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Technical Manual for Chassis CHS 706 - 710 and 716-717-719

A/S REGNECENTRALEN
af 1979

Keywords:

Chassis, RC3600

Abstract:

This manual contains the technical descriptions and diagrams of the internal wiring in the chassis.

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For information on powersupplies in CHS 716-717 and 719 you are referred to manual RCSL 44-RT 1912

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CHASSIS DESCRIPTIONS.

1. MATERIALS. 1.

Cold-rolled steelplate, zincplated Frontplate, anodized aluminium profiles.

2. MAIN COMPONENTS. 2.

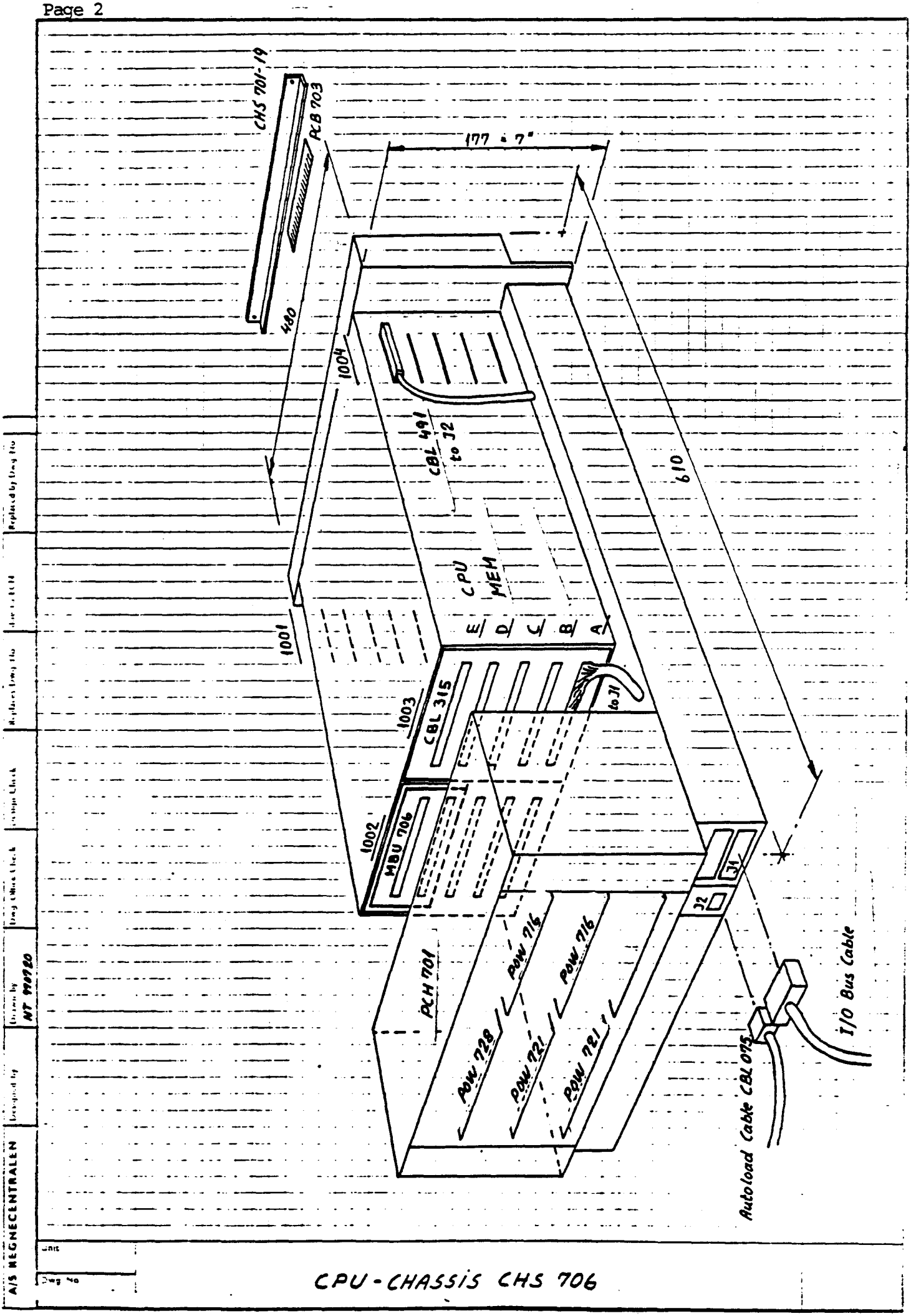
The Chassis is made up of 3 main parts. The main chassis for the controller boards, the power chassis for the power modules and the bottom chassis for the internal cables.

The power chassis is fixed to the main chassis with hinges, and can be turned up to a horizontal position. The chassis is held in its working position by 3 screws. The bottom plate in the bottom chassis can be pilled out, when the 2 screws in the front-plate are removed.

3. FANS. 3.

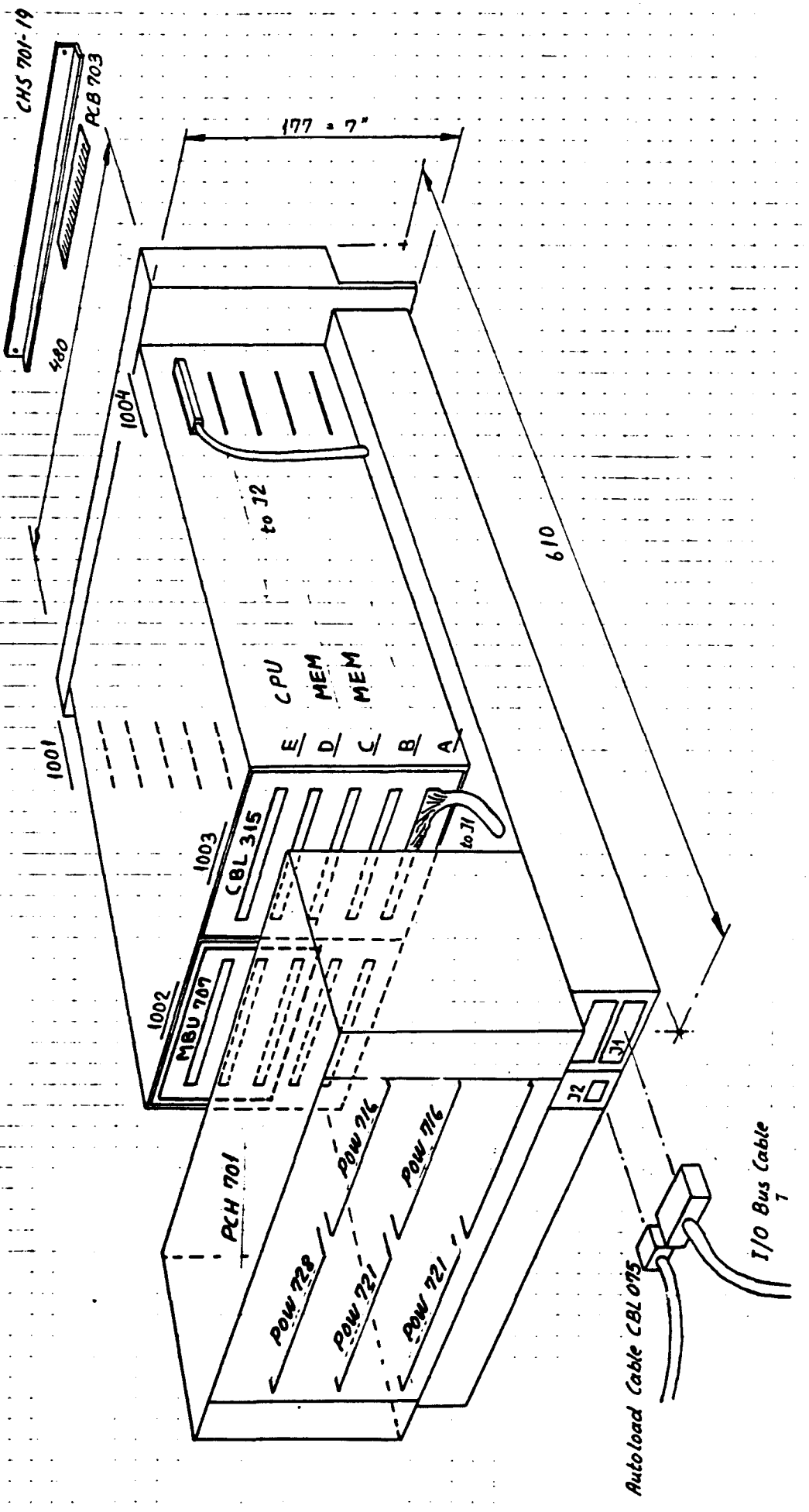
The main chassis is cooled by 2 axial fans delivering about 80 m^3/h each. The power chassis is cooled by 1 fan, delivering about 80 m^3/h. (NOTE: The power chassis should not be left running with the rear-cover removed, as this will cause overheating of the power modules.

The fans have ball-bearings and are lubricated for life.

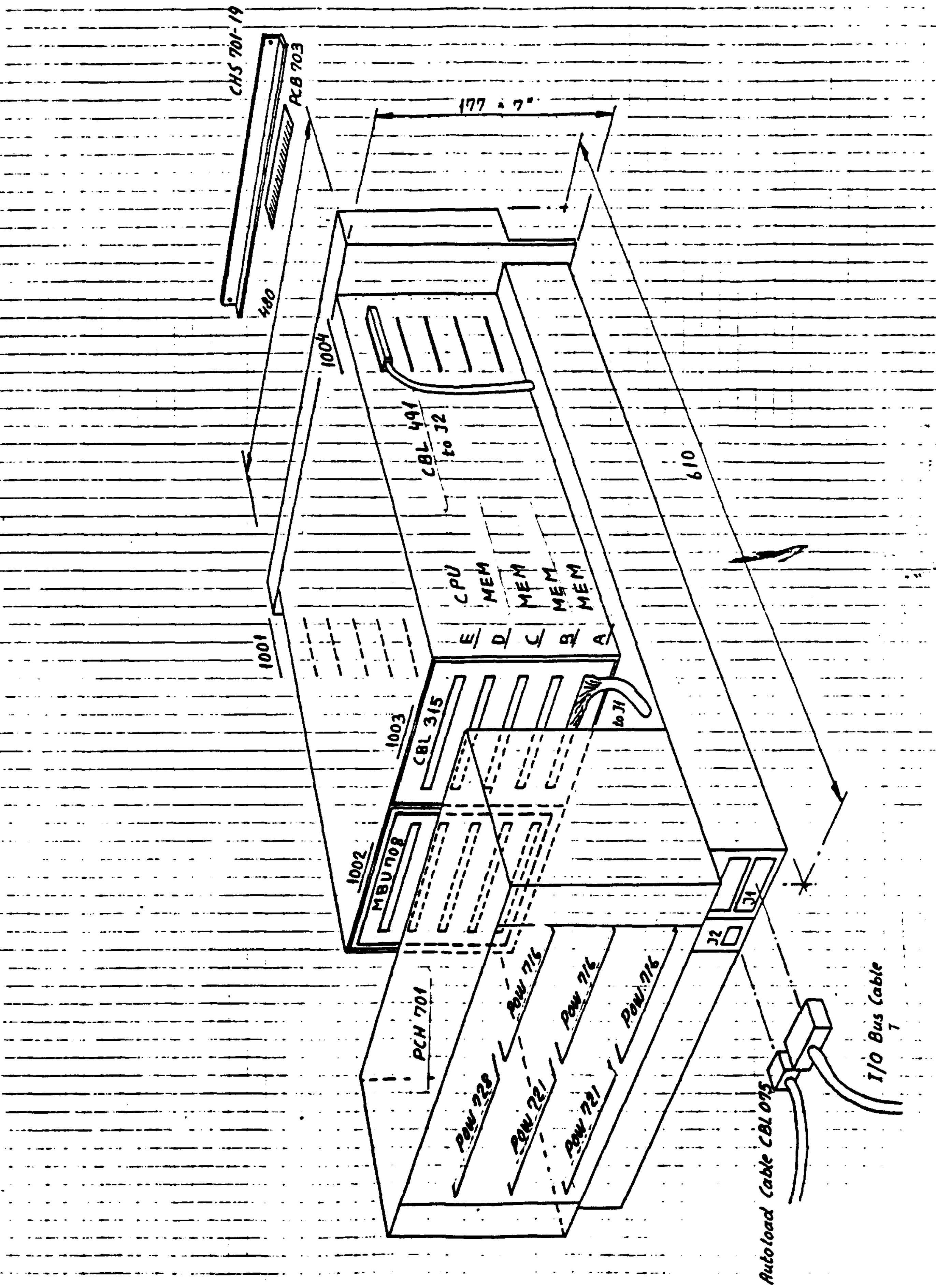


CPU - CHASSIS CHS 706

A/S REGNECENTRALEN



CPU - CHASSIS CHS 707 / 719

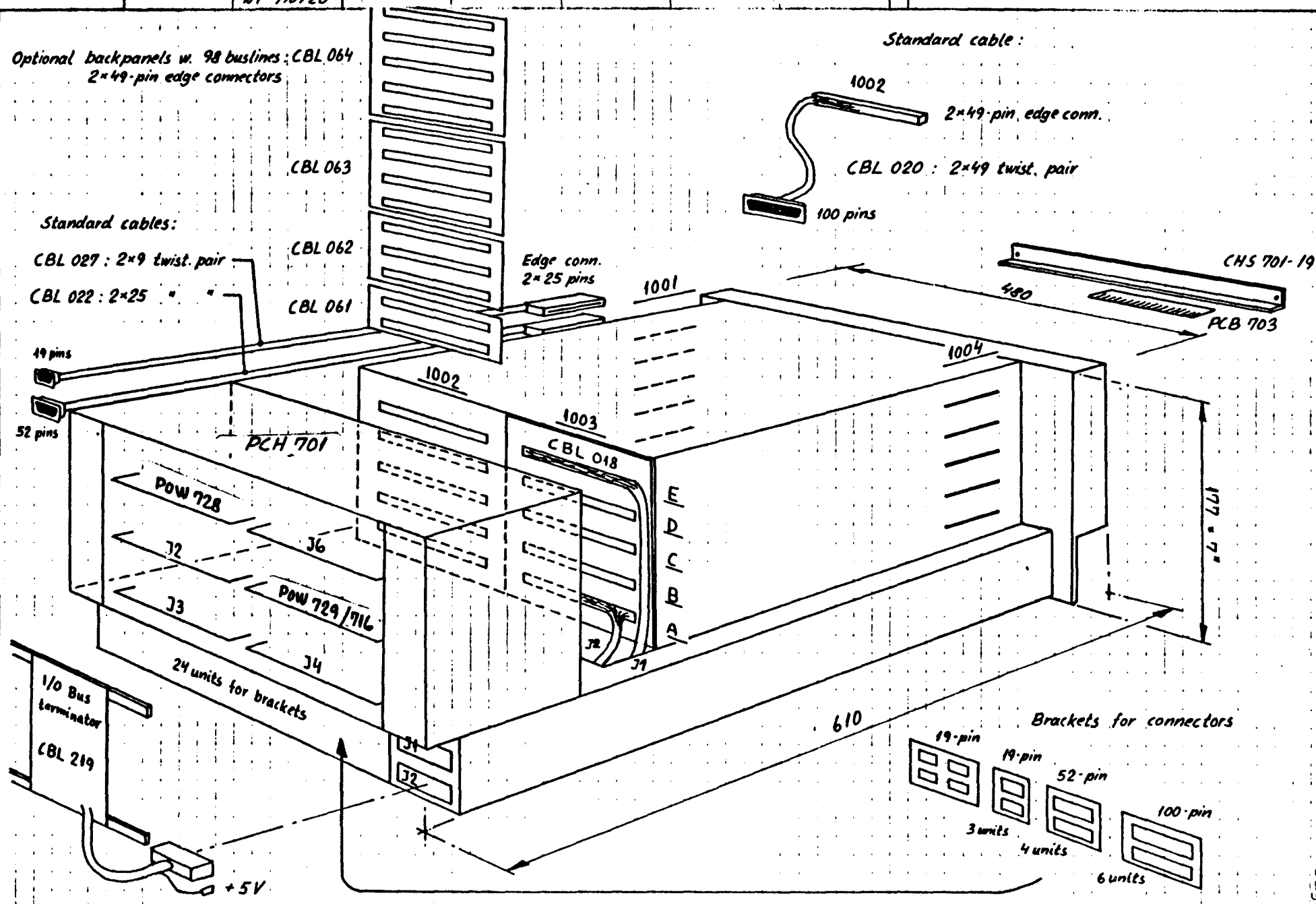


A/S REGNECENTRALEN

Drawn by NT 790720

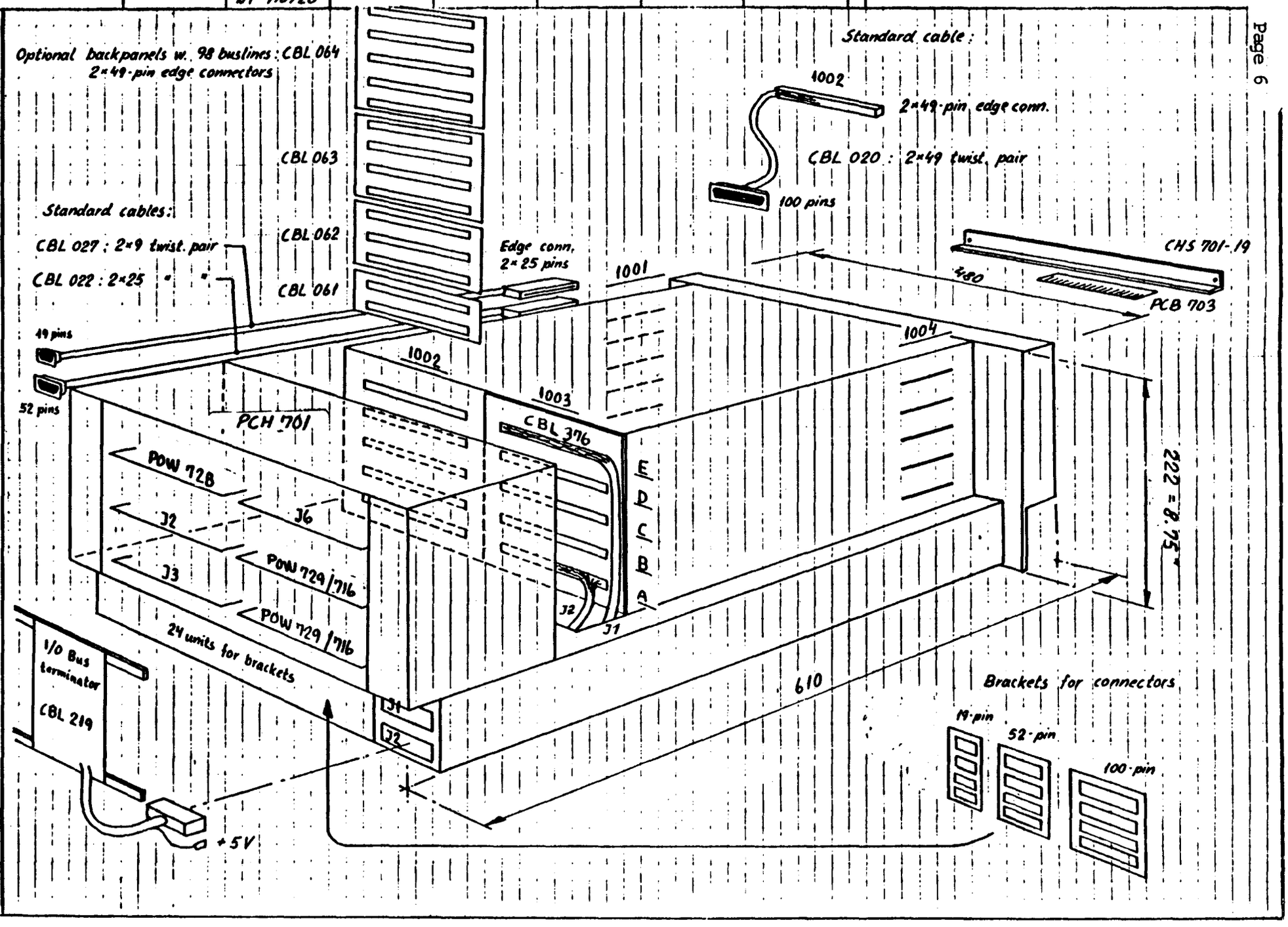
CPU - CHASSIS CHS 708 / 716

CONTROLLER CHASSIS CHS 709 / 717



A/S REGNECENTRALEN | Designed by | Drawn by NT 990920 | Dwg Office Check | Design Check | Replaces Dwg. No. | Approved | Prepared by Dwg. No.

CONTROLLER CHASSIS CHS 710



Connecto I : 1003 A (2x49 pin conn.)
Connecto II = J1 (100-pin conn.)

CONN.B-C-D-E MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME	CONN.B-C-D-E MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
Voltage Bus	A1			+ 5V	I/O Bus	A15		5	DATA1
	B1					B15		6	0V
	A2			- 12V		A16		7	DATA2
	B2					B16		8	0V
	A3					A17		9	DATA3
	B3					B18		10	0V
	A4					B17		11	DATA4
	B4					B18		12	0V
I/O Bus	A5		61	DS0		A18		13	DATA5
	B6		62	0V		B19		14	0V
	B5		81	POB		A19		15	DATA6
	B6		80	0V		B19		16	0V
	A6		63	DS1		A20		17	DATA7
	B7		64	0V		B20		18	0V
	A7		65	DS2		A21		19	DATA8
	B7		66	0V		B22		20	0V
	A8		67	DS3		B21		21	DATA9
	B8		68	0V		B22		22	0V
	B9		91	OVFLO		A22		23	DATA10
	B10		90			B23		24	0V
	A9		69	DS4		A23		25	DATA11
	B10		70	0V		B23		26	0V
	A10		71	DS5		A24		51	DATA12
	B11		72	0V		B24		50	0V
	A11		31	DCHA		A25		49	DATA13
	B11		30	0V		B26		48	0V
	A12		29	DCHI		B25		47	DATA14
	B12		28	0V		B26		46	0V
	A13		55	DCHO		A26		45	DATA15
	B14		56	0V		B27		44	0V
	B13		73	INTA		A27		79	POK
	B14		74	0V		B27		78	0V
	A14		3	DATA0		A28		77	PINT
	B15		4	0V		B28		76	0V
					contd.				

NT
770721

CBL 315
INTERNAL CABLE AND BUSMOTHERBOARD
CHS 702 / 706 / 707 / 708 / 716 / 719

R 12 155

Connector I : 1003 A (2x49 pin edge conn.)
Connector II : J1 (100 - pin conn.)
Cable :
Length :

CONN.B-C-D-E MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
I/O Bus	A29		87	SELB
	B 30		86	0V
	B 29		85	SELD
	B 30		84	0V
	A30		99	INTR
	B 31		98	0V
	A31		59	DCHR
	B 31		60	0V
	A32		37	DATOA
	B 32		36	0V
	A33		35	DATOB
	B 34		34	0V
	B 33		97	IOPLS
	B 34		96	0V
	A34		33	DATOC
	B 35		32	0V
	A35		43	DAT IA
	B 35		42	0V
	A36		41	DATIB
	B 36		40	0V
	A37		39	DATIC
	B 38		38	0V
	B 37		1	CLR
	B 38		2	0V
	A38		83	STRT
	B 39		82	0V
	A39		89	RQENB
	B 39		88	0V
	A40		93	MSKO
	B 40		92	0V
Priority Line	A41		75	INTP OUT
	B 42		100	0V
	B 41			INTP IN

CONN.B-C-D-E MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
I/O Bus	A42		95	IORST
	B 43		94	0V
	A43		27	DCHMO
	B 43		52	0V
	A44		53	DCHMI
	B 44		54	0V
Priority Line	A45		57	DCHP OUT
	B 44		58	0V
	B 45			DCHP IN
Voltage Bus	A46			
	B 46			
	A47			
	B 47			
	A48			+ 12V
	B 48			
	A49			+ 5V
	B 49			

CBL 315
INTERNAL CABLE AND BUSMOTHERBOARD
CHS 702 / 706 / 707 / 708 / 716 / 719

R12156

Connector I : 1003 A and 1003 E (2x49 pin edge conn.)
Connector II : J 1 and J 2 (100-pin conn.)
Cable :
Length :

CONN. B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME	CONN. B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
Voltage Bus	A 1			+ 5 V	I/O Bus	A 15		5	DATA1
	B 1			+ 5 V		B 15		6	0V
	A 2			- 12V		A 16		7	DATA2
	B 2			- 12V		B 16		8	0V
	A 3			- 24V		A 17		9	DATA3
	B 3			- 24V		B 18		10	0V
	A 4			Voltage Bus		B 17		11	DATA4
	B 4			not used		B 18		12	0V
I/O Bus	A 5		61	DS0		A 18		13	DATA5
	B 6		62	0V		B 19		14	0V
	B 5		81	POB		A 19		15	DATA6
	B 6		80	0V		B 19		16	0V
	A 6		63	DS1		A 20		17	DATA7
	B 7		64	0V		B 20		18	0V
	A 7		65	DS2		A 21		19	DATA8
	B 7		66	0V		B 22		20	0V
	A 8		67	DS3		B 21		21	DATA9
	B 8		68	0V		B 22		22	0V
	B 9		91	OVFLO		A 22		23	DATA10
	B10		90			B 23		24	0V
	A 9		69	DS4		A 23		25	DATA11
	B10		70	0V		B 23		26	0V
	A10		71	DS5		A 24		51	DATA12
	B 11		72	0V		B 24		50	0V
	A11		31	DCHA		A 25		49	DATA13
	B 11		30	0V		B 26		48	0V
	A12		29	DCHI		B 25		47	DATA14
	B 12		28	0V		B 26		46	0V
	A13		55	DCHO		A 26		45	DATA15
	B 14		56	0V		B 27		44	0V
	B 13		73	INTA		A 27		79	POK
	B 14		74	0V		B 27		78	0V
	A14		3	DATA0		A 28		77	-. PINT
	B 15		4	0V		B 28		76	0V

cont'd.

NT
770721

Connector I : 1003 A and 1003 E (2 x 49 pin edge conn.)
Connector II : J1 and J2 (400-pin conn.)
Cable :
Length :

CONN.B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
I/O Bus	A29		87	SELB
	B 30		86	0V
	B 29		85	SELD
	B 30		84	0V
	A30		99	INTR
	B 31		98	0V
	B 31		59	DCHR
	B 31		60	0V
	A32		37	DATOA
	B 32		36	0V
	A33		35	DATOB
	B 34		34	0V
	B 33		97	IOPLS
	B 34		96	0V
	A34		33	DATOC
	B 35		32	0V
	A35		43	DATIA
	B 35		42	0V
	A36		41	DATIB
	B 36		40	0V
	A37		39	DATIC
	B 38		38	0V
	B 37		1	CLR
	B 38		2	0V
	A38		83	STRT
	B 39		82	0V
	A39		89	RQENB
	B 39		88	0V
	A40		93	MSKO
	B 40		92	0V
Priority Line	A41		75	INTP OUT
	B 42		100	0V
	B 41			INTP IN

CONN.B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
I/O Bus	A42		95	IORST
	B 43		94	0V
	A43		27	DCHMO
	B 43		52	0V
	A44		53	DCHMI
	B 44		54	0V
Priority Line	A45		57	DCHP OUT
	B 44		58	0V
	B 45			DCHP IN
Voltage Bus	A46			Voltage Bus not used
	B 46			
	A47			+ 24V
	B 47			
	A48			+ 12V
	B 48			
	A49			+ 5V
	B 49			

CBL 018
INTERNAL CABLES AND BUSMOTHERBOARD
CHS 701 / 709 / 717

R 12 154

Connector I : 1003 A and 1003 E (2x49 pin edge conn.)
Connector II : J 1 and J 2 (100-pin conn.)
Cable :
Length :

CONN.B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME	CONN.B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
Voltage Bus	A 1			+ 5 V		A 15		5	DATA1
	B 1					B 15		6	0V
	A 2			- 12V		A 16		7	DATA2
	B 2					B 16		8	0V
	A 3			- 24V		A 17		9	DATA3
	B 3					B 18		10	0V
	A 4			Voltage Bus		B 17		11	DATA4
	B 4			not used		B 18		12	0V
I/O Bus	A 5		61	DS0	I/O Bus	A 18		13	DATA5
	B 6		62	0V		B 19		14	0V
	B 5		81	POB		A 19		15	DATA6
	B 6		80	0V		B 19		16	0V
	A 6		63	DS1		A 20		17	DATA7
	B 7		64	0V		B 20		18	0V
	A 7		65	DS2		A 21		19	DATA8
	B 7		66	0V		B 22		20	0V
	A 8		67	DS3		B 21		21	DATA9
	B 8		68	0V		B 22		22	0V
	B 9		91	OVFLO		A 22		23	DATA10
	B10		90			B 23		24	0V
	A 9		69	DS4		A 23		25	DATA11
	B10		70	0V		B 23		26	0V
	A10		71	DS5		A 24		51	DATA12
	B 11		72	0V		B 24		50	0V
	A11		31	DCHA		A 25		49	DATA13
	B 11		30	0V		B 26		48	0V
	A12		29	DCHI		B 25		47	DATA14
	B 12		28	0V		B 26		46	0V
	A13		55	DCHO		A 26		45	DATA15
	B 14		56	0V		a 27		44	0V
	B 13		73	INTA		A 27		79	POK
	B 14		74	0V		B 27		78	0V
	A14		3	DATA0		A 28		77	-. PINT
	B 15		4	0V		B 28		76	0V

cont'd.

NT 70721

Connector I : 1003 A and 1003 E (2 x 49 pin edge conn.)
Connector II : J1 and J2 (100-pin conn.)
Cable :
Length :

CONN.B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
I/O Bus	A29		87	SELB
	B 30		86	0V
	B 29		85	SELD
	B 30		84	0V
	A30		99	INTR
	B 31		98	0V
	B 31		59	DCHR
	B 31		60	0V
	A32		37	DATOA
	B 32		36	0V
	A33		35	DATOB
	B 34		34	0V
	B 33		97	IOPLS
	B 34		96	0V
	A34		33	DATOC
	B 35		32	0V
	A35		43	DATIA
	B 35		42	0V
	A36		41	DATIB
	B 36		40	0V
	A37		39	DATIC
	B 38		38	0V
	B 37		1	CLR
	B 38		2	0V
	A38		83	STRT
	B 39		82	0V
	A39		89	RQENB
	B 39		88	0V
	A40		93	MSKO
	B 40		92	0V
Priority Line	A41		75	INTP OUT
	B 42		100	0V
	B 41			INTP IN

CONN.B-C-D-MOTHERBOARD	I PIN	WIRE	II PIN	SIGNAL NAME
I/O Bus	A42		95	IORST
	B 43		94	0V
	A43		27	DCHMO
	B 43		52	0V
	A44		53	DCHMI
	B 44		54	0V
Priority Line	A45		57	DCHP OUT
	B 44		58	0V
	B 45			DCHP IN
Voltage Bus	A46			Voltage Bus not used
	B 46			
	A47			+ 24V
	B 47			
	A48			+ 12V
	B 48			
	A49			+ 5V
	B 49			

CPU

CONNECTOR E

MEM

D

PIN	A	B	A	B
1	A0	-.BUS 0		
2	A1	-.BUS 1		
3	A2	-.BUS 2		
4	A3	-.BUS 3		
5	A4	-.BUS 4		
6	A5	-.BUS 5		
7	A6	-.BUS 6		
8	A7	-.BUS 7		
9	A8	-.BUS 8		
10	A9	-.BUS 9		
11	A10	-.BUS 10		
12	A11	-.BUS 11		
13	A12	-.BUS 12		
14	A13	-.BUS 13		
15	A14	-.BUS 14		
16	A15	-.BUS 15		
17		-. RIGHT PARITY		
18		-. LEFT PARITY		
19	MEM START	0V		
20	-. MEMORY BUSY	0V		
21	READ/RESTORE	0V		
22	DATA RETAIN	0V		
23				
24				
25	DATA AVAIL	0V		
26				
27				
28				
29				
30				
31	- 18V	- 18V		
32	- 18V	- 18V		
33	- 18V	- 18V		
34	- 18V	- 18V		
35	- 18V	- 18V		
36				
37				
38	0V	0V		
39	0V	0V		
40	0V	0V		
41	0V	0V		
42	0V	0V		
43				
44				
45				
46				
47				
48				
49				

TOP

-18V

0V

GND.

Drawn by NT 770721

Designed by

Design Check

Replaces Dwg. No. due to ECN

Repl.

Dwg. No.

Dwg. Office

ENTRALEN

A/S REG

Unit CHS 706

Dwg. No.

MEMORY BUS MBU 706

CHS 706 pos. 1002

CPU MEM MEM

CONNECTOR E

	PIN	A	B	D A	D B	C A	C B
	1	A0	-.BUS 0				
	2	A1	-.BUS 1				
	3	A2	-.BUS 2				
	4	A3	-.BUS 3				
	5	A4	-.BUS 4				
	6	A5	-.BUS 5				
	7	A6	-.BUS 6				
	8	A7	-.BUS 7				
	9	A8	-.BUS 8				
	10	A9	-.BUS 9				
	11	A10	-.BUS 10				
	12	A11	-.BUS 11				
	13	A12	-.BUS 12				
	14	A13	-.BUS 13				
	15	A14	-.BUS 14				
	16	A15	-.BUS 15				
	17		-. RIGHT PARITY				
	18		-. LEFT PARITY				
	19	MEM START	0V				
TOP	20	-. MEMORY BUSY	0V				
	21	READ/RESTORE	0V				
	22	DATA RETAIN	0V				
	23						
	24						
	25	DATA AVAIL	0V				
	26						
	27						
	28						
	29						
	30						
-18V	31	-18V	-18V				
	32	-18V	-18V				
	33	-18V	-18V				
	34	-18V	-18V				
	35	-18V	-18V				
	36						
	37						
0V	38	0V	0V				
	39	0V	0V				
	40	0V	0V				
	41	0V	0V				
	42	0V	0V				
	43						
	44						
	45						
	46						
	47						
GND.	48						
	49						

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check

Dwg. Office Check

Drawn by NT 770721

Designed by

A/S REGNECENTRALEN

Unit CHS 707	MEMORY BUS MBU 707
Dwg. No.	CHS 707 pos. 1002

AGF 1973

CPU

CONNECTOR E

PIN	A	B
1	A0	-.BUS 0
2	A1	-.BUS 1
3	A2	-.BUS 2
4	A3	-.BUS 3
5	A4	-.BUS 4
6	A5	-.BUS 5
7	A6	-.BUS 6
8	A7	-.BUS 7
9	A8	-.BUS 8
10	A9	-.BUS 9
11	A10	-.BUS 10
12	A11	-.BUS 11
13	A12	-.BUS 12
14	A13	-.BUS 13
15	A14	-.BUS 14
16	A15	-.BUS 15
17		-. RIGHT PARITY
18		-. LEFT PARITY
19	MEM START	0V
TOP 20	-. MEMORY BUSY	0V
21	READ/RESTORE	0V
22	DATA RETAIN	0V
23		
24		
25	DATA AVAIL	0V
26		
27		
28		
29		
30		
31	- 18V	- 18V
32	- 18V	- 18V
33	- 18V	- 18V
34	- 18V	- 18V
35	- 18V	- 18V
36		
37		
38	0V	0V
39	0V	0V
40	0V	0V
41	0V	0V
42	0V	0V
43		
44		
45		
46		
47		
48		
GND. 49		

- 18V

0V

MEM D — A B

MEM C — A B

MEM B — A B

MEM A — A B

Dwg. No.

Repl.

due to ECN

Replaces Dwg. No.

Design Check

Dwg. Office

Drawn by NT 770721

Designed by

CENTRALEN

A/S RET

Unit CHS 708

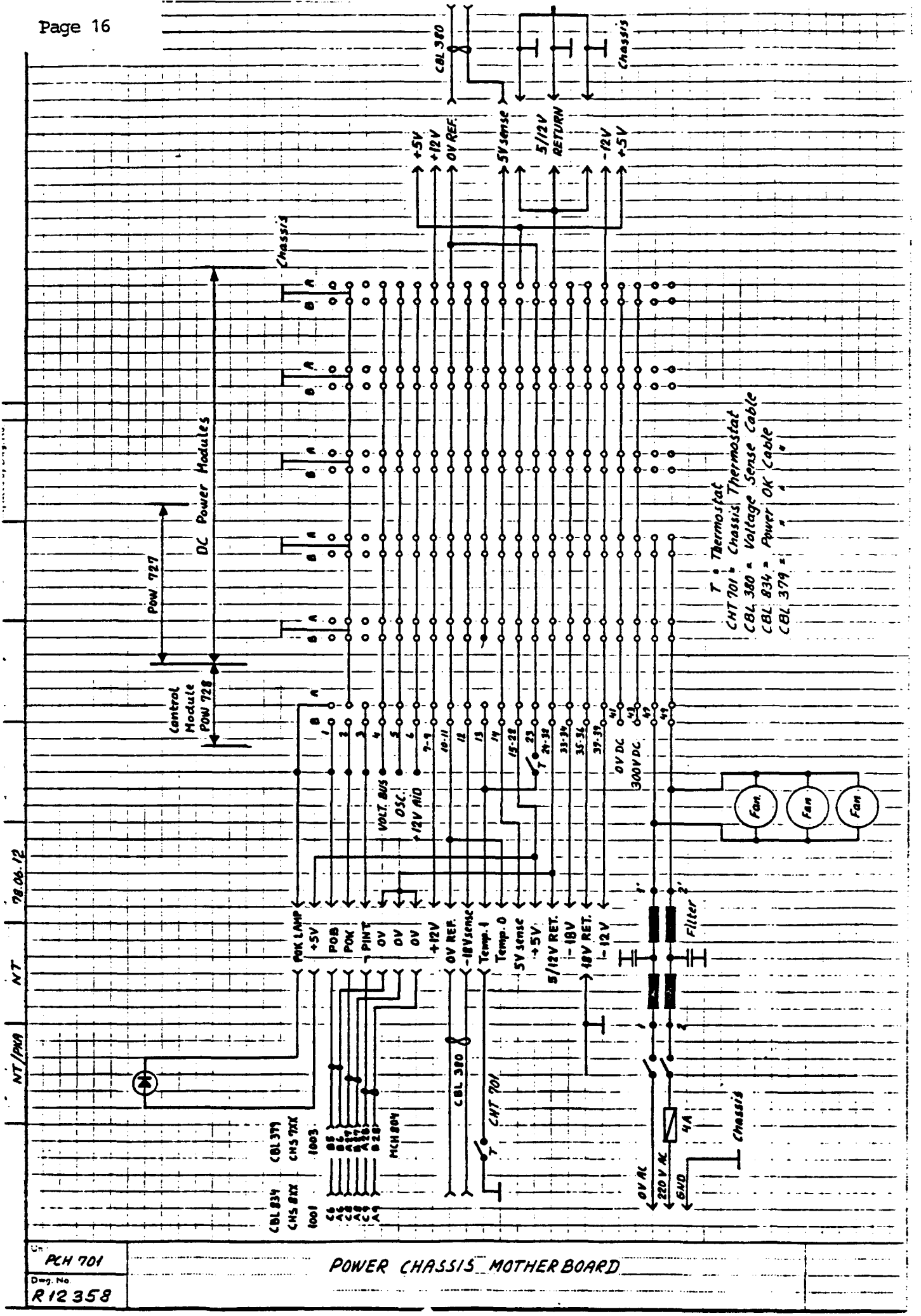
Dwg. No.

MEMORY BUS MBU 708

CHS 708 pos. 1002

NC doc. V8 140

AGF 1973

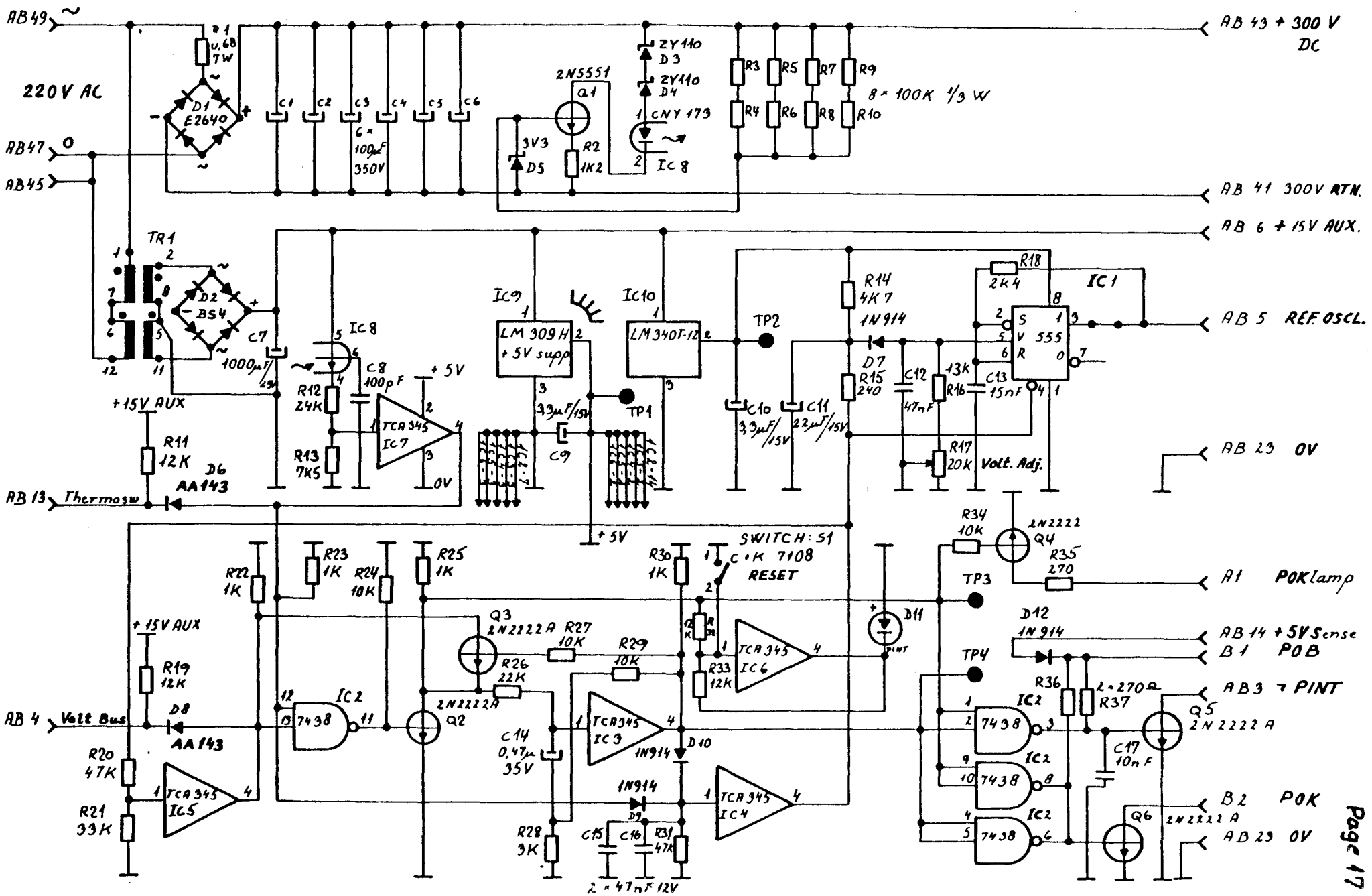


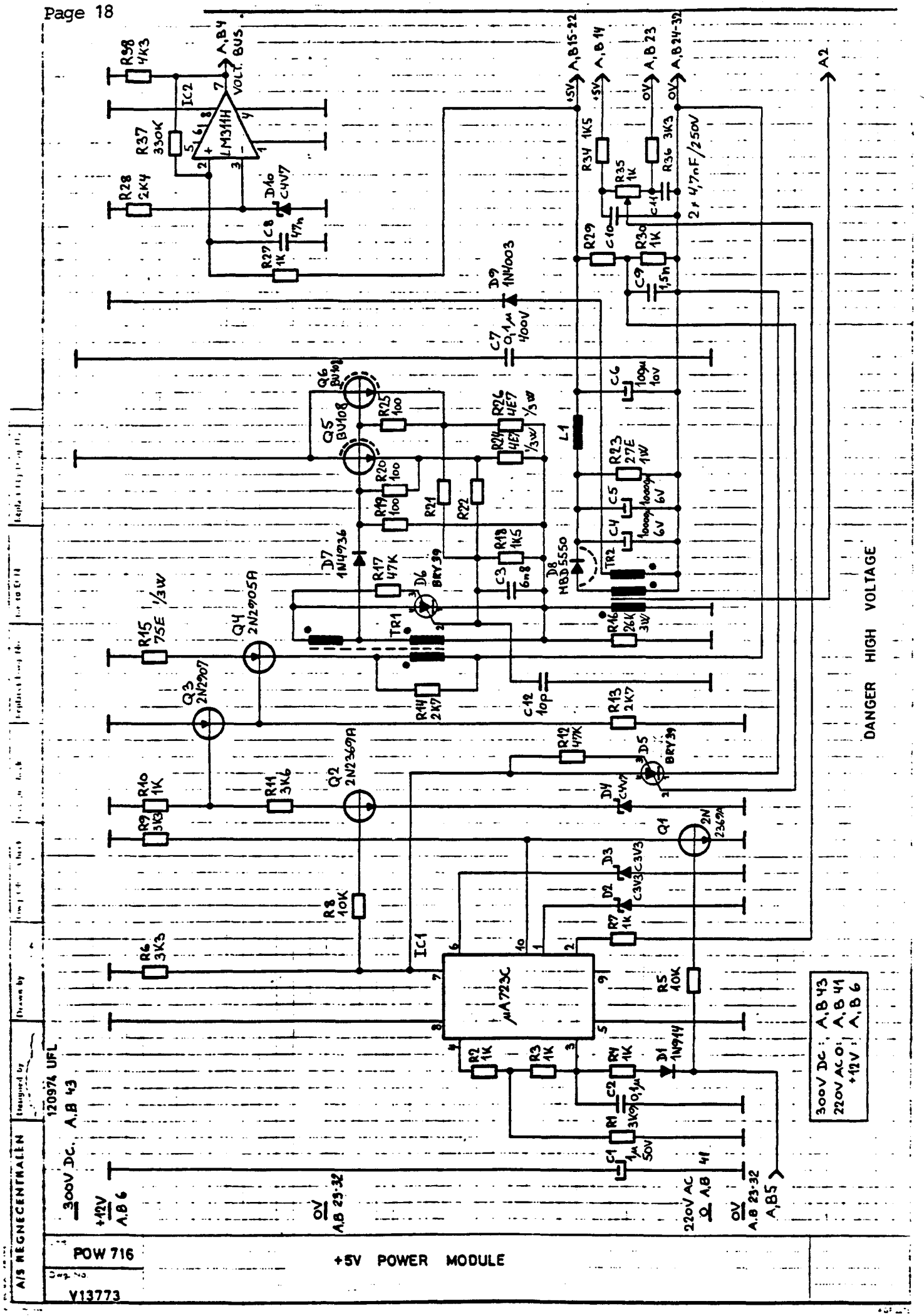
PCH 701	POWER CHASSIS MOTHER BOARD
Dwg. No. R12358	

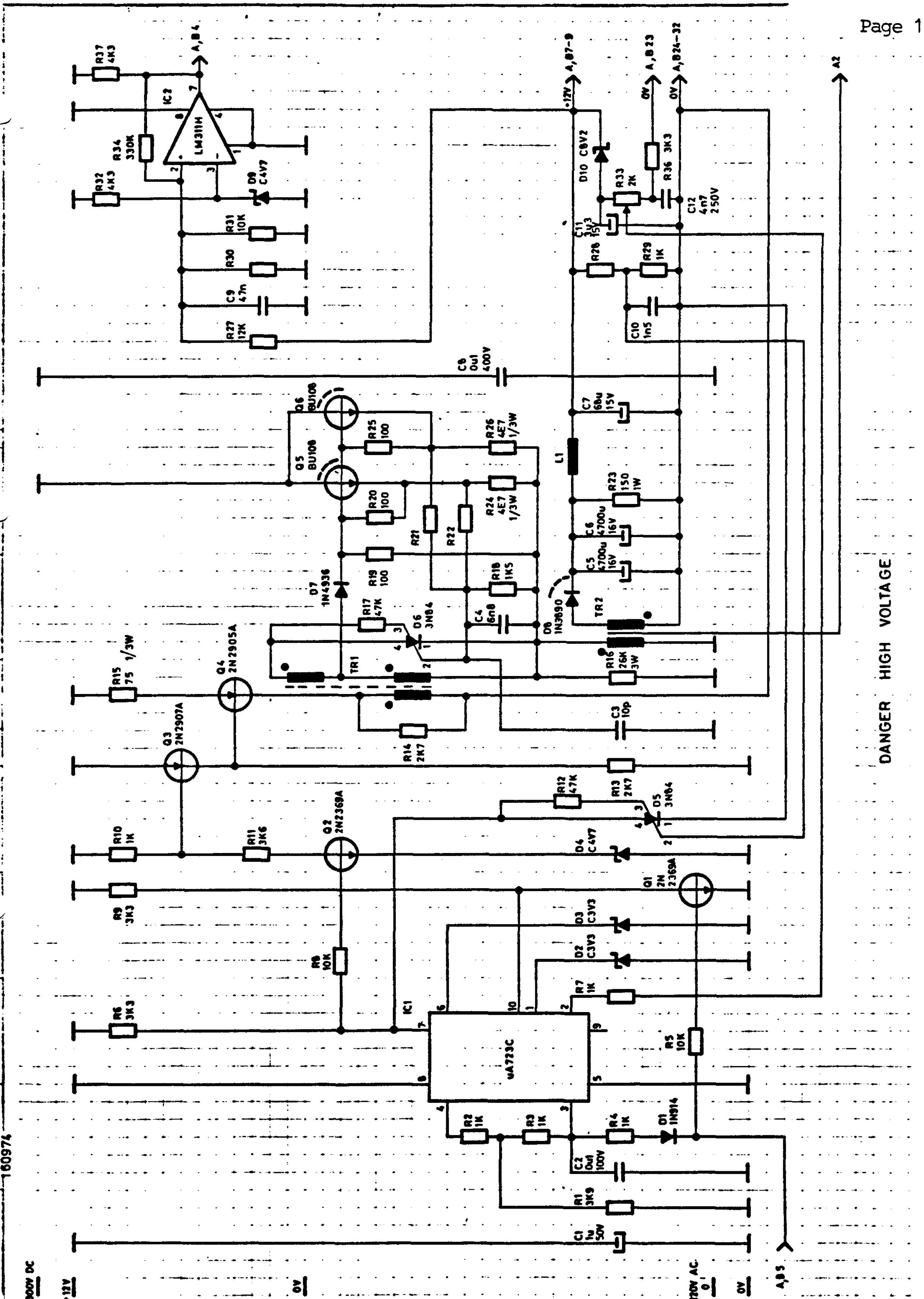
78.06.12 NT NT/PKA

POW 728 R12742

CONTROL MODULE POW 728




A/S REGNECENTRALEN
Designed by
Drawn by
120974 UFL
POW 716
Y13773
+5V POWER MODULE
300V Dc. A,B 43
+12V A,B 6
0V A,B 23-32
220V AC A,B 41
0V A,B 23-32
A,B5
300V Dc: A,B 43
220V AC: A,B 41
+12V: A,B 6
DANGER HIGH VOLTAGE
A2
+5V A,B15-22
+5V A,B 14
0V A,B 23
0V A,B 24-32
A,B4 VOLT. BUS.
IC1 µA723C
IC2 LM311H
TR1
TR2
L1
2 r 4,7nF/250V


DANGER HIGH VOLTAGE
LM311H
uA723C
IC1
IC2
TR1
TR2
L1
Q1 2N 2369A
Q2 2N2369A
Q3 2N2907A
Q4 2N2905A
Q5 BU108
Q6 BU108
D1 1N914
D2 C3V3
D3 C3V3
D4 C4V7
D5 3N84
D6 3N84
D7 1N4936
D8 1N3890
D9 C4V7
D10 C8V2
R1 3K9
R2 1K
R3 1K
R4 1K
R5 10K
R6 3K3
R7 1K
R8 10K
R9 3K3
R10 1K
R11 3K6
R12 47K
R13 2K7
R14 2K7
R15 75 1/3W
R16 26K 3W
R17 47K
R18 1K5
R19 100
R20 100
R21
R22
R23 150 1W
R24 4E7 1/3W
R25 100
R26 4E7 1/3W
R27 12K
R28
R29 1K
R30
R31 10K
R32 4K3
R33 2K
R34 330K
R36 3K3
R37 4K3
C1 1u 50V
C2 0u1 100V
C3 10p
C4 6n8
C5 4700u 16V
C6 4700u 16V
C7 68u 15V
C8 0u1 400V
C9 47n
C10 1n5
C11 3u3 15V
C12 4n7 250V
+12V A,B7-9
0V A,B23
0V A,B24-32
A,B4
A2
A,B5
+300V DC
+12V
0V
220V AC
0V

CENTRALEN

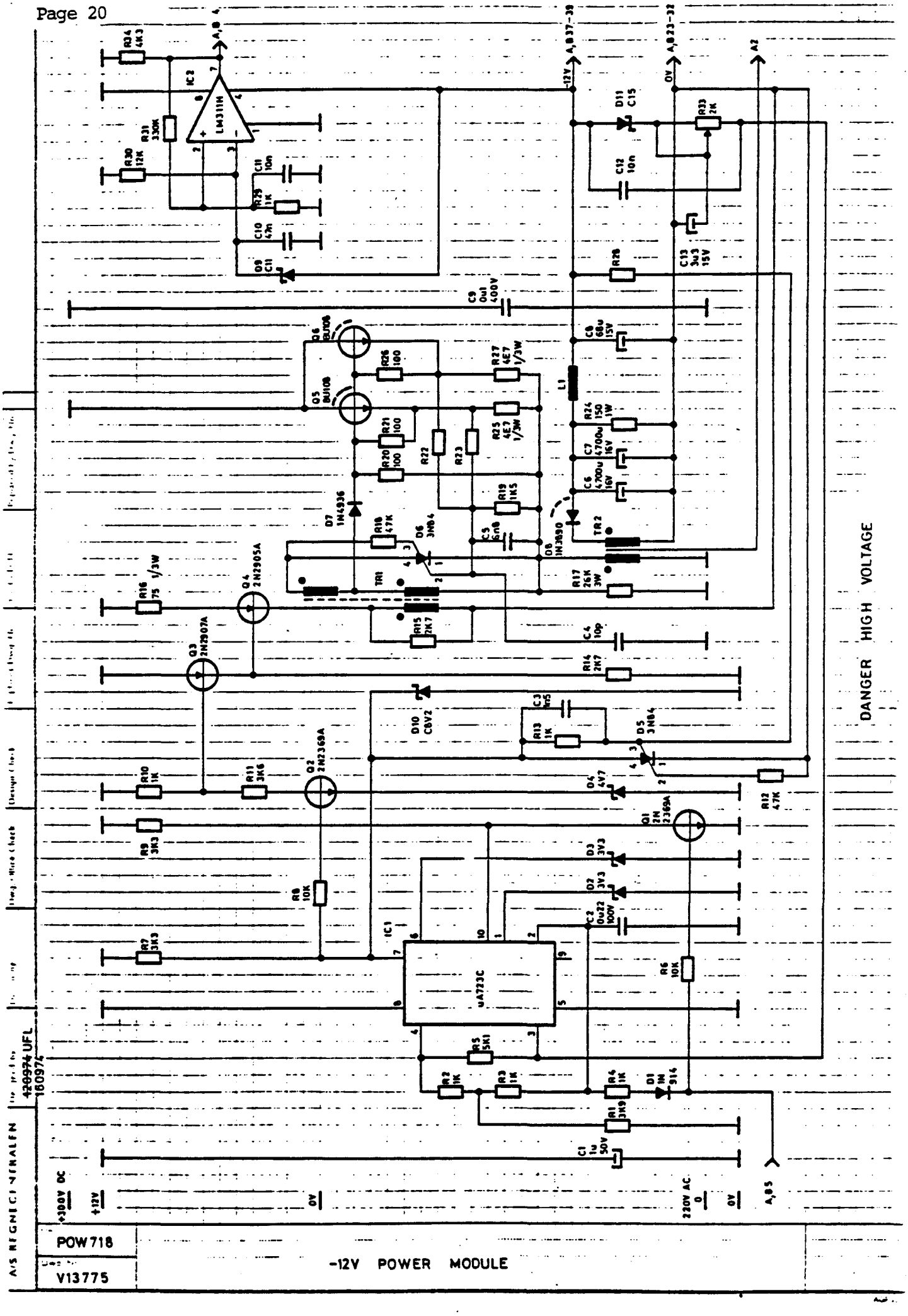
A/S RE

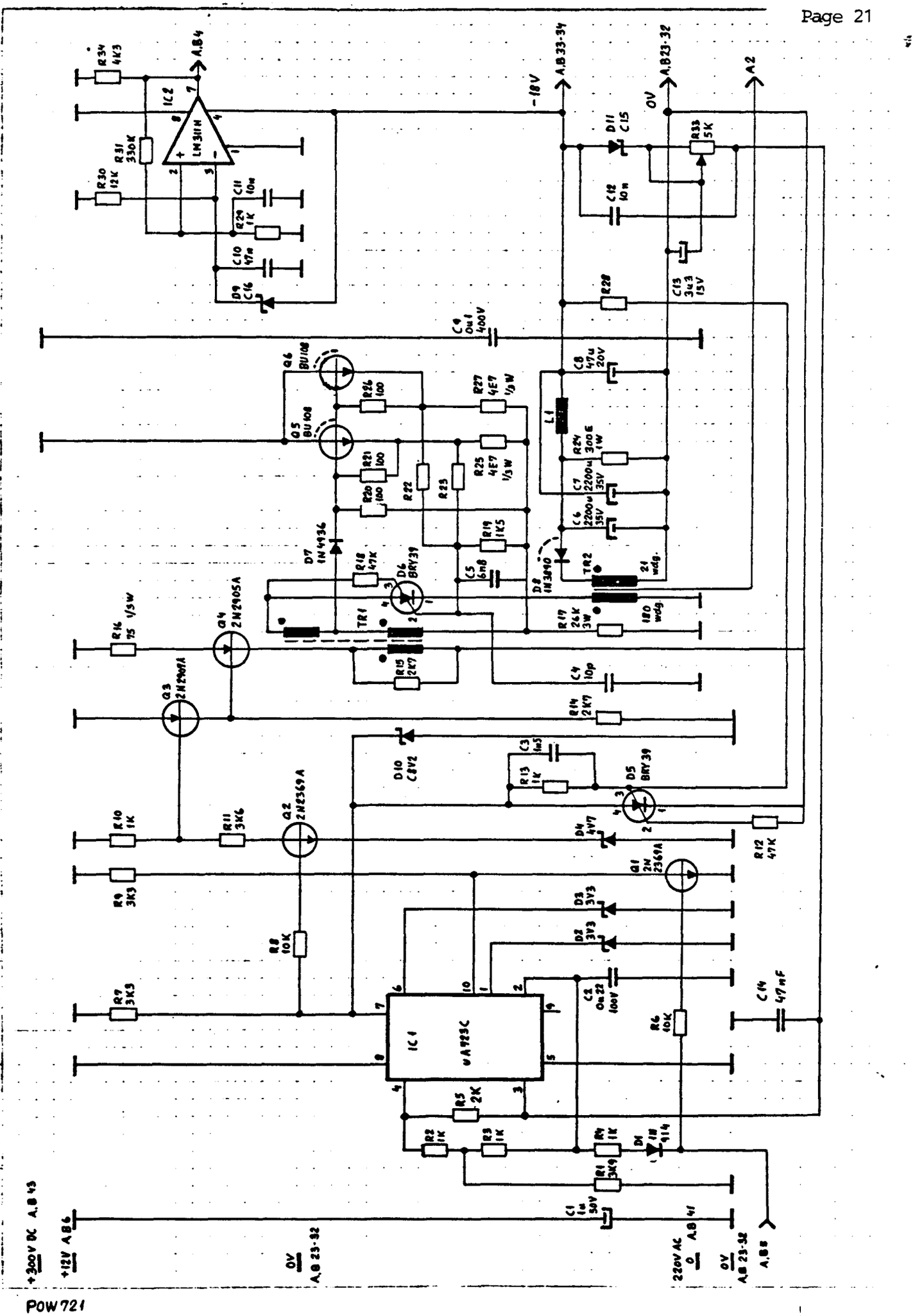
Checked by 060974 UFL 180974

Unit
POW717

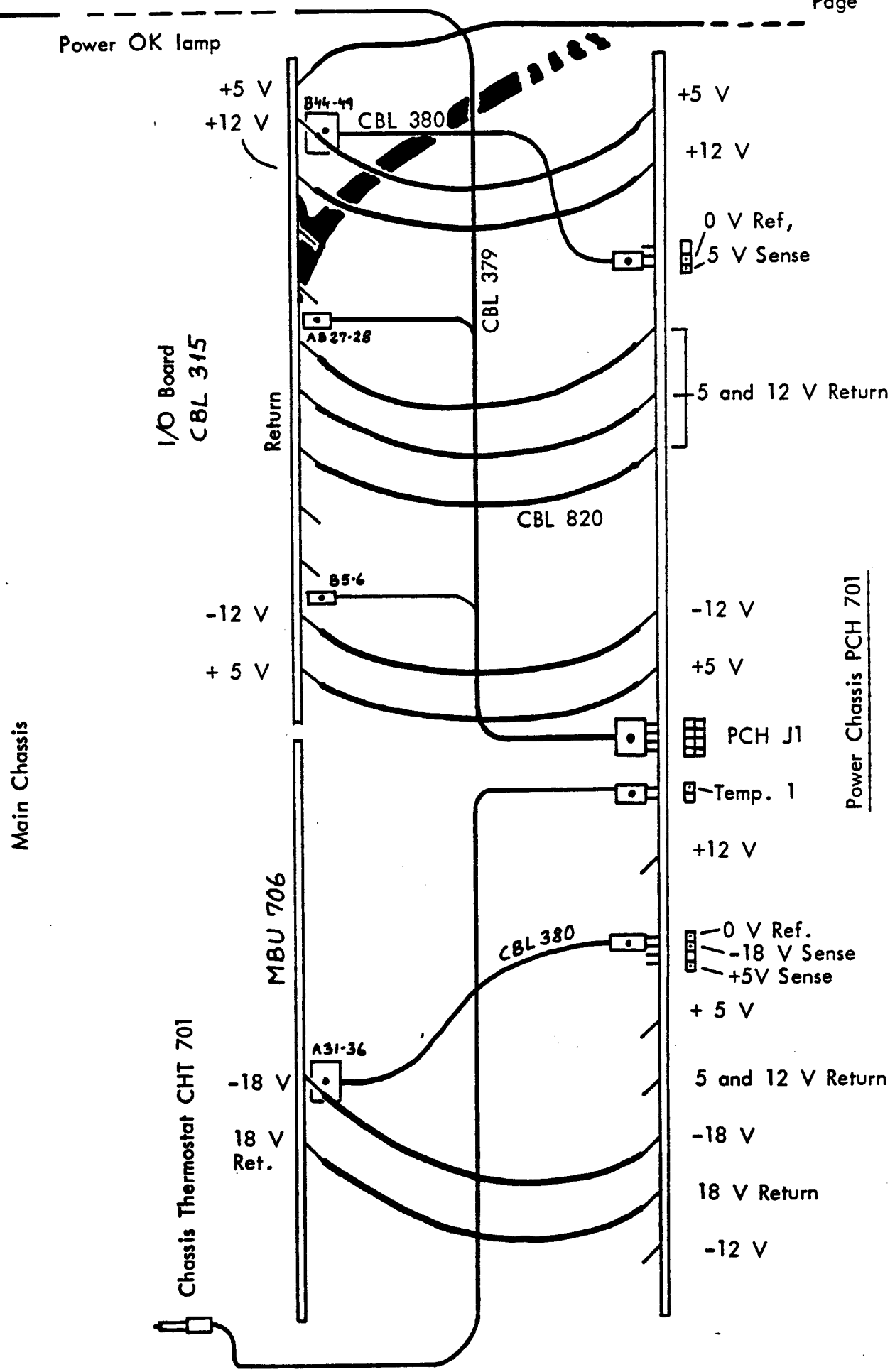
Dwg No
V13774

+12V POWER MODULE


DANGER HIGH VOLTAGE
POW718
V13775
-12V POWER MODULE
420974 UFL
160974
A/S REGNECENTRALEN

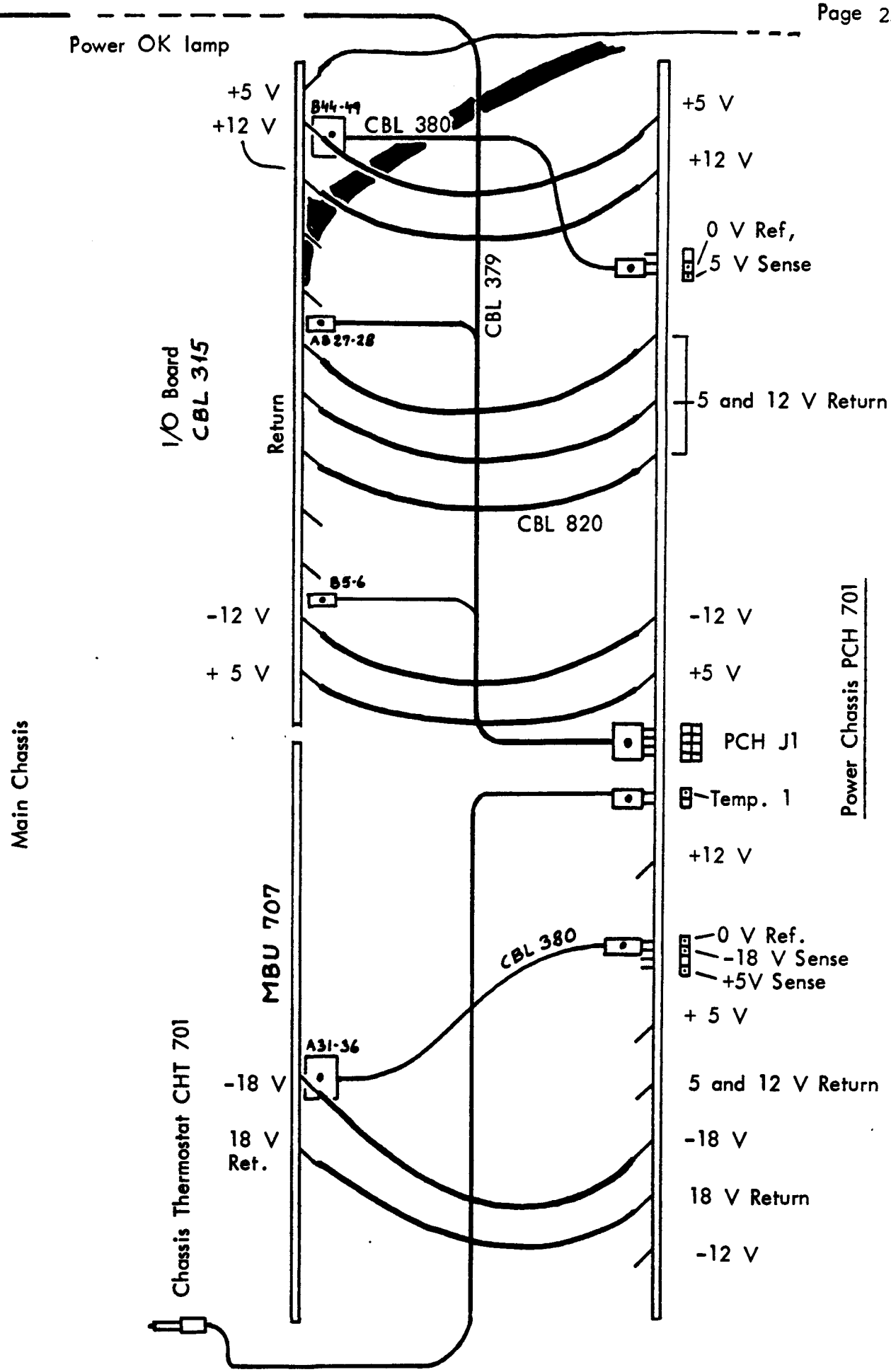

-18V
A.B 33-34
0V
A.B 23-32
A2
A.B4
IC2
LM311H
IC1
uA723C
Q1 2N2369A
Q2 2N2369A
Q3 2N2905A
Q4 2N2905A
Q5 BU108
Q6 BU108
TR1
TR2
D1 914
D2 3V3
D3 3V3
D4 4V7
D5 BRY39
D6 BRY39
D7 1N4936
D8 1N3940
D9 C16
D10 C8V2
D11 C15
C1 1u 50V
C2 0u22 100V
C3 1n5
C4 10p
C5 6n8
C6 2200u 35V
C7 2200u 35V
C8 47u 20V
C9 0u1 400V
C10 47n
C11 10n
C12 10n
C13 3u3 15V
C14 47nF
R1 3K9
R2 1K
R3 1K
R4 1K
R5 2K
R6 10K
R7 3K3
R8 10K
R9 3K3
R10 1K
R11 3K6
R12 47K
R13 1K
R14 2K7
R15 2K7
R16 75 1/3W
R17 26K 3W
R18 47K
R19 1K5
R20 100
R21 100
R22
R23
R24 300E 1W
R25 4E7 1/3W
R26 100
R27 4E7 1/3W
R28
R29 1K
R30 12K
R31 330K
R33 5K
R34 4K3
L1
180 wdg.
21 wdg.
+300V DC A.B 43
+12V A.B6
0V A.B 23-32
220V AC A.B 41
0V A.B 23-32 A.B5
POW721
-18V POWER MODULE 3.5 A
R12 152
JS 76 1102 NT 770722

Page



78.07.20
NT

CABLE CONNECTIONS FOR POWER CHASSIS
CHS 706



18.07.20
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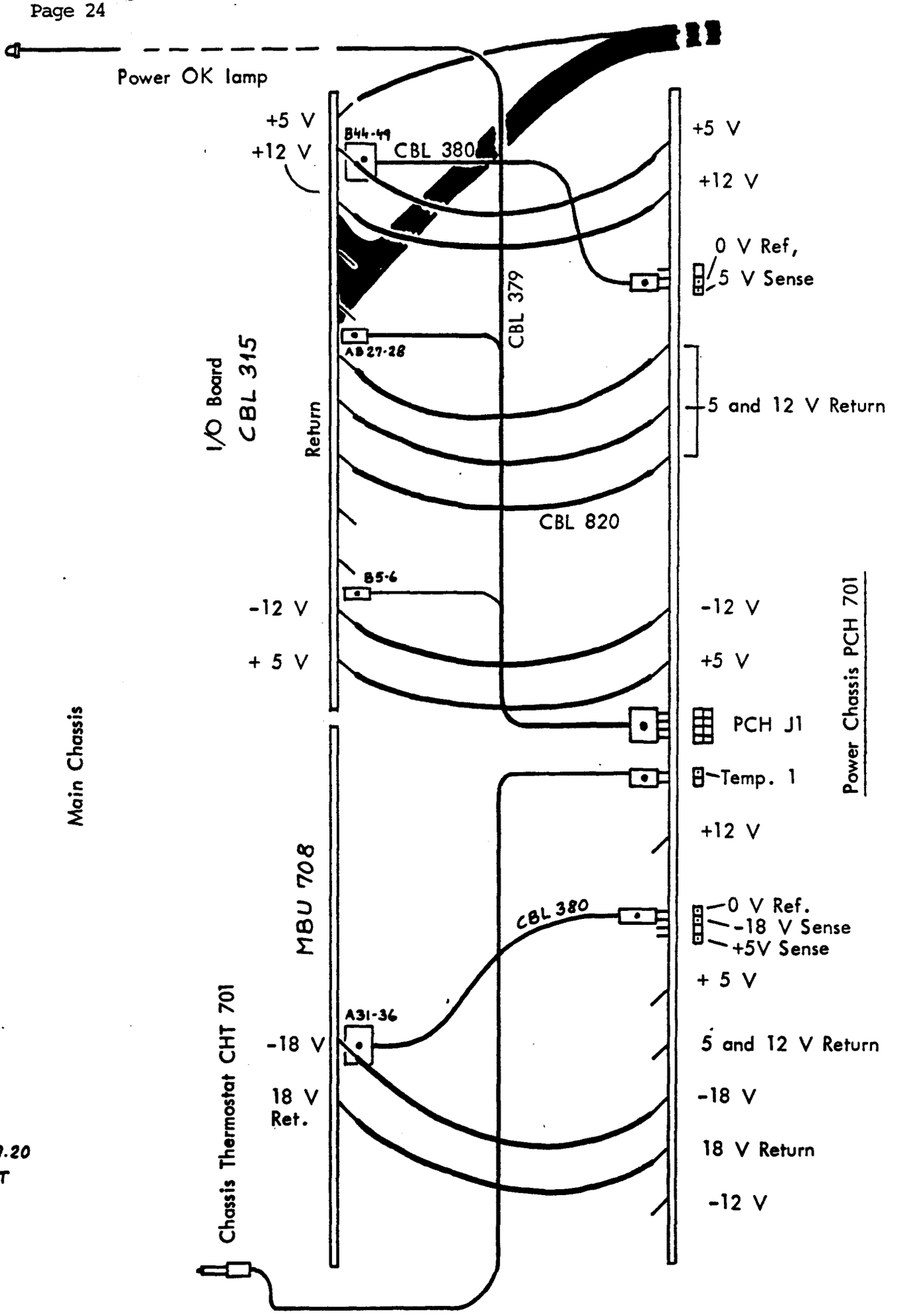
CABLE CONNECTIONS FOR POWER CHASSIS

CHS 707



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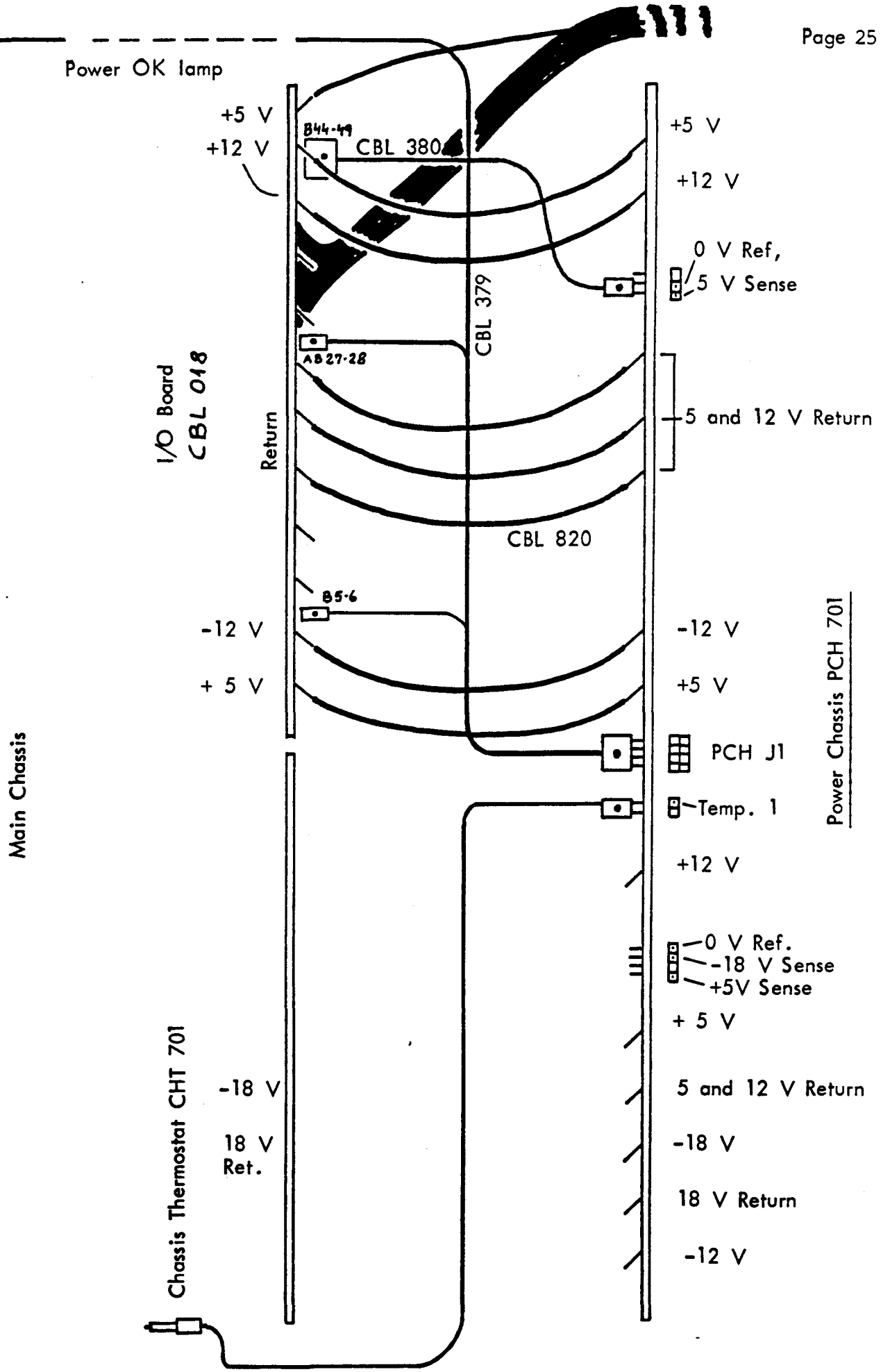
CABLE CONNECTIONS FOR POWER CHASSIS
CHS 708



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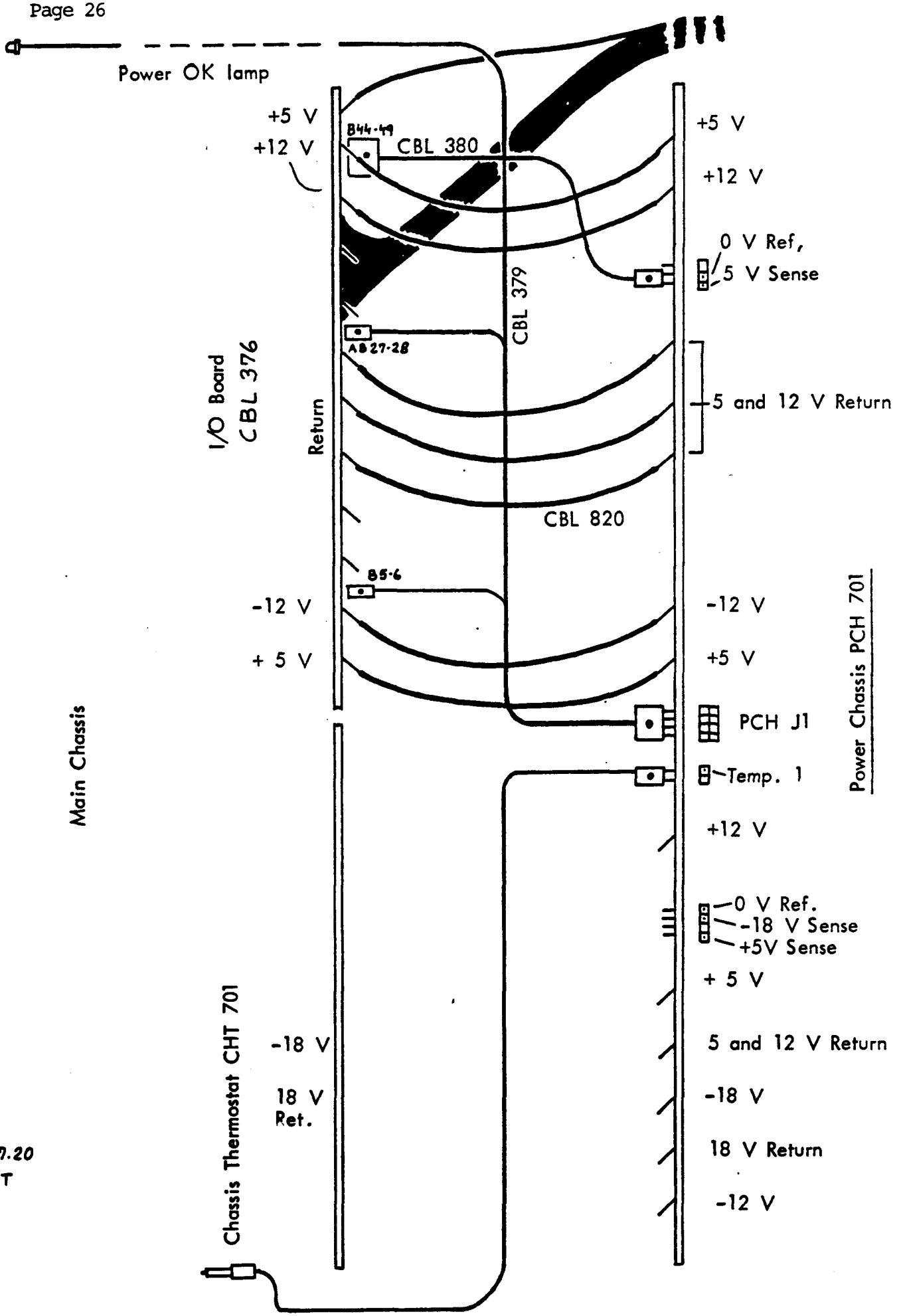
CABLE CONNECTIONS FOR POWER CHASSIS
CHS 709



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NT

CABLE CONNECTIONS FOR POWER CHASSIS
CHS 710