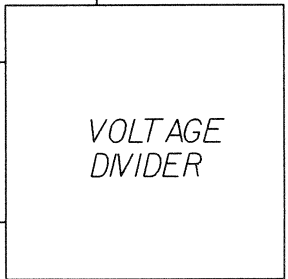


J2B	J3B	J4A	J4B	J8B	J13A	J13B	J13C	J1
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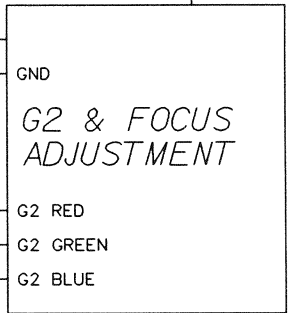
FOCUS *
G2 *
DIAGNOSTIC

From QUADRUPLER

FOCUS



FOCUS



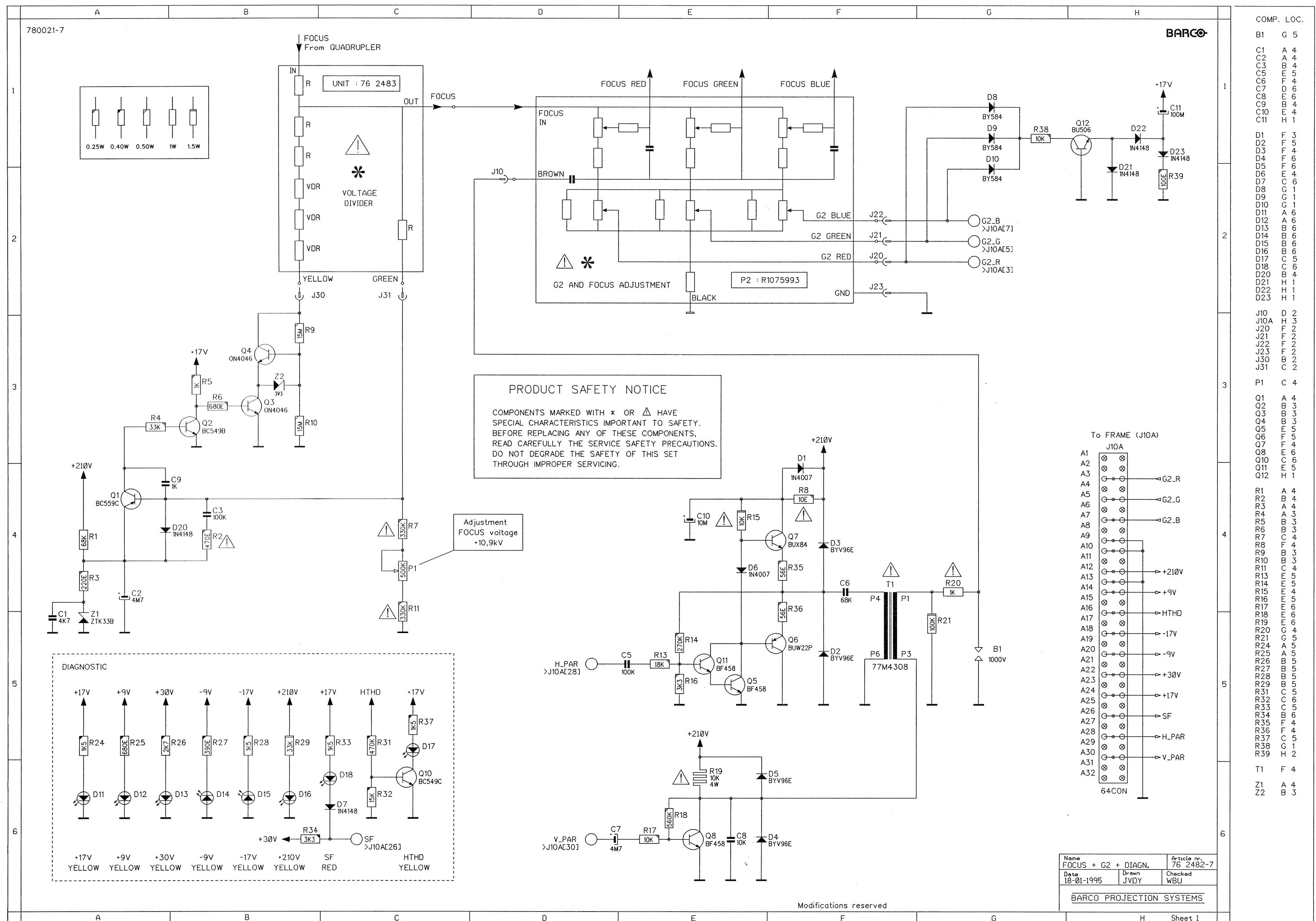
FOCUS RED

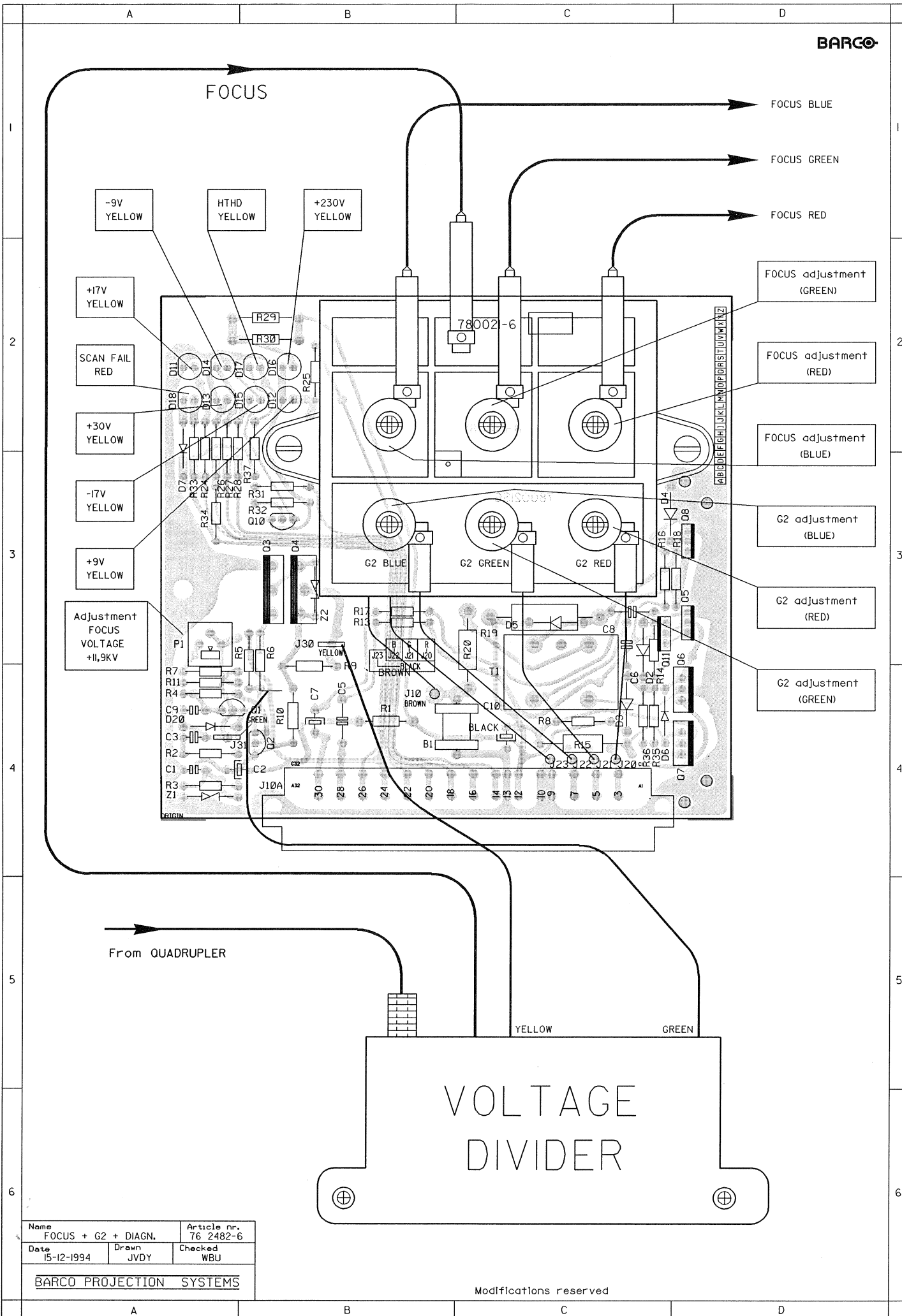
FOCUS GREEN

FOCUS BLUE

Name	Interconnection	Article no.
FOCUS + G2 + DIAGN.		76 24
Date	Drawn	Checked
16-01-1995	JVDY	WBU

BARCO PROJECTION SYSTEMS





Name FOCUS + G2 + DIAGN.		Article nr. 76 2482-6
Date 15-12-1994	Drawn JVDY	Checked WBU
BARCO PROJECTION SYSTEMS		

Modifications reserved

Introduction.

On this board we find the focus control potentiometers and the stabilisation circuit, the G2 potentiometers, the modulation circuit of the focus voltage and the LEDs to show the status of some important voltages.

Focus control - Stabilisation.

The focus voltage from the quadrupler unit is applied across a network of high voltage (HRV) and VDR resistors (76 1746) and is further divided down to reach the base of Q4.

On the other hand, the focus voltage at R7/P1 is sent to the base of Q1 where it is compared to a reference of 33V (Z1).

This error amplifier feeds the inverter-amplifier Q2 and the latter drives on its turn the coupled Q3/4 pair.

These Q3/4 act as a variable resistor to compensate for any variation of the voltage at the input.

Modulation of the focus Voltage.

As the path of the electron beam to the borders is longer at the borders than in the centre, a different focus voltage is required along the horizontal and vertical deflection axes.

The focus voltage at the sliders is thus modulated by a parabolic shaped signal. HP (horizontal parabola) and VP (vertical parabola) signals, prepared at the east-west and north-south circuits, are sent to this board at the contacts 28 and 30.

The HP signal is amplified by Q5 and drives the push-pull stage Q6/7. Its output current flows in the primary winding of the TR1 transformer.

The VP signal is amplified by Q8 and its collector voltage is added to the HP signal on the secondary side of the transformer.

The sum is capacitively coupled to the sliders of the focus potentiometers.

G2 voltages.

These screen grid voltages are derived from the focus voltages and adjusted with the potentiometers PIR, PIG and PIB to leave for the crt sockets.

Scan fail (red diode)

When SF (scan fail) is not active, the SF line is open. In this case the red SF diode is not lit because of the +30 volts at the cathode, applied through R34.

If the SF line is pulled down by one of the scan fail transistors (see description of the respective vertical and horizontal deflection boards) the diode is lit.

IMPORTANT

The potentiometer P1 "Focus voltage adjustment" is factory pre-adjusted. A re-adjustment of the latter is only necessary after replacement of a defective unit 76 2483.

Adjustment

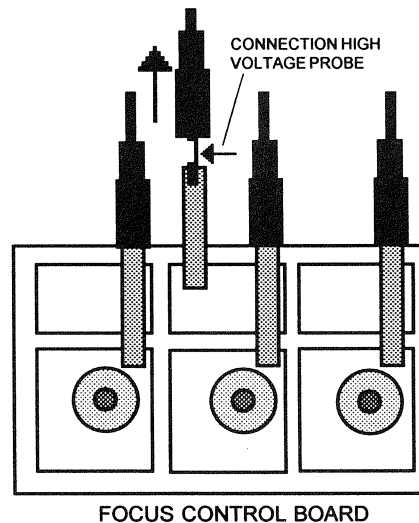
Switch OFF the projector.

Slide the protection cap on the input connection cable of the focus unit upwards

Connect a high voltage probe with an internal impedance of min. 1000M Ω to the input connector. (see fig.)

Safety notice: do not forget to ground the meter to the chassis, and use extreme caution while measuring: $\pm 10\text{kV}$ on that measure point.

After the connection is established, **switch ON** the projector.



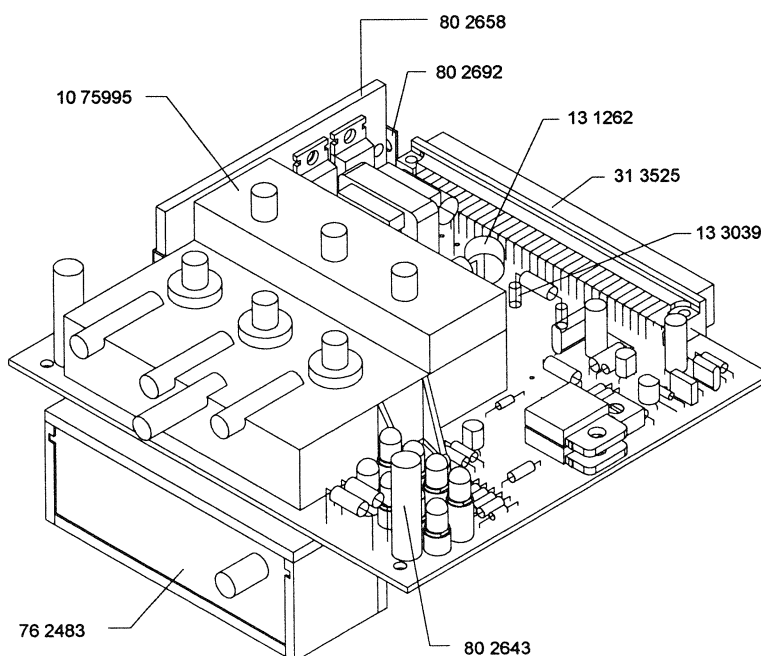
Adjust potentiometer P1 "Focus Voltage" for a focus voltage of 11.9kV on the mentioned high voltage input on the focus control unit.

Parts listing Electrical focus/G2-adjustment module 76 2482 (PCB single side)

ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
76 2483		UN FOC_C PJ49 G801 7MSP	10 1138	R.24	R CF H 1K5 J 0W25
11 2747	C..1	C CE MI 4N7K 63E2	10 1134	R.25	R CF H680E J 0W25
11 1550	C..2	C EL RA 4M7M 50E2 85	10 1141	R.26	R CF H 2K7 J 0W25
11 3724	C..3	C POMERA 100N K 63E2	10 1131	R.27	R CF H390E J 0W25
11 4100	C..5	C POMERA 100N K100E4 368	10 1138	R.28	R CF H 1K5 J 0W25
11 4130	C..6	C POMERA 68N K250E4	10 3158	R.29	R MO H 68K J 0W7
11 1550	C..7	C EL RA 4M7M 50E2 85	10 3158	R.30	R MO H 68K J 0W7
11 4120	C..8	C POMERA 10N K250E4	10 1168	R.31	R CF H470K J 0W25
11 2739	C..9	C CE MI 1N K100E2	10 1150	R.32	R CF H 15K J 0W25
11 14169	C.10	C EL RA 10M M350E2 105	10 1138	R.33	R CF H 1K5 J 0W25
13 1906	D..2	D R BYV96E 1021A5 SOD57	10 1142	R.34	R CF H 3K3 J 0W25
13 1906	D..3	D R BYV96E 1021A5 SOD57	10 1121	R.35	R CF H 56E J 0W25
13 1906	D..4	D R BYV96E 1021A5 SOD57	10 1121	R.36	R CF H 56E J 0W25
13 1906	D..5	D R BYV96E 1021A5 SOD57	10 1138	R.37	R CF H 1K5 J 0W25
13 1621	D..6	D S 1N4148 075150 DO35	10 1148	R.53	R CF H 10K J 0W25
13 1621	D..7	D S 1N4148 075150 DO35	77 4308	T..1	T PJ49 FOC
31 3525	J1..	J EUR2C MBS P64 E1C2S 1.6	13 1262	VDR1	TUBE SURGE PROT 1000V
13 1663	LED1	D LED D5 T YEL	13 2102	Z..1	U 33B ZTK DO35 PSTAB
13 1663	LED2	D LED D5 T YEL	13 1754	Z..2	D ZEN 3V3 0W5 C DO35
13 1663	LED3	D LED D5 T YEL	13 1621	Z..3	D S 1N4148 075150 DO35
13 1663	LED4	D LED D5 T YEL			
13 1663	LED5	D LED D5 T YEL			
13 1663	LED6	D LED D5 T YEL			
13 1663	LED7	D LED D5 T YEL			
13 1664	LED8	D LED D5 T RED			
10 6737	P..1	R TCE H 1M K 0W5 S10TS3386P			
10 75995	P..2	R M_UN FOC RGB +RDCN 12KV			
78 0021	PC..	PCD PJ49 800 FOC 06			
13 14182	Q..1	Q BC559C P SS TO92 030A1			
13 14295	Q..2	Q BC549B N SS TO92 030A1			
13 25096	Q..3	Q ON4046 N P SOT93 15208			
13 25096	Q..4	Q ON4046 N P SOT93 15208			
13 1471	Q..5	Q BF458 N P TO126 250A1			
13 2589	Q..6	Q BUW22P P P TO220 35006			
13 2517	Q..7	Q BUX84 N P TO220 80003			
13 1471	Q..8	Q BF458 N P TO126 250A1			
13 1411	Q.10	Q BC549C N SS TO92 030A1			
13 1471	Q.11	Q BF458 N P TO126 250A1			
10 3158	R..1	R MO H 68K J 0W7			
10 1132	R..2	R CF H470E J 0W25			
10 1128	R..3	R CF H220E J 0W25			
10 1154	R..4	R CF H 33K J 0W25			
10 1136	R..5	R CF H 1K J 0W25			
10 1134	R..6	R CF H680E J 0W25			
10 28748	R..7	R MF H590K F 0W6			
10 11129	R..8	R CFFH 10E J 0W25			
10 4682	R..9	R HV H 15M J 0W5 3500			
10 4682	R.10	R HV H 15M J 0W5 3500			
10 1151	R.13	R CF H 18K J 0W25			
10 1165	R.14	R CF H270K J 0W25			
10 3248	R.15	R MO H 10K J 1W5			
10 1121	R.16	R CF H 56E J 0W25			
10 1148	R.17	R CF H 10K J 0W25			
10 1169	R.18	R CF H560K J 0W25			
10 3248	R.19	R MO H 10K J 1W5			
10 2136	R.20	R CC H 1K K 1W			

Spare parts Electrical focus/G2-adjustment module 76 2482 (PCB single side)

ART NO.	DESCRIPTION	QUANTITY	ART NO.	DESCRIPTION	QUANTITY
10 11129	R CFFH 10E J 0W25	1	31 3525	J EUR2C MBS P64 E1C2S 1.6	1
10 3158	R MO H 68K J 0W7	3	31 5310	J TAB1 MBT H 2.8S0.5 F_1	4
10 3248	R MO H 10K J 1W5	2	36 20147	SCR D84 M 2.5X 10 SI	2
10 4682	R HV H 15M J 0W5 3500	2	36 20157	SCR D84 M 2.5X 12 SI	2
10 6737	R TCE H 1M K 0W5 S10TS3386P	1	36 26696	SCR D921 M 3 X 8 SI	2
10 75995	R M_UN FOC RGB +RDCN 12KV	1	36 31229	SCR D933 M 4 X 8 XIC	2
11 14169	C EL RA 10M M350E2 105	1	36 61106	NUT D934 M 2.5 I	5
11 4120	C POMERA 10N K250E4	1	36 6150	NUT D555 M 3 P	1
11 4130	C POMERA 68N K250E4	1	36 74391	RVT POP D3.2 L 7.4 P ASW	2
13 1262	TUBE SURGE PROT 1000V	1	36 7528	WSHR D6798 A 2.7 S Z	7
13 1411	Q BC549C N SS TO92 030A1	1	36 7699	RVT CHB D2.38L6.35 P A	3
13 14182	Q BC559C P SS TO92 030A1	1	36 9996	SCR D84 M 3 X 12 SP	1
13 14295	Q BC549B N SS TO92 030A1	1	71 23042	WSHR D 4.25X10 T1.25S Z	2
13 1471	Q BF458 N P TO126 250A1	3	71 23046	WSHR D 4.25X10 T. L	2
13 1621	D S 1N4148 075150 DO35	3	72 1632	D ACC SPR D5 LED	12
13 1663	D LED D5 T YEL	7	76 2483	UN FOC_C PJ49 G801 7MSP	1
13 1664	D LED D5 T RED	1	77 4308	T PJ49 FOC	1
13 1754	D ZEN 3V3 0W5 C DO35	1	80 0557	SPR L 3 D 7 D 3 P	1
13 1906	D R BYV96E 1021A5 SOD57	4	80 1520	SPR L 6.5 D 9.75D 4.9 P PSU	1
13 2102	U 33B ZTK DO35 PSTAB	1	80 2643	SPR RVT L26.25D 7 M3 A	2
13 25096	Q ON4046 N P SOT93 15208	2	80 2658	HTSNK PJ49 FOC	1
13 2517	Q BUX84 N P TO220 80003	1	80 2692	HTSNK PJ49 FIX HTSNK	2
13 2589	Q BUW22P P P TO220 35006	1			
13 30191	Q ACC WSHR MET TO126	2			
13 30192	Q ACC ISO MICA TO126	2			
13 30193	Q ACC ISO BSHG TO126	2			
13 30291	Q ACC ISO MICA TO220	1			
13 3039	SPR L 8 D 4 D 1.2 C CER	12			



Parts listing Electrical focus/G2-adjustment module 76 2482 (PCB double side)

ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
76 2483		UN FOC_C PJ49 G801 7MSP	10 3248	R.19	R MO H 10K J 1W5
11 2747	C..1	C CE MI 4N7K 63E2	10 2136	R.20	R CC H 1K K 1W
11 1550	C..2	C EL RA 4M7M 50E2 85	10 1138	R.24	R CF H 1K5 J 0W25
11 3724	C..3	C POMERA 100N K 63E2	10 1134	R.25	R CF H680E J 0W25
11 4100	C..5	C POMERA 100N K100E4 368	10 1141	R.26	R CF H 2K7 J 0W25
11 4130	C..6	C POMERA 68N K250E4	10 1131	R.27	R CF H390E J 0W25
11 1550	C..7	C EL RA 4M7M 50E2 85	10 1138	R.28	R CF H 1K5 J 0W25
11 4120	C..8	C POMERA 10N K250E4	10 3158	R.29	R MO H 68K J 0W7
11 2739	C..9	C CE MI 1N K100E2	10 3158	R.30	R MO H 68K J 0W7
11 14169	C.10	C EL RA 10M M350E2 105	10 1168	R.31	R CF H470K J 0W25
13 1906	D..2	D R BYV96E 1021A5 SOD57	10 1150	R.32	R CF H 15K J 0W25
13 1906	D..3	D R BYV96E 1021A5 SOD57	10 1138	R.33	R CF H 1K5 J 0W25
13 1906	D..4	D R BYV96E 1021A5 SOD57	10 1142	R.34	R CF H 3K3 J 0W25
13 1906	D..5	D R BYV96E 1021A5 SOD57	10 1121	R.35	R CF H 56E J 0W25
13 1621	D..6	D S 1N4148 075150 DO35	10 1121	R.36	R CF H 56E J 0W25
13 1621	D..7	D S 1N4148 075150 DO35	10 1138	R.37	R CF H 1K5 J 0W25
13 1621	D.20	D S 1N4148 075150 DO35	77 4308	T..1	T PJ49 FOC
31 3525	J1..	J EUR2C MBS P64 E1C2S 1.6	13 1262	VDR1	TUBE SURGE PROT 1000V
13 1663	LED1	D LED D5 T YEL	13 2102	Z..1	U 33B ZTK DO35 PSTAB
13 1663	LED2	D LED D5 T YEL	13 1754	Z..2	D ZEN 3V3 0W5 C DO35
13 1663	LED3	D LED D5 T YEL			
13 1663	LED4	D LED D5 T YEL			
13 1663	LED5	D LED D5 T YEL			
13 1663	LED6	D LED D5 T YEL			
13 1663	LED7	D LED D5 T YEL			
13 1664	LED8	D LED D5 T RED			
10 6737	P..1	R TCE H 1M K 0W5 S10TS3386P			
10 75995	P..2	R M_UN FOC RGB +RDCN 12KV			
78 0021	PC..	PCD PJ49 800 FOC 06			
13 14182	Q..1	Q BC559C P SS TO92 030A1			
13 14295	Q..2	Q BC549B N SS TO92 030A1			
13 25096	Q..3	Q ON4046 N P SOT93 15208			
13 25096	Q..4	Q ON4046 N P SOT93 15208			
13 1471	Q..5	Q BF458 N P TO126 250A1			
13 2589	Q..6	Q BUW22P P P TO220 35006			
13 2517	Q..7	Q BUX84 N P TO220 80003			
13 1471	Q..8	Q BF458 N P TO126 250A1			
13 1411	Q.10	Q BC549C N SS TO92 030A1			
13 1471	Q.11	Q BF458 N P TO126 250A1			
10 3158	R..1	R MO H 68K J 0W7			
10 1132	R..2	R CF H470E J 0W25			
10 1128	R..3	R CF H220E J 0W25			
10 1154	R..4	R CF H 33K J 0W25			
10 1136	R..5	R CF H 1K J 0W25			
10 1134	R..6	R CF H680E J 0W25			
10 1166	R..7	R CF H330K J 0W25			
10 11129	R..8	R CFFH 10E J 0W25			
10 4682	R..9	R HV H 15M J 0W5 3500			
10 4682	R.10	R HV H 15M J 0W5 3500			
10 1166	R.11	R CF H330K J 0W25			
10 1150	R.13	R CF H 15K J 0W25			
10 1165	R.14	R CF H270K J 0W25			
10 3248	R.15	R MO H 10K J 1W5			
10 1142	R.16	R CF H 3K3 J 0W25			
10 1147	R.17	R CF H 8K2 J 0W25			
10 1169	R.18	R CF H560K J 0W25			

Spare parts Electrical focus/G2-adjustment module 76 2482 (PCB double side)

ART NO.	DESCRIPTION	QUANTITY	ART NO.	DESCRIPTION	QUANTITY
10 11129	R CFFH 10E J 0W25	1	31 5310	J TAB1 MBT H 2.8S0.5 F_1	4
10 3158	R MO H 68K J 0W7	3	36 20147	SCR D84 M 2.5X 10 SI	2
10 3248	R MO H 10K J 1W5	2	36 20157	SCR D84 M 2.5X 12 SI	2
10 4682	R HV H 15M J 0W5 3500	2	36 26696	SCR D921 M 3 X 8 SI	2
10 6737	R TCE H 1M K 0W5 S10TS3386P	1	36 31229	SCR D933 M 4 X 8 XIC	2
10 75995	R M_UN FOC RGB +RDCN 12KV	1	36 61106	NUT D934 M 2.5 I	5
11 14169	C EL RA 10M M350E2 105	1	36 6150	NUT D555 M 3 P	1
11 4120	C POMERA 10N K250E4	1	36 74391	RVT POP D3.2 L 7.4 P ASW	2
11 4130	C POMERA 68N K250E4	1	36 7528	WSHR D6798 A 2.7 S Z	7
13 1262	TUBE SURGE PROT 1000V	1	36 7699	RVT CHB D2.38L6.35 P A	2
13 1411	Q BC549C N SS TO92 030A1	1	36 9996	SCR D84 M 3 X 12 SP	1
13 14182	Q BC559C P SS TO92 030A1	1	71 23042	WSHR D 4.25X10 T1.25S Z	2
13 14295	Q BC549B N SS TO92 030A1	1	71 23046	WSHR D 4.25X10 T . L	2
13 1471	Q BF458 N P TO126 250A1	3	72 1632	D ACC SPR D5 LED	12
13 1621	D S 1N4148 075150 DO35	3	76 2483	UN FOC_C PJ49 G801 7MSP	1
13 1663	D LED D5 T YEL	7	77 4308	T PJ49 FOC	1
13 1664	D LED D5 T RED	1	80 0557	SPR L 3 D 7 D 3 P	1
13 1754	D ZEN 3V3 0W5 C DO35	1	80 1520	SPR L 6.5 D 9.75D 4.9 P PSU	1
13 1906	D R BYV96E 1021A5 SOD57	4	80 2643	SPR RVT L26.25D 7 M3 A	2
13 2102	U 33B ZTK DO35 PSTAB	1	80 2658	HTSNK PJ49 FOC	1
13 25096	Q ON4046 N P SOT93 15208	2	80 2692	HTSNK PJ49 FIX HTSNK	2
13 2517	Q BUX84 N P TO220 80003	1			
13 2589	Q BUW22P P P TO220 35006	1			
13 30191	Q ACC WSHR MET TO126	2			
13 30192	Q ACC ISO MICA TO126	2			
13 30193	Q ACC ISO BSHG TO126	2			
13 30291	Q ACC ISO MICA TO220	1			
13 3039	SPR L 8 D 4 D 1.2 C CER	12			
31 3525	J EUR2C MBS P64 E1C2S 1.6	1			

