
BARCO

BARCO Projection Systems

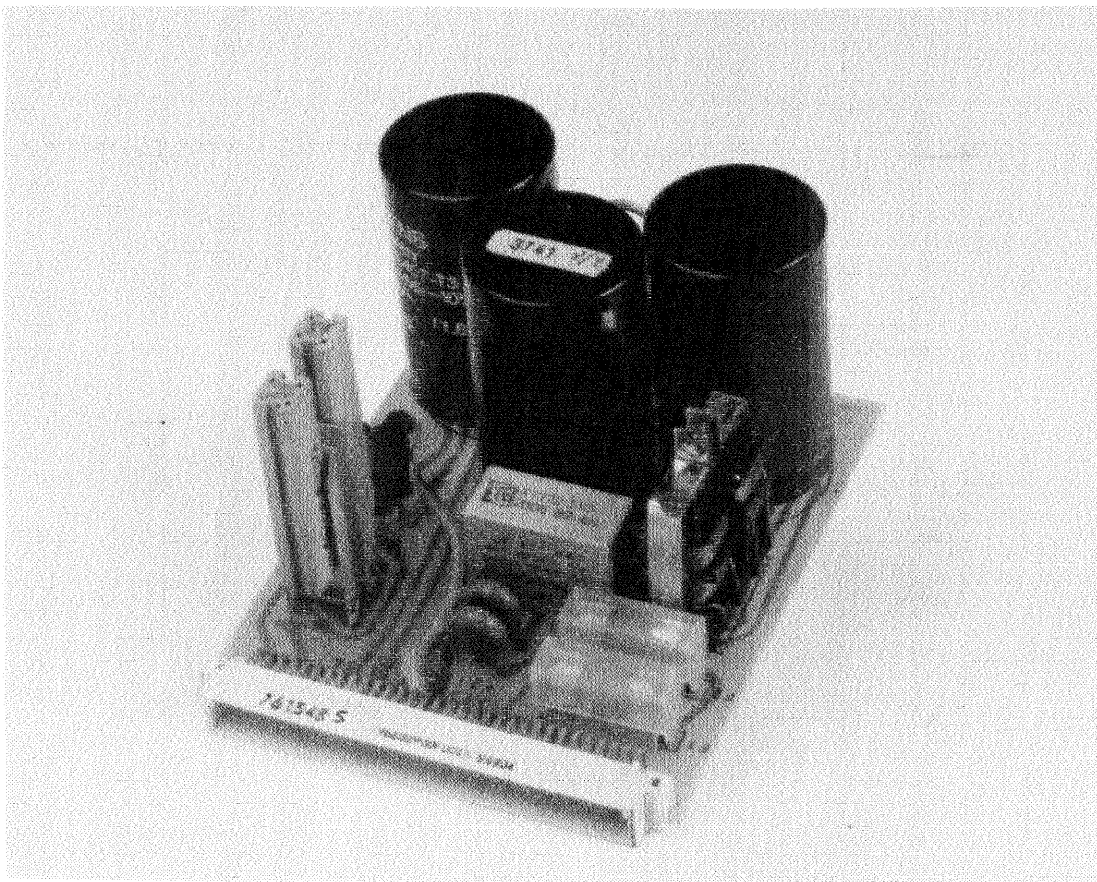
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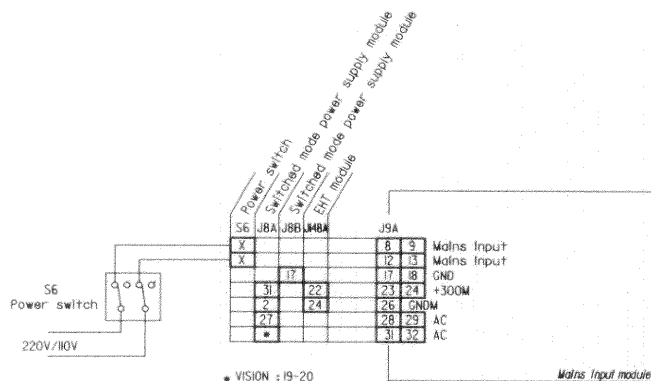
service sheet

F

POWER (MAINS) INPUT MODULE

76 15485





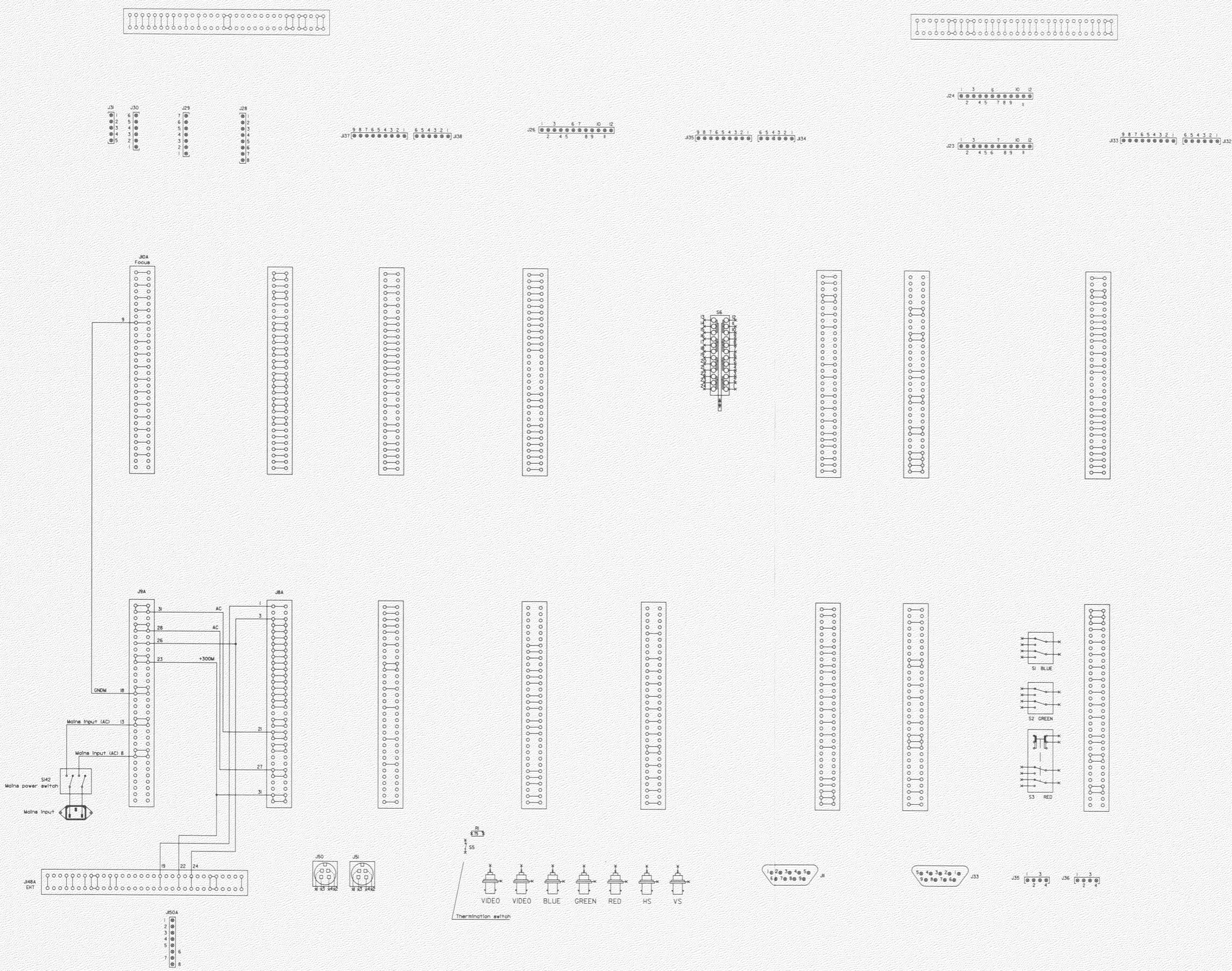
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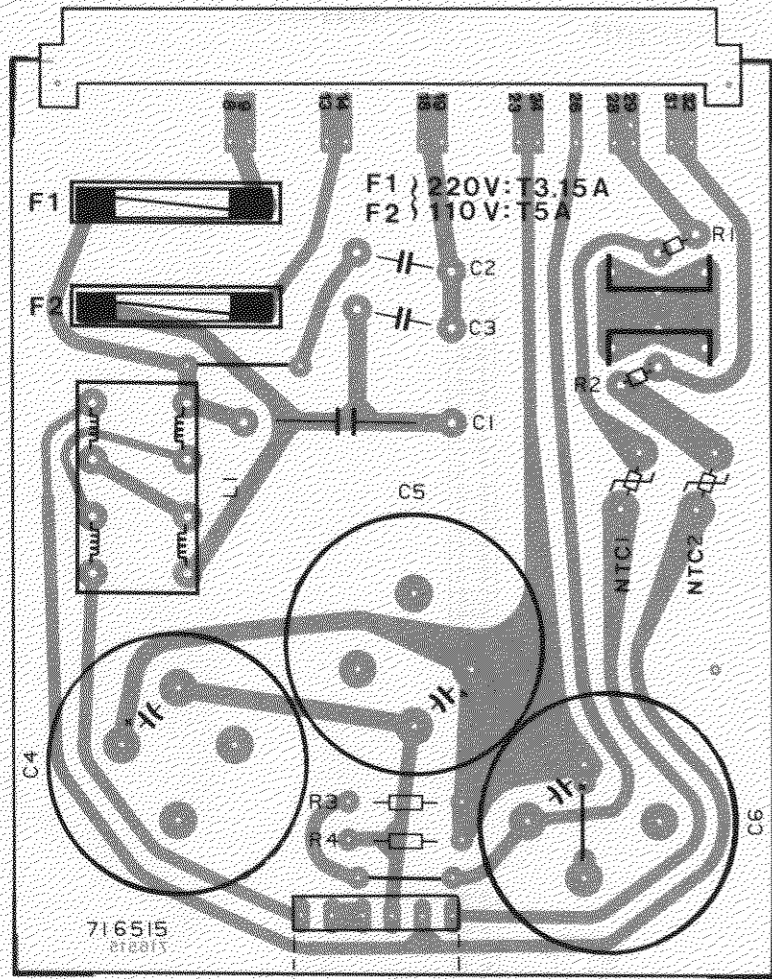
Name interconnection Mains input module		Article nr. 7615485
Date 15/09/1990	Drawn PG	Checked CD
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Modifications reserved

Main frame Interconnection
Mains Input module

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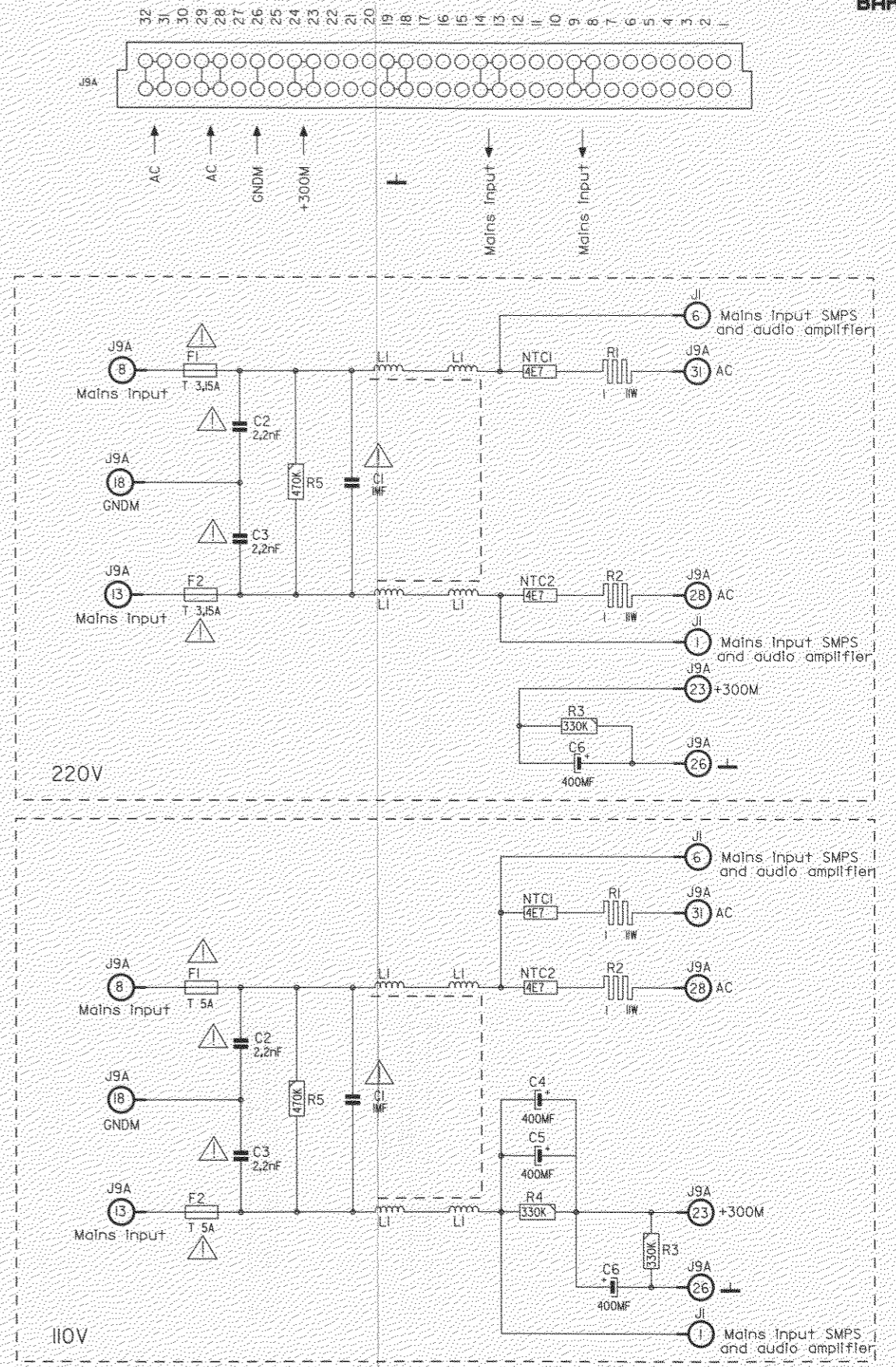


Name: Mains Input module		Article nr.: 7615485	
Date: 13/06/1991	Drawn: PGOE	Checked: PGV	

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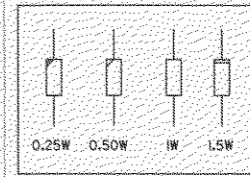
Modifications reserved

716515-1



PRODUCT SAFETY NOTICE

COMPONENTS MARKED WITH * OR ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS. DO NOT DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING



Name: Mains Input module		Article nr.: 7615485-01	
Date: 15/04/1991	Drawn: PGOE	Checked: PGV	

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Modifications reserved

The Power (Mains) Input provide protection against interference when operated in a commercial environment and contains the user setting for 220Vac or 110Vac.

1. Power (Mains) filter

The power filter consists of the coil L1 with four windings, and the capacitors C1-C2-C3. It is a bandpass filter, removing all high and low frequency noises.

2. 220 Vac operation

NTC-resistors NTC1 and NTC2 limit the start up current. The fuses F1 and F2 prevent damage to the power Input board and the Switched Mode Power Supply in the event of short circuit or wrong 220/110Vac setting.

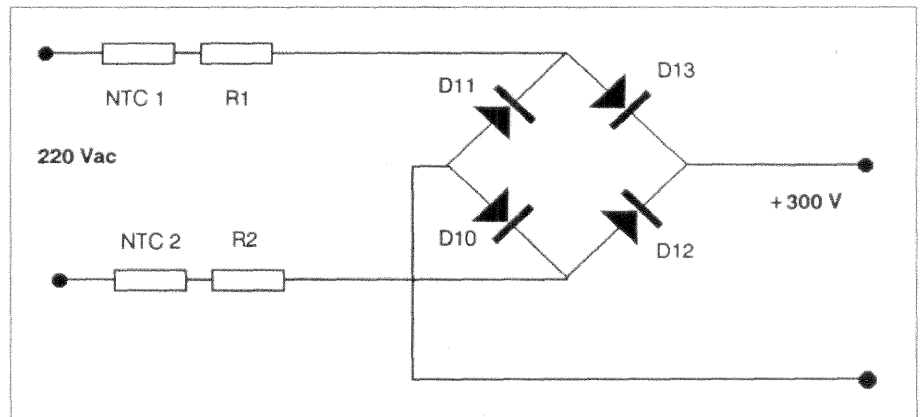


Figure 1. 220 Vac operation of the Power Input module

When we look how the diode bridge D10-D11-D12-D13 of the Switch Mode Power Supply is connected to the power Input board (Figure 1), we can see how the 220Vac operation works.

Diode bridge D10-D11-D12-D13 operates as a bridge rectifier, and we become an output DC-voltage of approximately +300 Volts.

Capacitor C6 forms an extra capacitive load, parallel on capacitor C27 on the Switch Mode Power Supply, to flatten the AC-ripple on the +300 DC-voltage. Resistor R3 discharges this capacitor quickly when the projector is switched off.

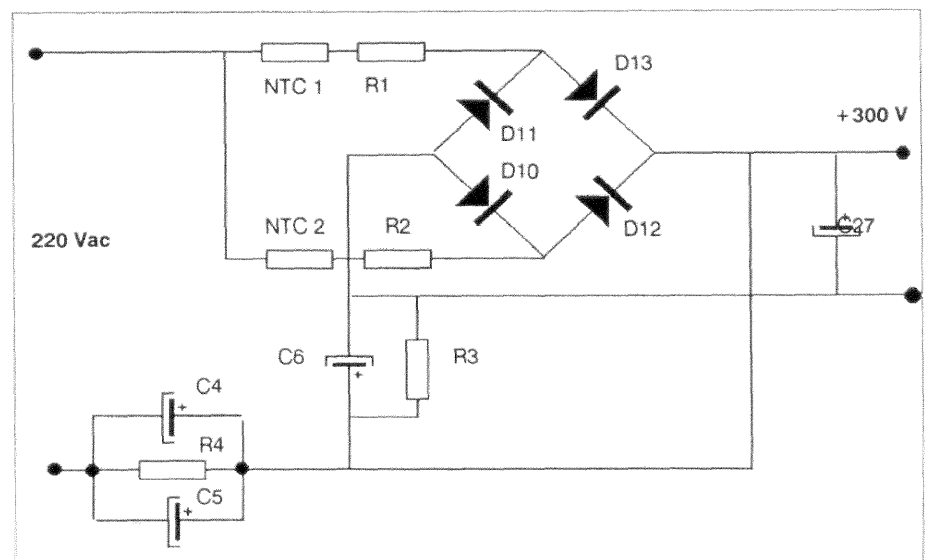


Figure 2. 220Vac operation of the Power Input module

3. 110 Vac operation

When we look again how the diode bridge of the Switch Mode Power Supply is connected to the Mains Input/Output board during 110Vac operation, we become figure 2.

To make it more comprehensive, we redraw this figure (Figure 3.), deleting NTC1, NTC2, R1 and R2 that only play a roll during start up, and by deleting R3 and R4 that are only important while switching off.

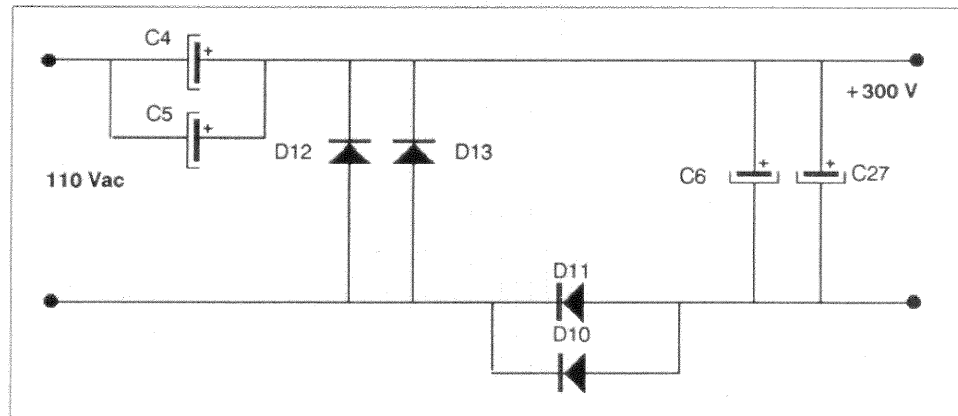


Figure 3. 110Vac operation of the Mains Input/Output board: schematic redraw of figure 2.

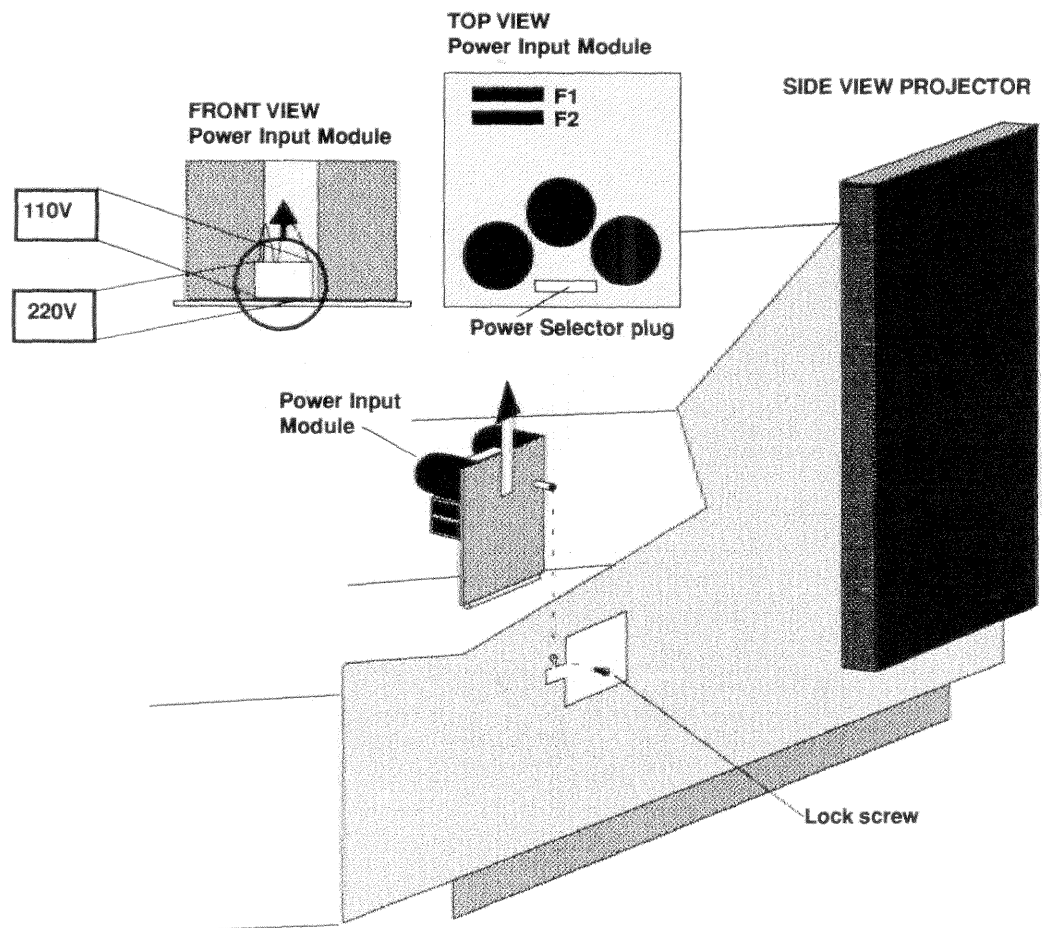
Now we see that the diode bridge operates as a voltage multiplier: during the positive half of the mains voltage, capacitors C6-C27 are charged through diodes D10-D11. During the negative half, capacitors C4-C5 are charged through diodes D12-D13.

The two voltages over the charged capacitors are added together and we become a DC-voltage of again approximately +300 Volts.

MAINS (POWER) ADAP- TATION

Procedure :

1. Switch off the projector and unplug the power plug from the wall outlet.
2. Remove rear cover (refer to § Access to chassis for servicing)
3. Unscrew the lock screw of the power input module and pull out this module.
4. Pull out the "POWER SELECTOR PLUG" and re-insert it as illustrated below depending of the wall outlet in the room.
5. Pull out the fuses and place the correct fuses in the sockets. (see PC lay out)
6. Re-insert the power input board and secure it with the lock screw.
7. Reconnect the power cord with the wall outlet and switch on the projector.

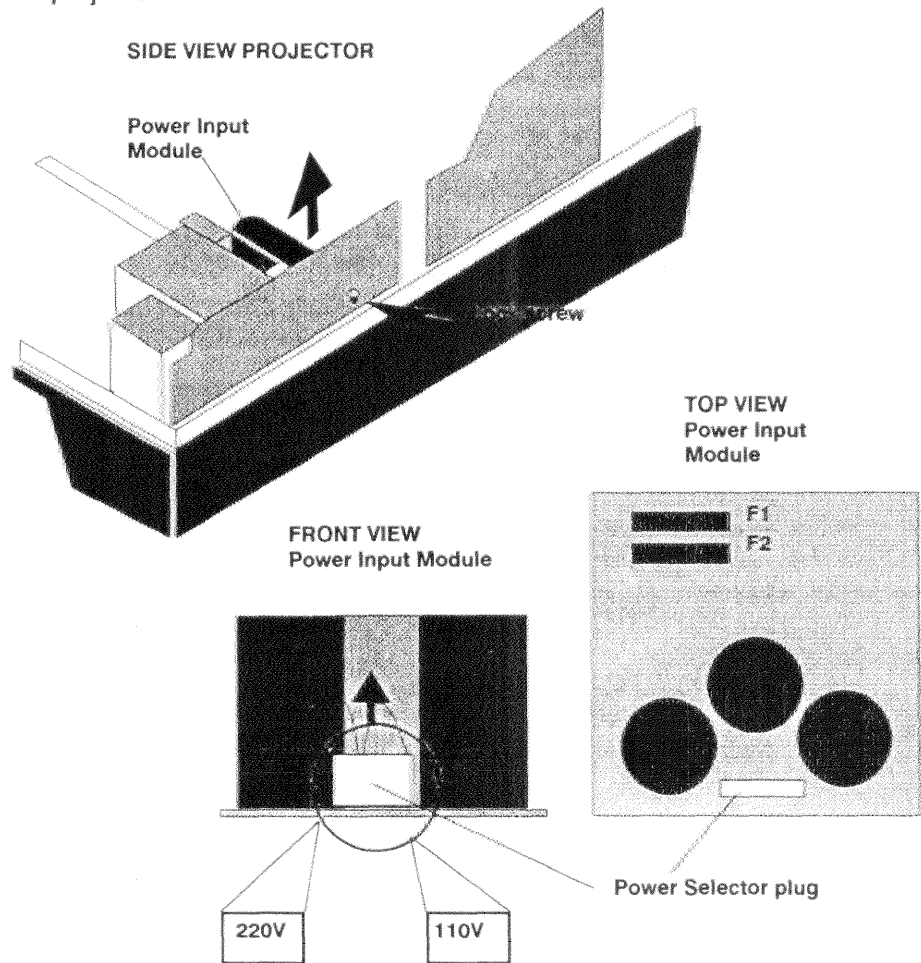


FUSES	
WARNING	
For continued protection against fire hazard:	
- Replace with the same type of fuse	
- Refer replacement to qualified service personnel	
F1, F2	BARCO Ord. No.
For 220Vac (2x) T3.15A/250V	31 4103
For 110Vac (2x) T5A/250V	31 4104

MAINS (POWER) ADAP-TATION

Procedure :

1. Switch off the projector and unplug the power plug from the wall outlet.
2. Lift up the top cover
3. Unscrew the fixation screw of the power input board and pull out this board.
4. Pull out the "POWER SELECTOR PLUG" and re-insert it as illustrated below depending of the wall outlet in the room.
5. Pull out the fuses and place the correct fuses in the sockets. (see PC lay out)
6. Re-insert the power input board and secure it with the fixation screw.
7. Reconnect the power cord with the wall outlet and switch on the projector.



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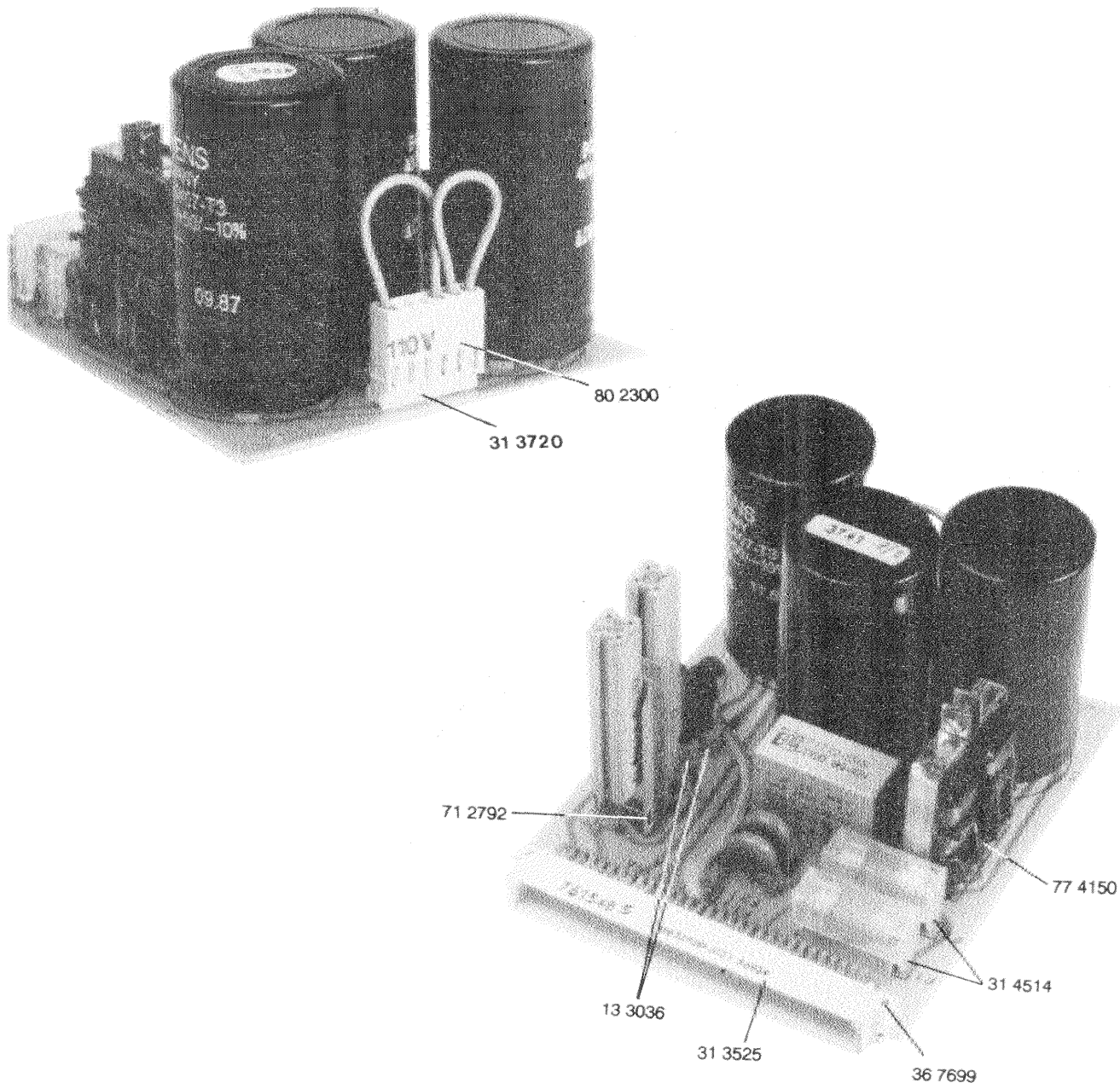
ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
11 4716	C..1	CAP POSAPO 1M M AC250	10 4401	R..1	RES WW V 1E K 11W
11 4722	C..2	CAP CESA Y 2K2 M 400	10 4401	R..2	RES WW V 1E K 11W
11 4722	C..3	CAP CESA Y 2K2 M 400	10 1266	R..3	RES CF 330K J 0W50
11 1655	C..4	CAP ELRA 400M T 385	10 1266	R..4	RES CF 330K J 0W50
11 1655	C..5	CAP ELRA 400M T 385			
11 1655	C..6	CAP ELRA 400M T 385	31 3525	001.	CONN EURO MBS P64
31 4103	F..1	FUSE 3A150 5X20 SLOW	36 20216	002.	SCREW DIN84 M 3 X 6 MP-
31 4103	F..2	FUSE 3A150 5X20 SLOW	36 7502	0021	WASHER DIN6798 A 3,2
			71 2792	003.	RES HOLDER WW V H15
77 4150	L..1	COIL CHOKE MAINS DATA	31 4514	004.	FUSE HOLDER 5X20 +CAP
			80 2656	005.	SPACER RIV L13,75 D 7 M3 AL
10 5018	NTC1	RES NTC 4E7 2W	31 3720	006.	CONN SL MBT P 6
10 5018	NTC2	RES NTC 4E7 2W	13 3036	007.	SPACER L 6 D 6 D2,4 CER
71 6515	PC..	PC PJ 45 MAINS D1000 761548			

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ART.NO	DESCRIPTION	QUANTITY	ART.NO	DESCRIPTION	QUANTITY
10 4401	RES WW V 1E K 11W	4	36 20216	SCREW DIN84 M 3 X 6 MP-	2
10 5018	RES NTC 4E7 2W		36 7502	WASHER DIN6798 A 3,2	2
11 1655	CAP ELRA 400M T 385	6	36 7699	RIVET CHOBERT D2,38 L6,35	2 *
11 4716	CAP POSAPO 1M M AC250	2	71 2792	RES HOLDER WW V H15	2 *
11 4722	CAP CESA Y 2K2 M 400	4	71 6515	PC PJ 45 MAINS D1000 761548	2
13 3036	SPACER L6 D6 D2,4 CER	2 *	77 4150	COIL CHOKE MAINS DATA	2
31 3525	CONN EURO MBS P64	2 *	80 2300	CONN SL FWT P6 110V/220V	1 *
31 3720	CONN SL MBT P 6	2 *	80 2656	SPACER RIV L13,75 D 7 M3 AL	2
31 4103	FUSE 3A150 5X20 SLOW	4			
31 4514	FUSE HOLDER 5X20 +CAP	2 *			

*NUMBERS REFERRING TO PICTURE



SPARE PARTS

Date :01/10/90 76 15485