SHEET BLAD	CONTENT INNEHÅLL
1	LIST OF CONTENTS INNEHÅLLSFÖRTECKNING
2	CONNECTION POINT LOCATIONS IRB L6E ÖVERSIKT ÖVER DELNINGSPUNKTER IRB L6E
3	AXIS 1 AXEL 1
4	AXIS 2-3 AXEL 2-3
5	AXIS 4-5 AXEL 4-5
6	CUSTOMER CONNECTIONS KUNDANSLUTNINGAR
7	SYNC. SWITCHES, LIMIT SWITCH SYNK. BRYTARE, GRÄNSLÄGESBRYTARE

AUTO CAD

PRIMARY PART IN ARCADE

1 IRB G6 delefed		8945	LIST OF CONTENTS INNEHÅLLSFÖRTECKNING	Design checked by GEPERTZ Drawing checked by PERSSON Drawn by STRID	CIRCUIT DIAGRAM IRB L6E	Iss by Dept Year Week BPM 89 25	6397 003-VS
Rev Ind Revision		Appd Year Week					Rev Ind Sheet Lang Sheet S 1 Rev Ind Cont 2

6917 5339-BP (A3) Rev

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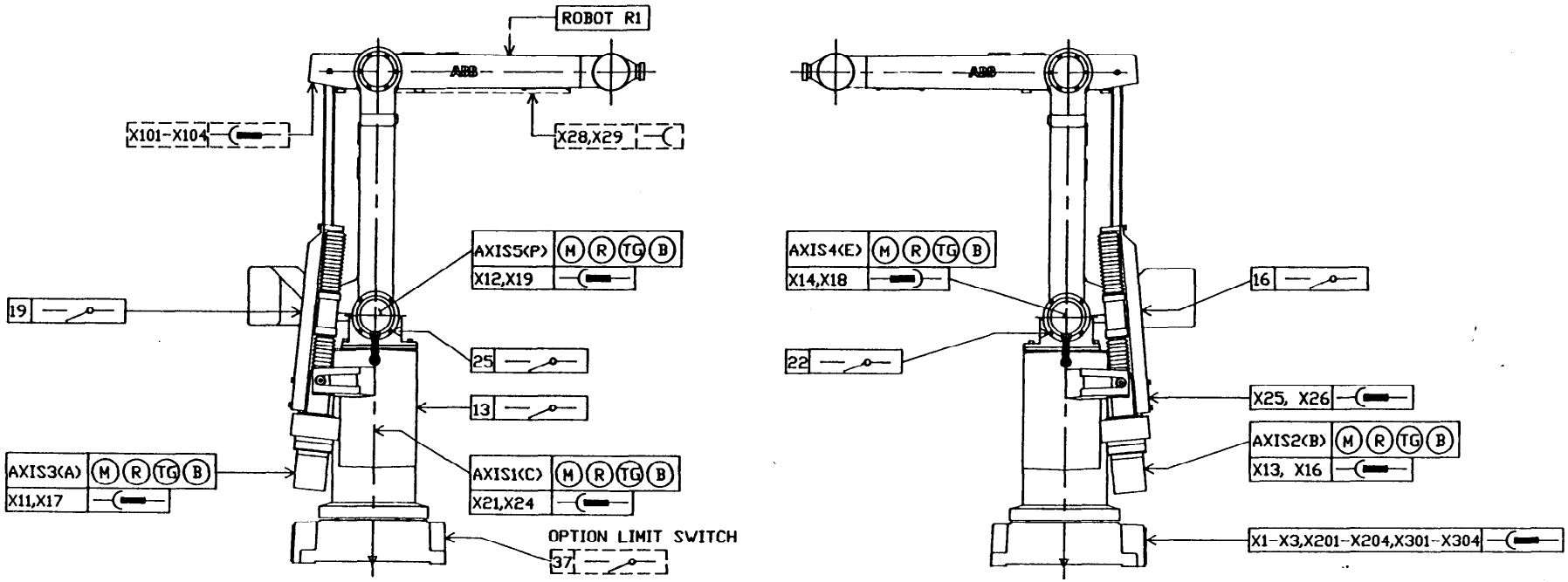
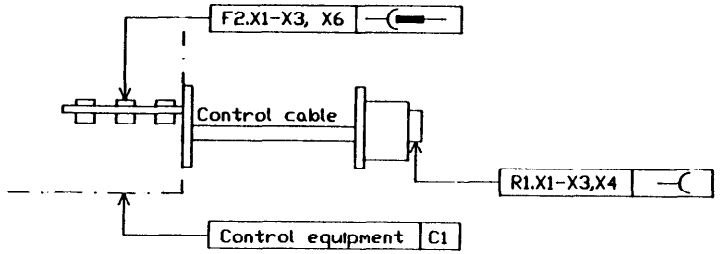
ABB





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Rev Ind	Revision	Appd	Year	Week
1	IRB G6 deleted		89	45

CONN POINT LOC IRB L6E
ÖVERSIKT DELNP IRB L6E

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Drawing checked by: PERSSON
Drawn by: STRID

CIRCUIT DIAGRAM
IRB L6E

Iss by Dept Year Week: BPM 89 25

6397 003-VS

Rev Ind: 1 | Sheet: 1
Lang: S | Sheet: 2
Rev Ind: 1 | Cont: 3

6917 5339-BP (A3) Rev 2

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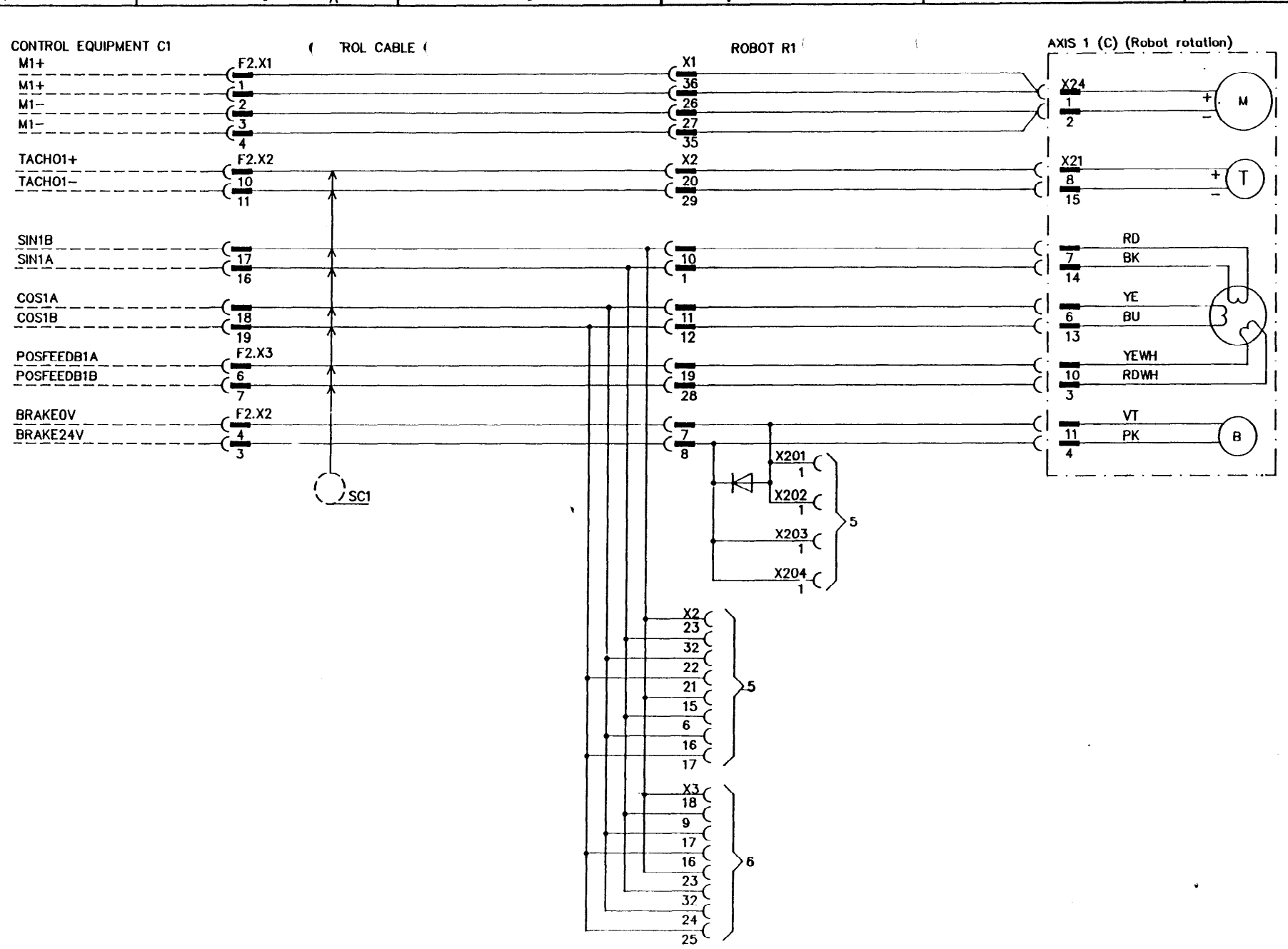

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			AXIS 1	Design checked by GEPERTZ	CIRCUIT DIAGRAM		Rev Ind | Sheet
			AXEL 1	Drawing checked by PERSSON	IRB L6E		Lang | Sheet S | 3
1	IRB G6 deleted	89 45		Drawn by STRID	Iss by Dept Year Week BPM 89 25	6397 003-VS	Rev Ind | Cont 4
Rev Ind	Revision	Appd	Year Week				

6917 5339-BP (A3) Rev
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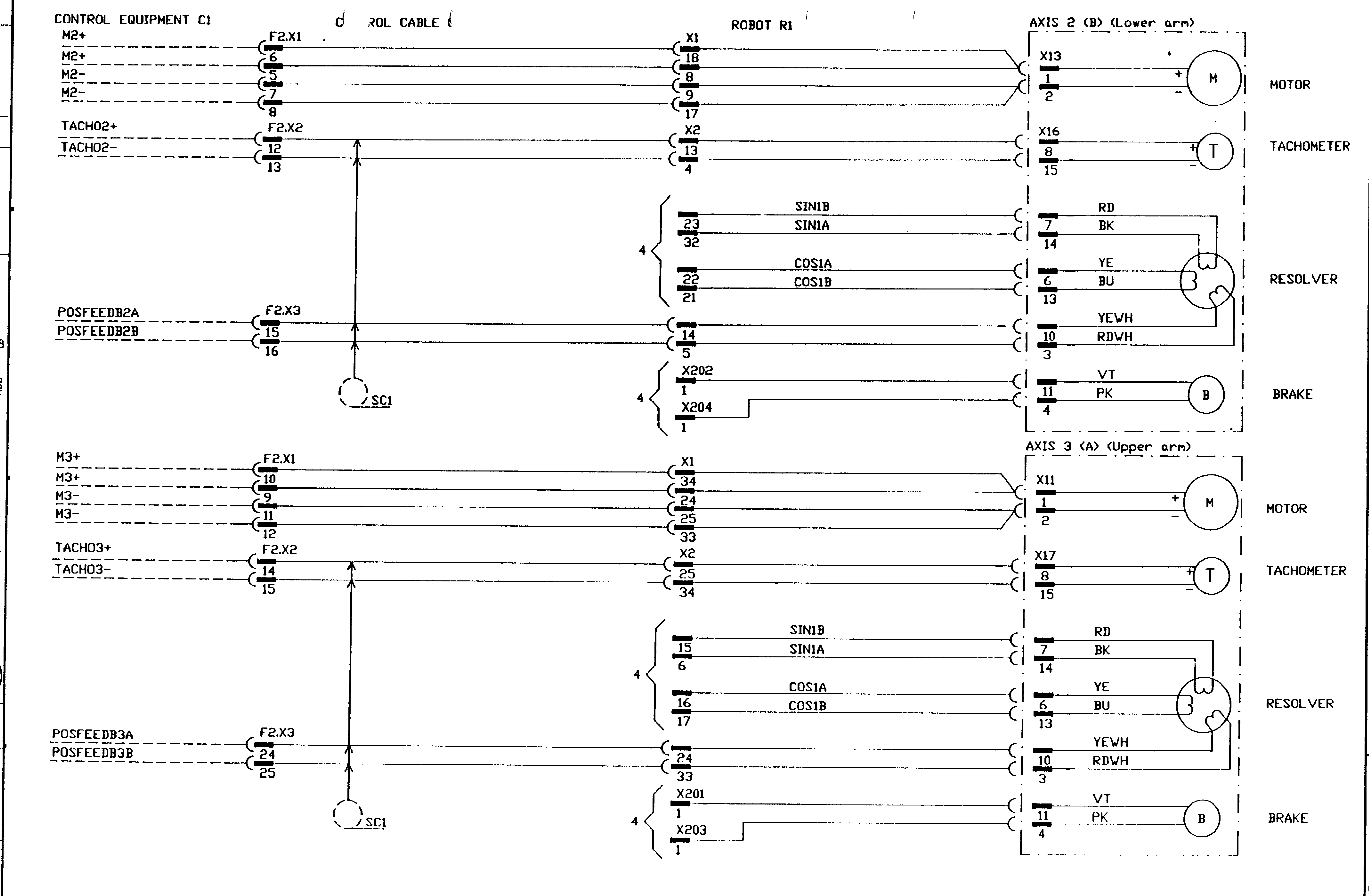
CONTROL EQUIPMENT C1
C ROL CABLE
ROBOT R1
AXIS 2 (B) (Lower arm)
M2+
M2+
M2-
M2-
F2.X1
X1
X13
M
MOTOR
TACHO2+
TACHO2-
F2.X2
X2
X16
T
TACHOMETER
SIN1B
SIN1A
COS1A
COS1B
RD
BK
YE
BU
RESOLVER
POSFEEDB2A
POSFEEDB2B
F2.X3
YEWH
RDWH
X202
X204
VT
PK
B
BRAKE
SC1
AXIS 3 (A) (Upper arm)
M3+
M3+
M3-
M3-
F2.X1
X1
X11
M
MOTOR
TACHO3+
TACHO3-
F2.X2
X2
X17
T
TACHOMETER
SIN1B
SIN1A
COS1A
COS1B
RD
BK
YE
BU
RESOLVER
POSFEEDB3A
POSFEEDB3B
F2.X3
YEWH
RDWH
X201
X203
VT
PK
B
BRAKE
SC1

AUTO CAD

Rev Ind	Revision	Appd	Year Week
1	IRB G6 deleted		89 45

AXIS 2–3
AXEL 2–3

Design checked by: GEPERTZ
Drawing checked by: PERSSON
Drawn by: STRID

CIRCUIT DIAGRAM
IRB L6E

Iss by Dept: BPM — Year Week: 89 25

6397 003–VS

Rev Ind | Sheet — Lang: S — Sheet: 4 — Rev Ind | Cont: 5

6917 5339-BP (A3) Rev
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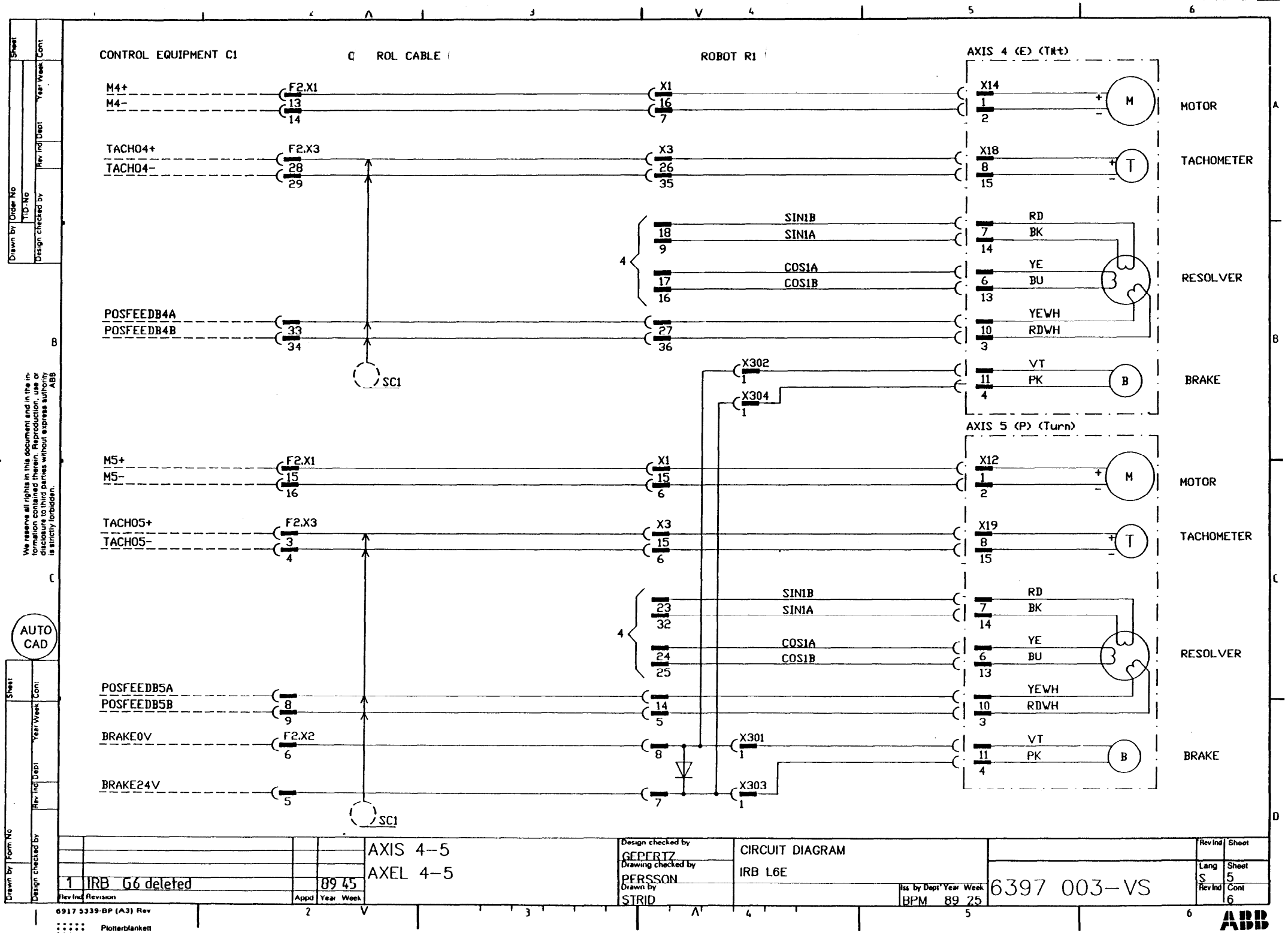
ABB


CONTROL EQUIPMENT C1
CABLE
ROBOT R1
AXIS 4 (E) (Tilt)
M4+
M4-
F2.X1
13
14
X1
16
7
X14
1
2
M
MOTOR
TACHO4+
TACHO4-
F2.X3
28
29
X3
26
35
X18
8
15
T
TACHOMETER
4
SIN1B
SIN1A
COS1A
COS1B
18
9
17
16
RD
BK
YE
BU
7
14
6
13
RESOLVER
POSFEEDB4A
POSFEEDB4B
33
34
27
36
YEWH
RDWH
10
3
SC1
X302
1
X304
1
VT
PK
11
4
B
BRAKE
AXIS 5 (P) (Turn)
M5+
M5-
F2.X1
15
16
X1
15
6
X12
1
2
M
MOTOR
TACHO5+
TACHO5-
F2.X3
3
4
X3
15
6
X19
8
15
T
TACHOMETER
4
SIN1B
SIN1A
COS1A
COS1B
23
32
24
25
RD
BK
YE
BU
7
14
6
13
RESOLVER
POSFEEDB5A
POSFEEDB5B
8
9
14
5
YEWH
RDWH
10
3
BRAKE0V
F2.X2
6
8
X301
1
VT
PK
11
4
B
BRAKE
BRAKE24V
5
7
X303
1
SC1
AUTO CAD
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Sheet
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Year Week
Dept
Rev Ind
Design checked by
Drawn by
Order No
TID-No
Form No
1 IRB G6 deleted
Rev Ind Revision
Appd
89 45
Year Week
AXIS 4-5
AXEL 4-5
Design checked by
GEPERTZ
Drawing checked by
PERSSON
Drawn by
STRID
CIRCUIT DIAGRAM
IRB L6E
Iss by Dept Year Week
BPM 89 25
6397 003-VS
Rev Ind
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Sheet
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Rev Ind
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6917 5339-BP (A3) Rev
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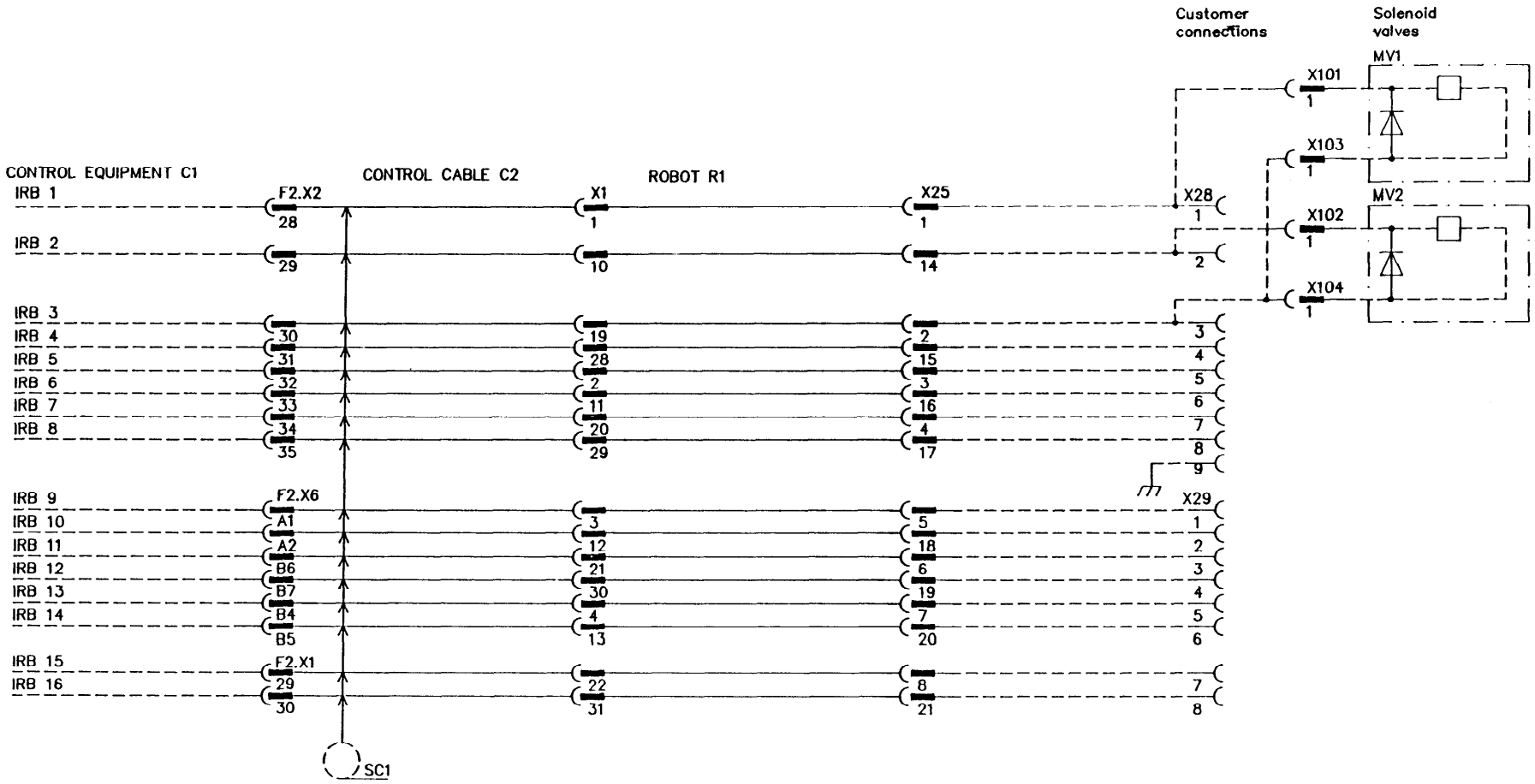

AUTO CAD

			CUSTOMER CONNECTIONS KUNDANSLUTNINGAR	Design checked by GEPERTZ Drawing checked by PERSSON Drawn by STRID	CIRCUIT DIAGRAM IRB L6E		Rev Ind / Sheet
1	IRB G6 deleted		89 45			6397 003-VS	Lang S / Sheet 6 Rev Ind / Cont 7
Rev Ind	Revision	Appd	Year Week		Iss by Dept' Year Week BPM 89 25		

6917 5339-BP (A3) Rev

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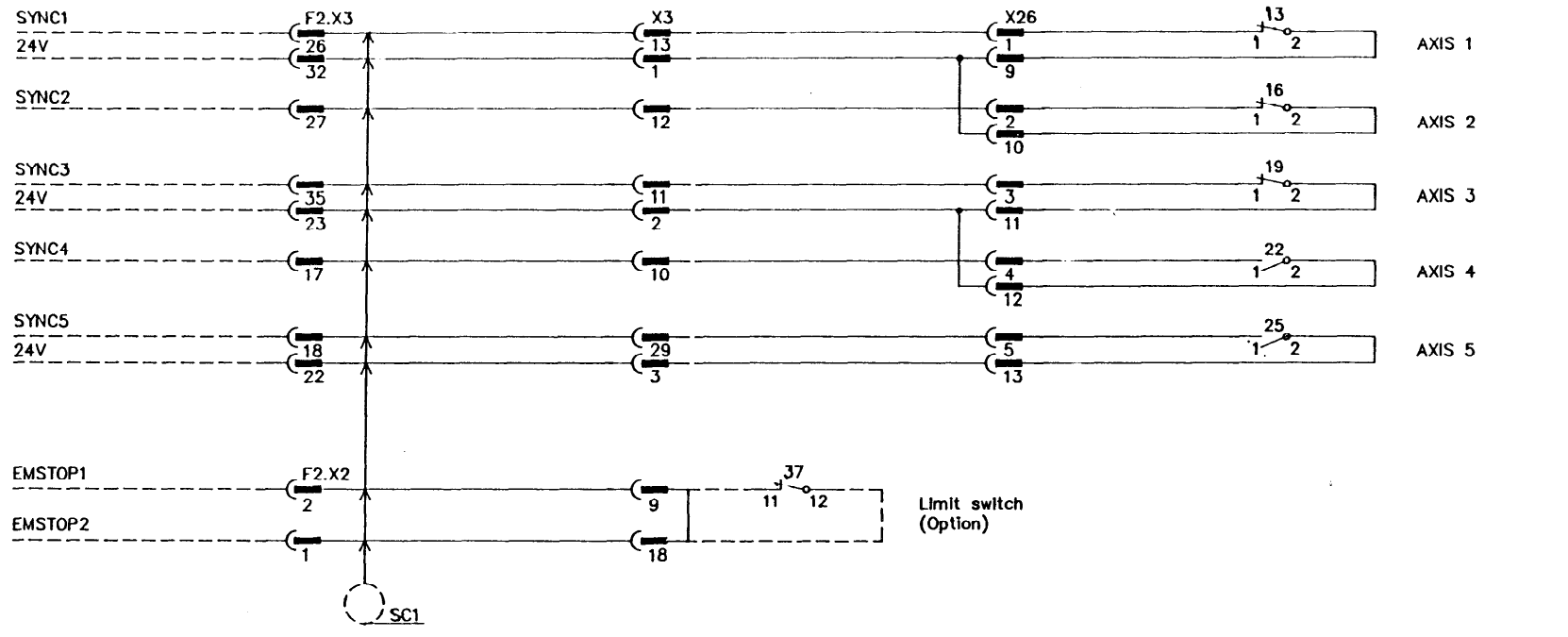

AUTO CAD

1 IRB G6 deleted		89 45	SYNC SWITCHES, LIM SW SYNK BRYT, GRÄNSL BRYT	Design checked by GEPERTZ Drawing checked by PERSSON Drawn by STRID	CIRCUIT DIAGRAM IRB L6E	Iss by Dept Year Week BPM 89 25	6397 003-VS	Rev Ind — Sheet 7 Lang S Cont —
Rev Ind	Revision	Appr Year Week						

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3	BLOCK DIAGRAM
3.7	JUMPERS ON CIRCUIT BOARDS
10	MAIN POWER CONNECTION
11	POWER DISTRIBUTION
12	ELECTRONIC POWER DISTRIBUTION
13	EMERGENCY STOP LOOP
14	CONTROL PANEL AND BASIC IN/OUTPUTS
15	PROGRAMMING UNIT ANG FLOPPY-DISC UNIT
16	DRIVE UNITS AXES 1,2,3
17	R/D AND D/A CONVERTER AXES 1,2,3
18	DRIVE UNITS AXES 4,5
19	R/D AND D/A CONVERTER AXES 4,5
20	AXIS CONTROL FOR AXIS 6
21	DRIVE UNITS AXES 7,8,9
22	R/D AND D/A CONVERTER AXES 7,8,9
23	DIGITAL IN/OUTPUTS 24 V D.C. DSDX 110
24	DIGITAL INPUTS 24V D.C DSDI 110

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25	DIGITAL INPUTS 110 V AC	DSDI 130
26	DIGITAL OUTPUTS 24V	DSDO 110
27	DIGITAL OUTPUTS RELAY	DSDO 131
28	ANALOG INPUTS	DSAI 120
29	ANALOG OUTPUTS	DSAO 110
30	DATA TERMINAL AND COMPUTER LINK CONNECTION	
31	DEAD MANS HANDLE	
33	MONITOR CONNECTION	DSQC 121
34	SUPERVISION BOARD AXES 1-3	DSQC 142
35	SUPERVISION BOARD AXES 4-6	DSQC 142
36	SUPERVISION BOARD AXES 7-9	DSQC 142

ATTENTION
IN THIS CIRCUIT DIAGRAM ARE NOT ALL FUNCTIONS INCLUDED
CIRCUIT DIAGRAMS FOR THESE ARE TO BE FOUND IN SEPARATE
DOCUMENTS FOR RESP OPTIONAL FUNCTION

PRIMARY PART IN ARCADE

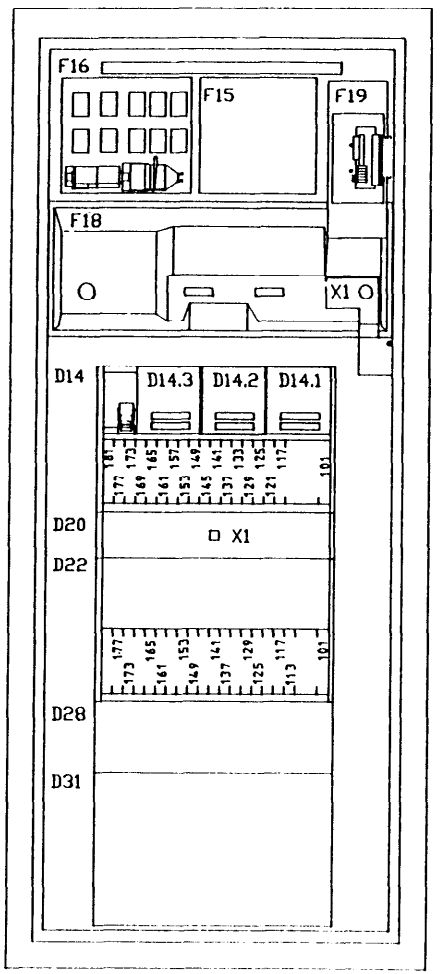
Design checked by E MYKLEBUST
Drawing checked by C LINDSTRÖM
Drawn by LL/AK
CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
Rel by Dept Year Week ROB/BCS 89 37
6704 600-ARA
Rev Ind Sheet
Rev Ind Sheet 1
SV Cont 2

Rev Ind Revision | Appd | Year Week

6917 6339-AA (A3) Rev

INSIDE

DOOR



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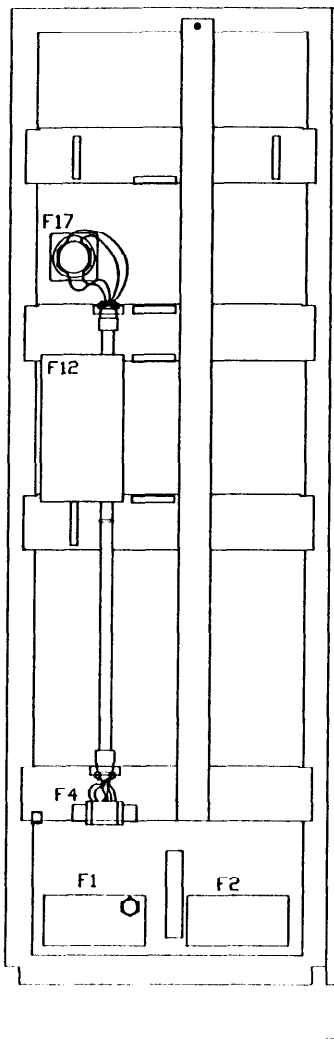

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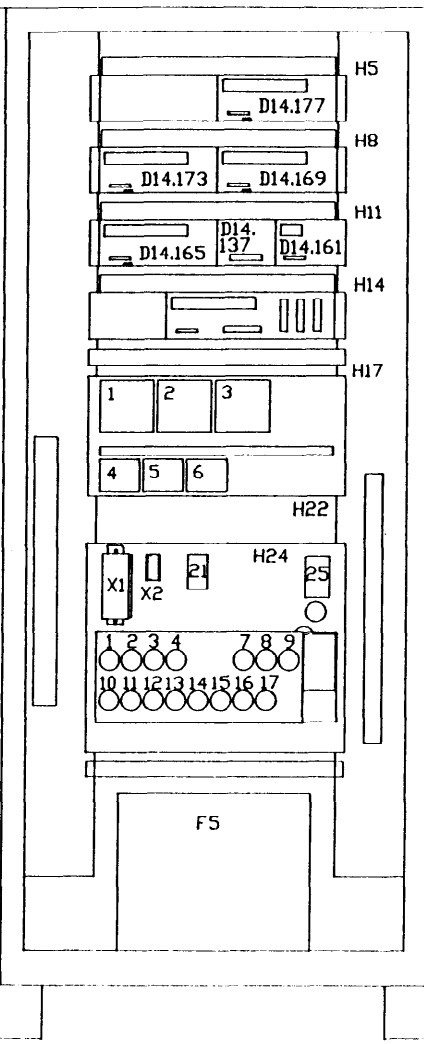

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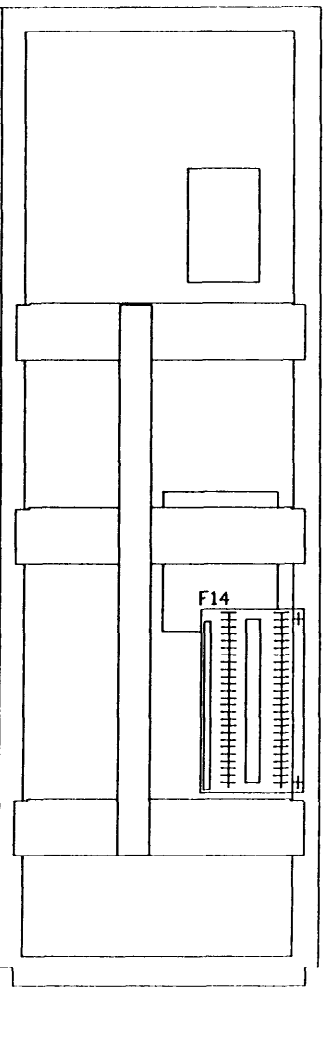

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Rev Ind	Revision	Appd	Year Week	VIEW OF CONTROL CABINET	Design checked by MYKLEBUST Drawing checked by LINDSTRÖM Drawn by LL/AK	CIRCUIT DIAGRAM CONTROL SYSTEM IRB 6/2	Iss by Dept Year Week BCS 89 37	6704 600--ARA	Rev Ind Sheet Lang Sheet 2 Rev Ind Cont 3

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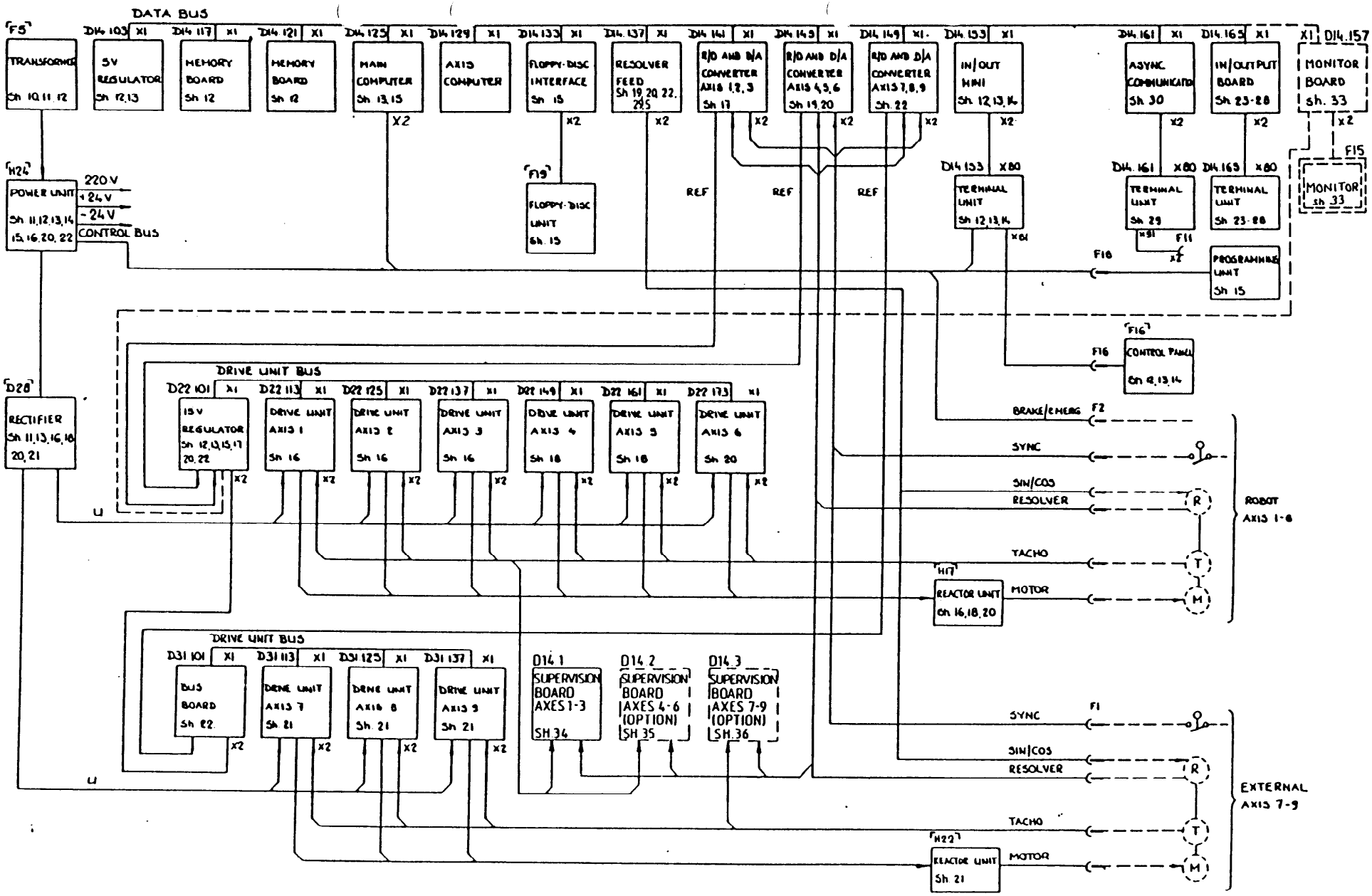

PRIMARY PART IN ARCADE

BLOCK DIAGRAM

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
Rev by Dept Year Week: ROB/BCS 89 37

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Rev Ind: SV
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Cont: 3,7

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D14.1

DSQC 142 SUPERVISION BOARD AXES 1-3				
1. TACHO VOLTAGE		3V/1000 rpm		6V/1000 rpm
AXIS 1	S1:1-2	☒	NO JUMPER	☐
AXIS 2	S2:1-2	☒	NO JUMPER	☐
AXIS 3	S3:1-2	☒	NO JUMPER	☐
2. MODE				
S4	NO JUMPER	☒	NORMAL OPERATION	
S5	: 1-2	☒	NORMAL OPERATION	

D14.2

DSQC 142 SUPERVISION BOARD AXES 4-6 (OPTION)				
1. TACHO VOLTAGE 1)		3V/1000 rpm		6V/1000 rpm
AXIS 4	S1:1-2	☐	NO JUMPER	☐
AXIS 5	S2:1-2	☐	NO JUMPER	☐
AXIS 6	S3:1-2	☐	NO JUMPER	☐
2. MODE				
S4	NO JUMPER	☒	NORMAL OPERATION	
S5	: 1-2	☒	NORMAL OPERATION	

D14.3

DSQC 142 SUPERVISION BOARD AXES 7-9 (OPTION)				
1. TACHO VOLTAGE 1)		3V/1000 rpm		6V/1000rpm
AXIS 7	S1:1-2	☐	NO JUMPER	☐
AXIS 8	S2:1-2	☐	NO JUMPER	☐
AXIS 9	S3:1-2	☐	NO JUMPER	☐
2. MODE				
S4	NO JUMPER	☒	NORMAL OPERATION	
S5	: 1-2	☒	NORMAL OPERATION	

1) NOTE: S1,S2 AND S3 ARE STRAPPED ON OPTIONAL SUPERVISION BOARDS.
STRAPS MUST BE REMOVED ON INSTALLATION WITH 6V TACHO. OTHERWISE INTERMITTANT ROBOT STOP CAN OCCUR DUE TO THE LARGE DIFFERENCE IN RESOLVER AND TACHO SIGNALS.

PRIMARY PART IN ARCADE

Design checked by E MYKLEBUST
Drawing checked by C LINDSTRÖM
Drawn by LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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6704 600-ARA

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D 14.125

DSPC 157 Main single-board computer	
1. Memory address field	
S6 : 1-2	☒ Memories on the board
S13 : 2-3, 5-6, 8-9, 17-18	☒ 0-512 kbytes
2. Memory type	
S10 : 1-3, 5-6, 11-12	☒ EPROM 27256
S20 : 1-3, 5-6, 11-12	☒ EPROM 27256
3. Back-up voltage	
S5 : 1-2, 3-5, 4-6	☒ None
4. Access time	
S12 : 3-4	☒ 2 Wait-states
5. Mode	
S2 : 3-4	☒ Normal operation
X9 : 1-2	☒ Normal operation
6. Inhibit -N S11 : 1-2 Shall be removed	

Attention!. The jumpers which are not marked must be placed according to the actual options which are included in the system

Other jumper groups are not to be used

The pin marked "1" on the short side of the straps groups is the first pin

PRIMARY PART IN ARCADE

JUMPERS ON MAIN COMPUTER

Design checked by E MYKLEBUST
Drawing checked by C LINDSTRÖM
Drawn by LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri

6704 600-ARA

Sheet 4
Cont 4, 5

8817 5338-AA (A3) Rev

D14 121

DSMB 127 PROM/RW memory board	
1 Memory address field S1: 2-3, 4-5, 7-8, 10-11, 14-15, 17-18, 20-21, 23-24 S100: 5-6, 8-9, 11-12	[X] 896k - 960k bytes
3 Back-up voltage S2: 1-2, 3-4, 5-6, 7-8, 9-10, 11-12 S6: 1-2	[X] Internal on [X] External on
4 Access time S4 1-2	[X] Quick acknowledge activated

D14 117

DSMB 127 PROM/RW memory board	
1 Memory address field S1: 1-2, 4-5, 7-8, 10-11, 14-15, 17-18, 20-21, 23-24 S100: 5-6, 8-9, 11-12	[X] 960k - 1024kbytes
3 Back-up voltage S2: 1-2, 3-4, 5-6, 7-8, 9-10, 11-12 S6: 1-2	[X] Internal on [X] External on
4 Access time S4 1-2	[X] Quick acknowledge activated

PRIMARY PART IN ARCADE

JUMPERS ON MEMORY BOARDS

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

Rev by Dept Year Week: ROB/BCS 89 37

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「D14 129」

OSPA 110 Axis slave computer		
1. I/O address		
S1: 1-2, 5-6, 8-9, 10-11	[X]	$ 29
14-15, 16-17, 20-21, 23-24		
2. Memory type		
S6: 1-2, 3-4	[X]	RW 6116
S5: 1-3, 5-6	[X]	EPROM 2764
3. Access time		
S4: 3-4	[X]	1 wait-state
S3: 1-2	[X]	0 wait-state area 3
4. Mode		
S2: 7-9	[X]	Normal
S7: 1-2	[X]	Normal

「D14.137」

DSQC 115 Resolver feed and two D/A (Option)		
1/O address		
S1: 1-2, 4-5, 7-8, 11-12	[X]	$ 37
13-14, 16-17, 20-21, 23-24		

「D14.141」

DSQC 129 R/D and D/A converter Axis 1,2,3		
1. I/O address		
S1: 1-2, 5-6, 8-9, 11-12	[X]	$ 41
14-15, 17-18, 19-20, 23-24		
2. Measuring channels		
X4: 21-23, 22-24	[X]	Axis 1,2,3

「D14.145」

DSQC 129 R/D and D/A converter Axis 4,5,6		
1 I/O address		
S1: 1-2, 5-6, 7-8, 11-12	[X]	$ 45
14-15, 17-18, 19-20, 23-24		
2 Measuring channels		
X4: 21-23, 24-26	[ ]	Axis 4,5
X4: 21-23, 22-24	[ ]	Axis 4,5,6 (Option)

「D14.149」

DSQC 129 R/D and D/A converter Axis 7,8,9 (Option)		
1 I/O address		
S1: 1-2, 5-6, 8-9, 10-11	[X]	$ 49
14-15, 17-18, 19-20, 23-24		
2 Measuring channels		
X4: 23-25, 24-26	[ ]	Axis 7 (Option)
X4: 21-23, 24-26	[ ]	Axis 7,8 (Option)
X4: 21-23, 22-24	[ ]	Axis 7,8,9 (Option)

PRIMARY PART IN ARCADE

JUMPERS ON AXIS CONTROL BOARDS

Design checked by E MYKLEBUST
Drawing checked by C LINDSTRÖM
Drawn by LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri

6704 600-ARA

D14 133

DSMC 110 Floppy-disc interface		
1. I/O address		
S1: 1-2, 4-5, 8-9, 11-12 13-14, 16-17, 20-21, 23-24	[X]	$ 33
2 Density, writepulse adjustment and mode		
S2: 1-2, 3-4	[X]	Normal
S3: 1-2	[X]	Normal
S4: 1-2	[X]	Normal

D14.153

DSDX 110 I/O-mini		
1. I/O address		
S1: 1-2, 4-5, 8-9, 11-12 13-14, 17-18, 19-20, 23-24	[X]	$ 53
2. Mode		
X3: 37-38, 39-40	[X]	Normal

D14.161

DSCA 114 Asynchronous communication module (Option)		
1. I/O-address and interrupt level		
S1: 8-9, 11-12, 14-15, 16-17, 19-20, 23-24	[X]	$ 60
S1: 2-3, 4-5	[X]	Level 2

D14.157

DSQC 121 Monitor board		
Memory address field (8k byte)		
S1: 2-3, 5-6, 8-9, 11-12, 14-15, 17-18, 19-20, 23-24	[X]	By placing the jumpers in different ways it is possible to choose any 8k byte field within 0-2 M byte

PRIMARY PART IN ARCADE

JUMPERS ON I/O BOARDS

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
Res by Dept Year Week: ROB/BCS 89 37

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ABB

D14 165

DSDX 110	I/O-mini	(Option)
DSDO 110, 120, 130, 131, 140	Digital outputs	
DSDI 110, 120, 130, 140	Digital inputs	
DSAI 120 2)	Analog inputs	
DSAO 110	Analog outputs	

1. I/O address
   S1: 1-2, 5-6, 7-8, 11-12, 14-15, 16-17, 19-20, 23-24 [X] $ 65

2. Test light diodes on DSAI 120
   S2: 1-2 [X] Off

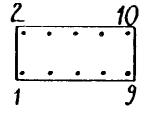
3. Mode on DSDX 110, DSDI 110, 120, 130, 140
   X3: 37-38, 39-40 [X] Normal

4. Function on DSAO 110
   S101, S201, S301, S401: 1-2, 3-4, 5-6, 7-8 [X] Normal

5. Mode on DSAO 110 1)
   S102, S202, S302, S402
   1-2, 5-6 [ ] 0 - ± 10V
   1-2, 7-8 [ ] 0 - ± 10mA
   1-2, 7-8 [ ] 0 - ± 20mA

6. Mode on DSAO 110
   Solder strap W106, W206, W306, W406
   connected [ ] 0 - ± 10V
   not connected [ ] 0 - ± 10mA
   connected [ ] 0 - ± 20mA

1) Strap group orientation for mode on DSAO 110



D14 169

DSDX 110	I/O-mini	(Option)
DSDO 110, 120, 130, 131, 140	Digital outputs	
DSDI 110, 120, 130, 140	Digital inputs	
DSAI 120 2)	Analog inputs	
DSAO 110	Analog outputs	

1. I/O address
   S1: 1-2, 5-6, 8-9, 10-11, 14-15, 16-17, 19-20, 23-24 [X] $ 69

2. Test light diodes on DSAI 120
   S2: 1-2 [X] Off

3. Mode on DSDX 110, DSDI 110, 120, 130, 140
   X3: 37-38, 39-40 [X] Normal

4. Function on DSAO 110
   S101, S201, S301, S401
   1-2, 3-4, 5-6, 7-8 [X] Normal

5. Mode on DSAO 110 1)
   S102, S202, S302, S402
   1-2, 5-6 [ ] 0 - ± 10V
   1-2, 7-8 [ ] 0 - ± 10mA
   1-2, 7-8 [ ] 0 - ± 20mA

6. Mode on DSAO 110
   Solder strap W106, W206, W306, W406
   connected [ ] 0 - ± 10V
   not connected [ ] 0 - ± 10mA
   connected [ ] 0 - ± 20mA

2) Straps on Terminal unit for DSAI 120 should be removed.
Make sure that the straps don't fall inside the cabinet

PRIMARY PART IN ARCADE

JUMPERS ON I/O BOARD

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

6704 600-ARA

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6817 5339-AA (A3) Rev

「D14 173」

DSDX 110	I/O-mini	OPTION
DSDO 110, 120, 130, 131, 140	Digital outputs	
DSDI 110, 120, 130, 140	Digital inputs	
DSAO 110	Analog outputs	

1. I/O address
   S1: 1-2, 4-5, 8-9, 11-12
   13-14, 16-17, 19-20, 23-24
   [X] $73

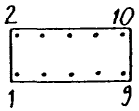
2. Mode on DSDX 110, DSDI 110, 120, 130, 140
   X3 37-38, 39-40
   [X] Normal

3 Function on DSAO 110
   S101, S201, S301, S401
   1-2, 3-4, 5-6, 7-8
   [X] Normal

4 Mode on DSAO 110 1)
   S102, S202, S302, S402
   1-2, 5-6 [ ] 0 - ± 10V
   1-2, 7-8 [ ] 0 - ± 10mA
   1-2, 7-8 [ ] 0 - ± 20mA

5. Mode on DSAO 110
   Solder strap W106, W206, W306, W406
   connected [ ] 0 - ± 10V
   not connected [ ] 0 - ± 10mA
   connected [ ] 0 - ± 20mA

1) Strap group orientation for mode on DSAO 110



「D14 177」

DSDX 110	I/O-mini	OPTION
DSDO 110, 120, 130, 131, 140	Digital outputs	
DSDI 110, 120, 130, 140	Digital inputs	

1. I/O address
   S1: 1-2, 4-5, 7-8, 11-12
   13-14, 16-17, 19-20, 23-24
   [X] $77

2. Mode on DSDX 110, DSDI 110, 120, 130, 140
   X3: 37-38, 39-40
   [X] Normal

PRIMARY PART IN ARCADE

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					Drawing checked by C LINDSTRÖM		
					Drawn by LL/AK	Asea Brown Boveri	Res by Dept' Year Week ROB/BCS 89 37

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D22.113

YYT 102D/YYT 102 N [1]	Control board with tacho	Axis 1
1. Overload		
S1:7-8	☒ 6,5 A,	

D22.125

YYT 102D	Control board with tacho	Axis 2
1. Overload		
S1:7-8	☒ 6,5 A,	
S1:1-2 [2]	☒ 8 A	

1) YYT 102N ONLY FOR IRB G6/2

2) ONLY FOR IRB L6, 66 WITH MOTOR TYPE F12 M4

D22.137

YYT 102D	Control board with tacho	Axis 3
1. Overload		
S1:7-8	☒ 6,5 A	
S1:1-2 [2]	☒ 8 A	

D22.149

YYT 102E	Control board with tacho	Axis 4
1. Overload		
S1:7-8	☒ 6,5 A,	

D22.161

YYT 102E	Control board with tacho	Axis 5
1. Overload		
S1:7-8	☒ 6,5A,	

PRIMARY PART IN ARCADE

JUMPERS ON DRIVE UNITS

Design checked by E MYKLEBUST
Drawing checked by C LINDSTRÖM
Drawn by LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
Set by Dept Year Week ROB/BCS 89 37

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1 2 3 4 5 6

D22 173

YYT 102K Control board with tacho. IRB axis 6 (Option)	
YYT 102A Control board with tacho. External axis 6 (Option)	
1. Overload	
S1: 9-10	☐ 2A, IRB
S1: 7-8	☐ 6,5A, External small motor
S1: 1-2	☐ 8A, External large motor

D31.125

YYT 102A Control board with tacho External axis 8 (Option)	
1. Overload	
S1: 7-8	☐ 6,5A External small motor
S1: 1-2	☐ 8A External large motor

D31.113

YYT 102A Control board with tacho External axis 7 (Option)	
1. Overload	
S1: 7-8	☐ 6,5A External small motor
S1: 1-2	☐ 8A External large motor

D31.137

YYT 102A Control board with tacho. External axis 9 (Option)	
1. Overload	
S1: 7-8	☐ 6,5A, External small motor
S1: 1-2	☐ 8A, External large motor

PRIMARY PART IN ARCADE

JUMPERS ON DRIVE UNITS AND CONVERTER

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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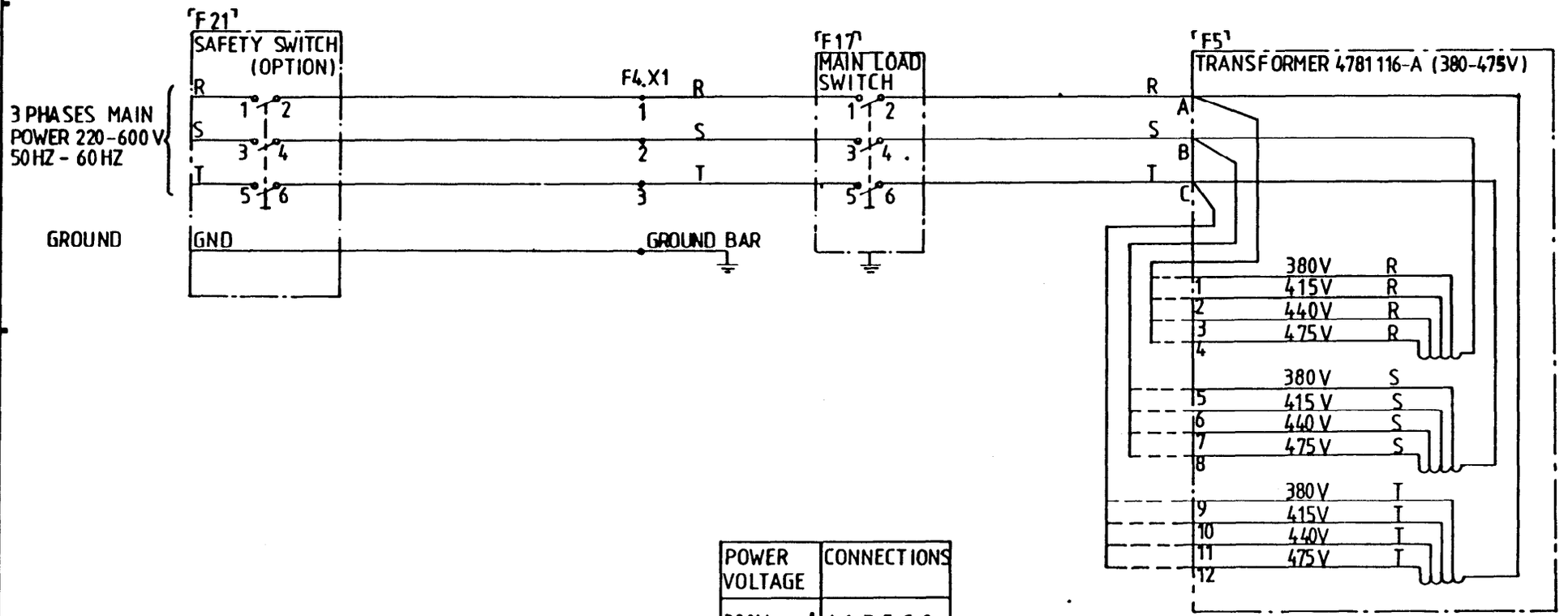

POWER VOLTAGE	CONNECTIONS
380V	A-1, B-5, C-9
415V	A-2, B-6, C-10
440V	A-3, B-7, C-11
475V	A-4, B-8, C-12

PRIMARY PART IN ARCADE

MAIN POWER CONNECTION

Design checked by: Myklebust
Drawing checked by: Lindström
Drawn by: Björk

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
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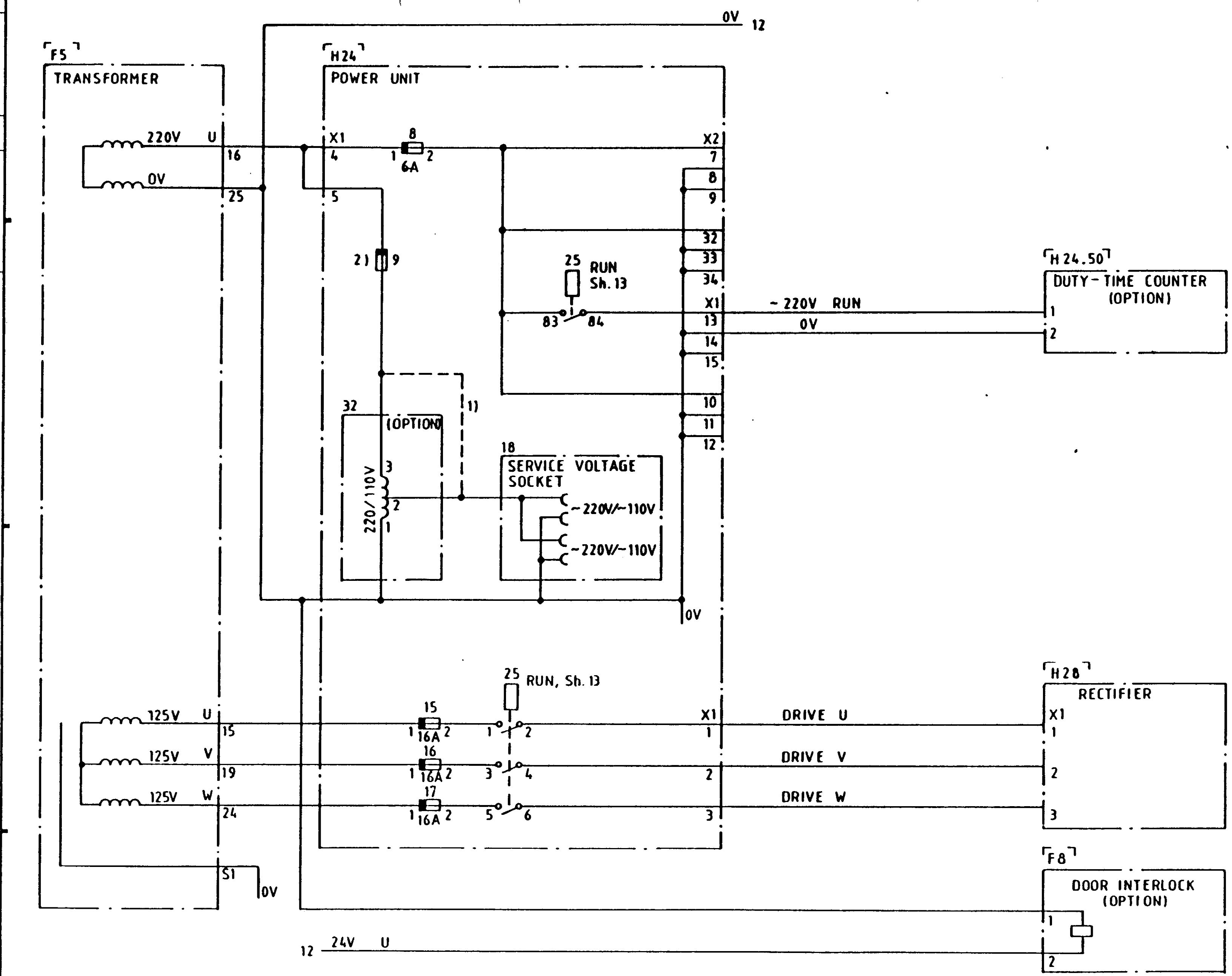

1) CABLE CONNECTION WHEN THE TRANSFORMER 32 (OPTION) IS NOT USED

2) FUSE IS 6A WHEN THE TRANSFORMER 32 (OPTION) IS NOT USED. OTHERWISE THE FUSE IS 2A (RED SPOT)

PRIMARY PART IN ARCADE

POWER DISTRIBUTION	Design checked by: E MYKLEBUST	CIRCUIT DIAGRAM
	Drawing checked by: C LINDSTRÖM	CONTROL SYSTEM IRB 6/2
	Drawn by: LL/AK	Asea Brown Boveri
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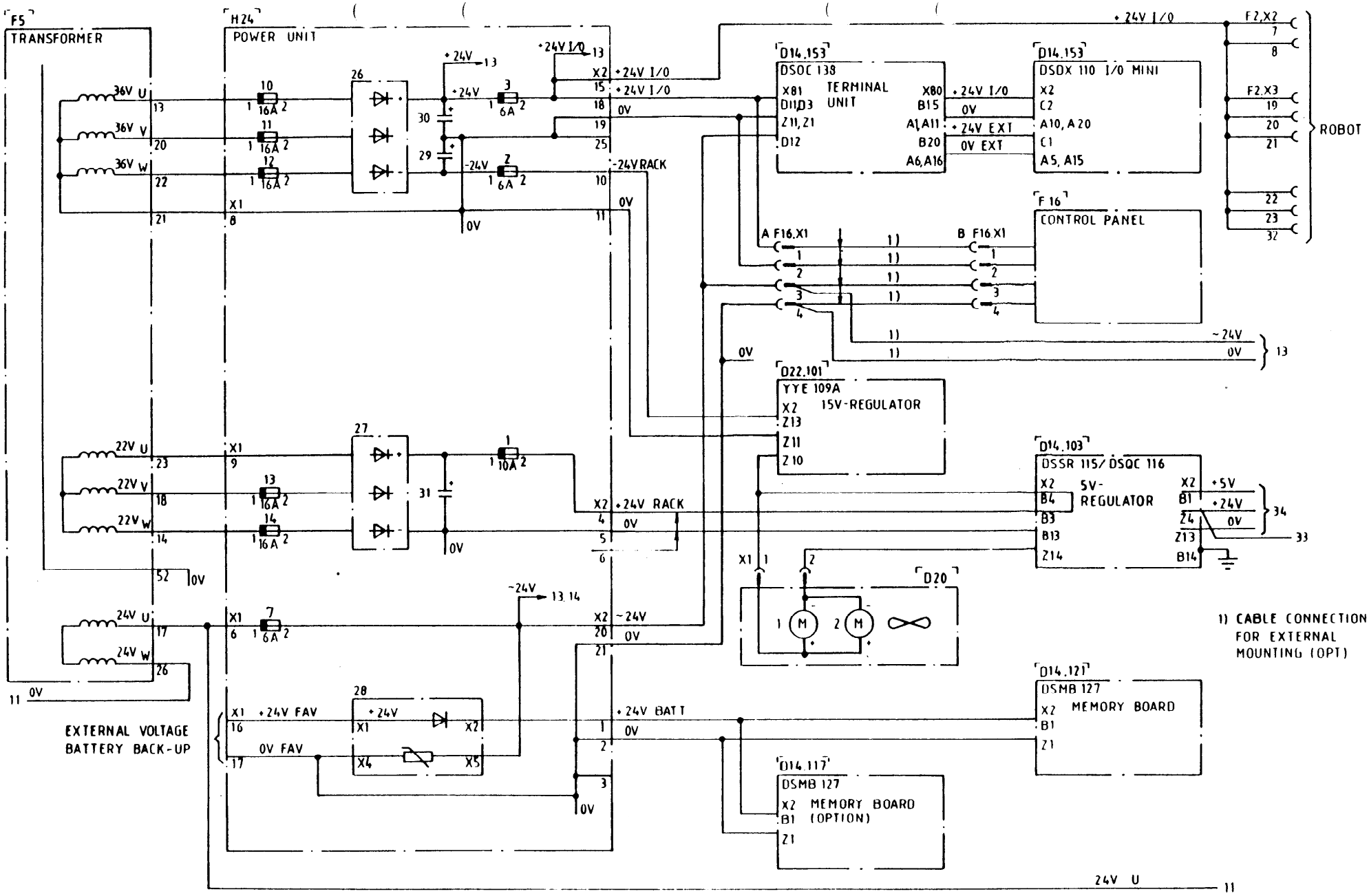
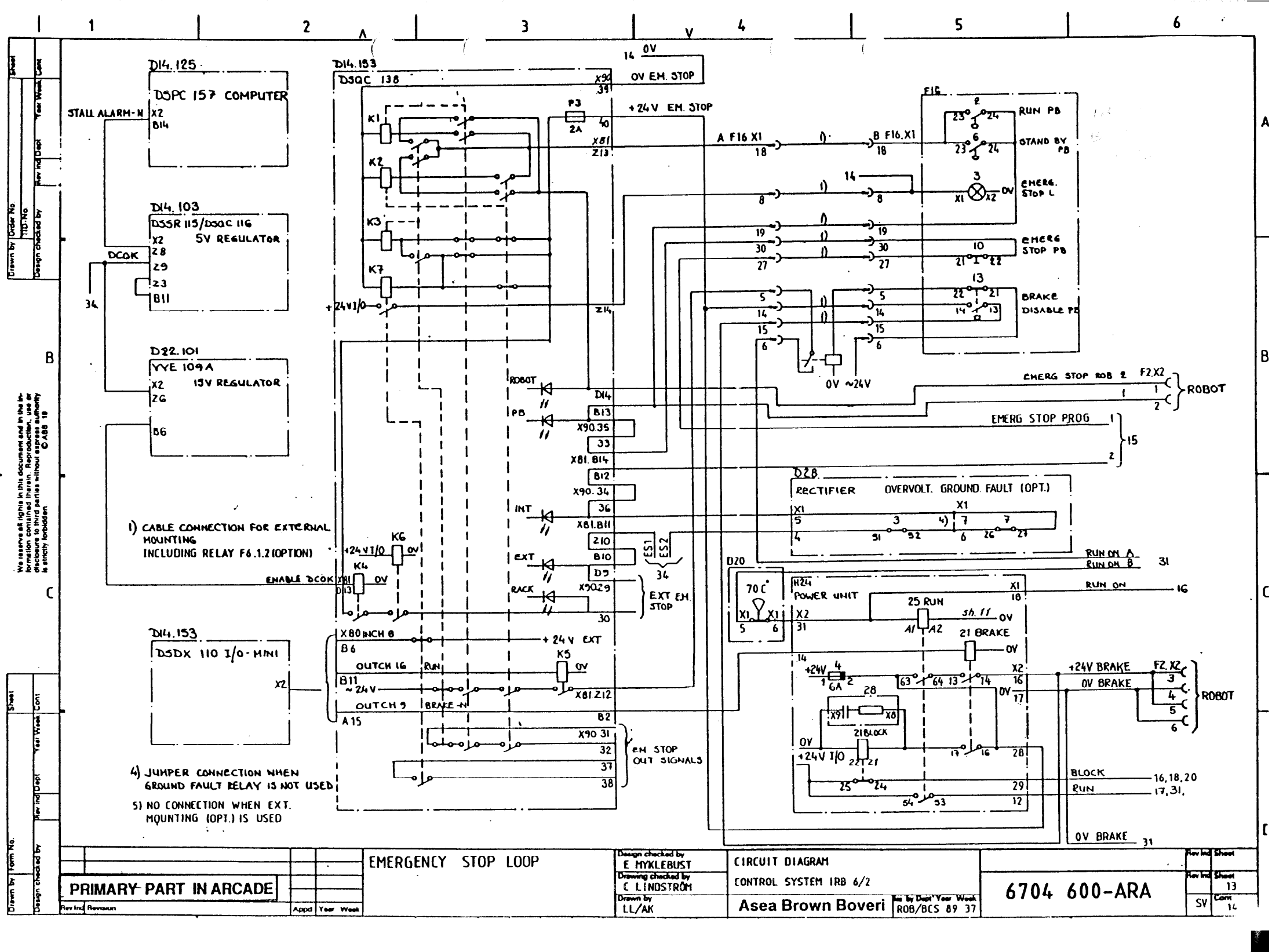
ABB



PRIMARY PART IN ARCADE

ELECTRONIC POWER DISTRIBUTION	Design checked by E MYKLEBUST; Drawing checked by C LINDSTRÖM; Drawn by LL/AK	CIRCUIT DIAGRAM CONTROL SYSTEM IRB 6/2 Asea Brown Boveri	6704 600-ARA



PRIMARY PART IN ARCADE

EMERGENCY STOP LOOP

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
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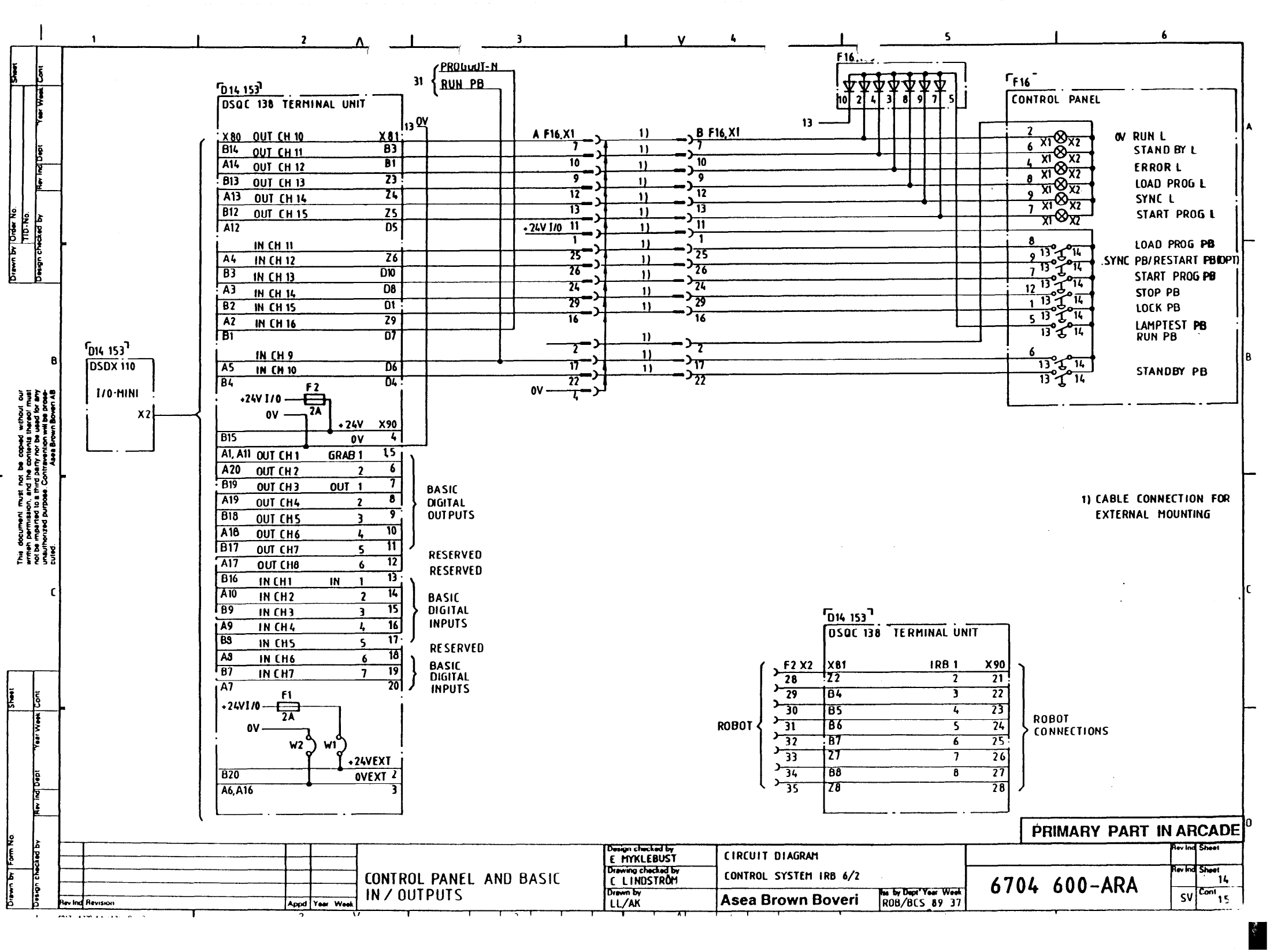

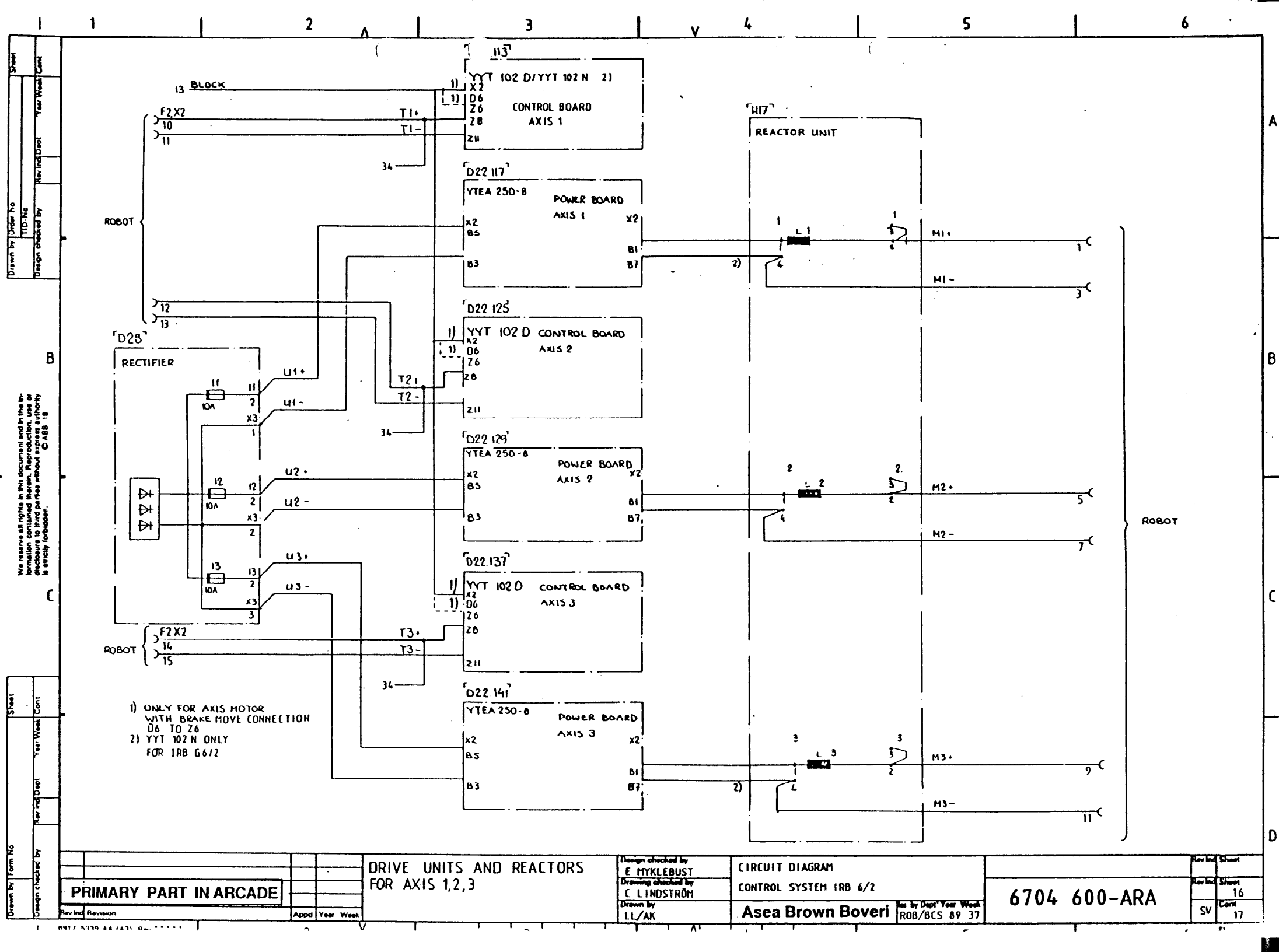
113
YYT 102 D/YYT 102 N 2)
CONTROL BOARD
AXIS 1
13 BLOCK
F2X2
10
11
T1+
T1-
34
ROBOT
12
13
D28
RECTIFIER
11
10A
U1+
U1-
12
10A
U2+
U2-
13
10A
U3+
U3-
X3
F2X2
14
15
T3+
T3-
D22 117
YTEA 250-8
POWER BOARD
AXIS 1
D22 125
YYT 102 D CONTROL BOARD
AXIS 2
T2+
T2-
D22 129
YTEA 250-8
POWER BOARD
AXIS 2
D22.137
YYT 102 D CONTROL BOARD
AXIS 3
D22 141
YTEA 250-8
POWER BOARD
AXIS 3
H17
REACTOR UNIT
M1+
M1-
M2+
M2-
M3+
M3-
ROBOT
1) ONLY FOR AXIS MOTOR WITH BRAKE MOVE CONNECTION D6 TO Z6
2) YYT 102 N ONLY FOR IRB 660/2
PRIMARY PART IN ARCADE
DRIVE UNITS AND REACTORS FOR AXIS 1,2,3
E MYKLEBUST
C LINDSTRÖM
LL/AK
CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
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Cont 17
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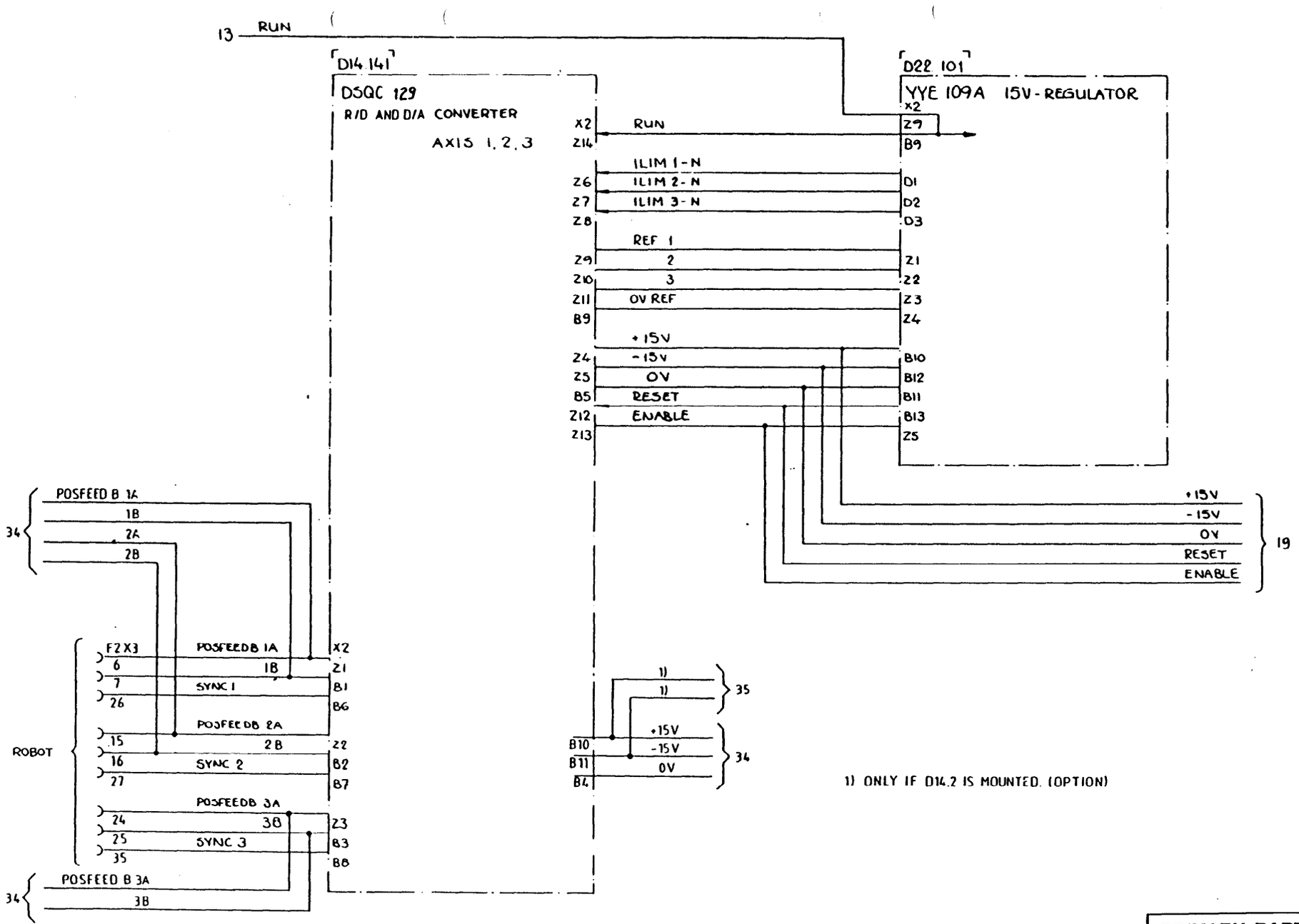

PRIMARY PART IN ARCADE

R/D AND D/A CONVERTER FOR AXIS 1,2,3

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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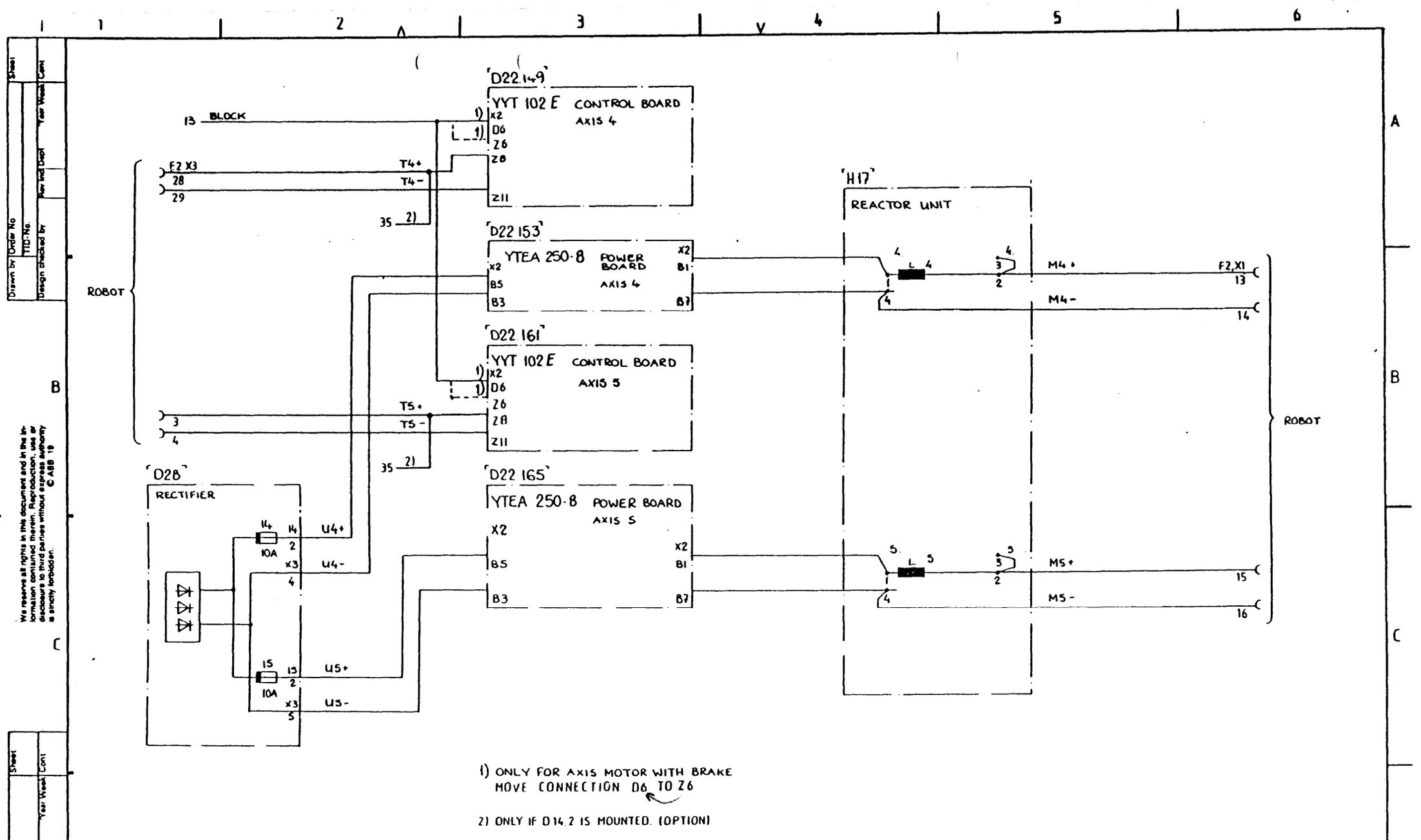

1) ONLY FOR AXIS MOTOR WITH BRAKE
MOVE CONNECTION D6 TO Z6

2) ONLY IF D14.2 IS MOUNTED. (OPTION)

PRIMARY PART IN ARCADE

DRIVE UNITS AND REACTORS FOR AXIS 4,5

Design checked by E MYKLEBUST
Drawing checked by C LINDSTRÖM
Drawn by LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
Ins by Dept Year Week ROB/BCS 89 37

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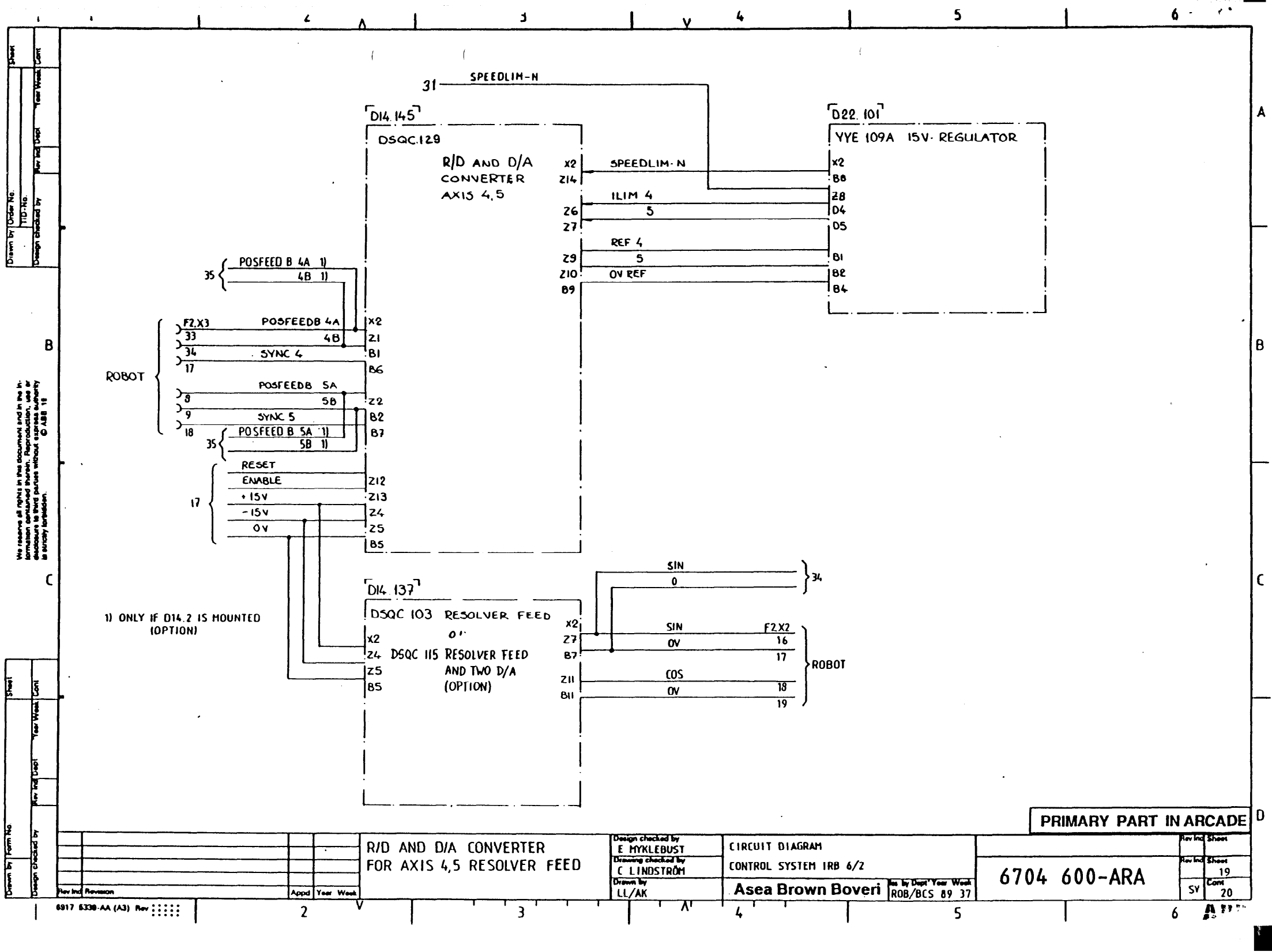

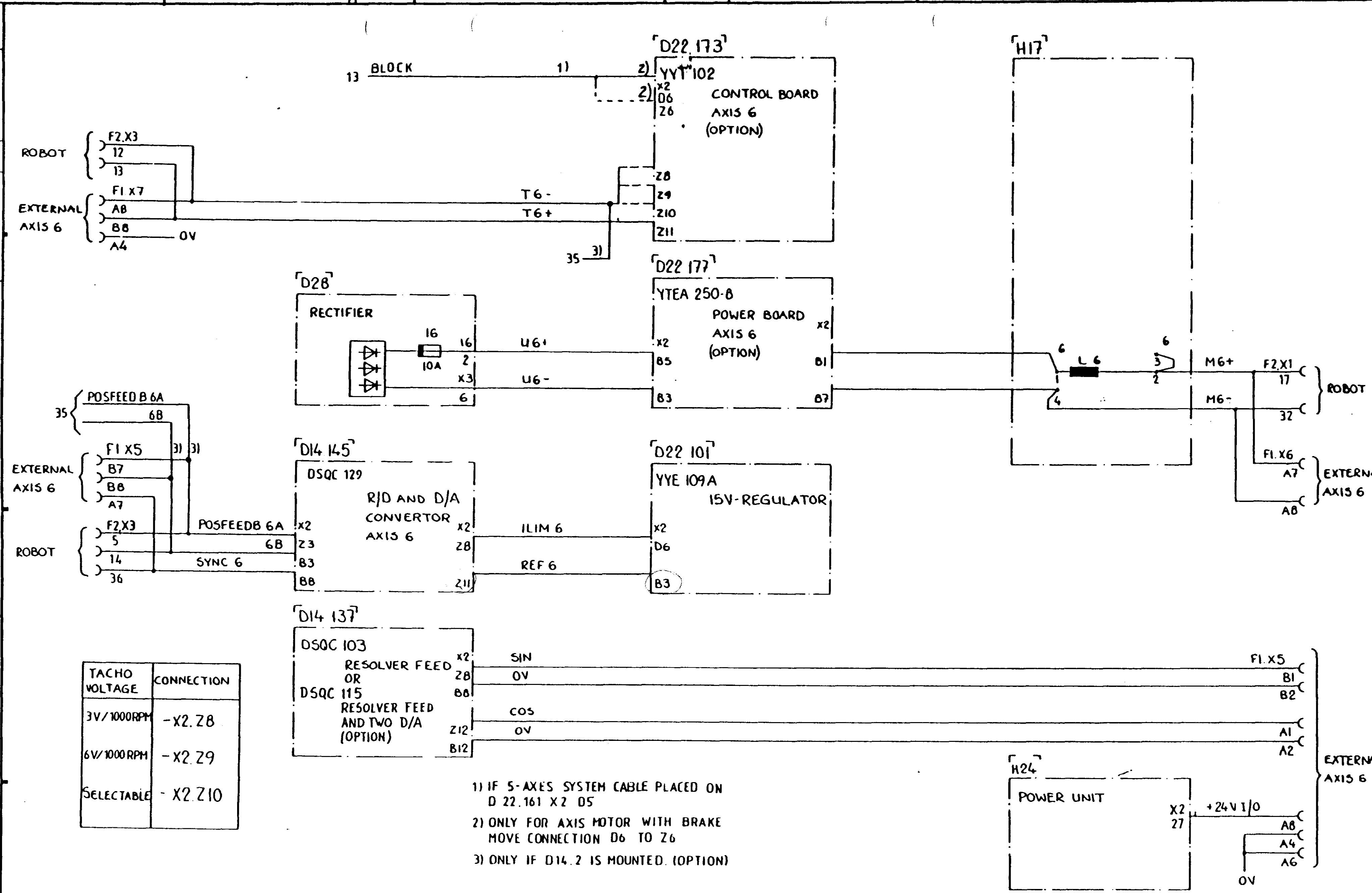

TACHO VOLTAGE	CONNECTION
3V/1000RPM	-X2.Z8
6V/1000 RPM	-X2.Z9
SELECTABLE	-X2.Z10

1) IF 5-AXES SYSTEM CABLE PLACED ON D 22.161 X2 D5
2) ONLY FOR AXIS MOTOR WITH BRAKE MOVE CONNECTION D6 TO Z6
3) ONLY IF D14.2 IS MOUNTED. (OPTION)

PRIMARY PART IN ARCADE

AXIS CONTROL FOR AXIS 6 (OPTION).
RESOLVER SUPPLY FOR EXTERNAL AXIS 6

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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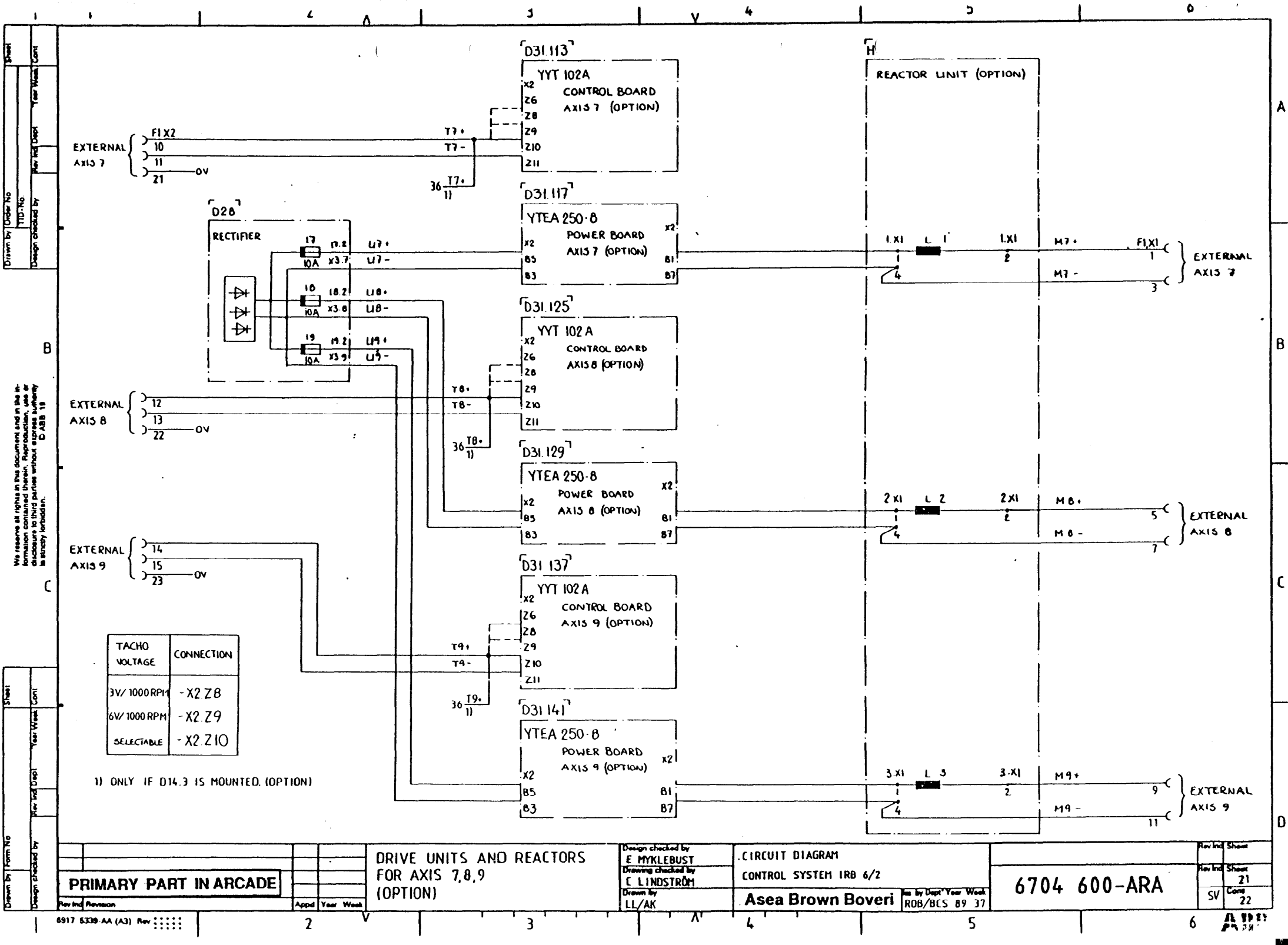
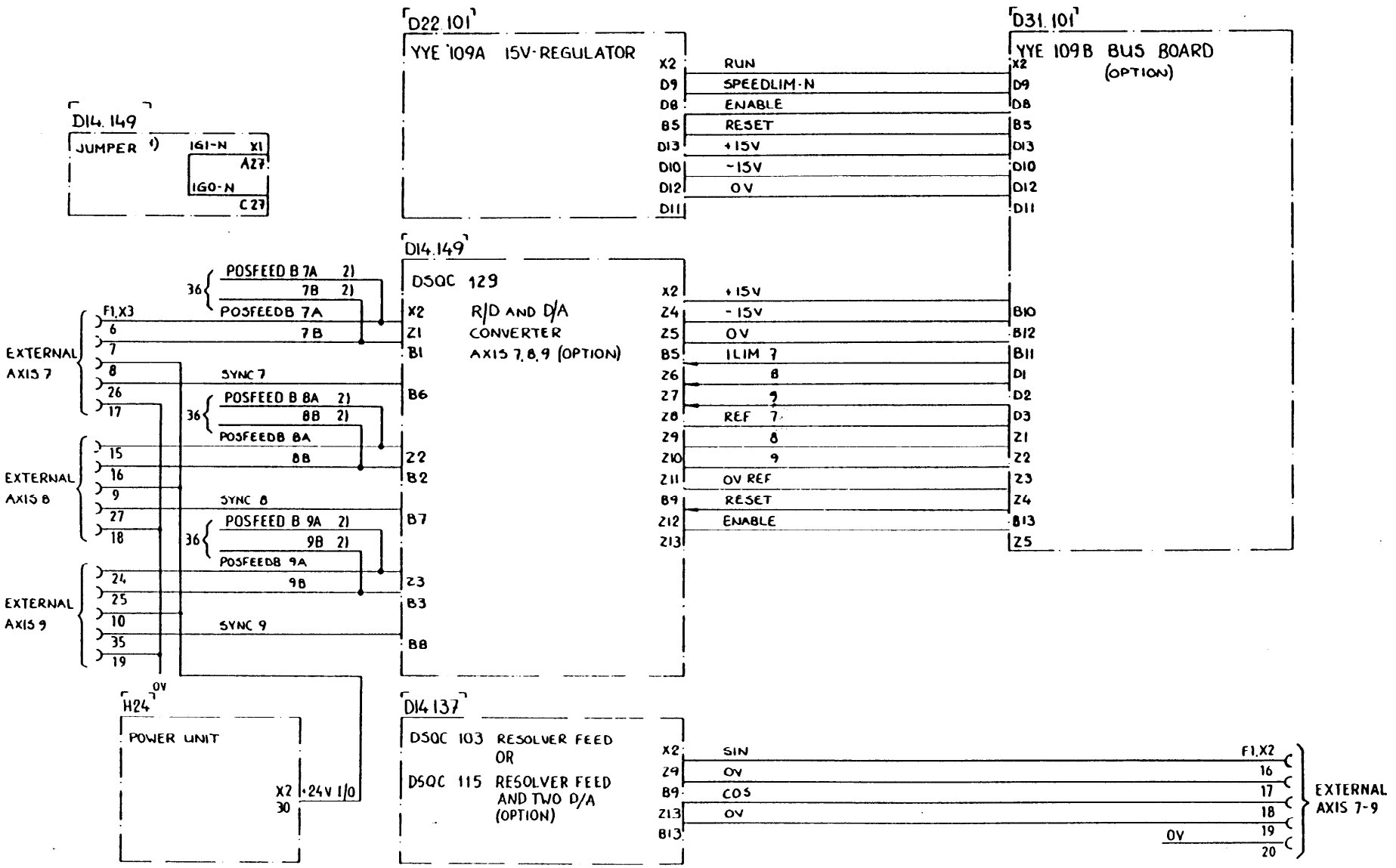


TACHO VOLTAGE	CONNECTION
3V/1000 RPM	-X2.Z8
6V/1000 RPM	-X2.Z9
SELECTABLE	-X2.Z10



1) ONLY IF R/D AND D/A CONVERTER AXIS 7,8,9 IS NOT USED

2) ONLY IF D14.3 IS MOUNTED (OPTION)

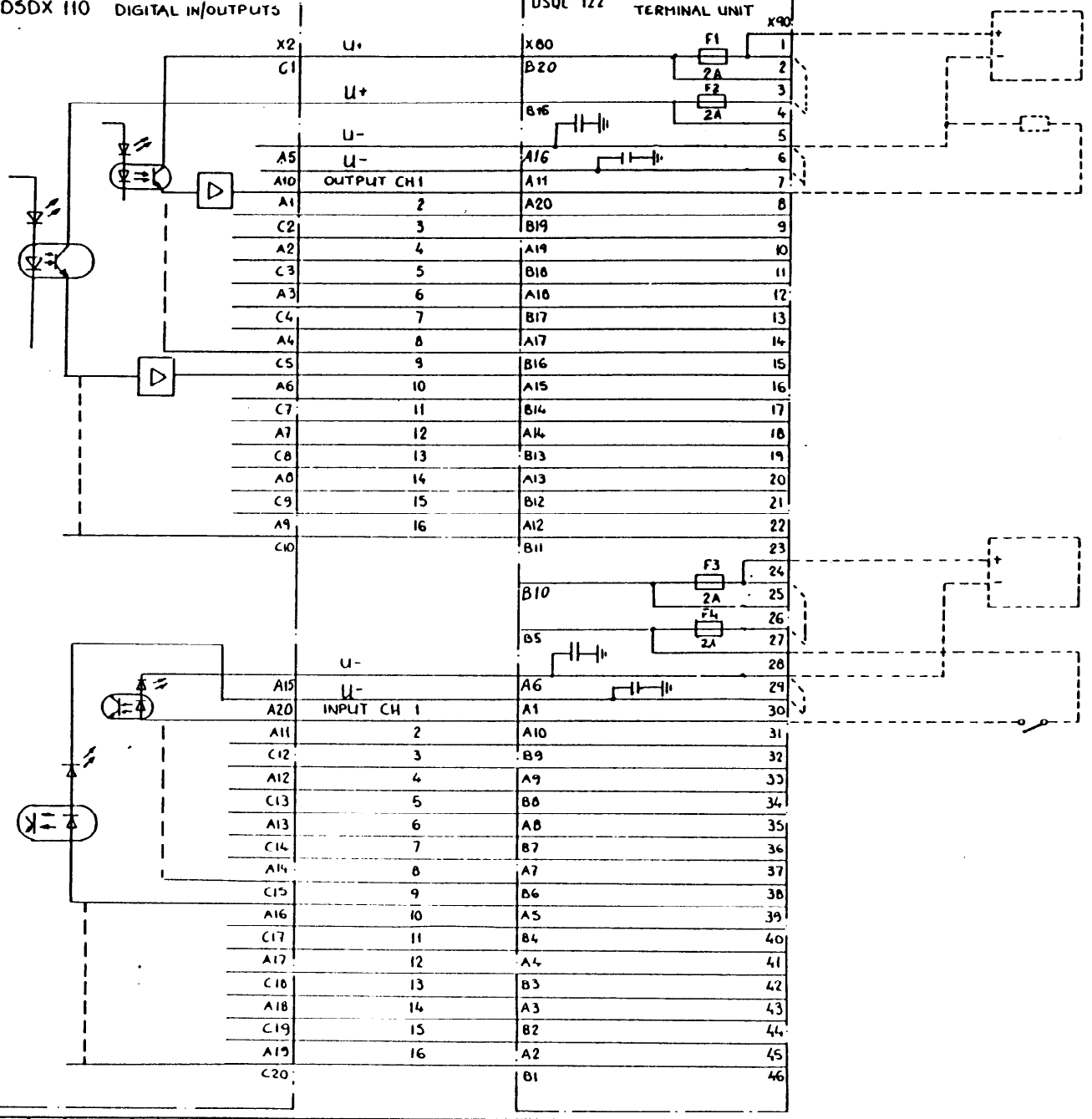
PRIMARY PART IN ARCADE	R/D AND D/A CONVERTER FOR AXIS 7,8,9 (OPTION) RESOLVER FEED	Design checked by E MYKLEBUST; Drawing checked by C LINDSTRÖM; Drawn by LL/AK	CIRCUIT DIAGRAM CONTROL SYSTEM IRB 6/2 Asea Brown Boveri	Res by Dept Year Week ROB/BCS 89 37	6704 600-ARA	Rev Ind Sheet 22; Rev Ind Sheet SV Cont 23

D14 XXX

DSDX 110 DIGITAL IN/OUTPUTS

D14 XXX

DSQC 122 TERMINAL UNIT



ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION

SIGNAL FUNCTIONS IF FIRST OPTIONAL BOARD	
CHANNEL	OUTPUT SIGNALS
1	RUN
2	CYCLE ON
3	ERROR
4	PROG UNIT EXTRACTED
5	GRIPP RELEASE 1
6	GRIPP RELEASE 2
7	SEARCH STOP
8	DIGITAL OUTPUT 7
⋮	⋮
16	DIGITAL OUTPUT 15
	INPUT SIGNALS
1	INTERRUPT INSTR
2	INTERRUPT PROGR
3	JUMP PROG 1
4	JUMP PROG 2
5	JUMP PROG 3
6	JUMP PROG 4
7	JUMP PROG 5
8	PROG START
9	PROG STOP
10	DIGITAL INPUT 8
⋮	⋮
16	DIGITAL INPUT 14

PRIMARY PART IN ARCADE

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Form No. | Drawn by | Design checked by | Rev Ind | Dept | Year Week | Sheet | Cont

Rev Ind	Revision	Appd	Year Week

DIGITAL IN/OUTPUTS 24V DC
DSDX 110 (OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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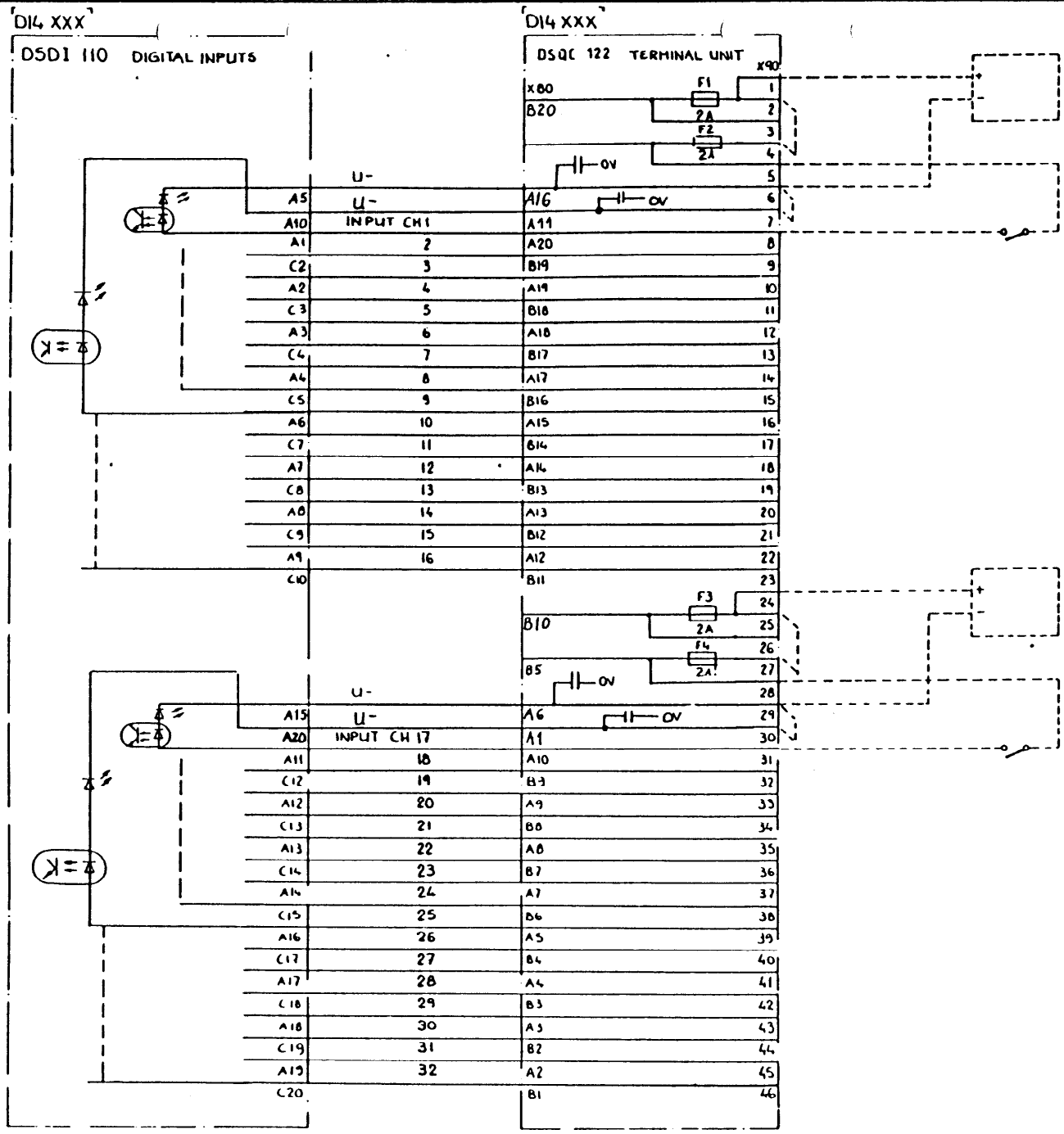

ATTENTION

THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION

SIGNAL FUNCTIONS IF FIRST OPTIONAL INPUT BOARD	
CHANNEL	INPUT SIGNALS
1	INTERRUPT INSTR
2	INTERRUPT PROGR
3	JUMP PROG 1
4	JUMP PROG 2
5	JUMP PROG 3
6	JUMP PROG 4
7	JUMP PROG 5
8	PROG START
9	PROG STOPP
10	DIGITAL INPUT 8
⋮	⋮
32	DIGITAL INPUT 31

PRIMARY PART IN ARCADE

DIGITAL INPUTS 24V DC
DSDI 110 (OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri
Ins by Dept' Year Week: ROB/BCS 89 37

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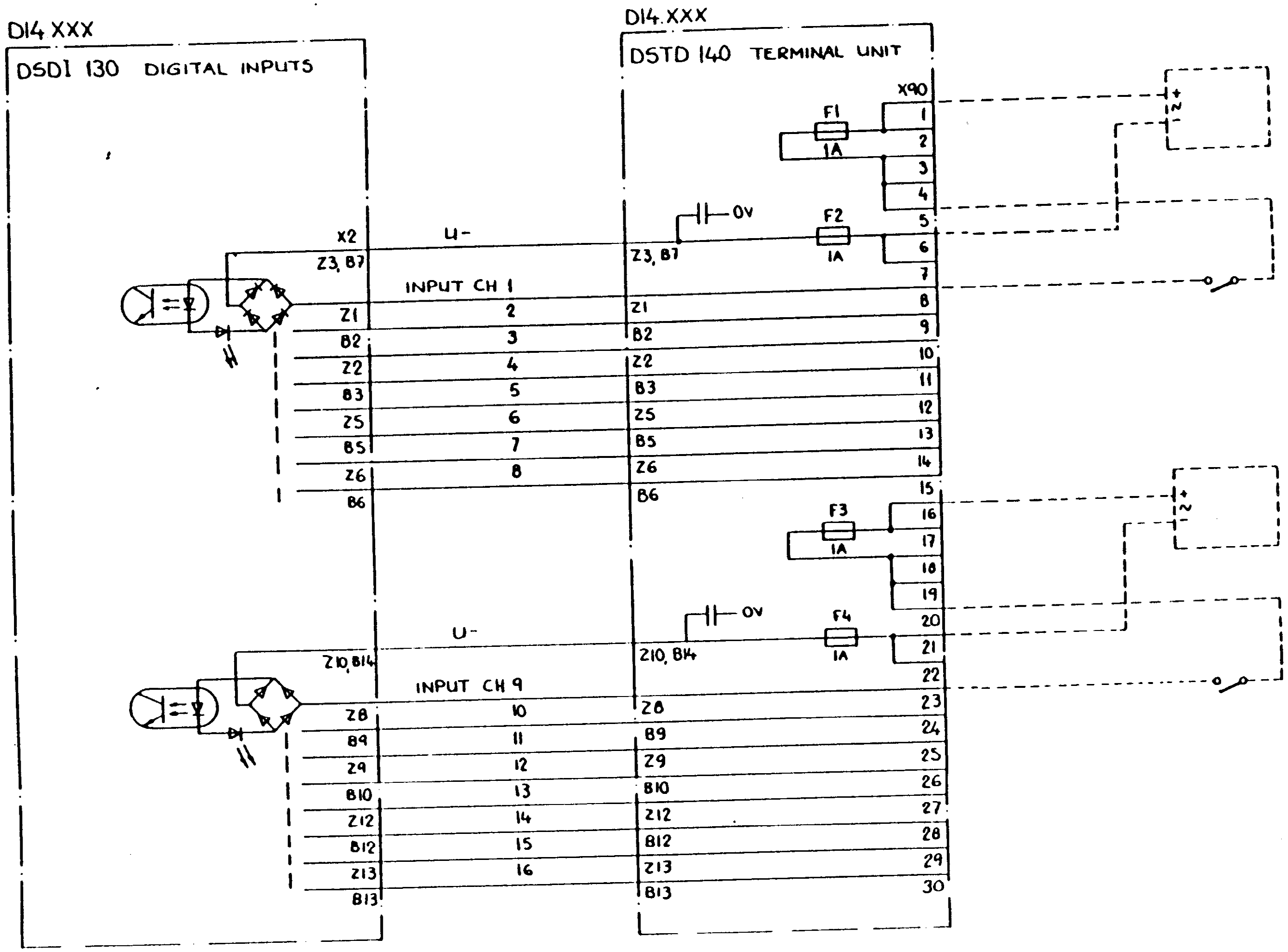

ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION.

SIGNAL FUNCTIONS IF FIRST OPTIONAL INPUT BOARD

CHANNEL	INPUT SIGNALS
1	INTERRUPT INSTR
2	INTERRUPT PROGR
3	JUMP PROG 1
4	JUMP PROG 2
5	JUMP PROG 3
6	JUMP PROG 4
7	JUMP PROG 5
8	PROG START
9	PROG STOP
10	DIGITAL INPUT 8
16	DIGITAL INPUT 14

PRIMARY PART IN ARCADE

DIGITAL INPUTS 110V A.C.
DSDI 130 (OPTION)

Design checked by E MYKLEBUST
Drawing checked by C LINDSTRÖM
Drawn by LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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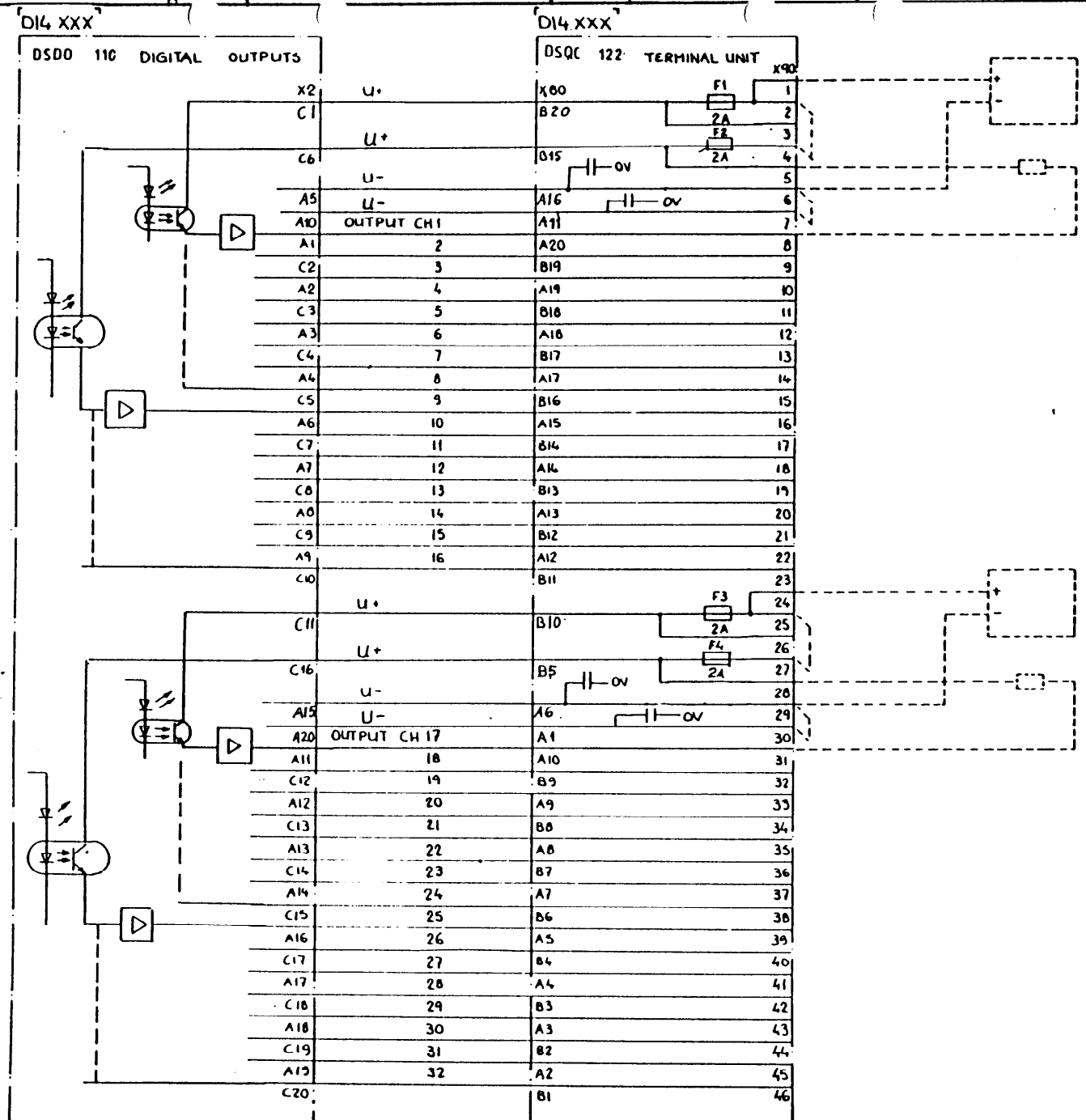

ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION

SIGNAL FUNCTIONS IF FIRST OPTIONAL OUTPUT BOARD	
CHANNEL	OUTPUT SIGNALS
1	RUN
2	CYCLE ON
3	ERROR
4	PROGR UNIT EXTRACTED
5	GRIPP / RELEASE 1
6	GRIPP / RELEASE 2
7	SEARCH STOP
8	DIGITAL OUTPUT 7
⋮	⋮
32	DIGITAL OUTPUT 31

PRIMARY PART IN ARCADE

DIGITAL OUTPUTS 24V DC
DSDO 110 (OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2
Asea Brown Boveri

Rev Ind | Revision | Appd | Year Week

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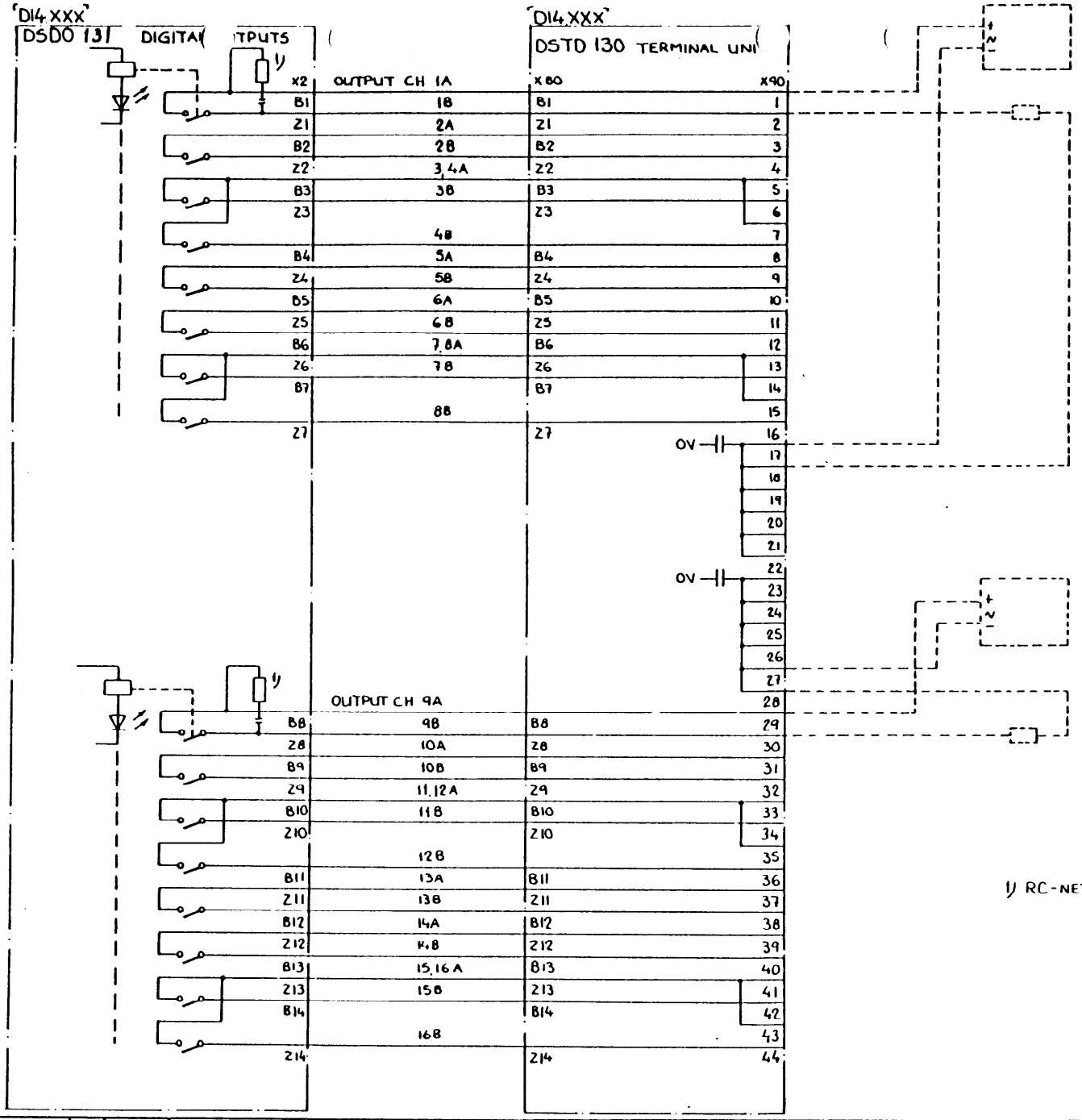

ATTENTION!
THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION

SIGNAL FUNCTIONS IF FIRST OPTIONAL OUTPUT BOARD	
CHANNEL	OUTPUT SIGNALS
1	RUN
2	CYCLE ON
3	ERROR
4	PROGR UNIT EXTRACTED
5	GRIPP / RELEASE 1
6	GRIPP / RELEASE 2
7	SEARCH STOP
8	DIGITAL OUTPUT 7
⋮	⋮
16	DIGITAL OUTPUT 15

1) RC-NETWORK ACROSS EVERY OUTPUT

PRIMARY PART IN ARCADE

DIGITAL OUTPUTS RELAYS, 24-240V AC / DC
DSDO 131 (OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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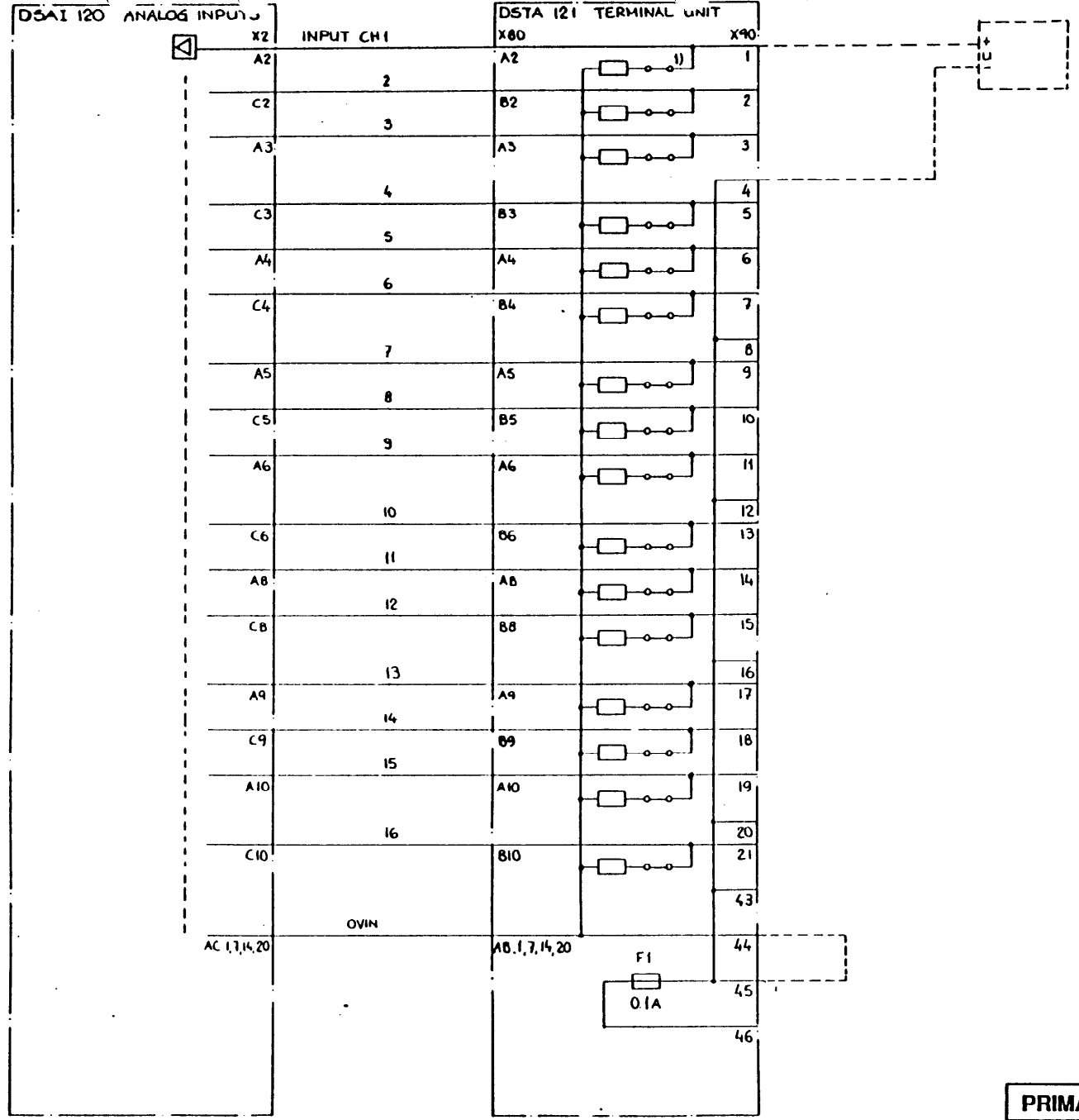

ATTENTION!

THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION

1) OPEN STRAPS FOR VOLTAGE SIGNAL

PRIMARY PART IN ARCADE

ANALOG INPUTS 0-±10V
DSAI 120 (OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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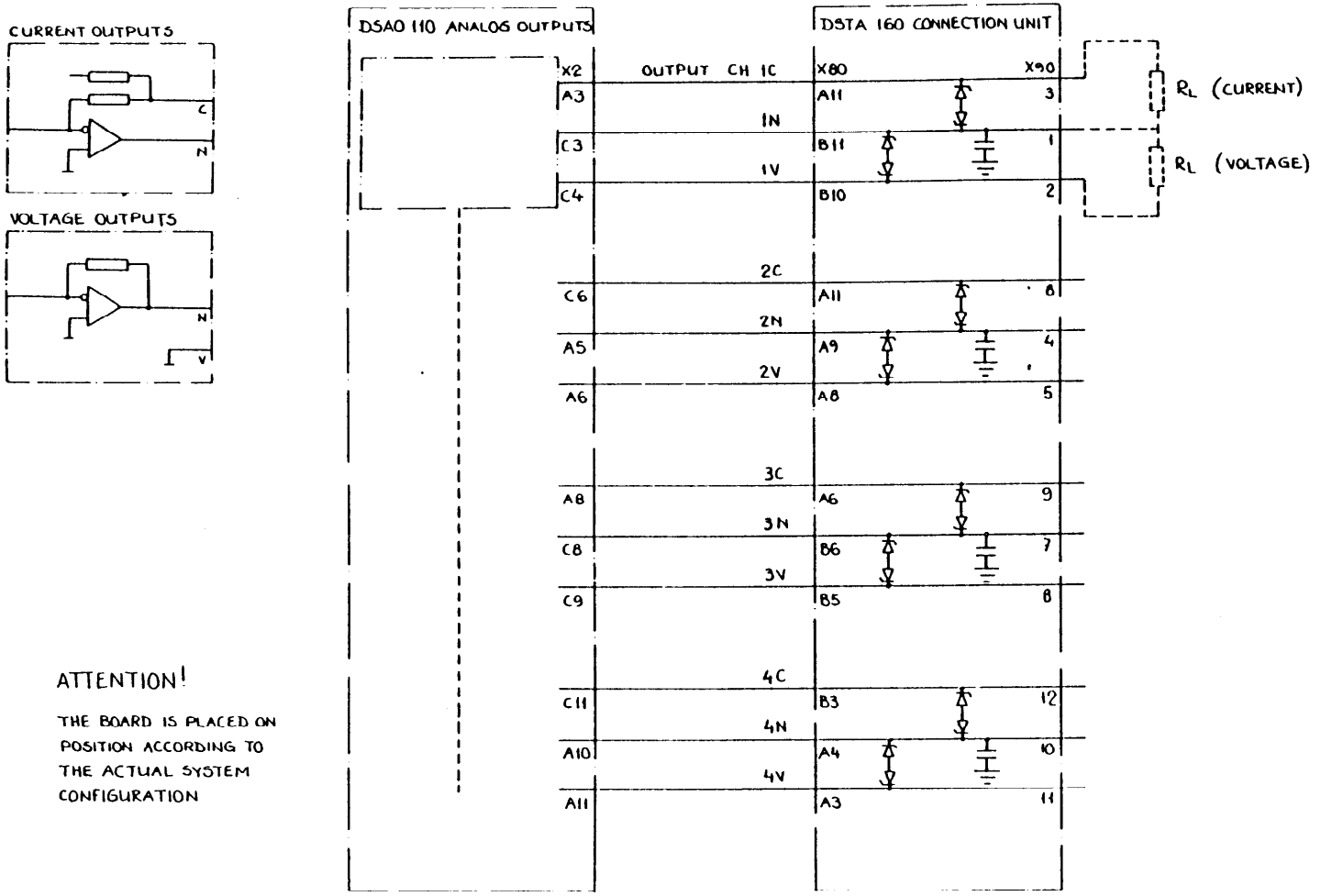
Drawn by | Form No. | Design checked by | Rev Ind | Dept | Year Week | Sheet | Cont

Drawn by | Order No. | Design checked by | Rev Ind | Dept | Year Week | Sheet | Cont

6917 5338-AA (A3) Rev :::::



ATTENTION!

THE BOARD IS PLACED ON POSITION ACCORDING TO THE ACTUAL SYSTEM CONFIGURATION

PRIMARY PART IN ARCADE

ANALOG OUTPUTS ±10V
DSAO 110 (OPTION) ±10 mA
±20 mA

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

Rev by Dept Year Week: ROB/BCS 89 37

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Rev Ind: Sheet 29
Rev Ind: Sheet SV
Cont 29.5

Rev Ind | Revision | Appd | Year Week

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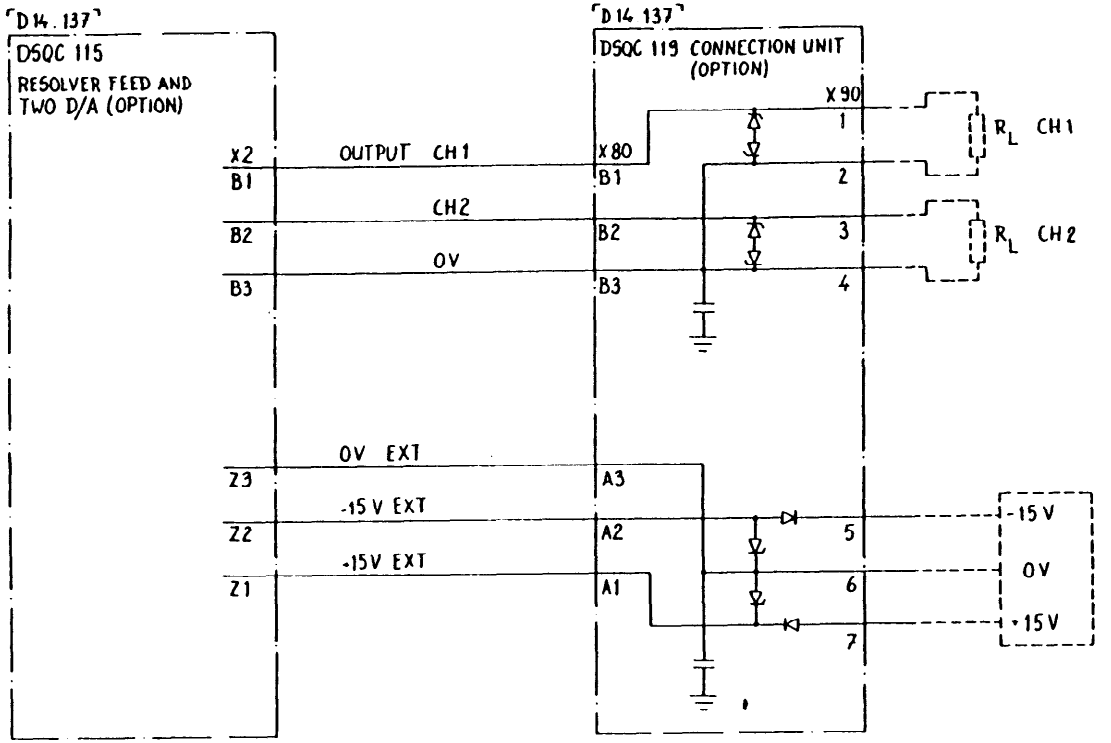

PRIMARY PART IN ARCADE

ANALOG OUTPUTS ±10V (OPTION)	Design checked by E MYKLEBUST; Drawing checked by C LINDSTRÖM; Drawn by LL/AK	CIRCUIT DIAGRAM CONTROL SYSTEM IRB 6/2 Asea Brown Boveri	6704 600-ARA

Rev Ind | Revision | Appd | Year Week

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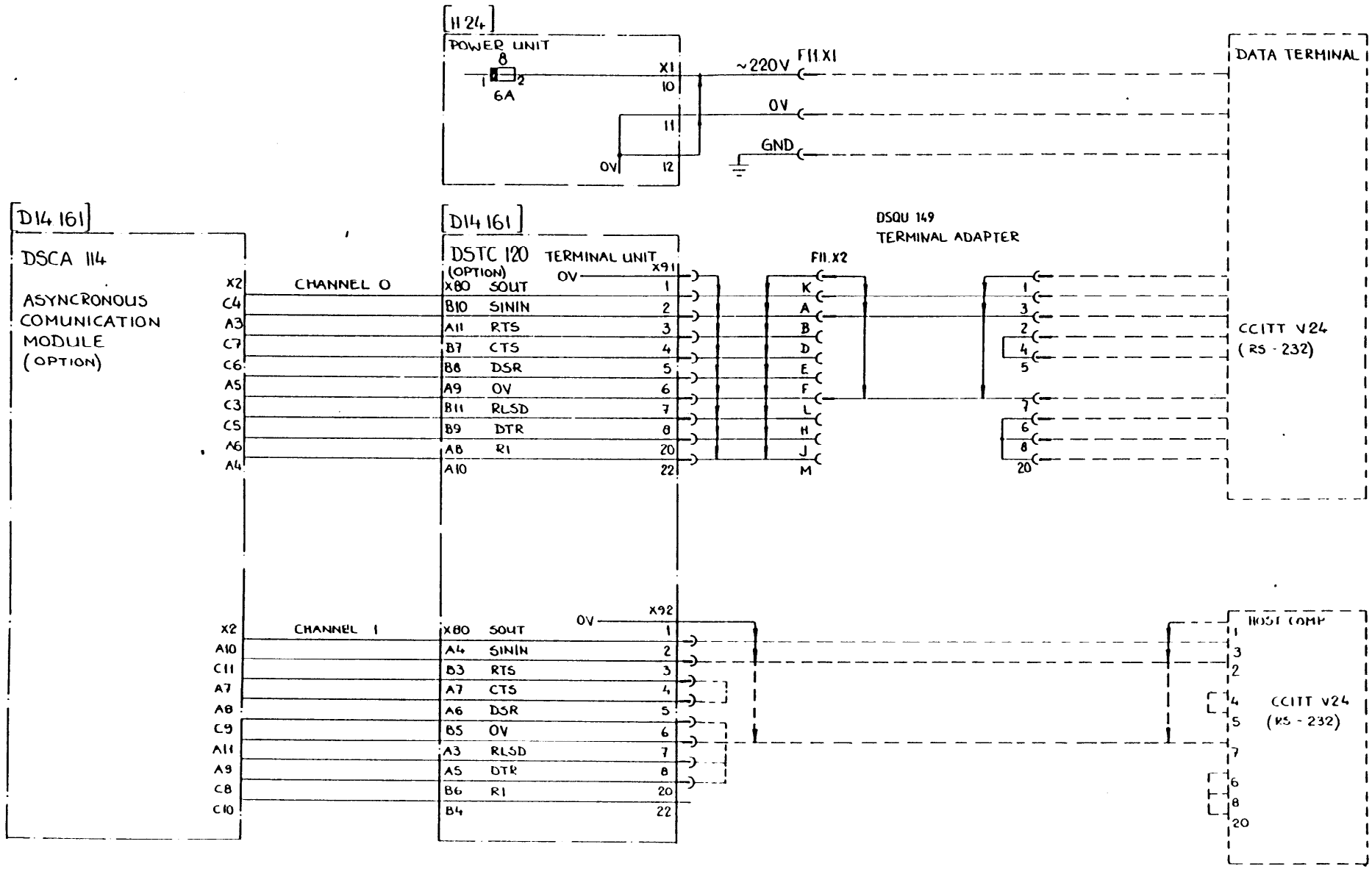

PRIMARY PART IN ARCADE

DATA TERMINAL AND COMPUTER LINK CONNECTION (OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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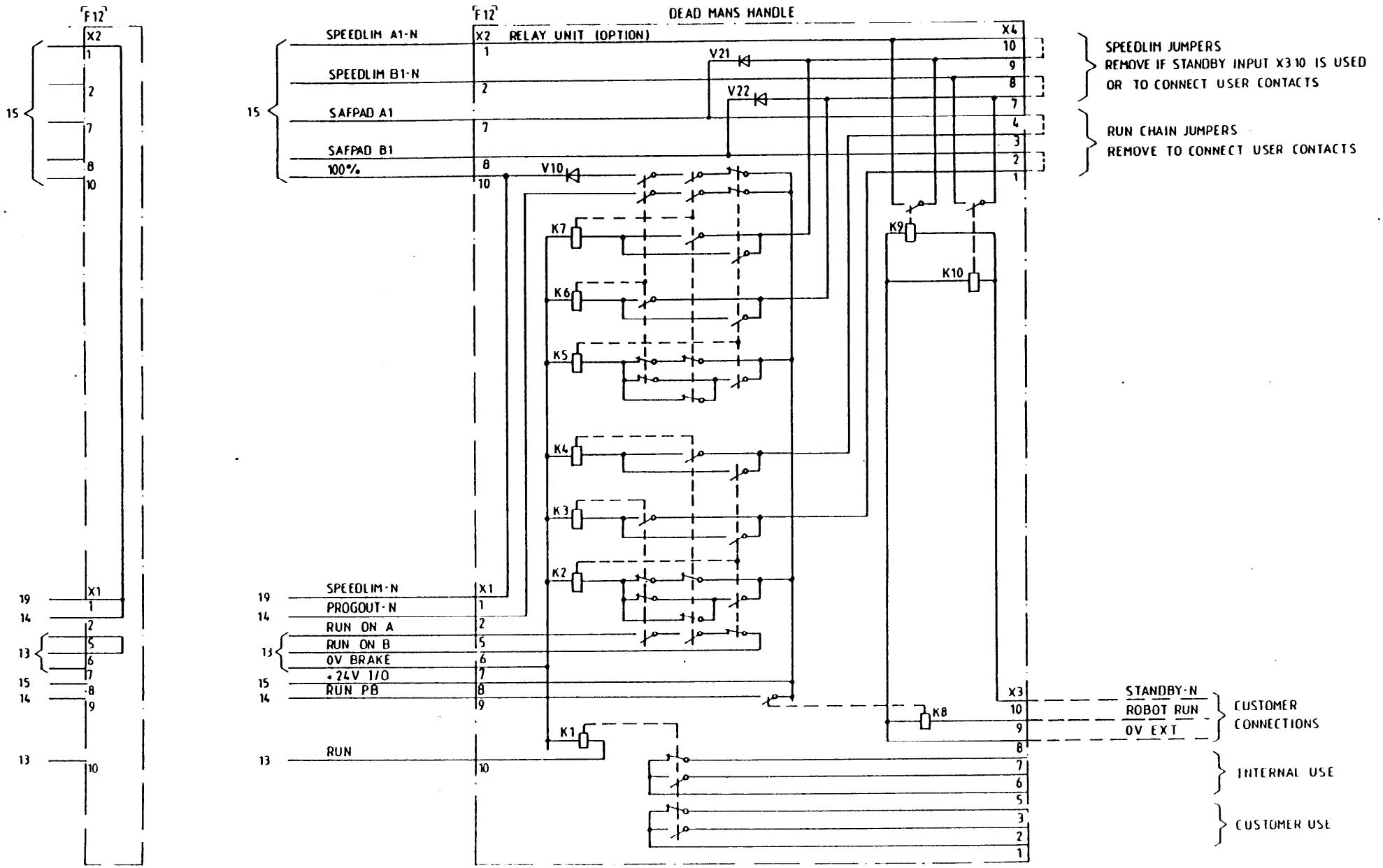
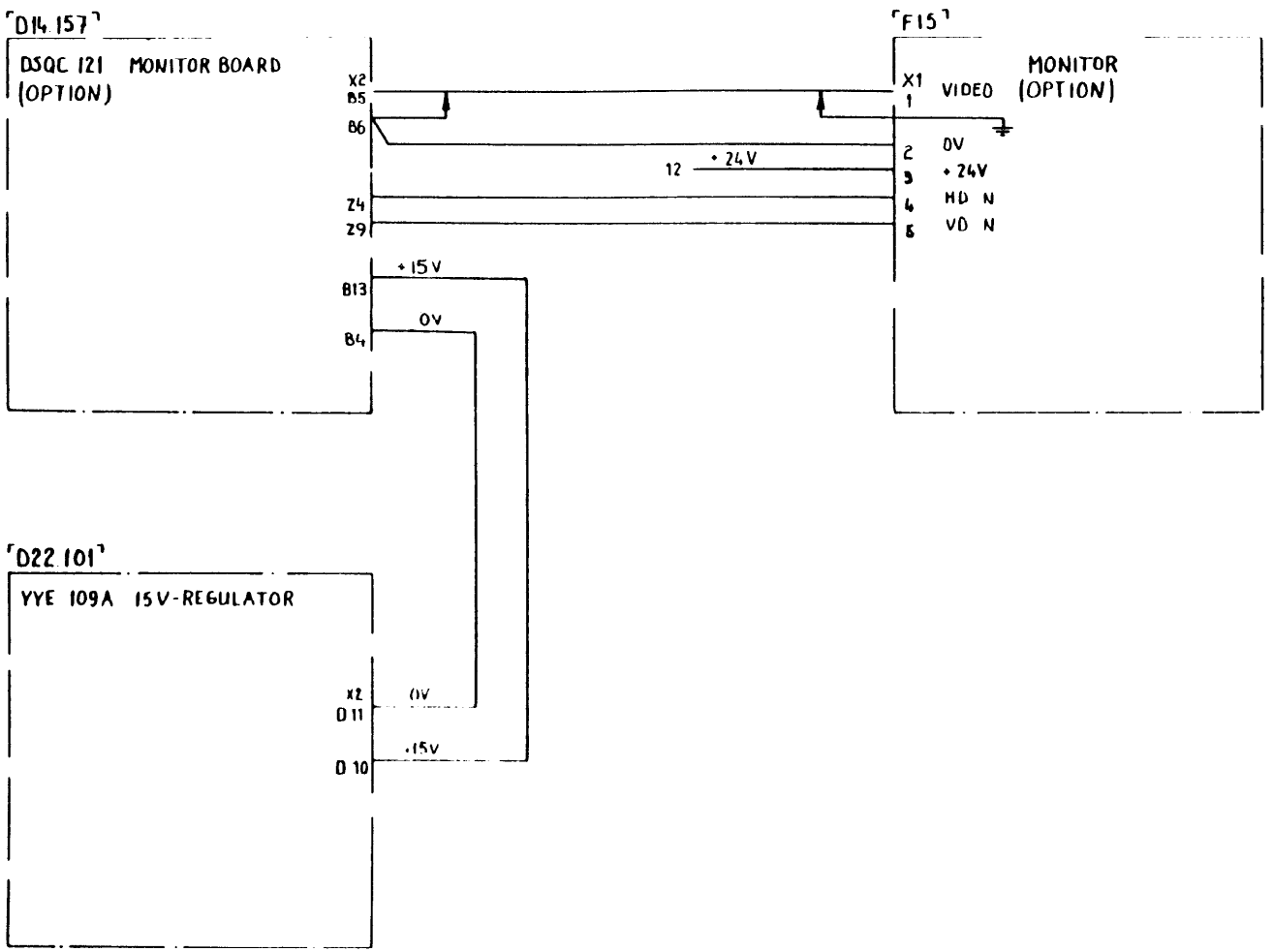
TERMINAL UNIT
WITHOUT RELAY UNIT



PRIMARY PART IN ARCADE

Rev Ind	Revision	Appd	Year Week	DEAD MANS HANDLE	Design checked by E MYKLEBUST Drawing checked by C LINDSTRÖM Drawn by LL/AK	CIRCUIT DIAGRAM CONTROL SYSTEM IRB 6/2 Asea Brown Boveri	Res by Dept Year Week ROB/BCS 89 37	6704 600-ARA	Rev Ind SV Sheet 31 Cont 33



PRIMARY PART IN ARCADE

PROGRAM DISPLAY
(OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

No. by Dept Year Week: ROB/BCS 89 37

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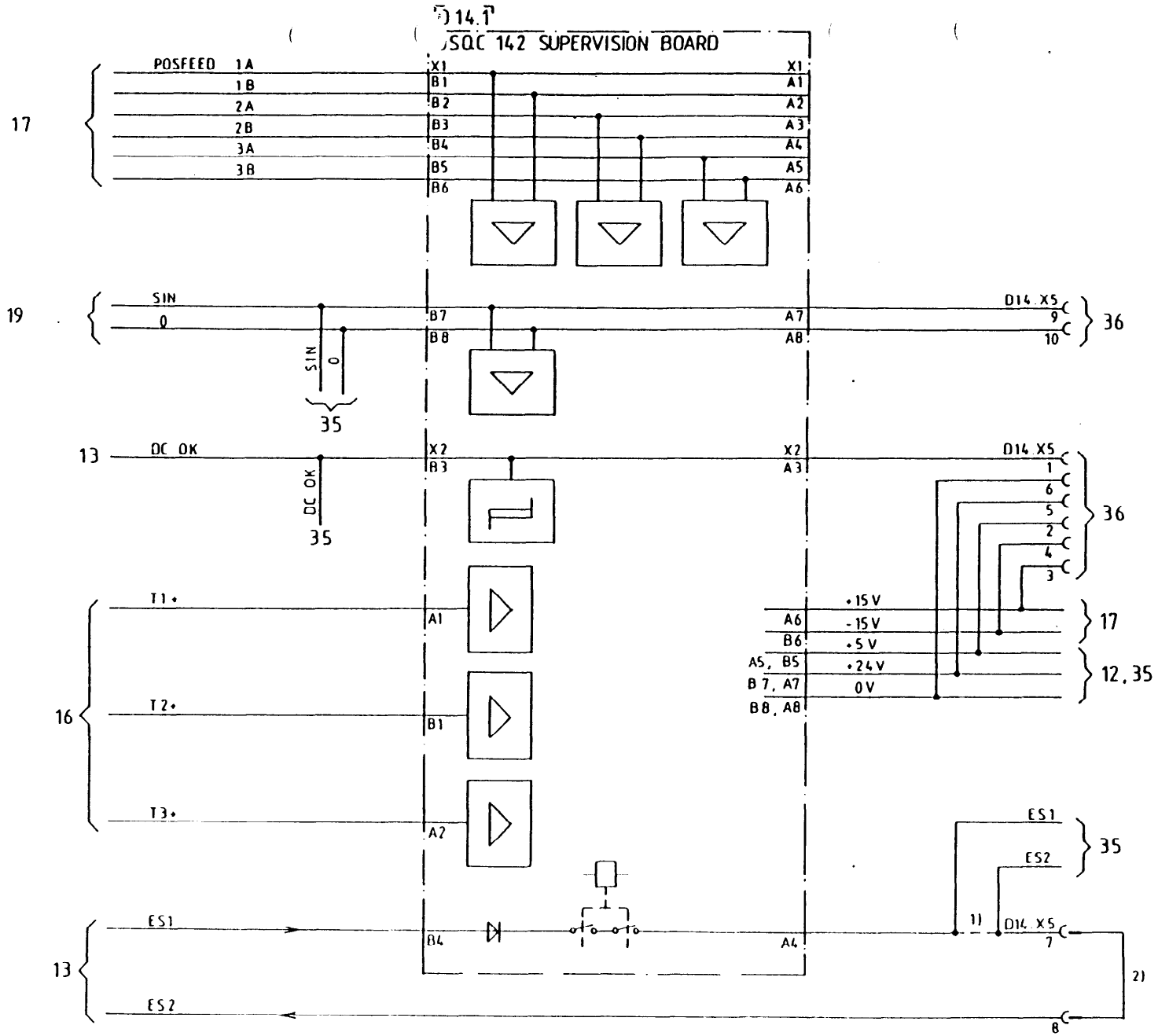
ABB



1) No connection when D14 2 is installed

2) Strap removed if D14 3 is installed

PRIMARY PART IN ARCADE

SUPERVISION BOARD
AXES 1-3

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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Rev Ind | Revision | Appd | Year Week

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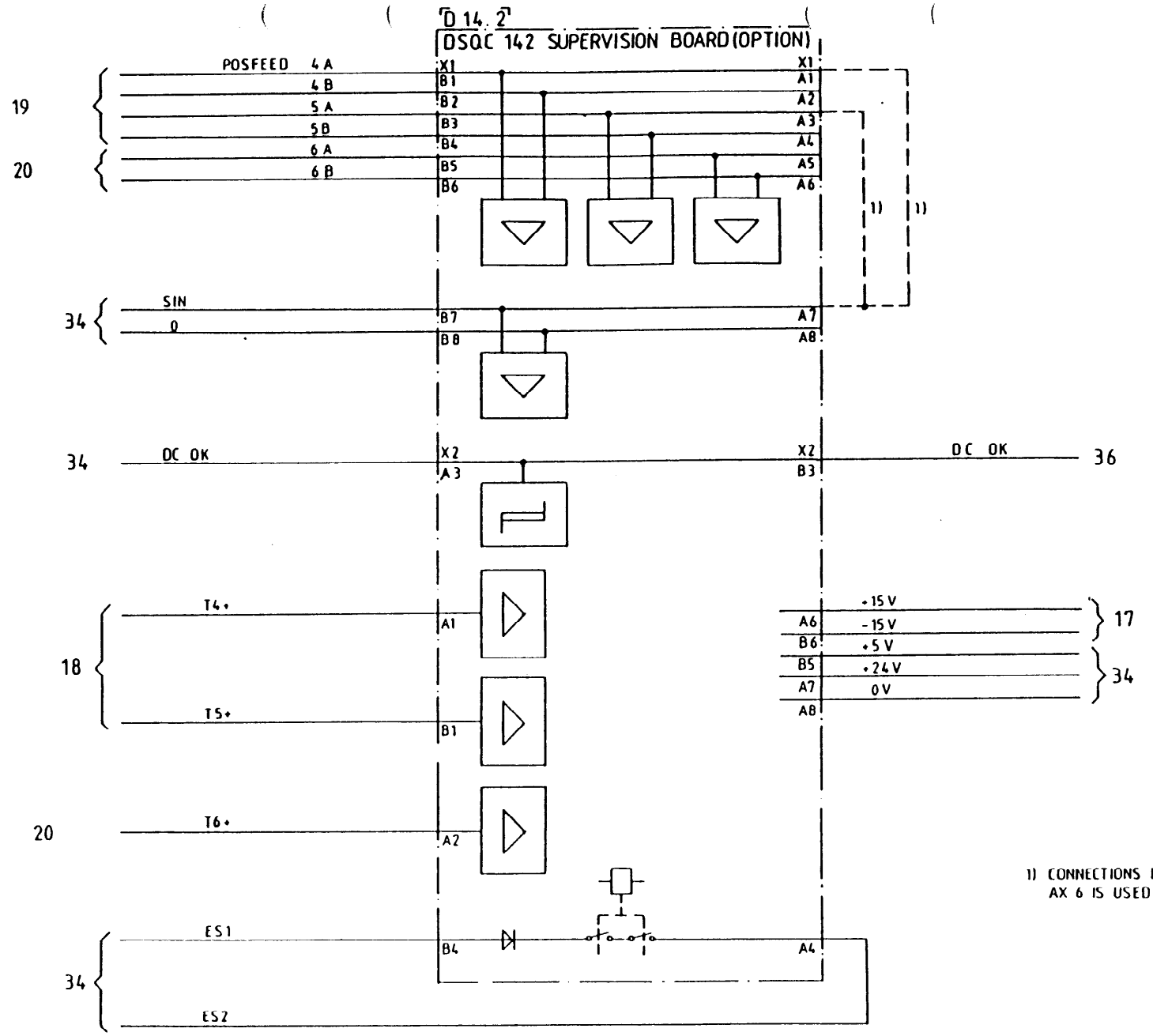

1) CONNECTIONS IF ONLY AX 6 IS USED

PRIMARY PART IN ARCADE

SUPERVISION BOARD
AXES 4-6 (OPTION)

Design checked by: E MYKLEBUST
Drawing checked by: C LINDSTRÖM
Drawn by: LL/AK

CIRCUIT DIAGRAM
CONTROL SYSTEM IRB 6/2

Asea Brown Boveri

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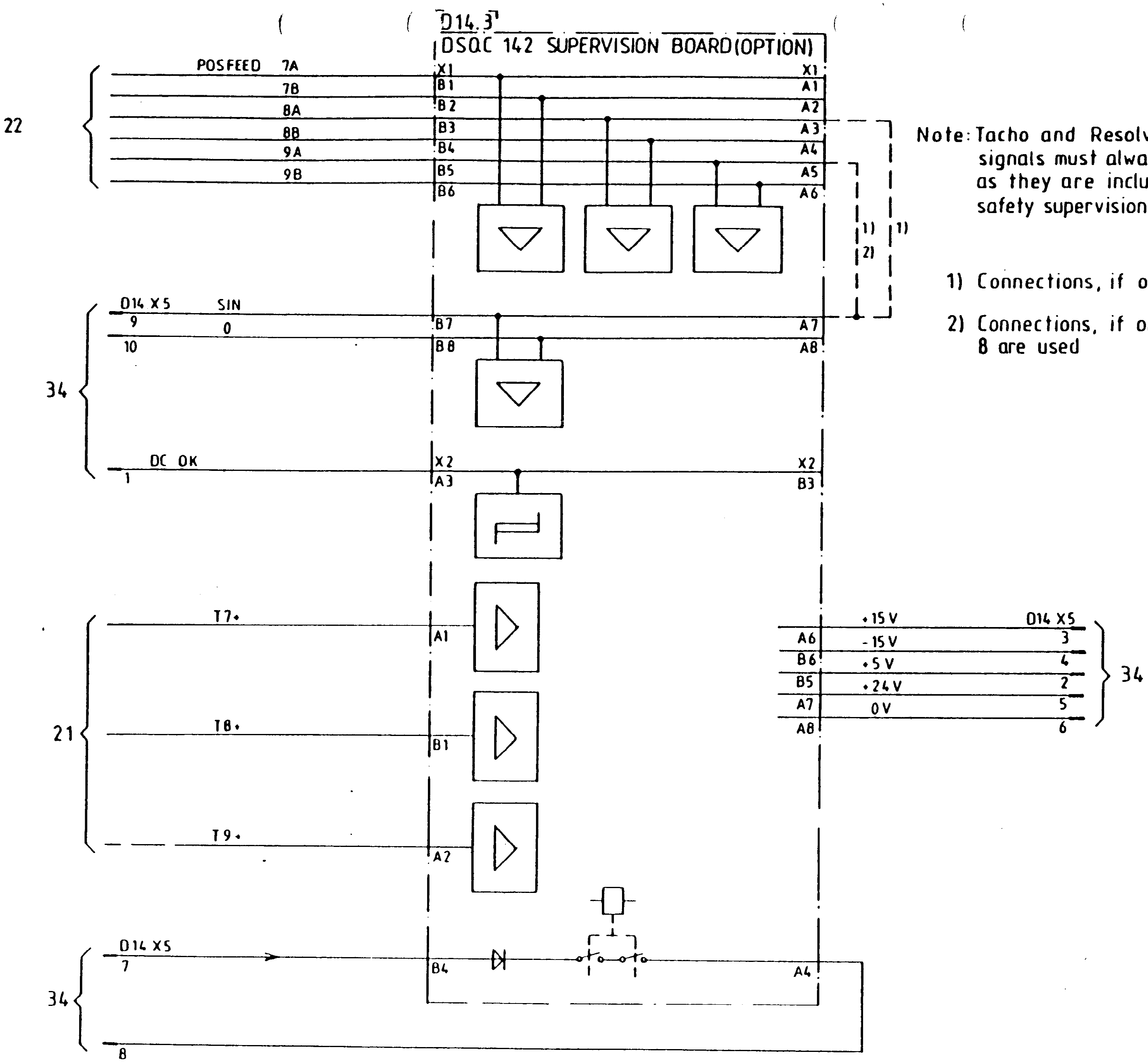

Note: Tacho and Resolver feed-back signals must always be connected as they are included in the safety supervision circuits.

1) Connections, if only ax 7 is used

2) Connections, if only ax 7 and 8 are used

PRIMARY PART IN ARCADE

Title	SUPERVISION BOARD AXES 7-9 (OPTION)
Design checked by	E MYKLEBUST
Drawing checked by	C LINDSTRÖM
Drawn by	LL/AK
	CIRCUIT DIAGRAM
	CONTROL SYSTEM IRB 6/2
	Asea Brown Boveri
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