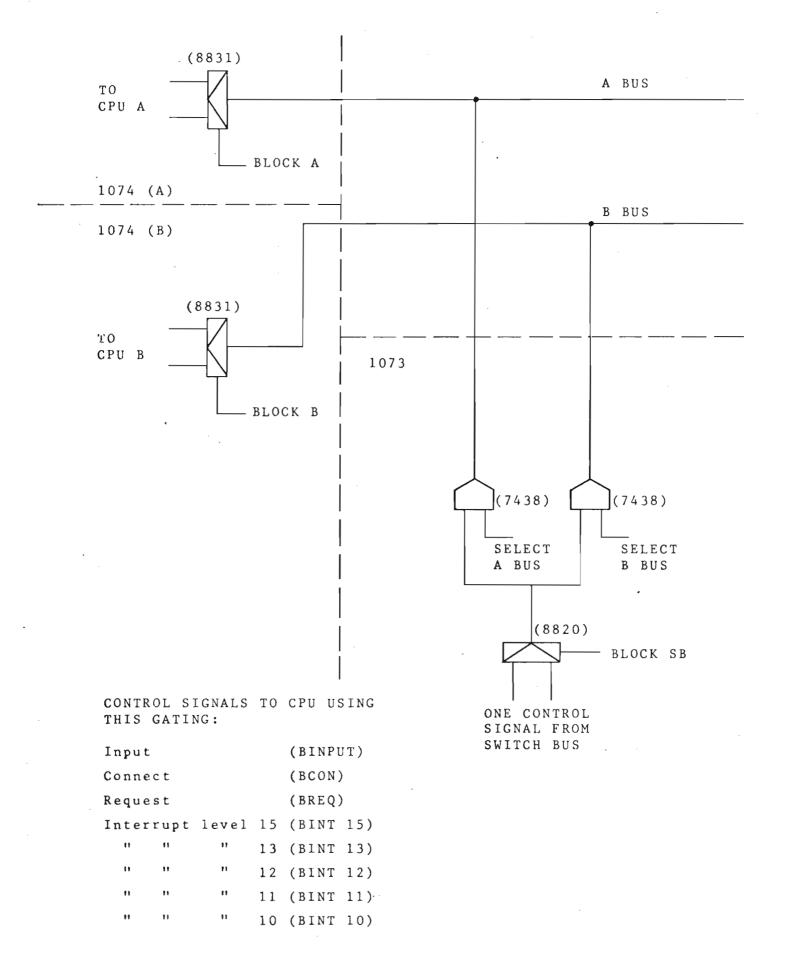
Used as CPU address/data receiver, transmitter:

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
\mathbf{E} BO (X-Y):	Enables address/data to B-BUS
A BI (X-Y):	Enables address/data from B-BUS

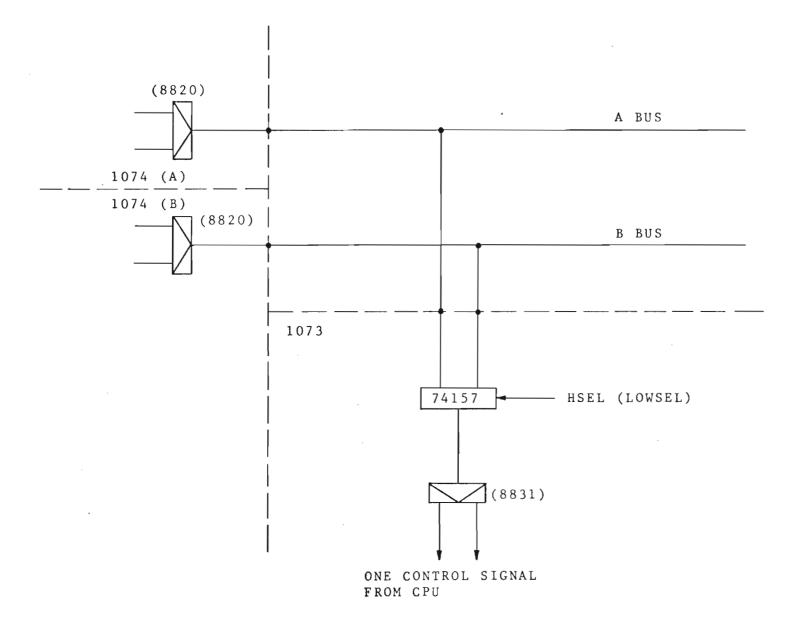
Used as address/data selector:

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
\mathbf{E} BI (X-Y):	Enables address/data on B-BUS
EOUT:	Enables selected address/data out
EIN:	Enables selected address/data in

9/6/75/JH/bp



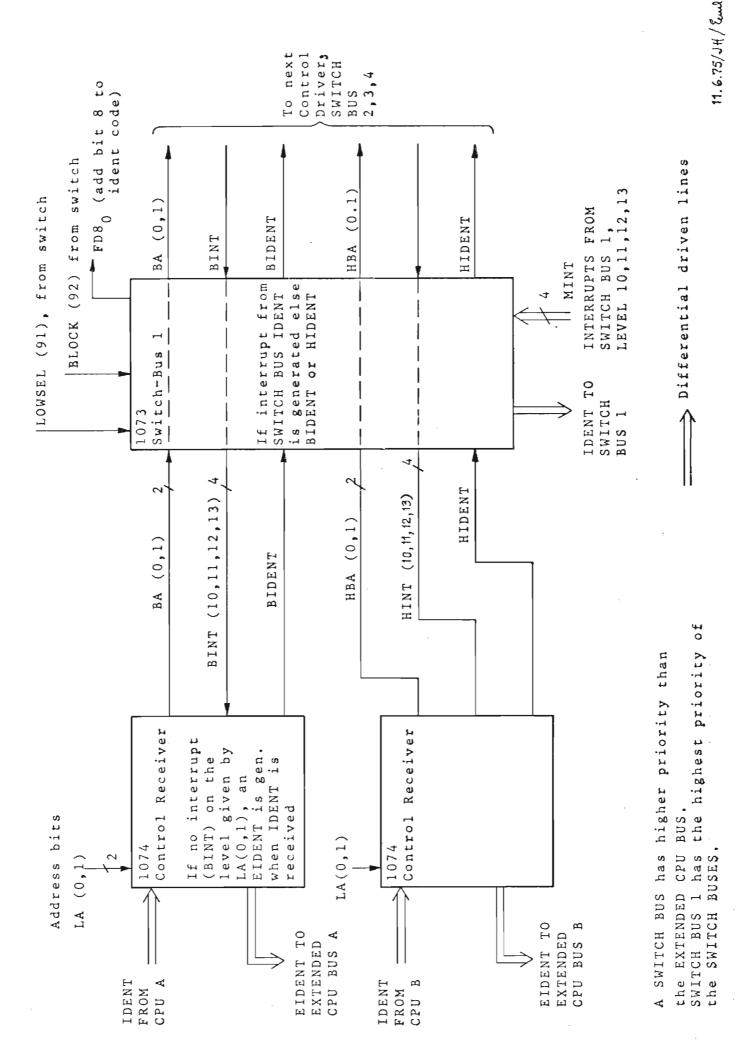
6/6/75/JH/eml



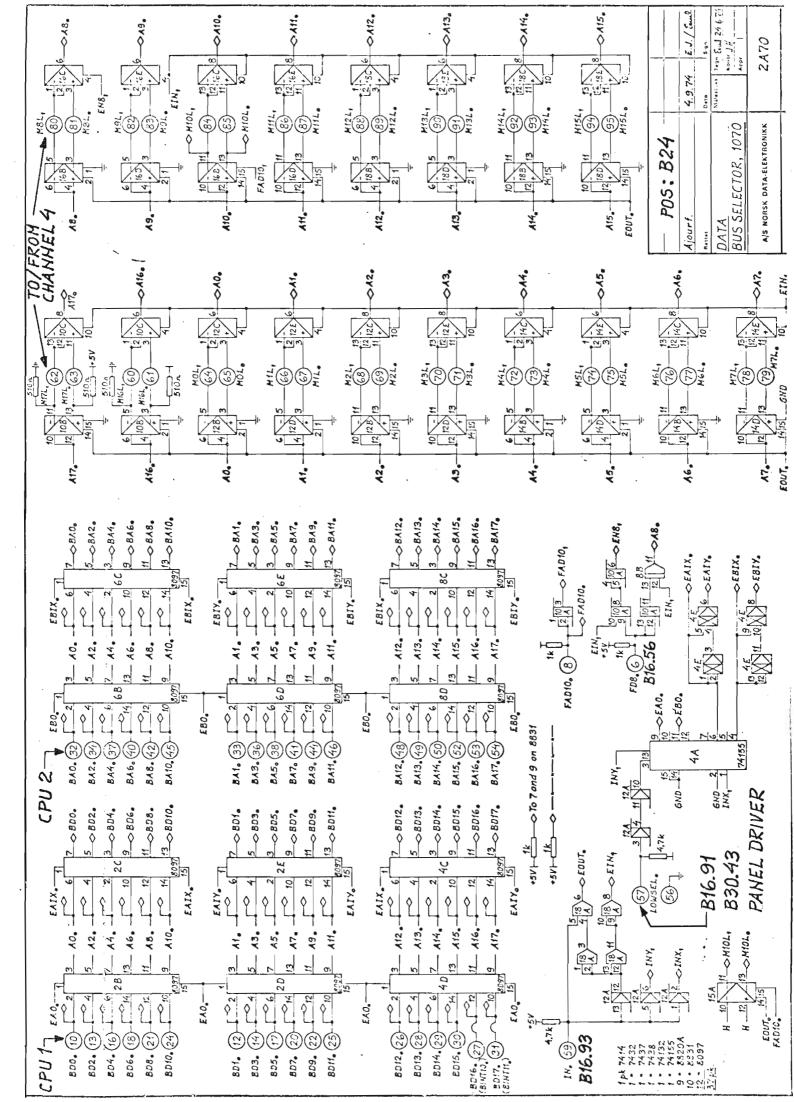
CONTROL SIGNALS FROM CPU USING THIS GATING:

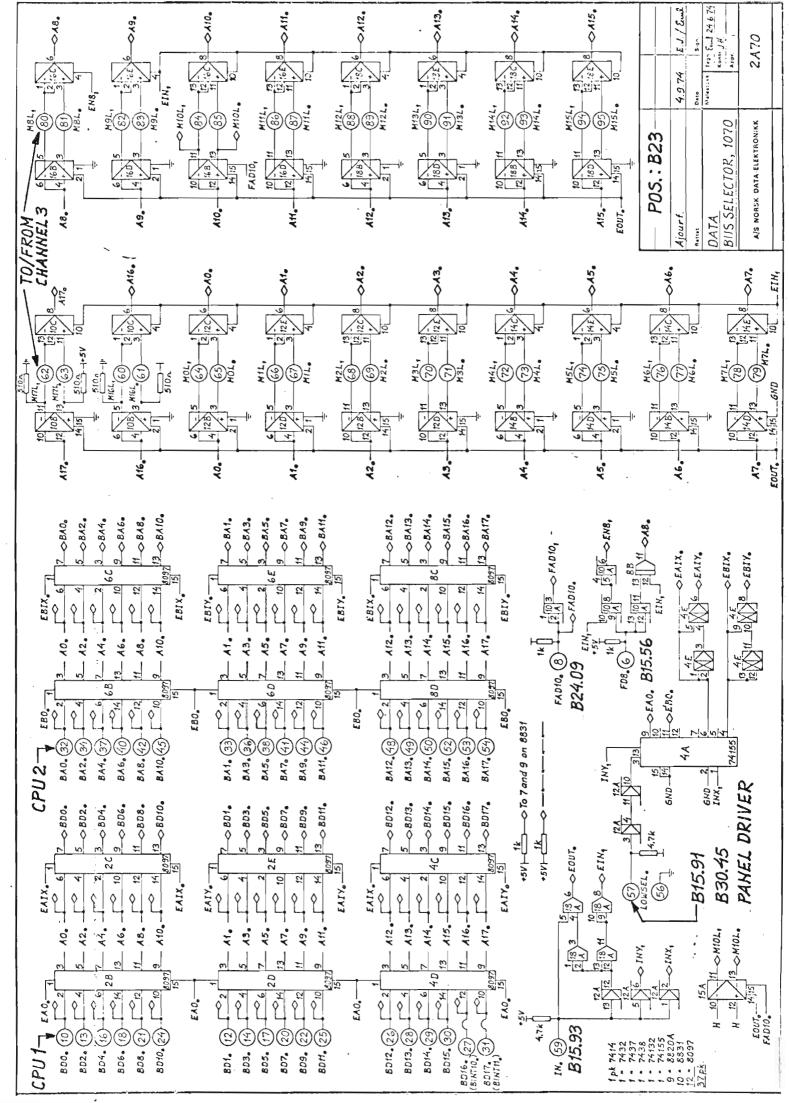
IOX	(Special gating on 1073)
MC	Master Clear
DRX	Data Ready

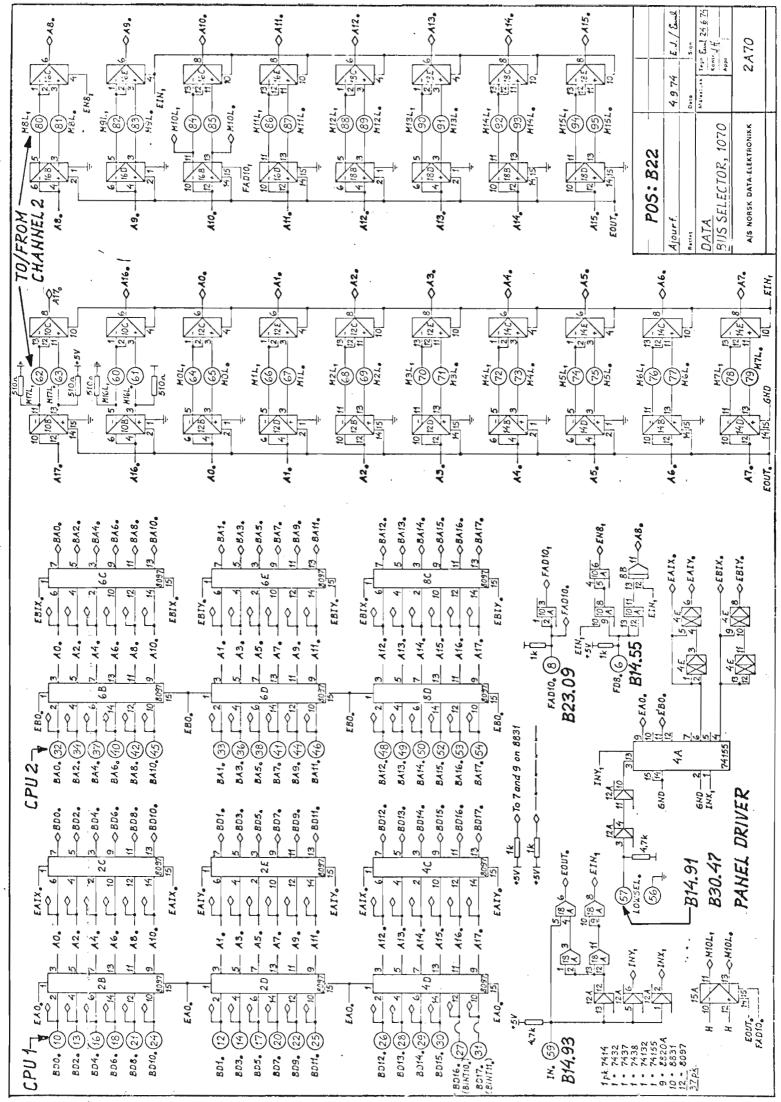
6/6/75/JH/eml

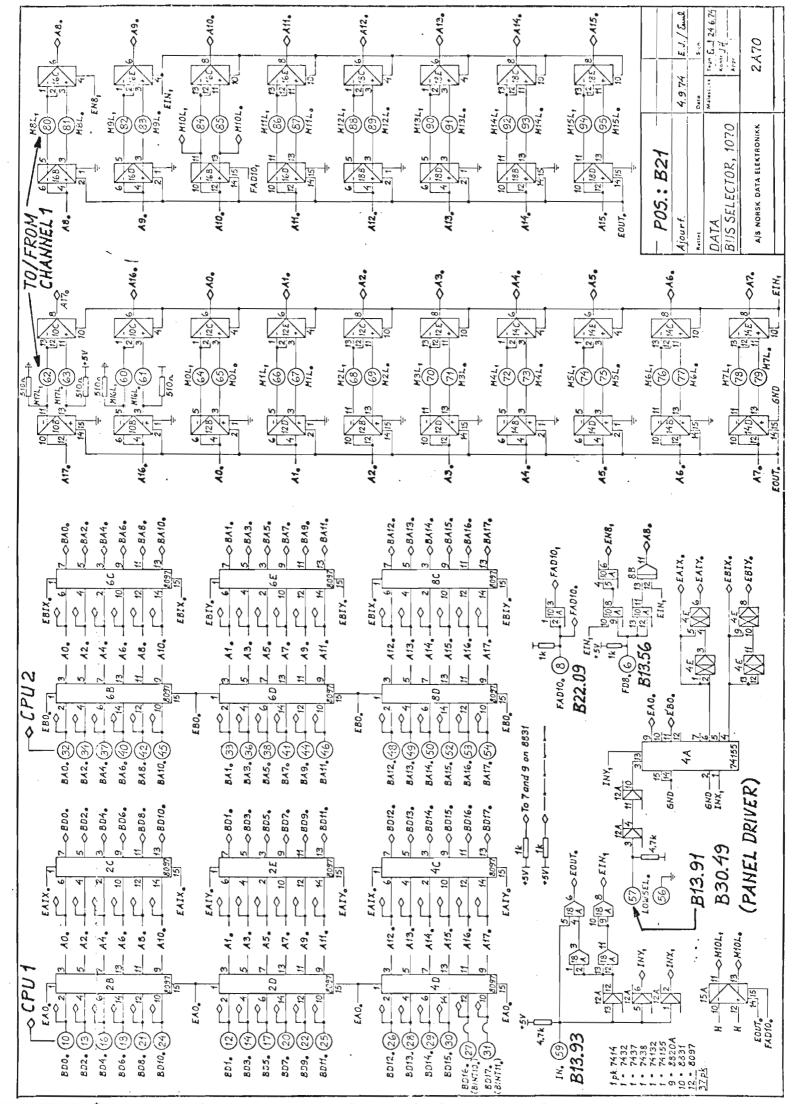


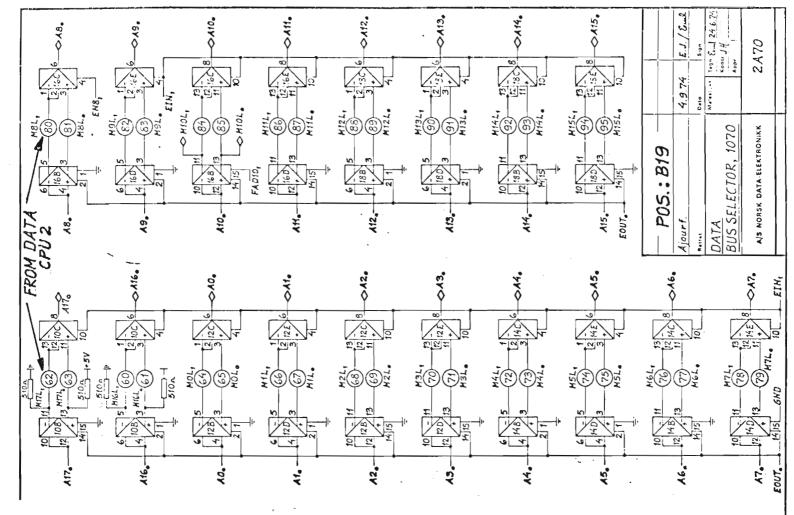
IDENT - BRANCHING

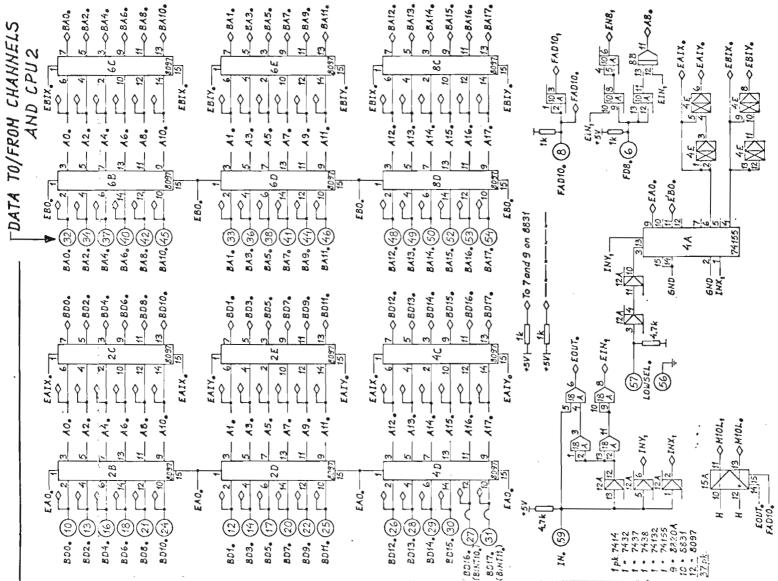


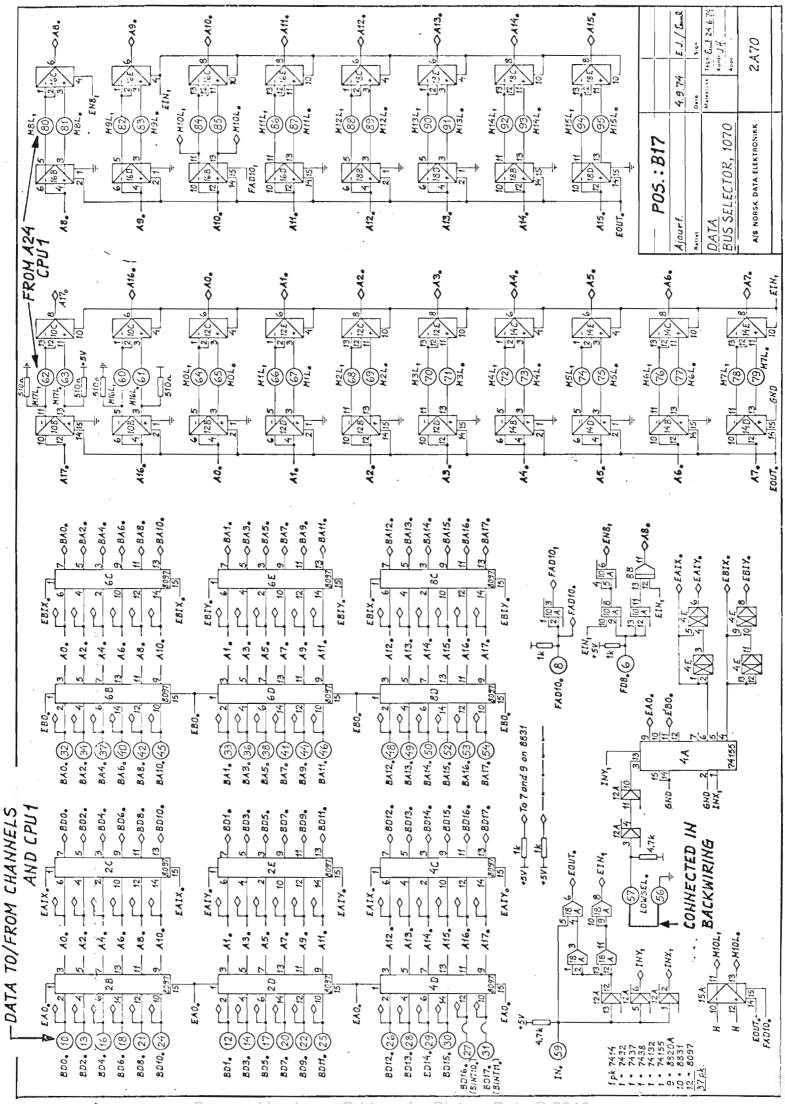


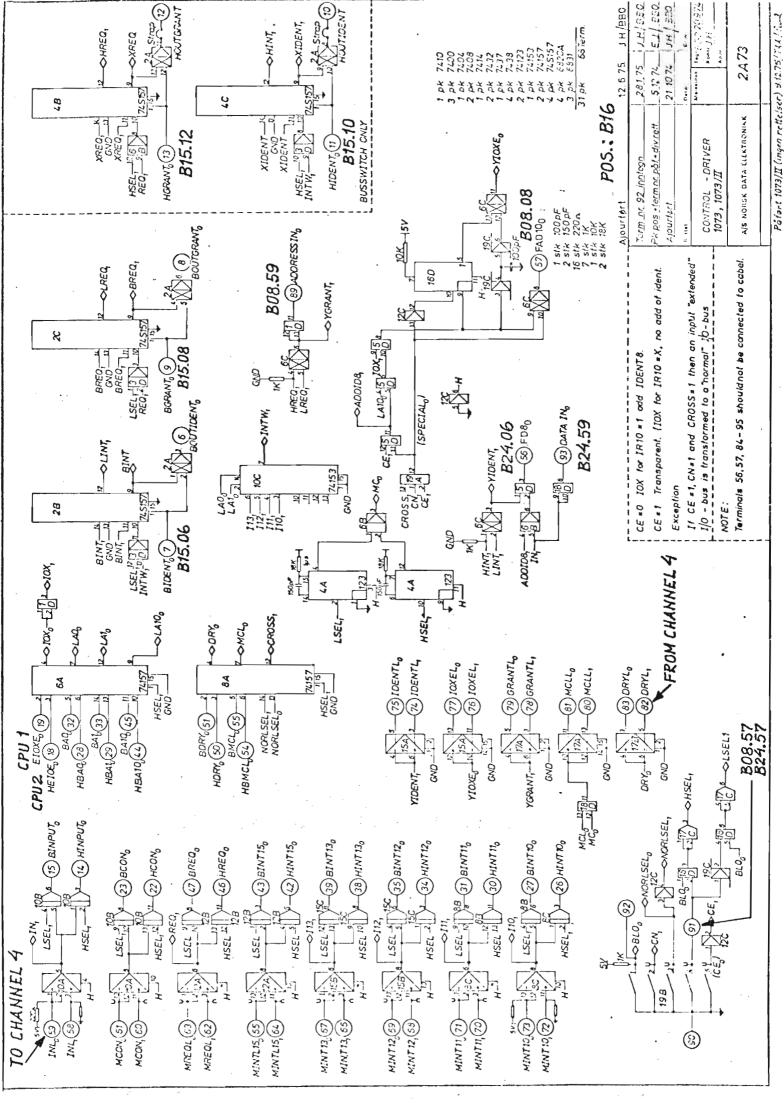


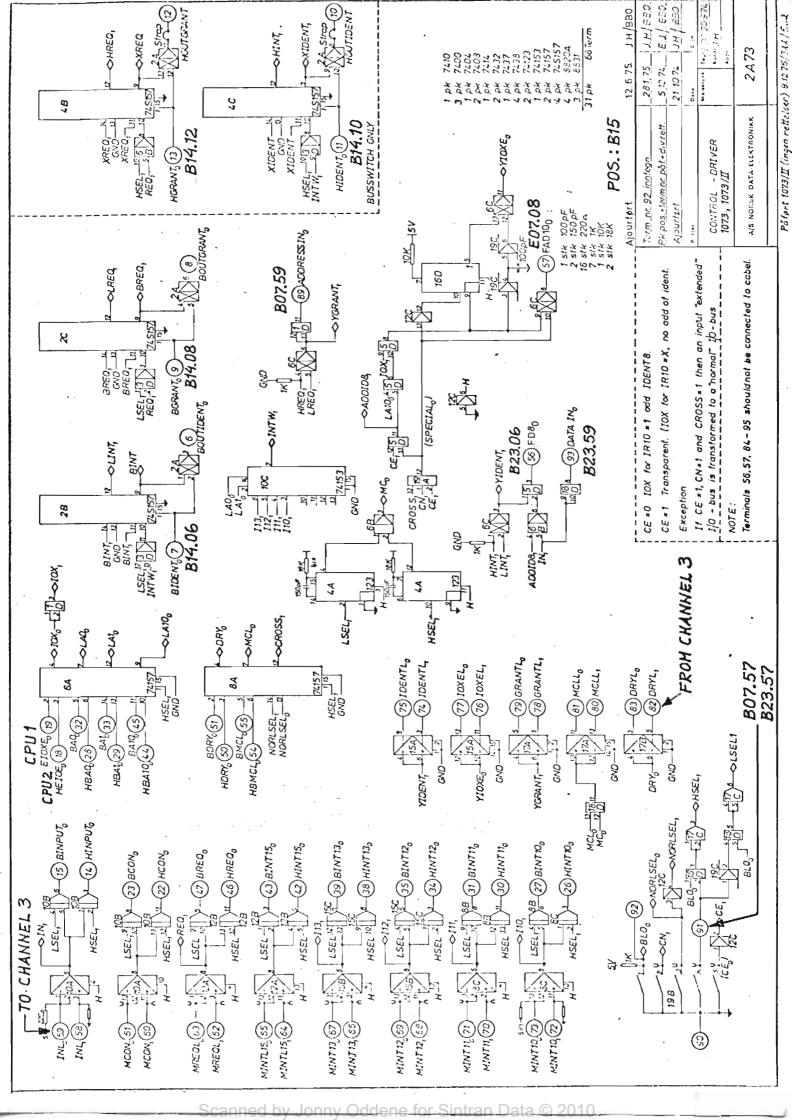


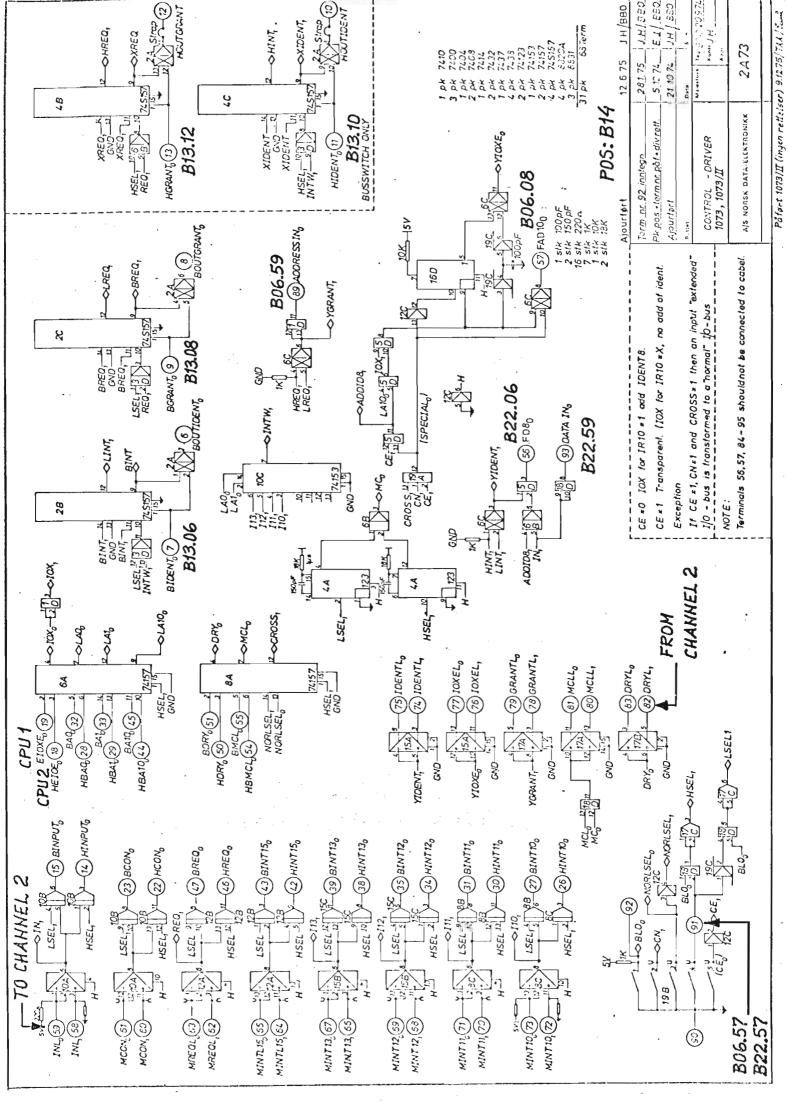


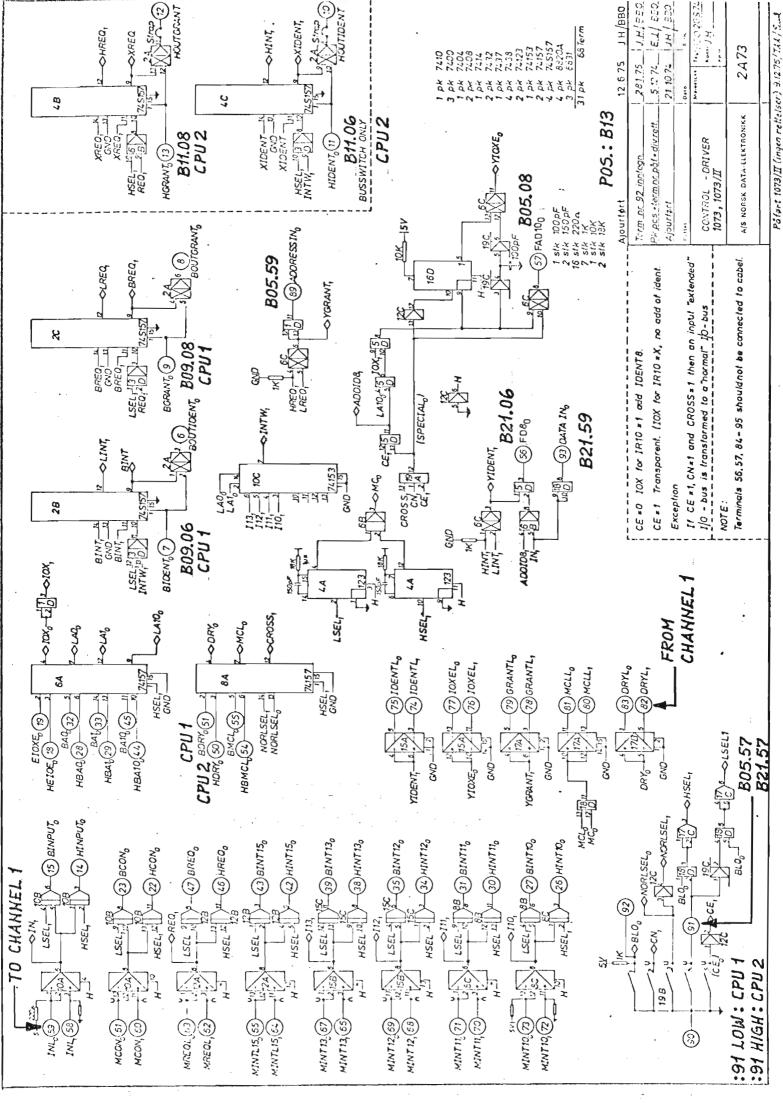




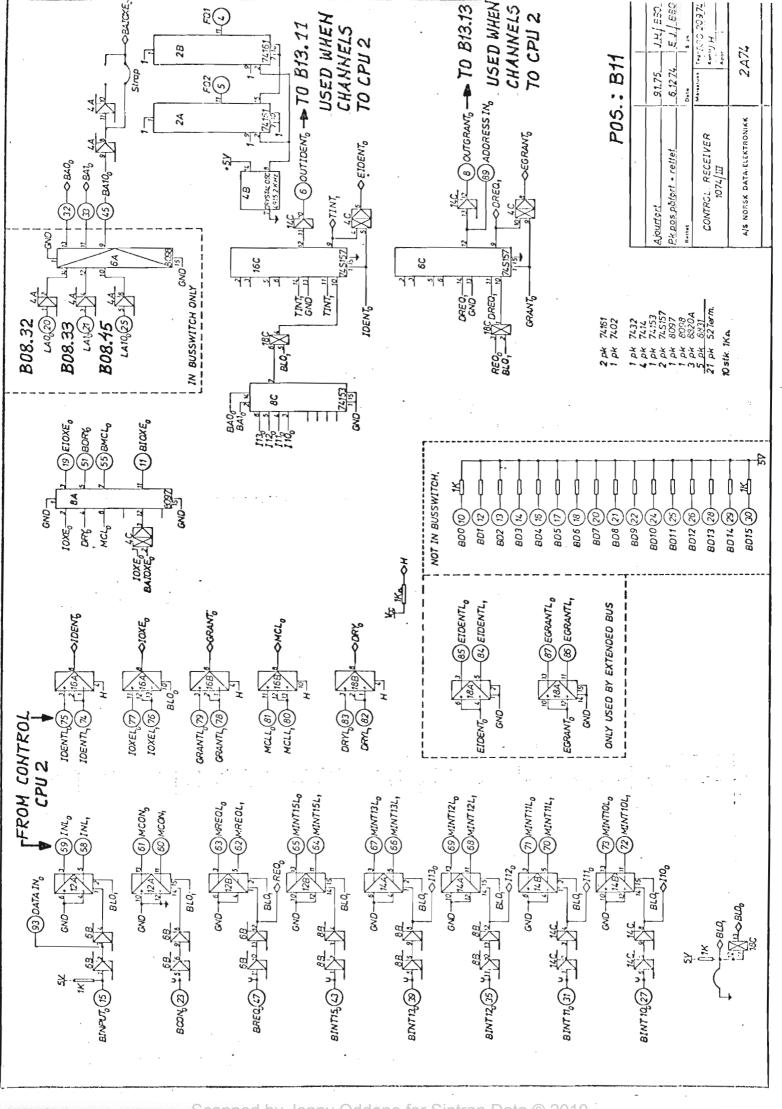




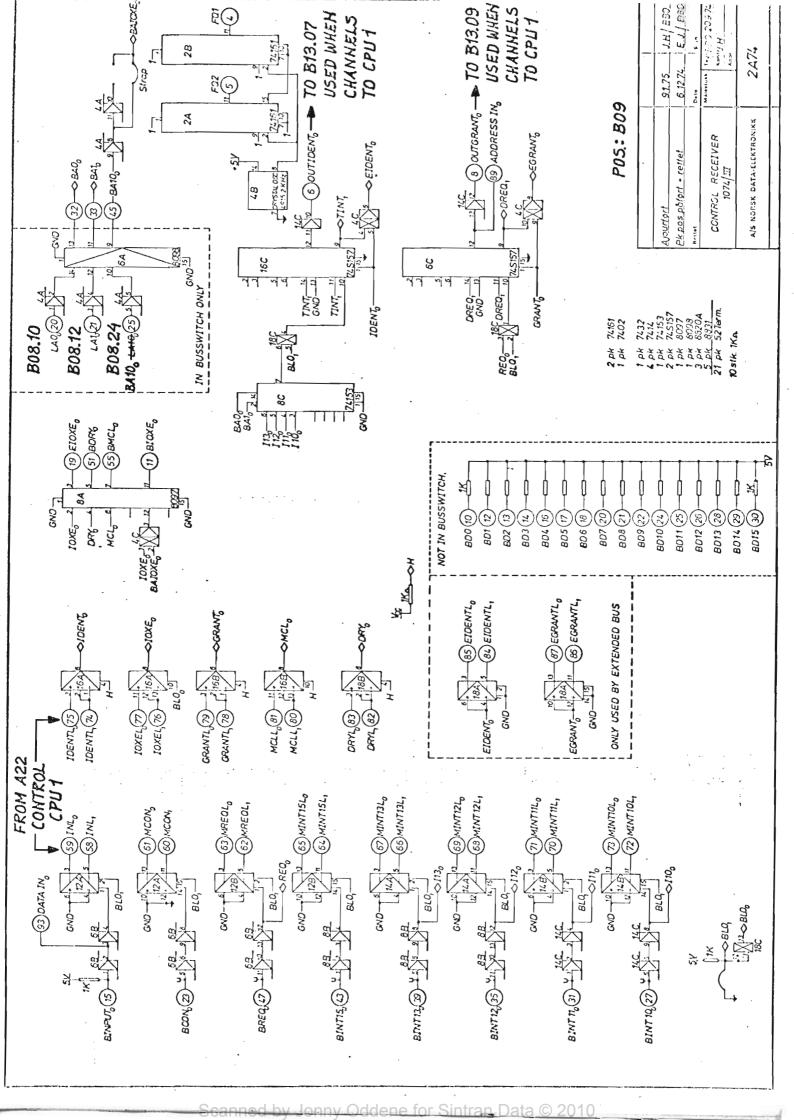


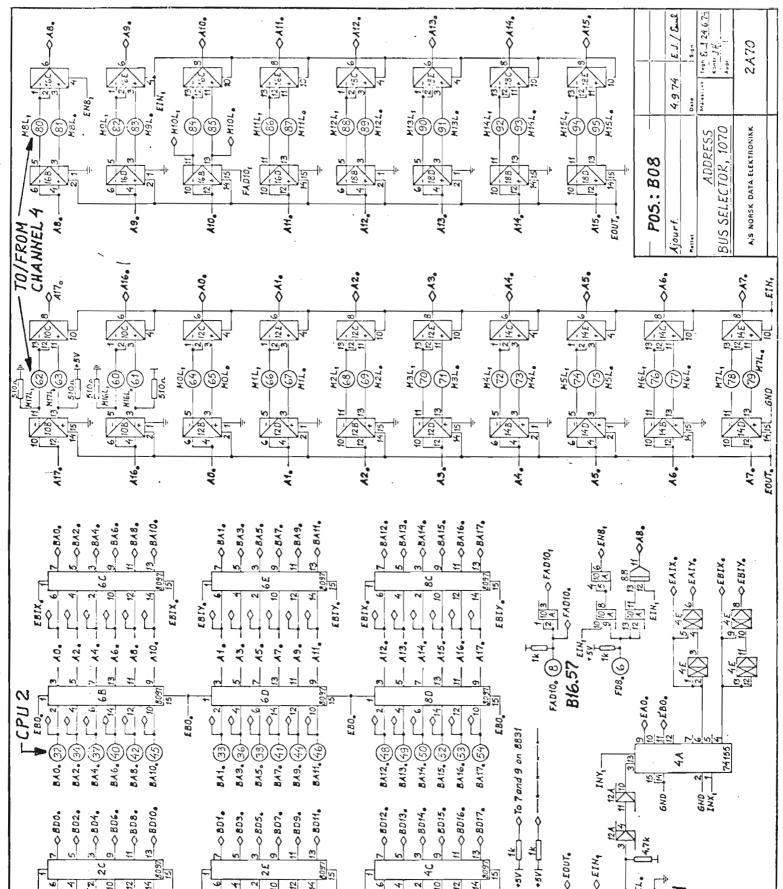


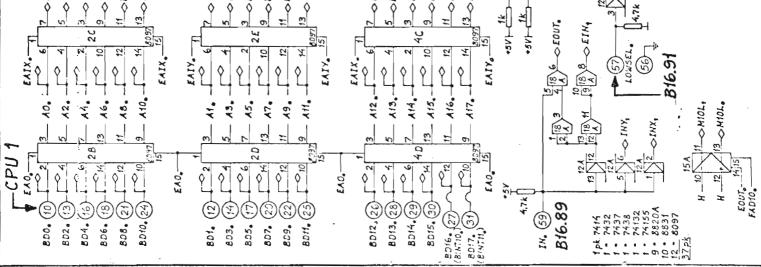
<u>canned by Jonny Oddene for Sintran Data © 201</u>

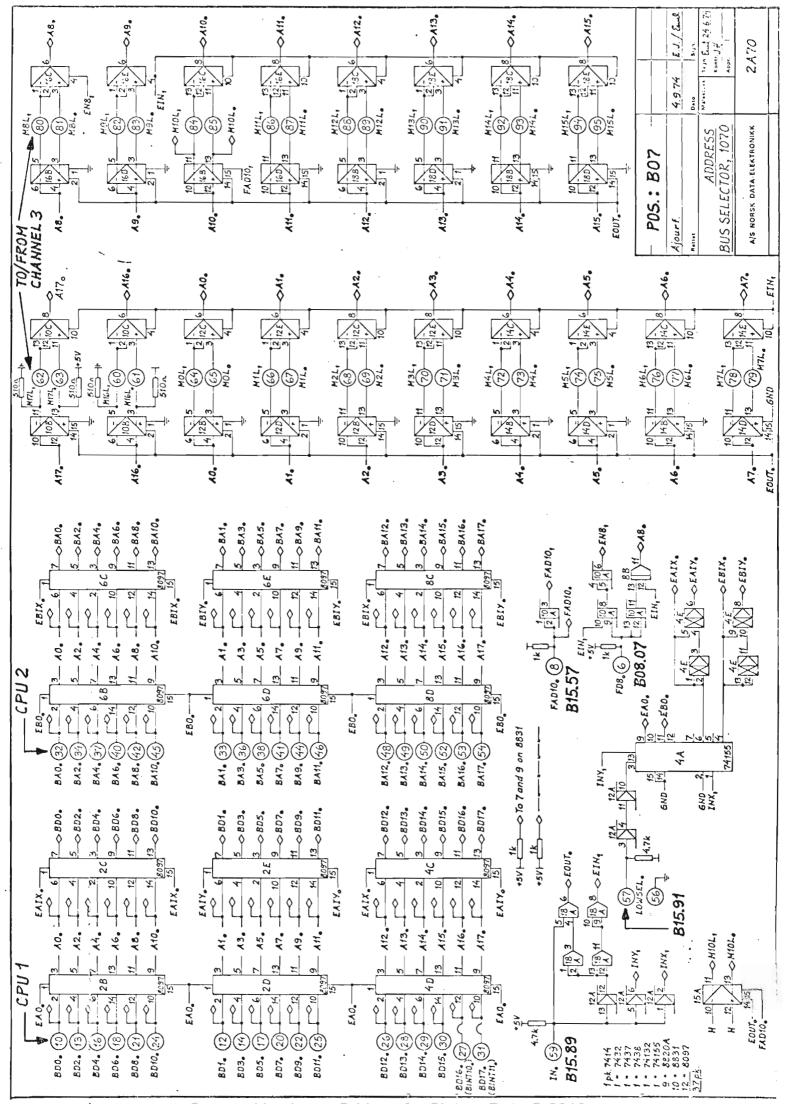


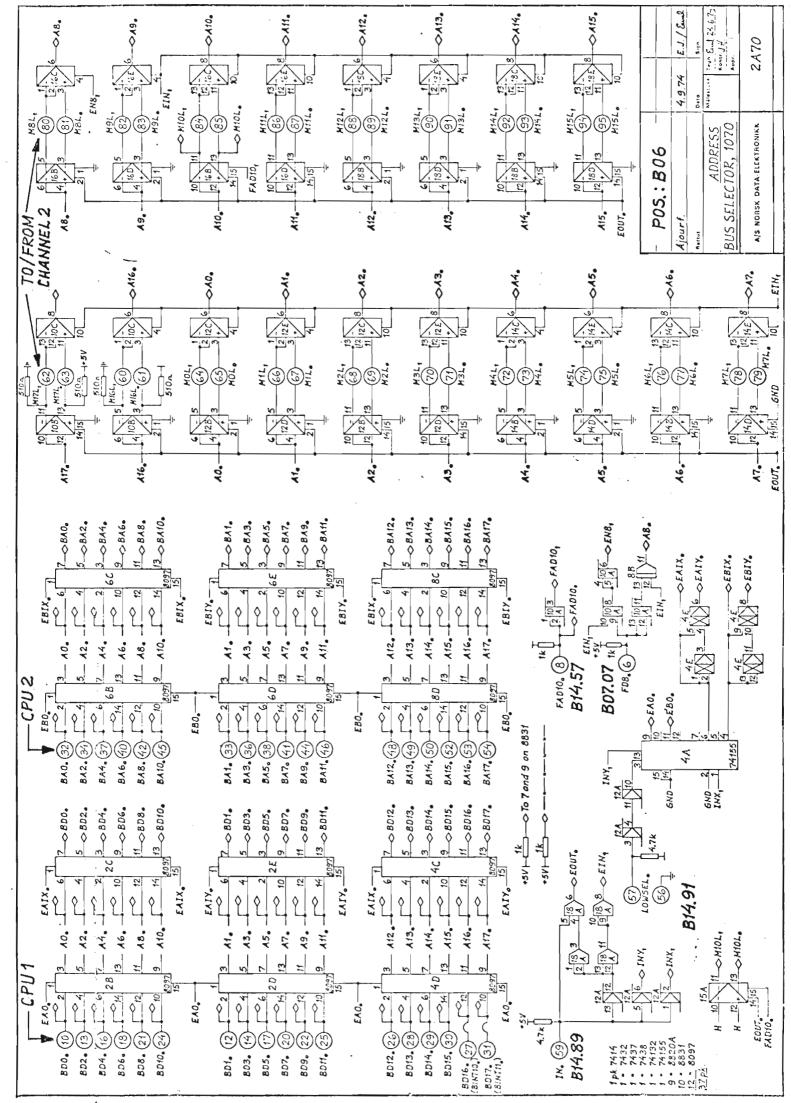
canned by Jonny Oddene for Sintran Data <u>© 201</u>

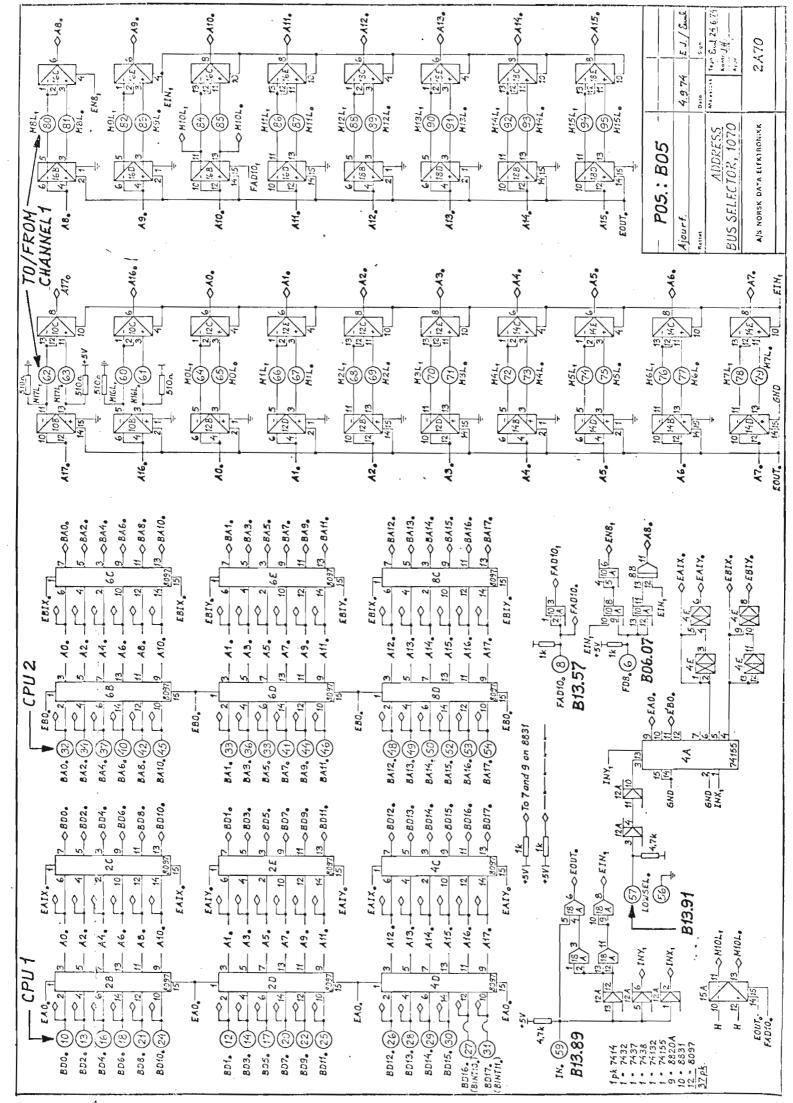


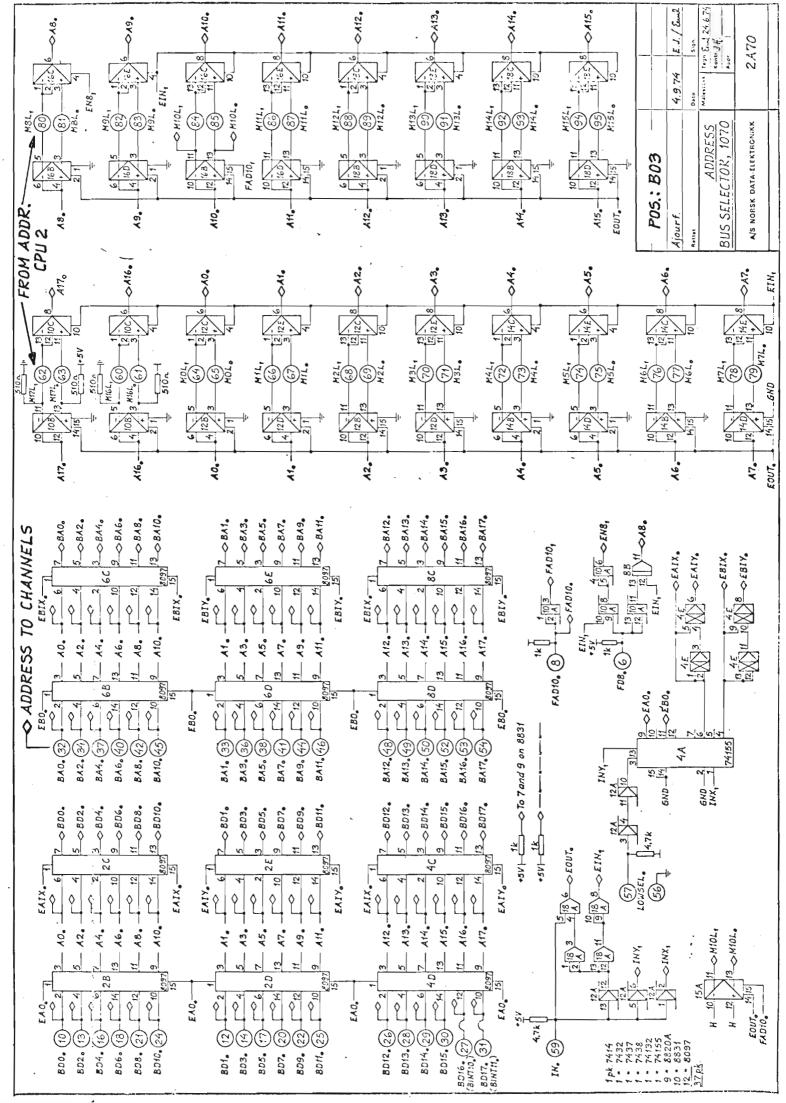


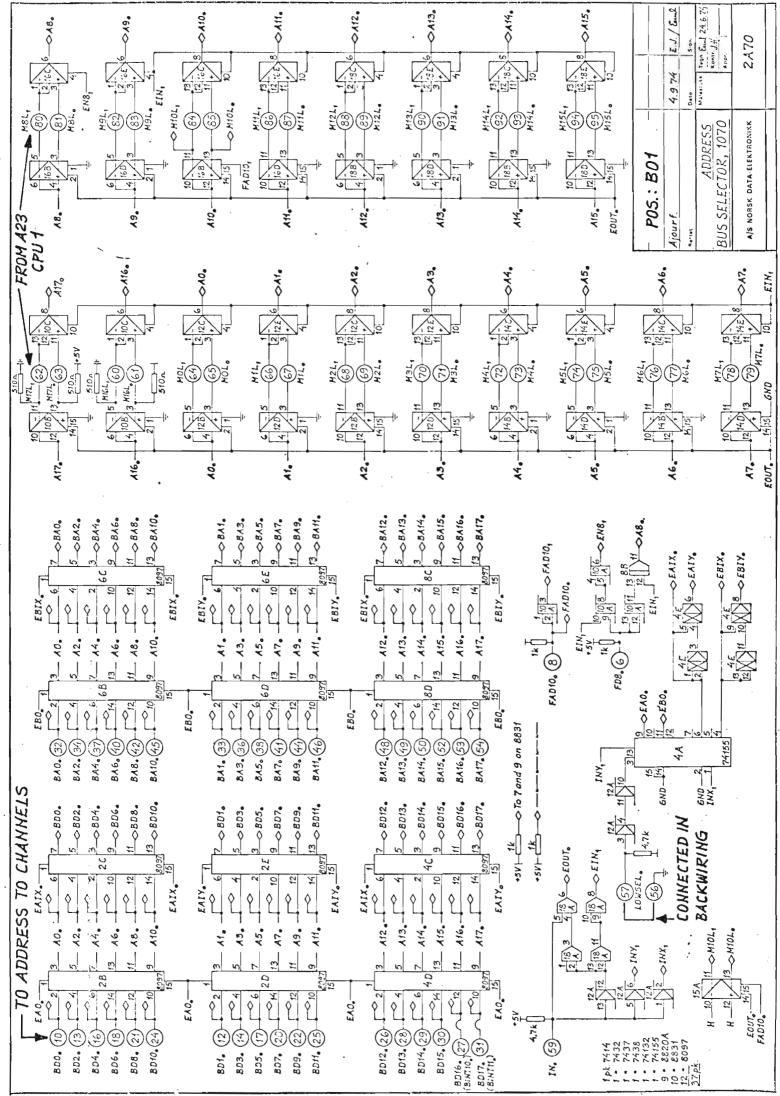












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		RSK DATA- TRONIKK	Titlo ≏	BUS SWITCI ADDRE	. • Dr.	Drawingeno.		
	. ON	S I GNAL	POLARITY	PLUG BERG (CPU POS.)	PLUGG BERG	•		
		EA 15 L	0	A23 BERG 88	 B 01 95		ED/BLACK	
	1	EA 15 L	1		 94	В	LACK	
	2	EA 14 L EA 14 L	0	" <u>86</u> " <u>87</u>	 <u> </u>		ROWN/BLACH LACK	
	- 3	EA 13 L	0	" 84	 91	R	ED/BROWN	
-		EA 13 L EA 12 L	1	" 85 " 82	 <u> </u>		LACK ROWN	
	4	EA 12 L	1	" 83	 88	В	LACK	
	5	EA 11 L EA 11 L	0	" <u>80</u> "81	 <u>87</u> 86		ED/GREEN LACK	
	6	EA 10 L	0	" 78	 85	R	11 D	
-	_	EA 10 L EA 9 L	1 0	<u> </u>	 <u>84</u> 83		LACK LUE/BLACK	
	7	EA 9 L	1	" 77	 82	В	LACK	
	8	EA 8 L EA 8 L	0	74	 81		RANGE LACK	
	9	EA 7 L	0	7 2	 79	В	LUE/BROWN	
		EA 7 L EA 6 L	10	73	 78 77		LACK ELLOW	
[10	EA 6 L	1	" 71	 76	В	LACK	
	11	<u>EA 5 L</u> <u>EA 5 L</u>	0	" <u>68</u> "69	 75 74	T	LUE/GREEN LACK	
	12	EA 4 L	0	" 66	 73	G	REEN/BLACK	
		<u>EA 4 L</u> EA <u>3 L</u>		<u> </u>	 72		LACK HITE/BLACH	
	13	EA 3 L	1	" 65	 70	В	LACK	
	14	<u>EA 2 L</u> EA 2 L	0	<u>.62</u> 63	 <u>69</u> 68		LUE LACK	
	15	EA 1 L	0	" 60	 67	W	HITE/BROW	
-	• /	EA 1 L EA 0 L		<u> </u>	 <u> </u>		LACK	
_	16	EA 0 L EA 17 L		" 59	 64		LACK	
	17	<u>EA 17 L</u> EA 17 L	1	··· 92 ·· 93	 63 62			
	18 -	EA 16 L	0		61			
-	19	EA 16 L	1	<u> </u>	 60			
1				11				
	20		-		 ·		· · ·	

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ι,		RSK DATA- TRONIKK	Title	BUS SEITCH Addre		Drawing n	o. ORD-10
	. ON	SIGNAL	POLARITY	(. PLUG BERG VIII VIII VIII VIII VIII VIII VIII VI	AQNAJA BSA 2 BSA 2	HLUG BERG BUS SWITCH RACK	
	1	EA 15 L	0	BERG 88	A	. 95	RED/BLACK
		EA 15 L EA 14 L	1	··· 89 ·· 86	C B	<u>94</u> 93	BLACK BROWN/BLACK
	2	EA 14 L	1	11. 87 11. 87	p	92	BLACK
	3	EA 13 L EA 13 L	0	¹¹ 84	E H	<u> </u>	RED/BROWN BLACK
	4	EA 12 L	0	" <u>82</u> "83	F	89	BROWN
		EA 12 L EA 11 L	1 0	" 83	J > К	<u>88</u> 87	BLACK RED/GREEN
	5	EA 11 L	1		M	86	BLACK
\checkmark	6	EA 10 L EA 10 L	0	78	L N	<u>85</u> 84	RED BLACK
	7	EA 9 L	Q Q	" 76	Р	83	BLUE/BLACK
		<u>EA 9 L</u> EA 8 L	1 0	<u>77</u> 74	S R	<u>82</u> 81	BLACK ORANGE
	8	EA 8 L	1	" 75	l.	80	BLACK
	9	<u>EA 7 L</u> EA 7 L	0	<u> </u>	U W	<u>79</u> 78	BLUE/BROWN BLACK
	10	EA 6 L	0	70	V	77	YELLOW
		<u>EA 6 L</u> <u>EA 5 L</u>	1 0	<u> </u>	X	76 75	BLACK BLUE/GREEN
	11	<u>EA 5 L</u>	1		AA	74	<u>BLACK</u>
	12	<u>EA 4 L</u> EA 4 L	0	<u> </u>	Z B B	73 72	<u>GREEN/BLACK</u> BLACK
	13	EA_3_L	0	" 64	СС	71	WHITE/BLACK
		EA <u>3 L</u> EA <u>2 L</u>	1	<u> </u>	E É D D	70 69	BLACK BLUE
	14	EA 2 L		63	FF	68	BLACK
	15	<u>EA 1 L</u> EA 1 L	0	" <u>60</u> "61	<u>нн</u> КК	67 66	WHITE/BROWN BLACK
	16	EA O L	0	58	J.J	65	VIOLET
		EA 0 L EA 17 L	$\frac{1}{0}$	" <u>59</u> " <u>92</u>	<u> </u>	<u>64</u> 63	BLACK RED/BLACK
	17	EA 17 L	1	" 93	P P	62	BLACK
	18	EA 16 L EA 16 L	0	<u> </u>	N N R R	$\frac{61}{60}$	BROWN/BLACK BLACK
	19			11	S S		
				······································	UU TT		
	20			ti	VV		
			EXTER	N CHANNE	EL FROM	CPU 2	
\smile	DRAWN	BY TS/eml	Remarks			Replaceme	nt for; Date
	APPROVED	<u>15/em1</u>		CPU 2			
	DATE	17/7/74		UPU Z		Replaced b	by Date
		A REAL PROPERTY AND A REAL	ed by Jor	ny Oddene for	Sintran Data	© 2010	

. ,	EKTRONIKK BUS SWITCH CHANNEL					NORD-10			
NO.	SIGNAL	. POLARITY	W PLUG G BERG (CPU POS.)	PLUG BURNDY	RACK	O RACK POS.			
1	EA 15 L EA 15 L	0	BERG 95 " 91			ACK 4	BERG "	63 64	
2	EA 14 L EA 14 L	0	¹¹ .93 11.92			"	11 	<u>63</u> 62	
. 3	EA 13 L EA 13 L	0	" <u>91</u> " <u>90</u>				11	61 60	
4	EA 12 L EA 12 L	01	" <u>89</u> "88			11	11 11	<u> </u>	
5	EA 12 L EA 11 L EA 11 L		" <u>87</u> " <u>86</u>			\$1	BERG	65 64	
6	EA 10 L EA 10 L	01	<u>" 85</u> " 84			11	**	<u>63</u> 62	
7	<u>EA 9 L</u> EA 9 L		" 83 " 82					61 60	
8	EA 8 L	0	" <u>81</u> " <u>80</u>			11 (-	- 11 - 11	58	
9	EA 8 L EA 7 L EA 7 L		" <u>79</u> " 78		1/0 R.		BERG	<u>61</u>	
10	<u>EA 6 L</u> EA 6 L	0	<u> </u>			81	<u></u>	63 62	
11	EA 5 L EA 5 L	01					11 TT	61	
12	EA 4 L EA 4 L		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				" BERG	55 58 65	
13	EA 3 L EA 3 L	0	-0		I	ACK_1/_	1717CC		
] 4	<u>EA 2 L</u> <u>EA 2 L</u>	0	68				11 11	62 61	
15	EA L EA L		<u> </u>			" "	7T	60	
16	EA 0 L EA 0 L EA 17 L	11	" 65 " 64 " 63			"	tr	59 58	
17	EA 17 L	1	" 62						
18	EA 16 L EA 16 L	0	" <u>61</u> " <u>60</u>						
19			11						
20									
21									
-	•	BUS	SWITCH CHANN	EL I	•				
DRAWN APPROVED	<u>IN/eml</u>	Remarks	CPU I • CPU CABI	NET		Replaceme	nt for Date		
DATE	15/8/73		ULD UNDI			Replaced E	by Date		
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		SNORSK DATA- BUS SWITCH CHANNEL ELEKTRONIKK ADDRESS				NORD-10		
	• • • • •	SIGNAL	POLARITY	CPU 1 H PLUC BUS SWITCH	AGNNDR DNJA 2 BCA	CPU 2 RACK POS.	•	
ĺ	1	EA 15 L	0	BERG 95	Λ	I/O RACK 4		
		EA 15 L EA 14 L	- 1 0	" <u>94</u> " <u>93</u>	<u>С</u> В	11	<u> </u>	
	2	EA 14 L	1	<u> </u>	G			
- [3	<u>EA 13 L</u> EA 13 L	01	¹¹ <u>91</u> 11 <u>90.</u>	<u>F.</u> H	11 11	<u> </u>	
		EA 12 L	0	" 89	F	11	<u> </u>	
.	4	<u>EA 12 L</u>	1		J	11	" 58	
	: 5	<u>EA 11 L</u> EA 11 L	0	<u>" 87</u> " 86	<u> </u>	I/O RACK 3	<u> </u>	
	£	EA 10 L	0	ıı 85.) L	11	" 63	
	6	- EA 10 L	1	" 84 " 83	<u>N</u>	<u> </u>	3< " 62	
	7	<u>EA 9 L</u> EA 9 L	0	<u> </u>	. P	11	<u> </u>	
ľ	8	EA 8 L	0	·· 81	R	11	[" 59	
	<u>ه</u>	EA 8 L	1	11 80 11 79	<u> </u>		<u> </u>	
	9	<u>EA 7 L</u> EA 7 L	0	" 78	<u> </u>	I/O RACK 2	64	
···	10	EA 6 L	0	" 77	V	E1	" 63	
	10	EA 6 L	1	" 76	X	<u> </u>	$\frac{2}{1} \frac{1}{1} \frac{62}{61}$	
	11	<u>EA 5 L</u> EA 5 L	0	··· 75 ·· 74	<u> </u>		/ " 60	
	12	EA4_L	0	" 73	Z		59	
ŀ		EA4_L		<u> </u>	<u> </u>		<u> </u>	
- 1	13	<u>EA 3 L</u> EA 3 L	0	" 70	<u>СС</u> ЕЕ	I/O BACK 1	" 64	
ľ	14	EA 2 L	0		1010	11	" 63	
·		<u>EA 2 L</u> EA 1 L	1 0	··· 68	<u>FF</u> 1111	<u> </u>	$1 - \frac{1}{162} - \frac{62}{61}$	
	15	$\underline{EA 1 L}$	1	·· 66		ri -	60	
	16	EA Q L	0	n 65	J ,1	58	$\binom{11}{11} \frac{59}{58}$	
-		EA O L	-	11 64 11 63	<u> </u>		58	
	17			· " 62				
	18			" 61				
ŀ				" <u>60</u> "59				
	19			" 58				
	20		·	<u> </u>				
	· · ·	· · · · · ·	BUS S	" 56 WITCH CHANNE	L 2			
-		Allow and a state of the state	******				- Scart B. Tomor Start water water	
-	DRAVAN E	TM/eml	lemark s	CPU 2		Replacer	nent for Date	
_	APPROVED U	ΙΥ		· · CPU CABI	NET	Replaced	by Date	
1	DATE 1	5/8/73				nepioeee		

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		1					1 .
. ON	S I GNAL	POLARITY	PLUG BERG (CPU POS.)		PLUG BERG	•	
•			A 2 2		B 09		
		1	BERG 95				
1	1		¹¹ 94				
2			H 93				
			" 91				
- 3			" 90				
4			¹¹ 89				
			<u> </u>				,
5	· · · · · · · · · · · · · · · · · · ·		1 87 1 86				
6			85				
0			84				
7	EDRYL	0	¹¹ 83		_	83 82	RED/BLACK
	EDRYL EMCL	1	*** 81			$\frac{82}{81}$	BLACK BROWN/BLA
8	EMCL	1	80			80	BLACK
- 9	EGRANTL	0	7.9			79	RED/BROWN
	EGRANTL	1	78			78	BLACK
10	EIOXEL EIOXEL	0	77			76	BROWN BLACK
	EIDENTL	0	" 75			75	RED/GREEN
11	EIDENTL	1		х.		74	BLACK
12	EI 10 L	0	<u> </u>			73	RED
	<u> </u>	0	<u> </u>			72 71	BLACK BLUE/BLAC
13	EI 11 L	$\frac{0}{1}$	" 70	· · · ·		$-\frac{1}{70}$	BLACK
14	EI 12 L	0	69			69	ORANGE
. 4	EI 12 L	1	<u> </u>			68	BLACK
15	EI 13 L	0	¹¹ 67 ¹¹ 66			<u>67</u> 66	BLUE/BROW BLACK
1.4	<u> </u>		65			<u> </u>	YELLOW
16	EI 15 L	1				64	BLACK
17	EREQL	0	<u> </u>			63	BLUE/GREE
	EREQL	1	<u> </u>			62 61	BLACK GREEN/BLA
18	ECONL ECONL	01		¹		<u>60</u>	BLACK
19	EINL	.0	11 59		·	59	WHITE/BLA
17	. EINL	1	¹¹ 58			58	BLACK
2.0			<u> </u>				
			<u>````</u>	<u>,</u>			

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

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0 2 3 4	- SIGNAL	POLARITY	(.sod nd) 0 N 3 8 0	A Son Ta BCS 2 A C	PLUG BERG BUS SWITCH RACK	
2			BERG 95	Α	B 11	
2						
3			1 ··· · · · · ·			
			93 <u>93</u>	B D		
4			" <u>91</u> " <u>90</u>	E		
4	· · · · · · · · · · · · · · · · · · ·		··· 89			
			<u> </u>	 К		
5	•		11 86	N N		
6			· · · · · · · · · · · · · · · · · · ·	L		
7	EDRYL	0	" 83	<u> </u>	BERG 83	RED/BLACK
	EDRYL	1	11 82 0 91	S	82	BLACK
8			" 80	<u> </u>		BROWN/BLACE BLACK
9	EGRANTL	0	¹¹ 79	IJ	79	RED/BROWN
			10			BLACK BROWN
10	EIOXEL	1	" 76	X	76	BLACK
11						RED/GREEN BLACK
12	EI 10 L	0		<u> </u>	73	RED
		1	1.	<u> </u>		BLACK BLUE/BLACK
13	EI 11 L	1	" 70	F. E	70	BLACK
14	EI 12 L	0		<u> </u>		ORANGE BLACK
1.5	EI 12 L EI 13 L	0	<u> </u>		67	BLUE/BROWN
	EI 13 L	1		КК	66	BLACK
16			н 64	 I.L	64	YELLOW BLACK
17	EREQL	0	63	MM	63	BLUE/GREEN
1.0			<u> </u>	<u> </u>	$\frac{62}{61}$	BLACK GREEN/BLACK
	ECONL	11	··· 6()	RR	60	BLACK
19					59	WHITE/BLACE BLACK
20				ТТ		
	7 8 9 10 11 12 13 14 15 16 17 18 19	7 EDRYL EDRYL 8 EMCL 9 EGRANTL 9 EGRANTL 10 EIOXEL 11 EIOXEL 11 EIDENTL 12 EI 10 L 13 EI 11 L 14 EI 12 L 15 EI 13 L 16 EI 15 L 17 EREQL 18 ECONL 19 EINL	7 EDRYL 0 8 EMCL 0 9 EGRANTL 1 9 EGRANTL 1 10 EIOXEL 0 11 EIOXEL 0 11 EIOXEL 1 12 EI 10 L 0 EI 10 L 1 13 EI 11 L 1 14 EI 12 L 1 15 EI 13 L 0 16 EI 15 L 1 17 EREQL 0 18 ECONL 1 19 EINL 0	Image: Constraint of the system of	7 EDRYL 0 "83 P $EDRYL$ 1 "83 P 8 EMCL 0 "81 R 9 EGRANTL 0 "79 U 9 EGRANTL 1 "80 T 9 EGRANTL 0 "79 U 9 EGRANTL 1 "79 U 10 EIOXEL 0 "77 V 11 EIOXEL 1 "76 X 11 EIDENTL 1 "77 V 11 EIDENTL 0 "77 X 12 EI 10 L 0 "73 Z 13 EI 11 L 0 "71 CC 14 EI 12 L 0 "69 DD 14 EI 13 L 0 "67 HH 15 EI 13 L 0 "67 HH 16 EI 15 L 0 "65 <t< td=""><td>Image: Constraint of the second se</td></t<>	Image: Constraint of the second se

<u>Canned by Jonny Oddene for Sintran Data © 2010</u>

		RSK DATA- TRONIKK		•	DITCH CONTRO	CHANNEL DL	с.	1	NORD-10
	NO.	SIGNAL	POLARITY	ย การ 13 B 13	(CPU POS.)	•			DBHHGG C 5
•	1			BERG	<u>95</u> 94				
	2	· · · · · · · · · · · · · · · · · · ·		- 11	<u>94</u> 93 92				
	3			11	<u>91</u> 90				
	4			11	<u>90</u> <u>88_</u>				
	5			11	<u>87</u> 86				
$\hat{}$	6			ii tt	<u>85</u> 84				
•	7	EDRYL EDRYL	0	11	<u>83</u> 82				BERG 83 " 82
	8	EMCL EMCL	0	t1 11	<u>81</u> <u>80</u>				" <u>81</u> " <u>80</u>
	9	EGRANTL EGRANTL	01	11	<u>79</u> 78				11 79 11 78
	10	EIOXEL EIOXEL	0		77			:	<u>77</u> <u>76</u>
	1).	EIDENTL EIDENTL	0		<u>75</u> 74				<u> </u>
	12	EI 10 L EI 10 L	0		73				$\frac{11}{11}$ $\frac{73}{72}$
	13	EI 11 L EI 11 L	0	——————————————————————————————————————	7_1 7_0				<u>71</u> <u>70</u>
	14	EI 12 L EI 12 L			69 		·		$\frac{11}{11}$ <u>69</u> <u>11</u> <u>68</u>
\frown	15	EI 13 L EI 13 L	01		<u>67</u> <u>66</u>				" 66
	16	EI 15 L EI 15 L	0	21 11	_6.56.4				$ \begin{array}{c} " 65 \\ " 64 \\ " 63 \\ \end{array} $
	17	EREQL	0	11 11 11	<u> 63 </u> <u> 62 </u>				
	18	ECONL ECONL	0		61 60 59				$\frac{61}{11000000000000000000000000000000000$
	19	EINL EINL	0	11	<u>58</u> 57				1 58
	20	·		11	57 56 55				
	21			11	54				
(-	•	BUS	SWITCH (CHANN	EL 1			
		EY TM/eml	Remarks		U 1 J CAB	INFT		Replacemer	t for Data
	APPROVED DATE	BY 16/8/73		UT	U UND.			Replaced b	y Date

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	- Ourierie iui aini an Data <u>A</u> <u>A</u>

16/8/73

	TRONIKK	5,	CC BUS SWI	ONTRO	•	Е Г .	•	°	NORD-10
• . ON	SIGNAL	POLARITY	CPU 2 PLUG B PLUG B 14 B 14	PUS SWITCH	CPU 2 B PLUG	5 5		AGNANG	•
1	· · · · · · · · · · · · · · · · · · ·		- 11	<u>95</u> 94					
2			11	93 92					
. 3				91 90					•
4		1	11	<u>9</u> 88					
5		1		87 86					
6		+ · · · · · · · · · · · · · · · · · · ·	81	<u>85</u> <u>84</u>			· · · · ·		
7	EDRYL EDRYL	0	- 11	<u>83</u> 82	BERG	<u>83</u> 82		<u>}</u> 5'	
8	EMCL EMCL	0	<u></u>	<u>81</u> <u>80</u>	¥ † 7 †	81 80		R T	
9	EGRANTL EGRANTL			79 78	71 71	79 78		<u>(</u> W	
10	EIOXEL EIOXEL	0		17 76	11	$\frac{77}{76}$		V X	
11	EIDENTL EIDENTL	0	"	75 74	7 T	75 74		<u>Ү</u> <u>А А</u>	
12	EI 10 L EI 10 L	0	ANN "	73	·····	73 72		Z B B	
13	EI 11 L EI 11 L	0		71	11	71 70		C C E E	
14	EI 12 L EI 12 L	0		<u>69</u> 6.8	11 11	<u>69</u> 68		DD FF	
15	EI 13 L EI 13 L	0	11	67	77 17	67 66		<u>нн</u> КК	
16	EI 15 L EI 15 L	0	<u>tt</u>	65 64	f f 11	65 64		J.J. 1.1.	
17	EREQL EREOL	01	11	63	11	63 62			·
18	ECONL ECONL	0	11	61 60	99 FT	61 60		<u>NN</u> RR	
19	EINL EINL	0	31	59 58	11	59 58		<u>S S</u> UU	
20				57				q. 3,	
	l	~ .		56		-		2	
-	•		· • . • •		•		-		
		BU	S SWITCH C	CHANI	NEL 2			•	
	111/ С.111	lemarks	CPU				1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -	Replacem	ent for Data
APPROVED E	BY 16/8/73		• C PU	CADI	NEL	•		Replaced	by Dute

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	RSK DATA- TRONIKK	Titlo *	BUS SWITCH DATA	INPUT	•	Drawing n	o. NORD-10
. ON	SIGNAL	POLARITY .	(.sod Udo) BERG DULA VICPU POS.	•	PLUG	DHERO B 17	
- 1	ED 15 L ED 15 L	0	BERG 88			95 94	RED/BLACK BLACK
2	ED 14 L	0	" 86			93	BROWN/BLACK
- 3	ED 14 L ED 13 L ED 13 L		"87 "84 "85			92 91 90	BLACK RED/BROWN
4	<u>ED 13 L</u> ED 12 L ED 12 L	0	<u> </u>		· .	<u> </u>	BLACK BROWN BLACK
5	ED 11 L	0	" <u>80</u> "81			87	RED/GREEN
6	ED 11 L ED 10 L ED 10 L	1 0 1	¹¹ 78 ¹¹ 7.9			86 85 84	BLACK RED BLACK
7	ED 10 L ED 9 L ED 9 L	0	<u> </u>	· · · · · · · · · · · · · · · · · · ·		<u>83</u> 82	BLUE/BLACK BLACK
8	<u>ED</u> 8 L ED 8 L	0	<u> </u>			81 80	ORANGE BLACK
. 9	<u>ED 7 L</u> ED 7 L	0	" <u>72</u> "73			79 78	BLUE/BROWN BLACK
10	<u>ED 6 L</u> ED 6 L	0	<u> </u>			$\frac{77}{76}$	YELLOW BLACK
11	ED 5 L ED 5 L	0	" 68 " 69			75 74	BLUE/GREEN BLACK
12	<u>ED 4 L</u> ED 4 L	0	<u> </u>			73 72	GREEN/BLACK BLACK
13	ED 3 L ED 3 L	0	" 64 " 65			$\frac{71}{70}$	WHITE/BLACK BLACK
14	ED 2 L ED 2 L	0	<u> </u>			69 68	BLUE BLACK
15	ED 1 L ED 1 L	0	<u> </u>			$\frac{67}{66}$	WHITE/BROWN BLACK
16	EDQL EDQL	0	" <u>58</u> " <u>59</u> " <u>92</u>			65 64	VIOLET BLACK
17			" 93			63 62	
18			" <u>90</u> " <u>91</u>			61 60	
19			11				
20			11				
	EXT	ERN d	CHANNEL	FROM C.	ΡIJ		
DRAWN	BY TS/eml F	Remarks	CPU I			Replacemer	it lori Date
APPROVED 1			CPU CABI	NET		Replaced b	y Date
DATE	17/7/74		<u> </u>				

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	A/S NO	RSK DATA-	Title ~	BUS SWITCH INPUT			10.	
· ·		TRONIKK		DATA				NORD-10
		I GNAL	OLARITY	LUG ERG CPU POS.)	PLUG BURNDY	LUG	BUS SWITCH RACK	
	ON	IS.	PC		BSD 2	B 1		
	1	ED 15 L ED 15 L	0	BERG 88	A C	BERG	95	RED/BLACK BLACK
	2	<u>ED 15 E</u> ED 14 L ED 14 L	0	<u>86</u> 87	B D	9	14 13 12	BLACK BROWN/BLACK
	·· 3	ED 13 L ED 13 L	0	" <u>84</u> " <u>85</u>	E H	9	12 11 10	RED/BROWN BLACK
	4	<u>ED 12 L</u> ED 12 L	0	<u> </u>	F J	8	9 8	BROWN BLACK
	5	ED 11 L ED 11 L	0	" <u>80</u> "81	K M	8	7	RED/GREEN BLACK
	6	ED 10 L ED 10 L	0	7.8	1. N		4	RED BLACK
	7	ED 9 L ED 9 L	01	<u>76</u> 77	P S	8	3 2	BLUE/BLACK BLACK
	8	ED 8 L ED 8 L	0	"74 "75	R T	8	10	ORANGE BLACK
	9	<u>ED 7 L</u> ED 7 L	0	<u> </u>	U U W	7	9 8	BLUE/BROWN BLACK
	10	ED 6 L ED 6 L	0	70		7	7 6	YELLOW BLACK
	11	<u>ED 5 L</u> ED 5 L	0	<u> </u>	Y AA	7		BLUE/CREEN BLACK
	12	<u>ED 4 L</u> <u>ED 4 L</u>		67	<u> </u>	7		GREEN/BLACK BLACK WHITE/BLACK
	13	ED 3 L ED 3 L ED 2 L	0	¹¹ 64 11 65 11 62	E E D D	· · · · · · · · · · · · · · · · · · ·	0 9	BLACK BLUE
	14	ED 2 L		<u> </u>	FF HIL	•	8	BLACK WHITE/BROWN
	15	ED 1 L ED 1 L	0	<u> </u>			6	BLACK VIOLET
: :	16	ED Q L ED Q L	01	" <u>59</u> "	<u> </u>	6	4	BLACK
	17			11	<u>PP</u> NN	6	2	
	18			11	<u>RR</u> SS	6		
	19		_	£1	UU TT		[
	20	*		U	VV			
		EX	TERN	CHANNEL	FROM C	PU 2		
_		^{BY} TS/eml	Remarks	CPU 2	· · · · · · · · · · · · · · · · · · ·		Replaceme	nt for Date
	APPROVED DATE	BY 17/7/74					Replaced t	Dato

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•		RSK DATA- TRONIKK	Titlo	BUS SWITCH CI DATA	IANNEL		NORD-10			
• •	. ov	SIGNAL	POLARITY	(·sod ndo) onid B 21	PLUG BURNDY	O RACK POS.	1			
	1	ED 15 L ED 15 L	0	BERG 95 "94		1/0 RACK 4	BERG 75			
	2	ED 14 L ED 14 L	· 0 1	¹¹ 93 ¹¹ 92			<u> </u>			
1	- 3	ED 13 L ED 13 L	0	¹¹ 91 ¹¹ 90 [,]			<u> </u>			
:	4	ED 12 L ED 12 L	0	" 89 " 88		11	<u>69</u> 68			
-	5	<u>ED 11 L</u> ED 11 L	0	<u> </u>	· · · · · · · · · · · · · · · · · · ·	<u>I/O RACK 3/</u>	BERG 75			
	6	ED 10 L	0	<u>11 85</u> 11 84		11	<u> </u>			
	7	ED 9 L ED 9 L	0	" <u>83</u> " 82			<u> </u>			
	8	<u>ED 8 L</u> ED 8 L	0	" <u>81</u> " <u>80</u>			<u> </u>			
	9	<u>ED 7 L</u> ED 7 L				I/O RACK 2	BERG 75			
	10 .	$\begin{array}{c c} ED & 7 & L \\ \hline ED & 6 & L \\ \hline ED & 6 & L \end{array}$	0	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} 1 \\ \end{array} \\ \end{array} \\ \begin{array}{c} 1 \\ \end{array} \\ \begin{array}{c} 1 \\ \end{array} \end{array} \end{array} \\ \begin{array}{c} 77 \\ \end{array} \\ \begin{array}{c} 76 \end{array} \end{array}$			$-\frac{11}{7}$ $\frac{73}{72}$			
	11	$\frac{ED}{ED} \frac{5}{5} \frac{L}{L}$		$-\frac{N}{N}\frac{\frac{10}{11}}{\frac{75}{11}}$			$\frac{71}{70}$			
ĺ	12	$\frac{ED}{ED} \frac{4}{4} \frac{L}{L}$	0			et	<u> </u>			
	13	$\begin{array}{c c} ED & 4 & L \\ \hline ED & 3 & L \\ \hline ED & 3 & L \end{array}$		$-\underbrace{\begin{array}{c} & & & & & & \\ & & & & \\ -\underbrace{\begin{array}{c} & & \\ & & \\ & & \\ & & \\ & & \\ \end{array}}}_{n} \underbrace{\begin{array}{c} & & & & \\ & & & \\ & & & \\ \hline & & & \\ & & & \\ \end{array}} \underbrace{\begin{array}{c} & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ \end{array}}}_{70}$		I/O RACK 1	BERG 75 " 74			
·	14	$\begin{array}{c c} ED & 2 & L \\ \hline ED & 2 & L \\ \hline ED & 2 & L \end{array}$	- 0 1	11 <u>69</u> 11 68			$\begin{array}{c c} \hline & \hline $			
	15	ED 1 L ED 1 L	0	" <u>67</u> " 66			$\frac{12}{1}$			
	16	$\begin{array}{c cccc} \hline ED & O & L \\ \hline ED & O & L \\ \hline ED & O & L \end{array}$	0	<u> </u>		·				
	17			11 63 11 62	·					
	18			<u> </u>		·				
	19			11		· · · · · · · · · · · · · · · · · · ·				
	20		-+ · · · · · · · · · · · · · · · · · · ·	······································						
	21			<u>11</u>			·			
	BUS SWITCH CHANNEL 1									
	APPROVED I	<u> </u>	Remarks	CPU 1 CPU CABIN	er	Replacond Replacod I	by Date			

• .	A/S N€	RSK DATA-	BUS SWITCH CHANNEL		NORD-10				
	ELEĶ.	TRONIKK		DATA		•		NORD-10	
Ċ		i		CH			·	andan darishinin bilandi darina	
	• •	SIGNAL	OLARITY	CPU 1 PLUC BERG BUS SWITCH	PLUG BURNDY	CPU 2 RACK POS			
- - 1,	ож	<u>م</u>	P4		P4 P4		BCD · ·	·•	
•		ED 15 L	0	BERG 95	Λ	1/0 R		BERG	75
•.	1.	ED 15 L	1	11 94	С		11	11	74
	2	ED 14 L · ED 14 L	0	92	B		" <u>B4</u>)		73 72
1	3	ED 13 L ED 13 L	0	" <u>91</u> " <u>90</u> ·	E 11	1		- 11	71 70
	4	ED 12 L	00		F •		11		<u>69</u> . 68
		ED 12 L ED 11 L		" <u>88</u> " <u>87</u>	<u>J</u>	1/0 R			75
C	5	<u>ED 11 L</u> ED 10 L	1	" <u>86</u> " <u>85</u>	<u> </u>	l	11	······	74
	6	ED 10 L	1	" 84	<u>N</u>		" B3		72
	7	<u>ED 9 L</u> ED 9 L	0	···· 83 ··· 82	<u> </u>		······································	11 71	71 70
	8	<u>ED 8 L</u>	0	··· 81 ·· 80	<u>к</u> т	1	11 11	- ++ 	$\frac{69}{68}$
	9	ED 7 I.	0		U	1/0 R	ACK 2	t1	75
		ED 7 L ED 6 L	0	<u> </u>	<u> </u>		11	11 	$-\frac{74}{73}$
	10 .	ED 6 L	1 •	N <u>11 76</u>	<u> </u>		" B2	11	$\frac{72}{71}$
	11	ED 5 L	01	Z " 74	<u>^ ^ </u>		й) 11		70
	12	<u>ED 4 L</u> ED 4 L	0	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<u> </u>	ł			<u>69</u> 68
	13	ED 3 L	0	$\begin{array}{c} O \\ S \\ S \\ \end{array} \begin{array}{c} \cdots \\ \end{array} \begin{array}{c} 71 \\ 70 \\ \end{array}$	CC	1/0 R	ACK 1		75
•	14	ED 3 L ED 2 L	- <u>· 0</u>	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $	<u> </u>		11	11 	<u>74</u> 73_
	1.5	ED 2 L ED 1 L		··· 67	F F H		"B1	11	$\frac{72}{71}$
\sim		ED 1 L ED 0 L		··· 65	<u> </u>		· · · · · · · · · · · · · · · · · · ·	11	69
:		ED OL	1	··· 63].],			11	68
•	17								
	18	· · · · · · · · · · · · · · · · · · ·		····· 60 ···· 59			· · ·		
	19			" 58		·			·
	20	•		" <u>57</u> ".56	<u>_</u>				
			-1						
		-	· · · ·	··· ···	· · · · · · · · · · · · · · · · · · ·			•	
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		•••	· I	BUS SWITCH CHA	NNEL 2		•		
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	APPROVED I			CPU CAB	INET .	·	Replaced b	Y Date	
	DATE	16/8/73	attor toni	w.Ordene for 9	intran-Datad	0.2010			J

		RSK DA TA - FRONIK K		WIRING LIST FOR		î Drawing n	ıo.
	. ON	SIGNAL	POLARITY	PLUG BURNDY (PANEL)	PLUG PI ELCO NR.	COLOR CODE	PLUG BERG TO OP. PANEI CARD
	1	BL 1	0	A	A C	ROSA	<u>B 30.95</u>
- F		GND WBL 1	1	<u>B</u>	В	HVIT	<u>B 30.94</u> B 30.93
	2	GND	0	D	D	SORT	B 30.92
	3	SEL 11	1	<u> </u>	E	GRĂ	<u>B 30.91</u>
·		GND WSEL_11	0	<u>H</u> F	H F	SORT HVIT-RØD	B 30.90 B 30.89
	4	GND	0	J	J	SORT	B 30.88
	5	WSEL 12	1	K	•_K	VIOLETT	B 30.87
Ļ		GND BL 2	0	M L	<u>м</u> L	SORT HVIT-GRONN	B 30.86 B 30.85
	6	GND	0	<u>N</u>	<u>N</u>	SORT	B 30.84
F		WBL 2	1	р	P	BLÁ	B 30.83
	7	GND	0	S	<u> </u>	SORT	B 30.82
· 1	8	SEL 2 GND	1	R T	P T	ORANGE-SORT SORT	B 30.81 B 30.80
		WSEL 21	1	U	U U	GRONN-SORT	B 30.79
	Э	GND	0	W	Ŵ	SORT	B 30.78
	10	WSEL 22	1	V	V	BLA-GRONN	B 30.77
-		GND BL 3	0	X Y	X Y	SORT GUL	B 30.76 B 30.75
	11	GND		AA	a	SORT	B 30.75
	12	WBL 3	1	Ζ	z _	BRUN-BLA	B_30,73_
╞		GND		BB CC	b	ORANGE	<u>B 30,72</u> B 30,71
	13	<u>SEL 3</u> GND	-0	EE	e e	SORT	B 30.71
· [WSEL 31	1	DD	d	BLĂ-SORT	B 30.69
_ [_	14	GND	0	FF	f	SORT	B 30.68
ľ	15	WSEL 32 GND	<u>1</u>	<u> </u>	h k	RØD SORT	B 30.67 B 30.66
-		BL 4	1		i	Rod/Gronn/Grå	
	16	GND	0	LL	1	SORT/BRUN	B 30.64
	17	WBL 4		MM	m	BRUN	B 30.63 B 30.62
-		GND SEL 4	0	PP NN	p n	SORT RØD-BRUN	B 30.62
	18	GND	0	RR .	r	SORT	B 30.60
Γ	19	WSEL 41	1	SS	S	BRUN-SORT	B 30.59
-	19	GND WSEL 42	0	<u> </u>	t u	SORT ROD-SORT	B 30.58 B 30.57
	20	GND		VV	v	SORT	B 39.56
h	21	+ 5V		XX	w	Orange/ Brun	B 30.35
	I	+ 5V			<u> </u>	SORT	<u>B 30.54</u>
	P.P.M.	BY	Remarks			Replaceme	nt for Date
	DRAWN					inc.p.d.oo	
- i-	APPBOVED					Replaced I	

 $\frac{E1.16 - 2.16 - 3.16 - 4.16 - 5.16 - 6.16 - 7.16 - 8.16}{E1.13 - 2.13 - 3.13 - 4.13 - 5.13 - 6.13 - 7.13 - 8.13}$ B1.17-B1.21-B1.25-B1.29-BIT. 34 - 18.34 - 19.34 - 20.34 - 21.34 - 22.34 - 23.34 - 24.8

BI7.38 BI7.42 B17.46

B13.06 - B14.07 13.08 - 14.07	B14.06 - B15.07 14.08 - 15.09	315.66 - B16.6 15.68 - 16.6
13.10 - 14.11	14.10 - 15.11 14.12 - 15.13	15.10 - 16.1. 15.12 - 16.1
13.12 - 14.13 13.14 - 14.14	14.14 - 15.14	15.14 - 16.1
13.15 - 14.15 13.18 - 14.18	14.13 - 15.15	15,15 - 16.1
13.19 - 14.14		
13.22 - 14.22 13.23 - 14.23		
13.26 - 14.26 13.27 - 14.27		
13.28 - 14.28		
13.30 - 14.30		
13.31 - 14.31 13.32 - 14.32		
13.33 - 14.33		
13.35 - 14.35		
3,38 - 14.38 3,39 - 14.39		
13.42 - 14.42		
13.44 - 14.44		
13.45 - 14.45 13.46 - 14.46		
-13 47 - 14 47		
() $()$ $()$ $()$ $()$ $()$ $()$ $()$		
13.55 - 14.54		
13.56 - 21.06	14.56 - 22.06 14.91 - 22.57	15.56-23.0 15.91-23.5
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	14.73 - 7.2.59	1593-23.4

B1.59 - B9.89 B16.56 - B24.06 B3.59 - B11.89 16.91 - 24.57 16.93 - 24.59 B5.07 - B13.91 B5.59 - B13.89 B6.57 - B14.91 B6.59 - B14.89 87.57 - 815.91 B7.59 - B15.89 B8.57 - B16.91 B8.59 - B16.89

 $\begin{array}{r} B1.04 = 2.04 = 3.04 = 4.04 = 5.04 = 6.04 = 7.04 = 8.04 \\ B17.04 = 18.04 = 19.04 = 20.04 = 21.04 = 22.04 = 23.04 = 24.04 \\ B17.16 = 18.16 = 19.16 = 20.16 = 21.16 = 22.16 = 23.16 = 24.16 \\ B17.11 = 18.11 = 19.11 = 20.11 = 21.11 = 22.11 = 23.11 = 24.11 \end{array}$

BUS Switch PRIVEL 205. B30.50 B13.92 30.49 -----13.91 30.48 B14.92 -----30.47 14.91 _ 30.46 - 815.92 15.91 30.45 - B16.92 30.44 30.43 16.91

a .

$$Exton Bus Prints rest fil 1834-ca-ds:$$

$$CPU P = PP, 10 - PP, 20 (BP 0)$$

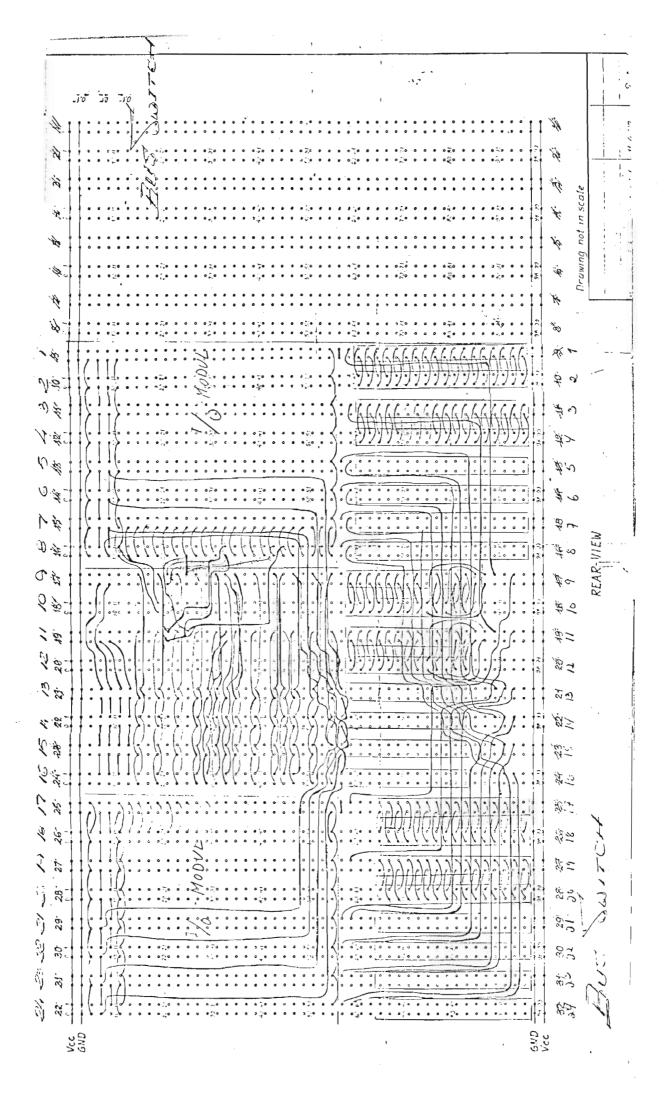
$$PP, 12 - PP, 21 (BP 1)$$

$$PP, 24 - PP, 25 (BP 10)$$

$$CPU P = P8, 32 - P11, 20 (RP 0)$$

$$PP, 33 - P11, 21 (BP 1)$$

$$PP, 45 - P11, 25 (BP 10)$$



- we want bits of the future

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