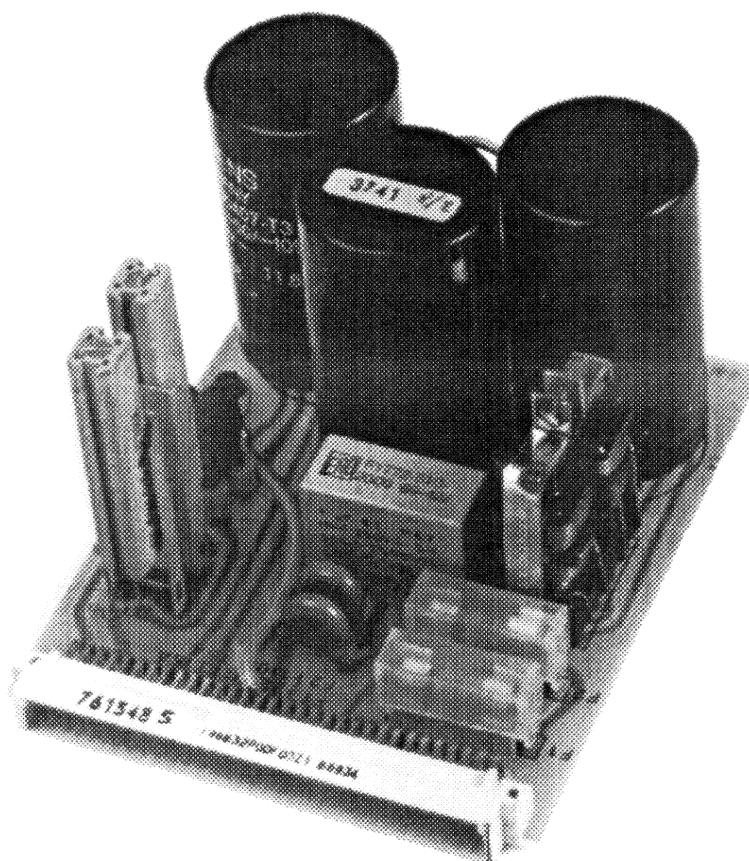
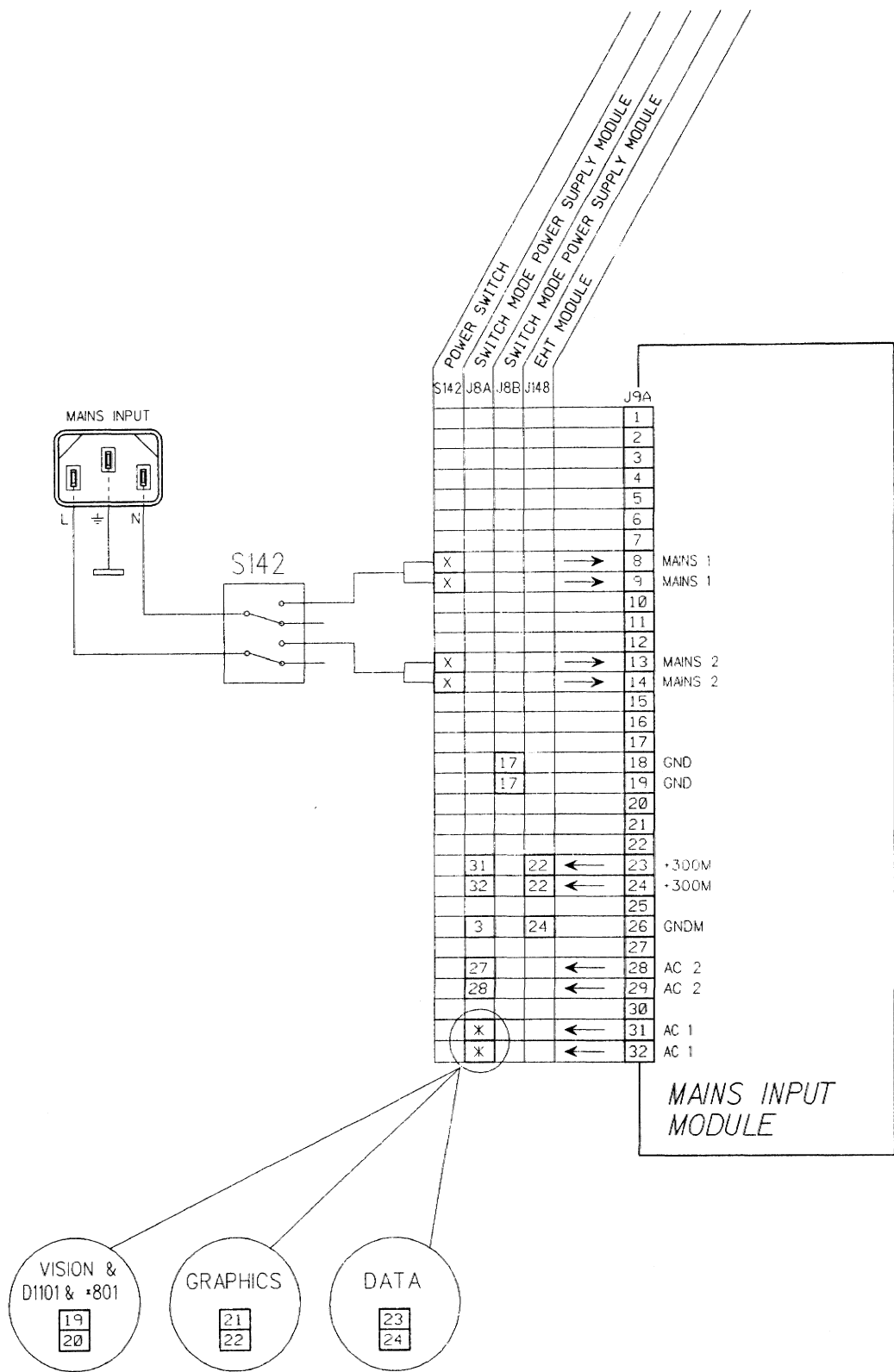


WARNING

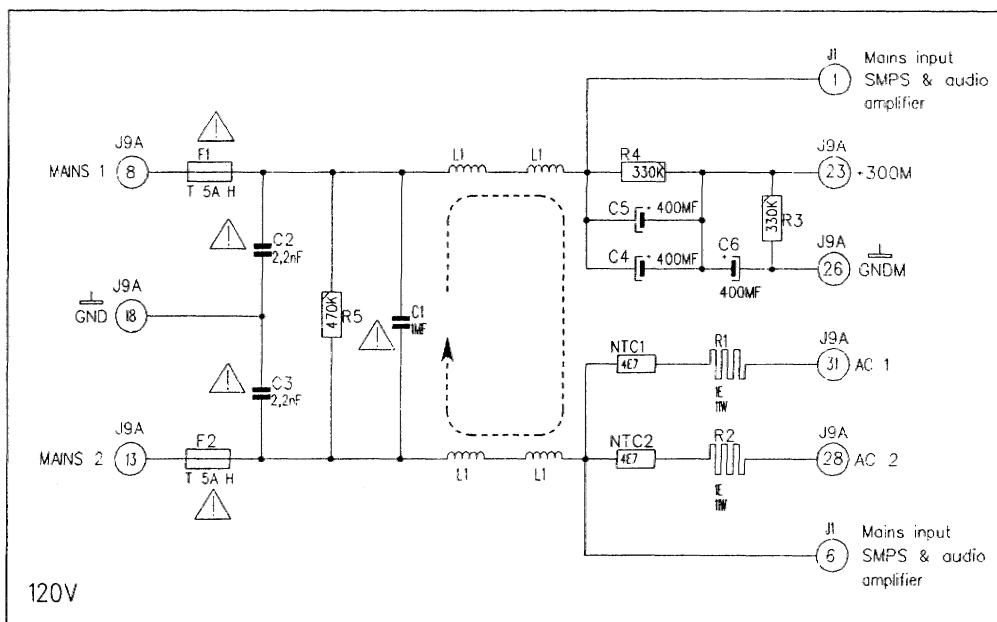
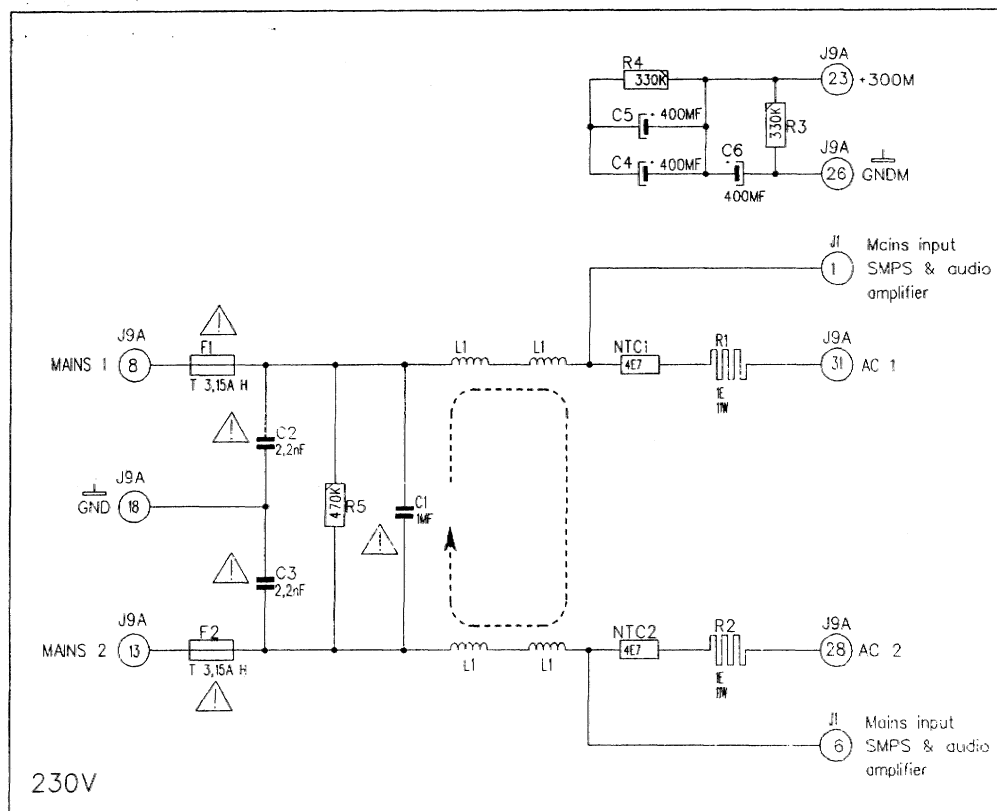
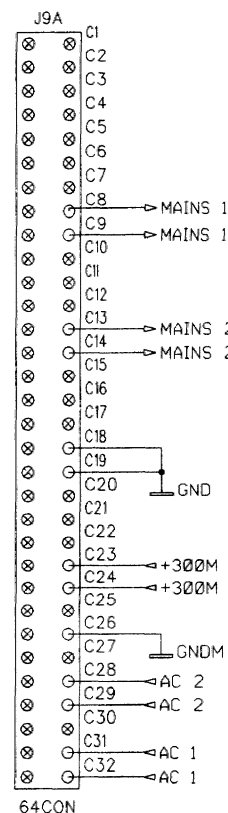
THIS CIRCUIT BOARD IS HOT TO AC. THIS POWER INPUT DOES NOT USE A LINE ISOLATION TRANSFORMER, MEANING THE CIRCUITRY IS HOT-TO-LINE AND SHOULD BE TREATED WITH CAUTION.





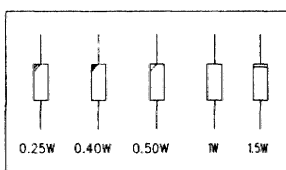
Name	Interconnection	Article nr.
MAINS INPUT MODULE		76 15485-2
Date	Drawn	Checked
24-01-1994	JVDY	PGV
BARCO PROJECTION SYSTEMS		

To FRAME (J9A)



PRODUCT SAFETY NOTICE

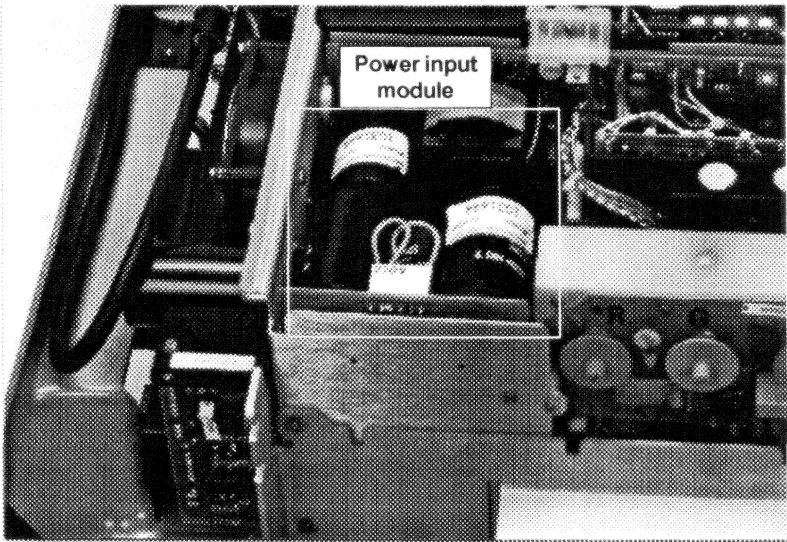
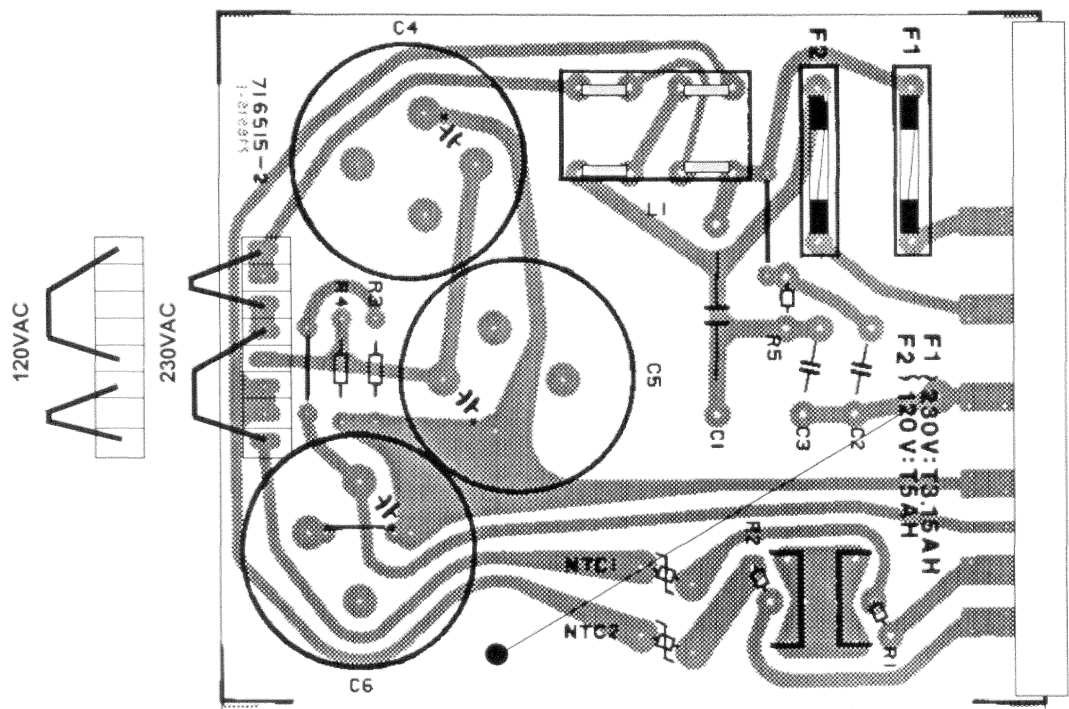
COMPONENTS MARKED WITH * OR Δ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS. DO NOT DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.



Modifications reserved

Name	MAINS INPUT MODULE	Article nr.	76 15485-2
Date	03-05-1993	Drawn	JVDY
		Checked	PGV

BARCO PROJECTION SYSTEMS



The Power (Mains) Input provides protection against interference when operated in a commercial environment and contains the user setting for 230Vac or 120Vac.

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.

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 230/120Vac setting.

2. 230 Vac operation

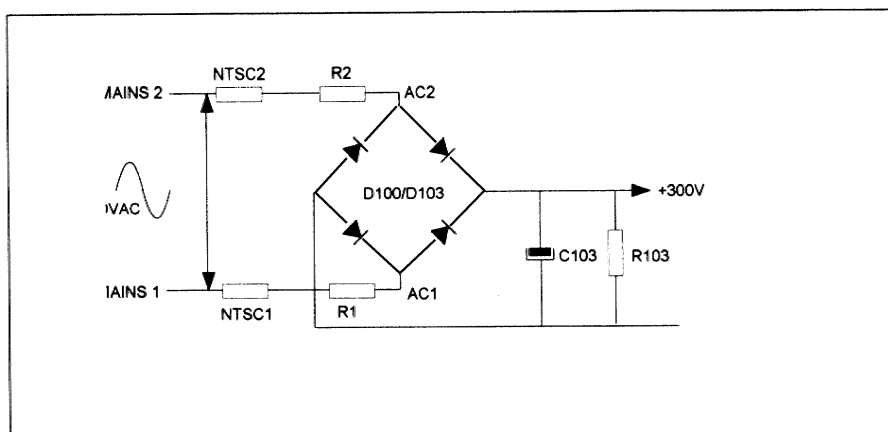


Figure 1. 230 Vac operation of the Power Input module

When we look how the diode bridge D100/D103 of the Switch Mode Power Supply is connected to the power Input board (Figure 1), we can see how the 230Vac operation works.

Diode bridge D100/D103 operates as a bridge rectifier, and we become an output DC-voltage of approximately +300 Volts.

Capacitor C103 forms a capacitive load on the Switch Mode Power Supply, to flatten the AC-ripple on the +300 DC-voltage. Resistor R103 discharges this capacitor quickly when the projector is switched off.

3. 120 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 130Vac operation, we can draw the following schematic, 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.

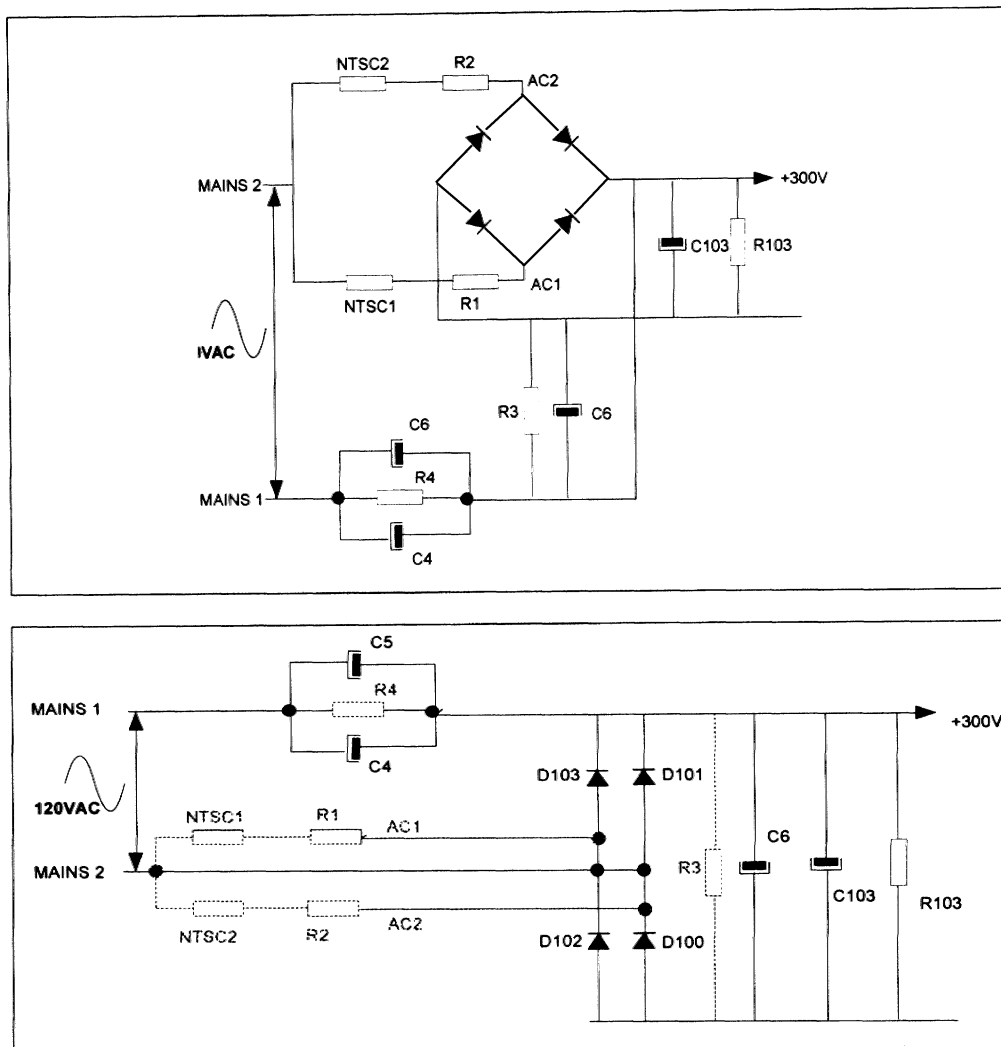


Figure 3. 120Vac operation of the Mains Input/Output board: schematic redraw of figure 2.

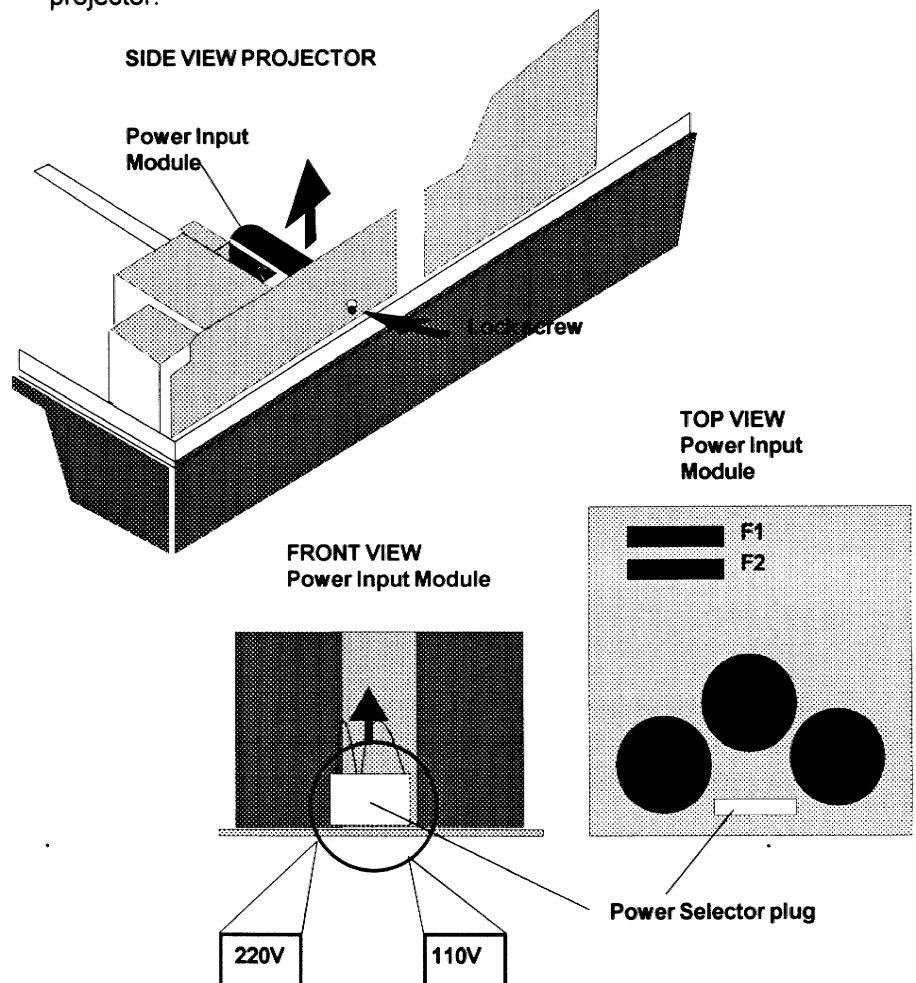
Now we see that the diode bridge operates as a voltage multiplier. During the negative half of the power (mains) voltage, capacitors C4-C5 are charged through diodes D101-D103. During the positive half of the power (mains) voltage, capacitors C6-C103 are charged, through diodes D102-D1010, on a voltage which is the input voltage together with the load on the capacitors C5/ C4.

In this way an DC-voltage of again approximately +300 Volts is built across the capacitors C103/C6..

Power (Mains) input adaptation

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.



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 230Vac (2x) T3.15A H/250V

31 4103

For 120Vac (2x) T5A H/250V

31 4104


Parts listing Power input module 76 15485

ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
11 4716	C..1	C PO RA 1M M250E11 X 1772	10 5018	NTC1	R NTC 4E7 2W DTCB
11 4722	C..2	C CE DI 2N2M400E5 Y WKP	10 5018	NTC2	R NTC 4E7 2W DTCB
11 4722	C..3	C CE DI 2N2M400E5 Y WKP	71 6515	PC..	PCB PJ45 D1000 MNS
11 1655	C..4	C EL RA 400M T385SKT 85	10 4401	R..1	R WW V 1E K11W KKE11
11 1655	C..5	C EL RA 400M T385SKT 85	10 4401	R..2	R WW V 1E K11W KKE11
11 1655	C..6	C EL RA 400M T385SKT 85	10 1266	R..3	R CF H330K J 0W5
31 4103	F..1	F 5X20 T 3A15 H RU/VDE	10 1266	R..4	R CF H330K J 0W5
31 4103	F..2	F 5X20 T 3A15 H RU/VDE	10 1268	R..5	R CF H470K J 0W5
31 35251	J1..	J EUR2C MBS P64 E1 C2S1.6			
77 41507	L..1	CH MNS MN44 PVDM			

Spare parts Power input module 76 15485

ART.NO	DESCRIPTION	QUANTITY	ART.NO	DESCRIPTION	QUANTITY
10 4401	R WW V 1E K11W KKE11	2	36 7502	WSHR D6798 A 3.2 S Z	1
10 5018	R NTC 4E7 2W DTCB	2	71 2792	R ACC HLDR H15 WW V	2
11 1655	C EL RA 400M T385SKT 85	3	76 15485D	UN MNS PJ49 G800 INP	1
11 4716	C PO RA 1M M250E11 X 1772	1	76 1548A	UN MNS PJ45 D1000	1
11 4722	C CE DI 2N2M400E5 Y WKP	2	77 41507	CH MNS MN44 PVDM	1
13 3036	SPR L6 D6 D2.4 C CER	4	80 2656	SPR RVT L13.75D 7 M3 A	1
31 35251	J EUR2C MBS P64 E1 C2S1.6	1			
31 3726	J SL MBT P 8 M3.96 NP	1			
31 4103	F 5X20 T 3A15 H RU/VDE	2			
31 4514	F ACC HLDR 5X20 PC+CAP	2			
36 20216	SCR D84 M3 X 6 SI	1			

PRODUCT SAFETY NOTICE

Components identified by  have SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. Before replacing any of these components, read carefully the service safety precautions.

