BARCO

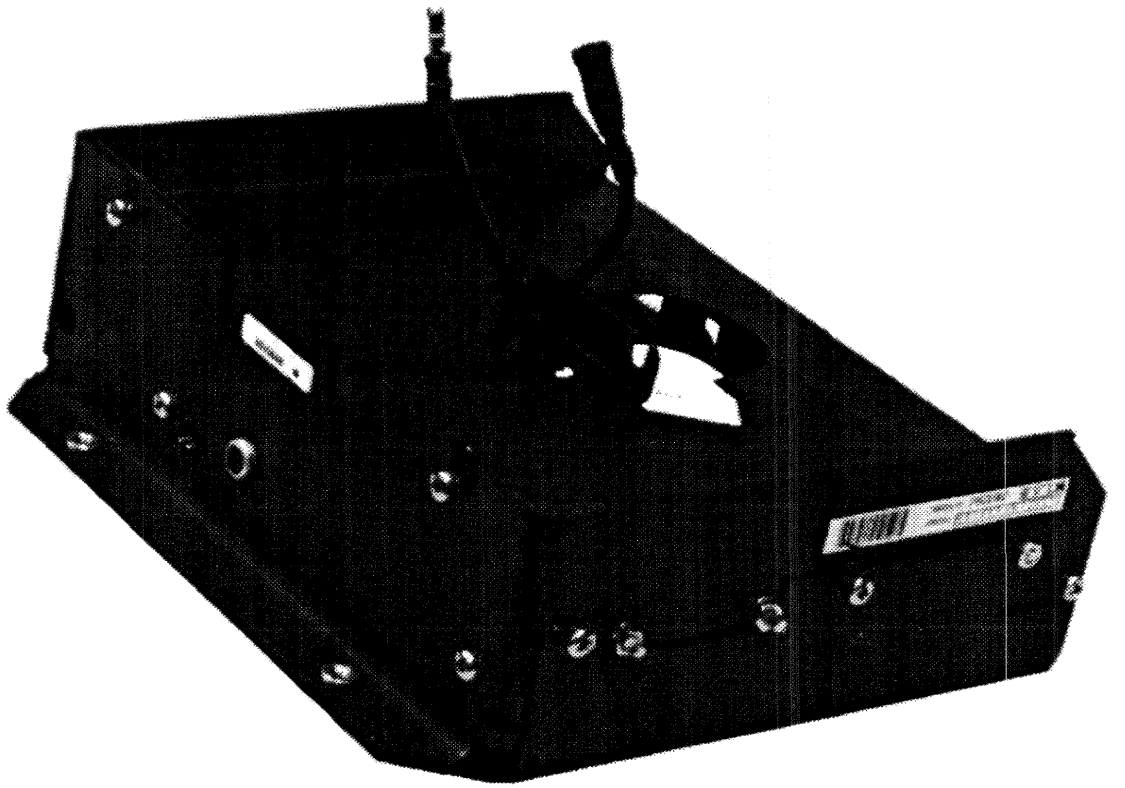
BARCO Projection Systems

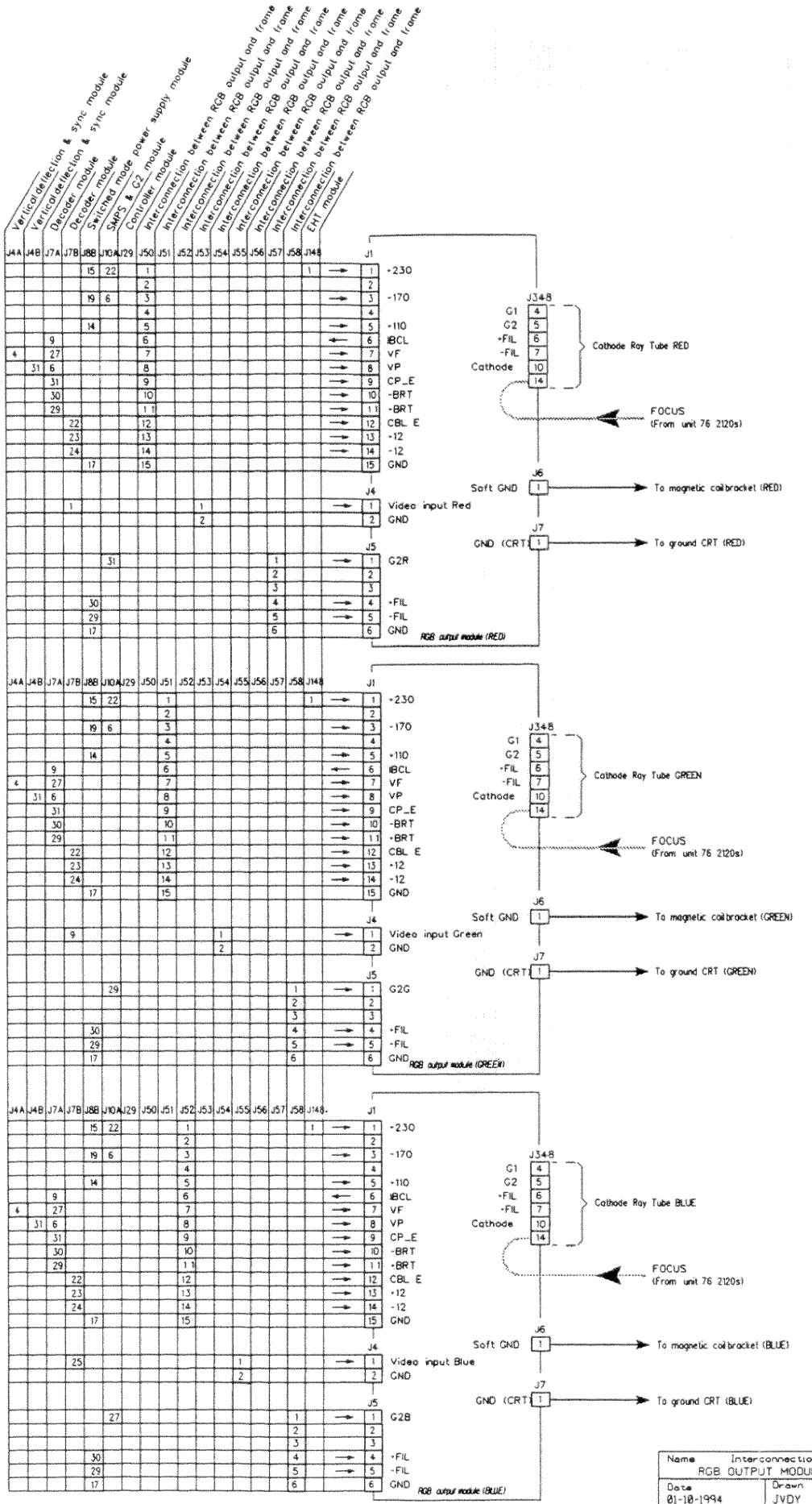
SECTION S

service sheet

R-G-B Output module

R762292



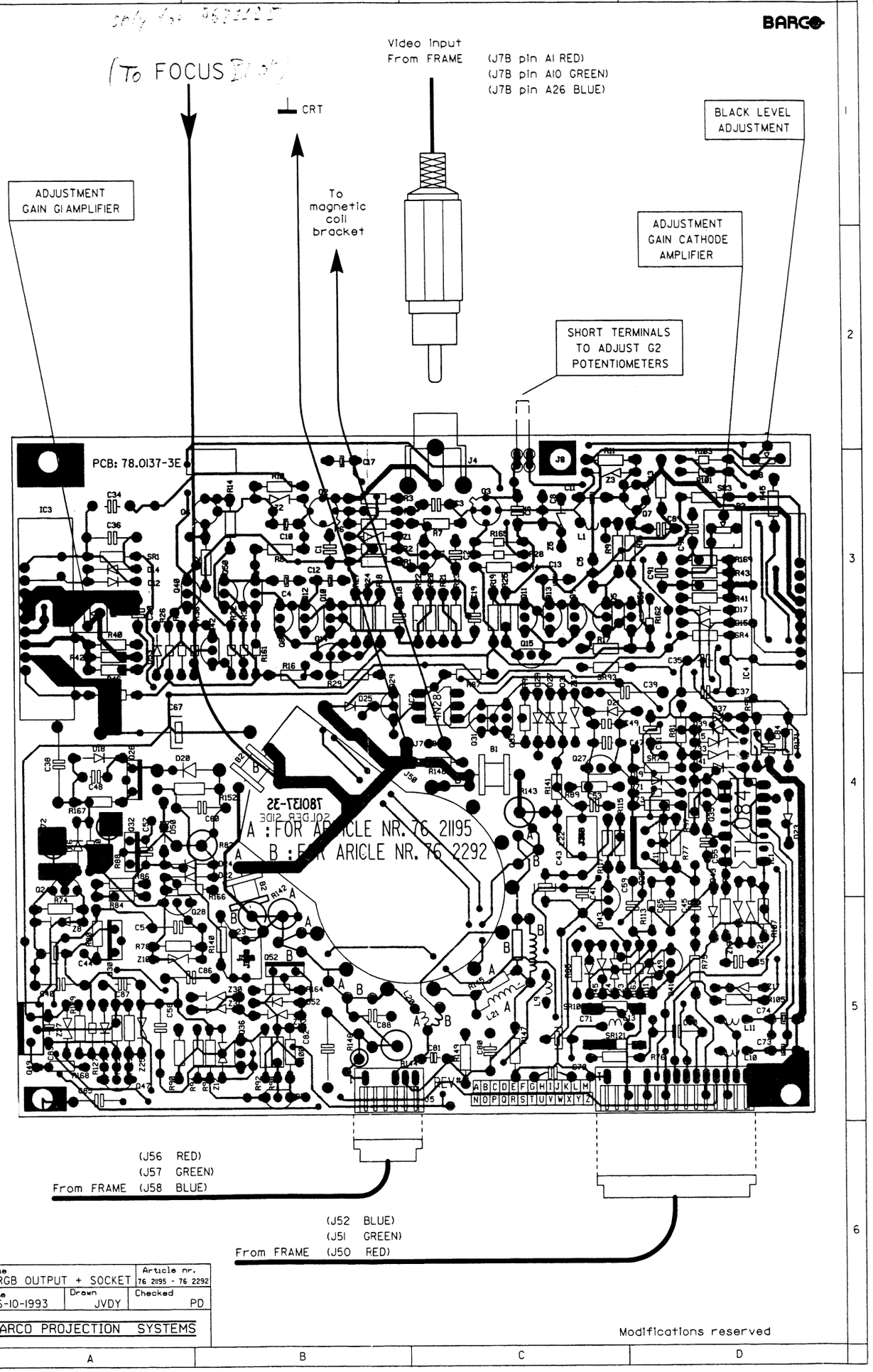


Name	Interconnection RGB OUTPUT MODULE	Article nr. 76 2195 : 76 2292
Date 01-10-1994	Drawn JVDY	Checked PDGY

BARCO PROJECTION SYSTE

Modifications reserved

SCHEMATIC NAME: rgboutcon.sch SHEET NUMBER: 1 DATE: Dec 21, 1994



Name		Article nr.
RGB OUTPUT + SOCKET		76 2195 - 76 2292
Date	Drawn	Checked
06-10-1993	JVDY	PD

BARCO PROJECTION SYSTEMS

Modifications reserved

COMP.	LOC.
B1	C 4
B2'	B 4
B2	B 4
C1	B 3
C2	C 3
C3	C 3
C4	B 3
C5	C 3
C6	C 3
C8	C 3
C10	B 3
C11	C 3
C12	B 3
C13	C 3
C17	B 3
C18	C 3
C19	C 3
C20	A 3
C34	A 3
C35	D 4
C36	A 3
C37	D 4
C38	A 4
C39	D 4
C40	A 5
C41	C 5
C43	C 4
C44	A 5
C45	D 5
C47	D 4
C48	A 4
C49	D 4
C50	D 5
C51	D 4
C52	A 4
C53	C 4
C54	A 5
C55	D 4
C57	D 5
C58	A 5
C59	D 5
C60	B 4
C65	D 5
C67	A 4
C70	C 5
C71	C 5
C73	D 5
C74	D 5
C80	C 5
C81	C 5
C82	B 5
C83	A 5
C84	D 4
C85	A 5
C86	B 5
C87	A 5
C88	B 5
C89	D 3
C90	D 3
C91	D 3
D12	A 3
D14	A 3
D15	D 3
D16	A 4
D17	D 3
D18	A 4
D19	D 4
D20	A 4
D21	C 4
D22	B 4
D23	D 4
D24	B 4
D25	B 4
D27	C 4
D29	C 4
D31	C 4
D37	D 4
D39	D 4
D41	D 4
D43	D 5
D45	C 5
D47	A 5
D49	D 5
D50	A 4
D52	B 5
D53	A 3
IC1	D 4
IC2	C 4
IC3	A 3
IC4	D 4
J1	D 5
J2	C 3
J3	C 3
J4	C 3
J5	C 5
J6	C 4
J7	C 4
J8	C 3
J9	C 3
J30B	B 5
J30A	B 5
J30	B 5
J31B	C 4
J31A	C 4
J31	C 4
J32B	B 5
J32A	B 5
J32	B 5
J33B	B 5
J34B	C 4
J35B	C 4
J50	C 4
J536	B 5
J537	B 5
J542	B 5
L1	C 3
L9	C 5
L10	D 5
L11	D 5
L13	D 5
L20	C 5
L21	C 5
L22	C 4
L23	B 5
P1	A 3
P2	D 3
P3	D 3
Q1	C 3
Q2	B 3
Q3	C 3
Q4	B 3
Q5	D 3
Q6	A 3
Q7	D 3
Q8	B 3
Q9	C 3
Q10	B 3
Q11	C 3
Q12	B 3
Q13	C 3
Q14	B 3
Q15	C 3
Q24	A 5
Q25	D 5
Q26	A 4
Q27	C 4
Q28	B 5
Q29	B 4
Q30	A 5
Q31	C 4
Q32	A 4
Q33	C 4
Q34	B 5
Q35	D 4
Q36	B 5
Q40	A 3
Q41	D 5
Q42	B 3
Q43	C 5
Q47	A 5
Q49	A 5
Q50	B 3
Q51	D 3
Q52	B 5
R1	C 3
R2	C 3
R3	C 3
R4	C 3
R5	C 3
R6	B 3
R7	C 3
R8	B 3
R9	C 3
R10	B 3
R11	C 3
R12	B 3
R13	D 3
R14	B 3
R15	D 3
R16	B 4
R17	C 3
R18	B 3
R19	C 3
R20	C 3
R21	C 3
R22	C 3
R23	C 3
R24	B 3
R25	C 3
R26	A 3
R27	B 3
R28	C 3
R29	B 4
R30	B 3
R32	B 3
R34	A 3
R36	B 3
R40	A 3
R41	D 3
R42	A 3
R43	D 3
R45	D 3
R46	A 4
R70	A 4
R71	D 4
R72	A 4
R73	D 4
R74	A 5
R75	D 5
R76	D 5
R77	D 4
R78	A 5
R80	A 5
R81	D 4
R82	B 4
R84	A 5
R85	C 5
R86	A 4
R87	C 4
R88	A 4
R89	C 4
R90	A 5
R91	C 4
R92	B 5
R94	B 5
R95	D 4
R96	B 5
R97	D 4
R98	B 5
R99	D 5
R100	B 5
R101	D 3
R103	D 3
R105	D 5
R107	D 5
R111	D 5
R113	D 5
R115	D 4
R117	C 4
R123	A 5
R125	A 5
R127	A 5
R129	A 5
R140	B 5
R141	C 4
R142	B 5
R143	C 4
R144	B 5
R145	C 5
R146	B 5
R147	C 5
R148	C 4
R149	C 5
R152	B 4
R161	B 3
R162	D 3
R163	D 5
R164	B 5
R165	C 3
R166	B 5
R167	A 4
R168	A 5
R169	D 3
R170	D 3
R171	D 4
SR1	A 3
SR2	A 4
SR3	D 3
SR4	D 3
SR79	D 4
SR93	C 4
SR102	C 5
SR121	C 5
Z1	C 3
Z2	B 3
Z3	C 3
Z5	C 3
Z8	A 5
Z10	A 5
Z11	D 4
Z12	B 5
Z13	C 4
Z15	D 4
Z17	D 5
Z19	D 5
Z21	D 5
Z23	D 5
Z24	C 5
Z25	A 5
Z27	A 5
Z30	B 5
Z31	B 5
Z32	B 5
Z33	D 4

780137-4

OVERVOLTAGE PROTECTION -185V

Z30 30V
Z31 51V
Z32 51V
R164 3K9
D52 1N4148
-185V_IN
SR102 10E
L13 IND
C71 2M2
C70 4K7
Q52 MJE350
C86 100K
-185V

C58 100K
Z12 5V6
Q34 BF423
R96 10K
Q36 BF458
R94 75K
R90 47E
-55V
R100 82K
R98 100K
R92 100K
REFERENCE VOLTAGE FOR CLAMPING G1
-185V

+12V
R86 1K5
Z34 5V1
D54 1N4148
R84 1K
C52 3K3
J1 CBL_E 12
Q32 BF470
R82 1K 1W
D50 BAV21
D24 BYD33J
D22 BAV21
D20 BYW96E
C54 10K
BLANKING CIRCUIT
R166 220E
Q28 BSS101
R80 1K8
Q30 BF470
2K2 R78
Z10 5V6
-185V

TO G1

C48 100K
D18 1N4148
R167 47E
Q26 BF470
2K7 R88
-185V

J5 +FIL 4
J5 -FIL 5
C81 1K5
+230V_IN
R147 100K
R149 100K
C80 4K7
L20 A
L20 B
R145 1K5
L21 A
R145
L21 B

J5 G2 1
R146 1K5
R144 270E
C82 2K7
C88 1K
A
B

R152 1K8
C60 10K
G1
R140 4K7
L23 IND
R142 47E
B2
B2'
A
B

C40 100K
C44 2M2
J1 -BRT 10
C50 100K
R76 47E
100K R74
Z8 18V
Q24 BSS92
D16 BAV21
R72 2K2 1W5
390K R70
-185V

R141 330E
CATH
L22 IND
R143 47E
B1
A
B
B

+12V
R161 470E
Q50 BC559C
Q51 BC559C
R162 470E
Q4 BC549B
Q5 BC549B
C12 22M
C4 22M
C5 22M
C13 22M

+110V•
SR1 1E
C36 100K
C34 4K7
D12 BAV21
D14 BAV21
SR2 10E
C38 220K
IC3 VPA13
+12V
R14 10E
Q6 BSX20
R12 1K5
R10 15K
-12V
C10 22M
Z2 3V9
R8 270K
R9 270K
L1 IND
C11 22M
Z3 4V7
+12V
R11 15K
R15 10E
Q7 BSX20
R13 1K5
C17 22M
-12V
+110V•
SR4 1E
SR3 10E
C35 4K7
C37 100K
D15 BAV21
IC4 VPA13
D17 BAV21
C39 220K

+12V
R18 1K
R16 22E
Q12 BC559B
+110V•
R20 82K
+2.97V
Q10 BC549B
Q8 BC549B
R40 100E
C18 100K
2K7 R22
Q14 BC549B
R24 1K
-12V
J1 CP_E 9
R29 10K
10K R27
-12V
R42 33E
R46 27E
P1 200E
C20 39P
ADJUSTMENT GAIN G1 AMPLIFIER

J4 1
2
R3 75E
Q2 BFY90
Q3 BFY90
R5 39E
C3 3P3
R6 120E
R7 120E
VIDEO INPUT FROM DRIVER MODULE
C2 100K
2K7 R2
Z1 4V7
Q1 BC549B
150E R1
C1 100K
-12V

R165 47E
R4 1K
Z5 2V
C8 22M
C6 100K
+12V
120E R26
2K7 R30
Q40 BC559B
R28 150E
8K2 R32
D53 1N4148
Q42 BC549B
R34 2K2
1K R36
VERT_PULSE

R41 100E
560E R170
27E R169
33E R43
C91 150P
C90 56P
200E
P2
ADJUSTMENT GAIN CATHODE AMPLIFIER

0.25W 0.40W 0.50W 1W 1.5W

Q2
Q3

J50	A FOR 76 21195	B FOR 76 2292
P4	G1	-
P5	G2	G1
P6	-FIL	G2
P7	+FIL	-
P8	-	CATH
P9	-	+FIL
P10	CATH	-FIL

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OVERVOLTAGE PROTECTION

TO CATHODE

AUTOMATIC BLACK LEVEL CONTROL LOOP

ADJUSTMENT GAIN CATHODE AMPLIFIER

ADJUSTMENT BLACK LEVEL REFERENCE VOLTAGE

SHORT TERMINALS TO ADJUST G2 POTENTIOMETERS

TO MAGNETIC COIL BRACKET

TO CRT GROUND

CRT SOCKET J50

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.

Modifications reserved

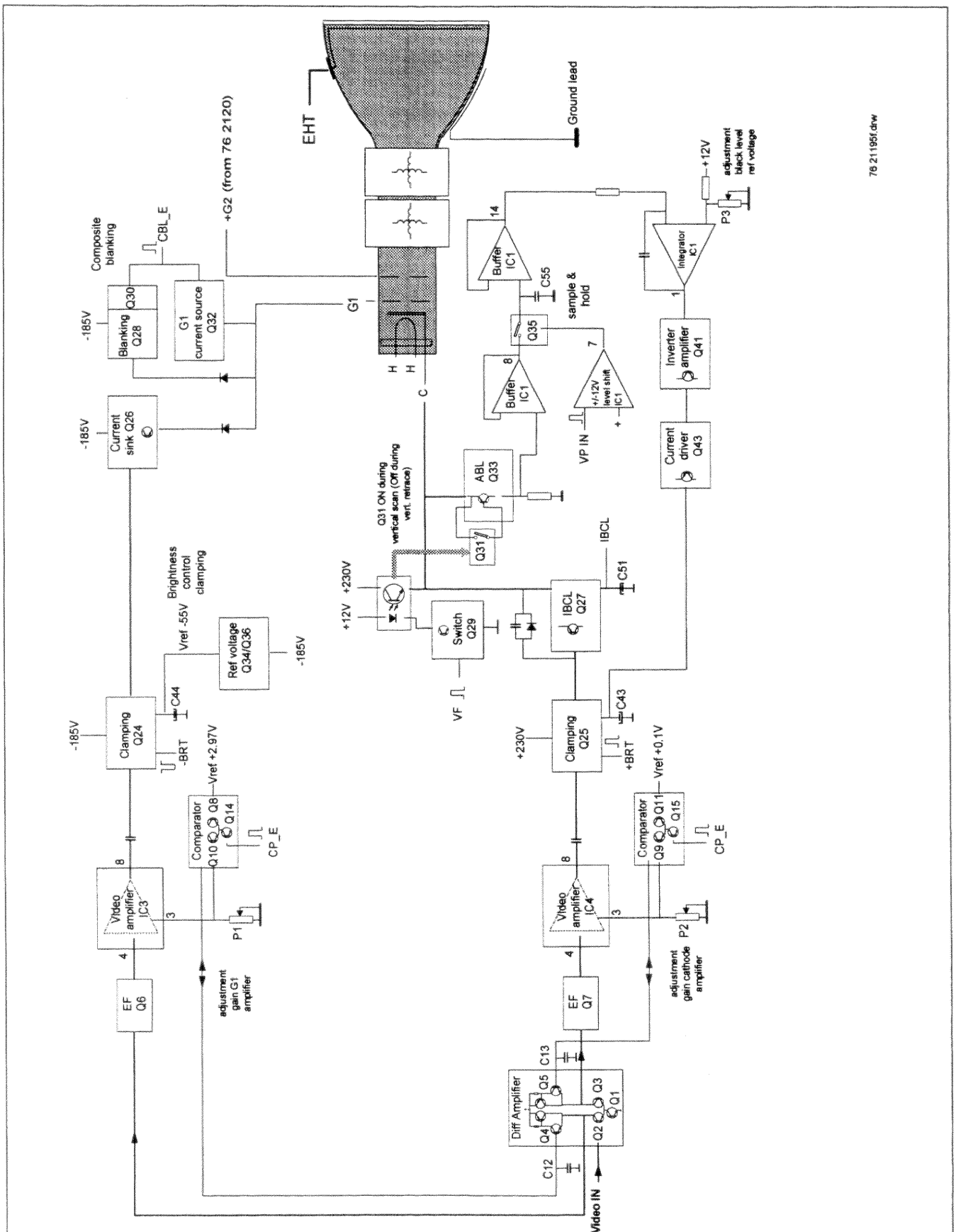
(COMPONENTS MARKED WIDTH ** ARE NOT MOUNTED)

Name: RGB OUTPUT + SOCKET	Article nr.: 76 2292 - 76 2195
Date: 30-11-1994	Drawn: JVDY
	Checked: PDG

BARCO PROJECTION SYSTEMS

COMP.	LOC.	COMP.	LOC.	COMP.	LOC.
B1	F 3	J50	H 2	R96	B 2
B2	F 2	J50	H 2	R97	K 4
B2'	F 2	J50	H 2	R98	B 2
		J50	H 3	R99	L 3
C1	D 6	J50	H 3	R100	A 2
C2	D 5	J50	H 3	R101	K 5
C3	D 5	J536	G 3	R103	K 5
C4	D 4	J537	F 3	R105	K 4
C5	D 4	J542	H 1	R107	J 5
C6	E 5			R111	I 5
C8	E 5	L1	D 4	R113	I 5
C10	D 4	L9	K 1	R115	I 5
C11	E 4	L10	K 2	R117	I 5
C12	D 4	L11	K 3	R123	K 1
C13	E 4	L13	A 1	R125	K 1
C17	F 5	L20	F 1	R127	L 2
C18	A 5	L21	F 1	R129	L 2
C19	H 5	L22	F 3	R140	E 2
C20	C 6	L23	E 2	R141	F 3
C34	B 4			R142	F 2
C35	F 4	P1	B 6	R143	F 3
C36	B 4	P2	F 6	R144	F 2
C37	F 4	P3	K 6	R145	F 1
C38	B 4			R146	F 2
C39	G 4	Q1	D 5	R147	F 1
C40	A 3	Q2	D 6	R148	G 1
C41	H 5	Q2	D 5	R149	F 1
C43	H 5	Q3	D 6	R152	E 2
C44	B 2	Q3	D 5	R161	D 3
C45	H 4	Q4	D 3	R162	E 3
C47	I 3	Q5	E 3	R163	I 5
C48	D 2	Q6	C 4	R164	B 1
C49	I 3	Q7	E 4	R165	E 5
C50	A 3	Q8	A 5	R166	D 2
C51	I 4	Q9	G 5	R167	D 2
C52	C 1	Q10	A 5	R168	L 1
C53	J 3	Q11	G 5	R169	F 5
C54	C 2	Q12	B 5	R170	F 5
C55	L 4	Q13	G 5	R171	I 4
C57	J 5	Q14	A 6	R172	K 1
C58	A 2	Q15	C 6	R173	L 3
C59	I 5	Q24	B 3		
C60	E 2	Q25	H 4	SR1	B 4
C65	L 1	Q26	D 2	SR2	C 4
C67	L 2	Q27	I 4	SR3	F 4
C70	A 1	Q28	D 2	SR4	F 4
C71	A 1	Q29	I 3	SR79	I 4
C73	L 2	Q30	C 2	SR93	J 3
C74	L 3	Q31	J 2	SR102	A 1
C80	F 1	Q32	C 1	SR121	K 1
C81	F 1	Q33	J 3		
C82	F 2	Q34	A 2	Z1	D 5
C83	L 1	Q35	K 3	Z2	D 4
C84	K 5	Q36	B 2	Z3	E 4
C85	L 1	Q40	E 6	Z5	E 5
C86	B 1	Q41	I 5	Z8	A 3
C87	L 1	Q42	E 6	Z10	D 2
C88	F 2	Q43	I 5	Z11	H 4
C89	F 5	Q47	K 2	Z12	A 2
C90	F 6	Q49	L 1	Z13	J 3
C91	F 6	Q50	D 3	Z15	J 4
C92	L 5	Q51	D 3	Z17	K 4
		Q52	B 1	Z19	J 5
D12	B 4			Z21	J 5
D14	B 5	R1	D 5	Z23	I 5
D15	F 4	R2	D 5	Z24	I 5
D16	B 3	R3	D 5	Z25	K 2
D17	F 5	R4	E 5	Z27	L 1
D18	D 2	R5	D 5	Z30	B 1
D19	H 4	R6	D 5	Z31	B 1
D20	E 1	R7	D 5	Z32	B 1
D21	I 4	R8	D 4	Z33	I 4
D22	D 1	R9	D 4	Z34	C 1
D23	I 4	R10	C 4		
D24	D 1	R11	E 4		
D25	I 3	R12	C 5		
D27	J 3	R13	E 5		
D29	J 3	R14	C 4		
D31	J 3	R15	E 4		
D37	J 4	R16	B 5		
D39	J 4	R17	G 5		
D41	K 4	R18	A 5		
D43	J 5	R19	G 5		
D45	I 6	R20	A 5		
D47	L 2	R21	G 5		
D49	J 6	R22	A 5		
D50	C 1	R23	G 5		
D52	B 1	R24	A 6		
D53	E 6	R25	G 6		
D54	C 1	R26	E 5		
		R27	A 6		
IC1	K 3	R28	E 6		
IC1	L 3	R29	A 6		
IC1	L 5	R30	E 5		
IC1	L 5	R32	E 6		
IC1	J 5	R34	E 6		
IC1	K 4	R36	E 6		
IC2	I 3	R40	B 5		
IC3	B 4	R41	F 5		
IC4	F 4	R42	B 5		
		R43	F 5		
J1	J 1	R45	I 6		
J2	I 6	R46	C 5		
J3	I 6	R70	B 3		
J4	D 5	R71	H 4		
J5	J 1	R72	A 3		
J6	H 1	R73	H 4		
J7	H 1	R74	A 3		
J8	I 6	R75	H 4		
J9	I 6	R76	A 3		
J30B	G 2	R77	H 4		
J30	F 2	R78	D 2		
J30A	G 2	R80	C 2		
J31	F 3	R81	I 4		
J31B	G 3	R82	C 1		
J31A	G 3	R84	C 1		
J32A	G 1	R85	I 3		
J32B	G 2	R86	C 1		
J32	F 2	R87	I 2		
J33B	G 1	R88	D 3		
J34B	G 1	R89	I 2		
J35B	G 1	R90	B 2		
J50	H 2	R91	J 3		
J50	H 2	R92	B 2		
J50	H 3	R94	B 2		
J50	H 2	R95	J 4		

SCHEMATIC NAME: 762292.sch SHEET NUMBER: 1 DATE: Dec 21, 1994


EHT
Ground lead
+G2 (from 76 2120)
G1
H
H
C
Composite blanking
CBL_E
-185V
Blanking Q28
Q30
G1 current source Q32
Current sink Q26
Buffer IC1
14
C55
sample & hold
Q35
8
Buffer IC1
7
+/-12V level shift IC1
VP IN
+12V
adjustment black level ref voltage
P3
Integrator IC1
1
Inverter amplifier Q41
Current driver Q43
Q31 ON during vertical scan (Off during vert. retrace)
ABL Q33
Q31
IBCL
C51
+12V
+230V
Switch Q29
VF
IBCL Q27
Brightness control clamping
Vref -55V
Ref voltage Q34/Q36
-185V
C44
Clamping Q24
-BRT
-185V
Vref +2.97V
Comparator Q10 Q8 Q14
CP_E
8
Video amplifier IC3
3
P1
4
EF Q6
adjustment gain G1 amplifier
+230V
C43
Clamping Q25
+BRT
Vref +0.1V
Comparator Q9 Q11 Q15
CP_E
8
Video amplifier IC4
3
P2
4
EF Q7
adjustment gain cathode amplifier
C13
Diff Amplifier
Q5
Q3
Q4
Q2
Q1
C12
Video IN
76 21195f.drw

TECHNICAL DESCRIPTION "RGB OUT" 1200 (76 21195).

Introduction.

In order to meet the requirements regarding bandwidth and contrast range, the CRT's are driven with two opposite phase videosignals applied on the cathode and G1. Two supplies voltages of 110 volts and -185volts are needed combined with opposite phase Brightness or clamping pulses.
An ABL circuit that measures the cathode current during about 20µS at the end of the vertical flyback, stabilises the black level and compensates drift in the video power stages.

Preparation of the video signals.

The videosignal is applied on the base of a differential amplifier Q2/Q3. The current source is built around Q1. As Q3's base is grounded for AC signals, the signals on the collectors are in phase opposition.
These video signals are now separately handled in two more or less identical cascode amplifiers (one for the cathode and one for the G1drive).

The cathode drive circuit contains also the ABL circuit, whereas the G1 drive contains the composite blanking circuit.

A. Cathode drive with ABL (Q7, IC4).

For DC stability reasons, a clamping circuit with **CP_E** pulses clamps the black "pedestal" level to a reference voltage, different for both amplifiers. Note that these CP_E pulses **only** occur when no brightness pulses are inserted (every 4 lines).
The CP_E pulses switch on and off Q15 to turn on and off the comparator Q9/Q11. The base of Q11 is set at a fixed reference voltage of **+0.1 volts.** The instant video level (black level) presented on the base of Q9 is then compared with the reference and the voltage difference loads or unloads the capacitor C13. This voltage across the capacitor , is the base voltage of Q5, determines the collector current of Q3. With such a clamp circuit any DC drift in this DIFF AMP is compensated.

Via a zener voltage dropping zener Z3 and emitter follower Q7, the video is now arriving on the input, pin 4, of the video amplifier IC4. The output, pin 8, feeds the coupling capacitor C39.

The **+BRT** pulses, (coinciding with the brightness pulses BRT_P2 and BRT_P1) switch on and off Q25 to clamp the instant level to approximately +89 volts, although this voltage depends on the ABL output, as described hereafter.

ABL circuit:

The positive **VF** pulses (these pulses are active during the full retrace time, and thus much longer than the VP pulses used for ABL measurement) turn on and off Q29 to short via the opto-coupler the G-S of the MOSFET-switcher Q31. The latter is then blocked and releases the base-emitter of Q33.
Q33 is forward biased and the crt cathode current flows via Q33, SR93 and R95 to ground.
In this case the cathode current cannot flow in Q27, but, on the other hand is deviated by Q33.

This current is the instant cathode current for black (remember the video has been

suppressed before) and is thus very small (approx. 10 µA). The voltage across R95 is consequently proportional with the black cathode current .This voltage is buffered and becomes available at the (S)ource of the switcher Q35. The voltage is transferred (sampled) to the capacitor C55 (hold) at the moment the switcher Q35 is turned on. This now is done with the **VP** pulse.

The VP pulse, generated on the "UN SYNC+VERT DEFL" board and arrives at contact 8 of the J1 connector. The pulse is protected to 5 volts with Z17 and transferred to a +/-12 jump with the OPAMP IC1, out pin 7. Via D41 the FET-switcher Q35 is turned on and off .
The capacitor voltage across C55 is once again buffered and integrated with another OPAMP and compared with a reference of +1 volts (node R101/R103, or, input pin 3 of IC1).

Finally, the regulating voltage is applied on the base of Q41, inverted, and buffered with the current driver Q43. The clamping level is thus adapted accordingly.

Service Note:

By shorting J2-J3, the base of Q41 is grounded and **the ABL circuit is OFF**.
In this case the base of Q43 is set at a fixed level with the zeners Z23/Z24.
This short is required when aligning the G2 levels, and can also be used for service purposes (fault in the ABL).

IBCL measurement :

When the VF pulse is not active, during the active scan time, the MOSFET Q31 is tuned on via R89, shorting the base-emitter of Q33. The cathode current cannot flow in Q33 but in Q27. The average cathode current (C51) developed across R81 is sent to the driver stage, in order to limit the contrast.

B. G1 drive - Composite Blanking.

The video at the collector of Q2 is applied to IC3 with the emitter follower Q6. The clamping circuit with CP_E sets here the black level at +2.9 volts to compensate for DC drift of the circuit. A video amplifier (similar to the one for the cathode drive) applies the video to the capacitor C38.
We find now two circuits, the brightness clamping and the composite blanking. Both circuit must be active but have to be isolated to avoid any interference.

a) Brightness control / clamping :

From the -185 volts a stable -55 volts is made with Q34 and Q36. The -BRT pulses turn on and off the switcher Q24 to clamp the video level at -81 volts. By this clamping the DC of the videosignal (=brightness) undergoes a DC shift depending on the voltage difference between the installed brightness pulse level in the drive circuit and the -70 volts level.

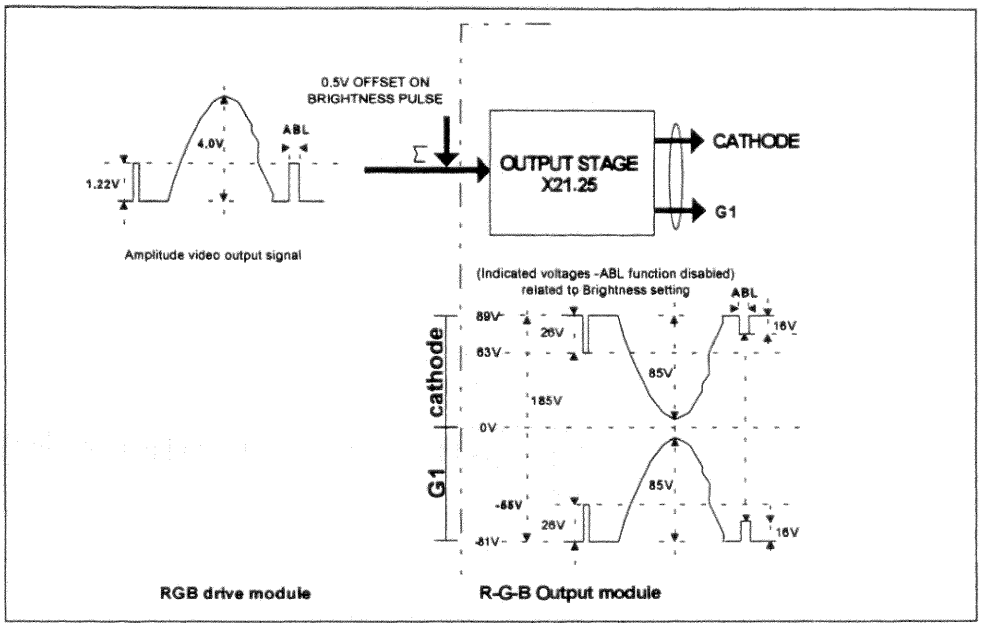
b) Composite blanking :

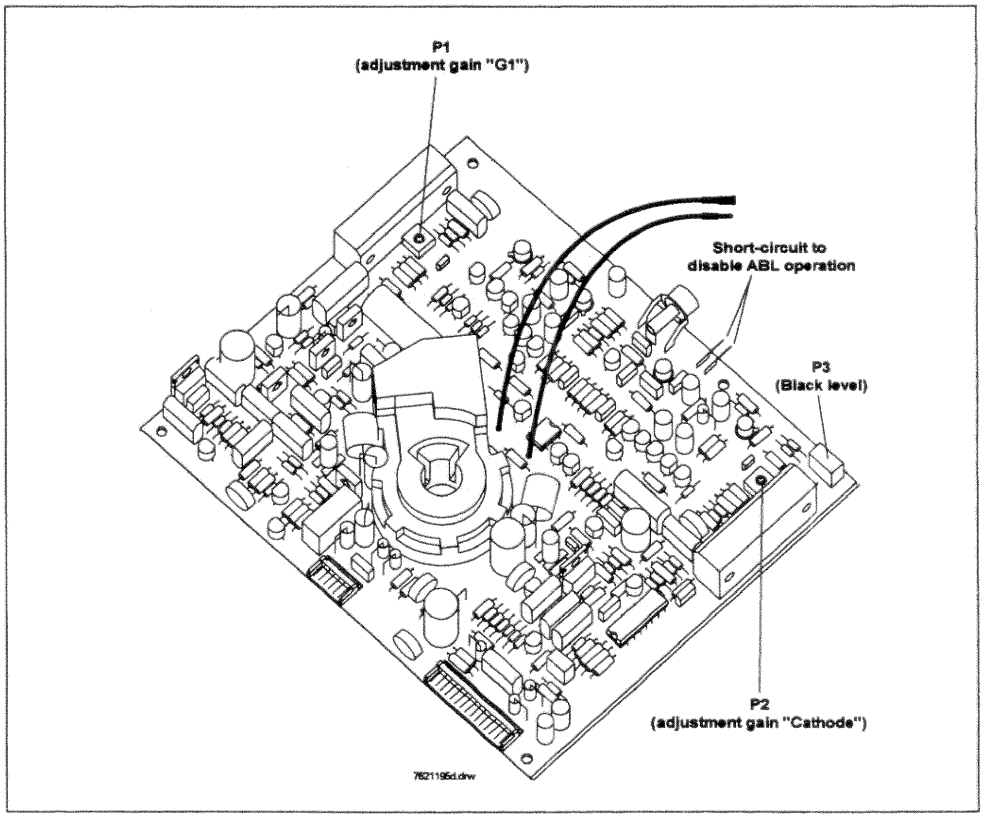
The CBL_E pulses turn on and off Q28 via Q30 to blank the G1 voltage at -185 volts. When the switcher turns off after a blanking, an important current is required to charge up again the G1 capacitance. If this charging current were too slow the

blanking pulses are integrated and blanking is not precisely determined. This is realised as follows :

The emitter of Q32 is set at +5 volts with a divider and a capacitor is decoupling this voltage. The CBL_E pulse, when switching from 5 volts to 0 volts, turns on Q32 and the capacitor on the emitter provides a heavy current (=overshoot) to speed up the pulse. A big charging current delivered by the capacitor is available just after the blanking to restore the G1-voltage level. Note that the separation of the two circuit is done with the isolating diode D20.

Alignment of the RGB Output R7621195





Preparation

- Loosen gear clamp (80 3234/80 3349-refer to illustration spare parts) of the Output module and disconnect the wire connections .
- Slide the Output module off of the end of the CRT.
- Remove top cover 80 3232(refer to illustration spare parts).
- Put back the output module on the CRTand reinstall wire connections.

- Using the RCU (Remote Control unit), adjust the Brightness and the Black level to 50% on the bar scale, i.e. mid-position, the Red/Blue gain to 99%, i.e. maximum. (refer to installation manual)

Adjustment

Important:

The adjustment procedure below requires an amplitude of the R, G and B signal on the input connector J4 (cinch) of 2.85Vpp (Use the contrast control to adjust input signal level) .

Alignment signal amplitude on G1 (P1)

- Connect the oscilloscope to the grid G1 (resistor R142).
- Short-circuit the two pins on the module to disable ABL operation (refer to illustration).
- Adjust the potentiometer P1 for a signal amplitude of 60Vpp (between black and white).

Alignment signal amplitude on cathode (P2)

- Connect the oscilloscope to the cathode (resistor R143).
- Short-circuit the two pins on the module to disable ABL operation (refer to illustration).
- Adjust the potentiometer P2 for a signal amplitude of 60Vpp (between black and white).

Alignment Black level (P3)

This potentiometer allows to refine the G2-adjustment of the respective color (Black balance alignment on the "G2+Diagnostic" module) if any coloration is still visible without disabling the ABL and Black level R/B at 50%.

Parts listing RGB Output module R762292-4

SIT.	ITEM NO.	DESCRIPTION	QUANTITY
150	R3621219	SCR D7985 M 3 X 6 PIC	20
130	R3631049	SCR D933 M 3 X 6 XIC	18
140	R367600	NUT BLOC M 3	4
110	R803232	HTSNK PJ51 G1200 RGB OUT1	1
100	R805644	HTSNK PJ51 G1202 RGB OUT1	1
120	R805645	HTSNK PJ51 G1202 RGB OUT2	1
	Z34230006	WU HV 1K AWG26 ST BK 60	1
B 1	R131263	TUBE SURGE PROT 350V AX	1
B 2	R131263	TUBE SURGE PROT 350V AX	1
C 1	R112774	C CE MI 100N S 63E2	
C 2	R112774	C CE MI 100N S 63E2	
C 3	R112224	C NPO MI 3P3C 63E2	
C 4	R111510	C EL RA 22M M 25E2 85	
C 5	R111510	C EL RA 22M M 25E2 85	
C 6	R112774	C CE MI 100N S 63E2	
C 8	R111510	C EL RA 22M M 25E2 85	
C 10	R111510	C EL RA 22M M 25E2 85	
C 11	R111510	C EL RA 22M M 25E2 85	
C 12	R111510	C EL RA 22M M 25E2 85	
C 13	R111510	C EL RA 22M M 25E2 85	
C 17	R111510	C EL RA 22M M 25E2 85	
C 18	R112774	C CE MI 100N S 63E2	
C 19	R112774	C CE MI 100N S 63E2	
C 20	R112237	C NPO MI 39P G 63E2	
C 34	R112833	C CE DI 4N7S400E3	1
C 35	R112833	C CE DI 4N7S400E3	1
C 36	R114132	C POMERA 100N K250E4	1
C 37	R114132	C POMERA 100N K250E4	1
C 38	R114136	C POMERA 220N K250E6	1
C 39	R114136	C POMERA 220N K250E6	1
C 40	R114100	C POMERA 100N K100E4	1
C 41	R112833	C CE DI 4N7S400E3	1
C 43	R111571	C EL RA 2M2M350E2 85	1
C 44	R111571	C EL RA 2M2M350E2 85	1
C 45	R114132	C POMERA 100N K250E4	1
C 47	R114068	C POMERA 10N M 63E2	1
C 48	R113724	C POMERA 100N K 63E2	1
C 49	R112763	C CE MI 10N U100E2	
C 50	R114132	C POMERA 100N K250E4	1
C 51	R111531	C EL RA 10M M 35E2 85	
C 52	R112760	C CE MI 3N3K103E2	
C 53	R112240	C NPO MI 68P J 63E2	
C 54	R114120	C POMERA 10N K250E4	1
C 55	R113724	C POMERA 100N K 63E2	
C 57	R111678	C EL BRA 10M M 25E2 85	
C 58	R114132	C POMERA 100N K250E4	1
C 59	R114132	C POMERA 100N K250E4	1
C 60	R114120	C POMERA 10N K250E4	1
C 65	R114132	C POMERA 100N K250E4	1
C 67	R111230	C EL AX 22M T160E12 85	1
C 70	R112833	C CE DI 4N7S400E3	1
C 71	R111571	C EL RA 2M2M350E2 85	1
C 73	R111510	C EL RA 22M M 25E2 85	1
C 74	R111510	C EL RA 22M M 25E2 85	1
C 80	R112833	C CE DI 4N7S400E3	1
C 81	R112741	C CE MI 1N5K100E2	
C 82	R1117674	C PPMERA 2N7J162E7 HV	1
C 83	R112741	C CE MI 1N5K100E2	
C 84	R112774	C CE MI 100N S 63E2	
C 85	R114132	C POMERA 100N K250E4	1
C 86	R114132	C POMERA 100N K250E4	1
C 87	R112833	C CE DI 4N7S400E3	1
C 88	R111718	C CE DI 1N 202E3 HV	1
C 89	R112774	C CE MI 100N S 63E2	1
C 90	R1122395	C NPO MI 56P G 63E2	
C 91	R112364	C N750MI 150P J 63E2	
C 92	R111532	C EL RA 22M M 35E2 85	1
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D 14	R131627	D S BAV21 200250 DO35	
D 15	R131627	D S BAV21 200250 DO35	
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D 19	R131627	D S BAV21 200250 DO35	
D 20	R131952	D R BYW96E 10203A SOD64	1
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D 23	R131621	D S 1N4148 075150 DO35	
D 24	R1319481	D R BYD33J 6001A3 SOD81	1
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D 29	R131621	D S 1N4148 075150 DO35	
D 31	R131621	D S 1N4148 075150 DO35	
D 37	R1316361	D Y BAT85 030200 DO35	
D 39	R131621	D S 1N4148 075150 DO35	
D 41	R131621	D S 1N4148 075150 DO35	
D 43	R131621	D S 1N4148 075150 DO35	
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D 47	R131621	D S 1N4148 075150 DO35	
D 49	R1316361	D Y BAT85 030200 DO35	
D 50	R131627	D S BAV21 200250 DO35	
D 52	R131621	D S 1N4148 075150 DO35	
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D 54	R131621	D S 1N4148 075150 DO35	1
I 1	R134113	U 084 TL DIP14 P	1
I 2	R131688	U 4N28 DIP6 P	1
I 3	R134302	U 13 VPA	1
I 4	R134302	U 13 VPA	1
J 1	R313955	J CT H MBS P15 M2SN	1
J 2	R313284	J CIS MBS P 1 L6.2 RL	1
J 3	R313284	J CIS MBS P 1 L6.2 RL	1
J 4	R313350	J CINCH FBS P 1	1
J 5	R313946	J CT H MBS P 6 M2SN	1
J348	R311046	J CRT FBT T180 SKT	1
L 1	R774280	COIL IF N 7.5 LA4.0 D0.5	1
L 9	R3061322	CH AX NS 10 UH	1
L 10	R3061322	CH AX NS 10 UH	1
L 11	R3061322	CH AX NS 10 UH	1
L 13	R3061322	CH AX NS 10 UH	1
L 20	R3061322	CH AX NS 10 UH	1
L 21	R3061322	CH AX NS 10 UH	1
L 22	R774271	COIL IF N 6.5 B5ZK D0.2	1
L 23	R774271	COIL IF N 6.5 B5ZK D0.2	1
P 1	R107004	R TCE H200E M 0W5 S7 TS	1
P 2	R107004	R TCE H200E M 0W5 S7 TS	1
P 3	R106826	R TCE V 1K K 0W5 S10SS	1
PC	R780137	PCD PJ51 G1200 RGB OUT	1

Q 1	R1314295	Q BC549B N SS TO92	
Q 2	R132954	Q BFY90 N SS TO72	1
Q 3	R132954	Q BFY90 N SS TO72	1
Q 4	R1314295	Q BC549B N SS TO92	
Q 5	R1314295	Q BC549B N SS TO92	
Q 6	R131491	Q BSX20 .2369 N SS TO18	1
Q 7	R131491	Q BSX20 .2369 N SS TO18	1
Q 8	R1314295	Q BC549B N SS TO92	
Q 9	R1314295	Q BC549B N SS TO92	
Q 10	R1314295	Q BC549B N SS TO92	
Q 11	R1314295	Q BC549B N SS TO92	
Q 12	R1314181	Q BC559B P SS TO92	
Q 13	R1314181	Q BC559B P SS TO92	
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Q 15	R1314295	Q BC549B N SS TO92	
Q 24	R132962	Q BSS92 FP SS TO92	1
Q 25	R132593	Q BUZ74A FN P TO220	1
Q 26	R132515	Q BF470 .870 P P TO126	1
Q 27	R132552	Q BF423 P SS TO92	
Q 28	R132956	Q BSS101 FN SS TO92	1
Q 29	R1314295	Q BC549B N SS TO92	
Q 30	R132515	Q BF470 .870 P P TO126	1
Q 31	R132910	Q BS170 FN SS TO92	1
Q 32	R132515	Q BF470 .870 P P TO126	1
Q 33	R132552	Q BF423 P SS TO92	
Q 34	R132552	Q BF423 P SS TO92	1
Q 35	R1314651	Q BF245B FN SS TO92	1
Q 36	R131471	Q BF458 N P TO126	1
Q 40	R1314181	Q BC559B P SS TO92	
Q 41	R132516	Q BF422 N SS TO92	
Q 42	R1314295	Q BC549B N SS TO92	
Q 43	R132552	Q BF423 P SS TO92	
Q 47	R132516	Q BF422 N SS TO92	1
Q 49	R132593	Q BUZ74A FN P TO220	1
Q 50	R1314182	Q BC559C P SS TO92	
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Q 52	R132580	Q MJE350 P P TO126	1
R 1	R101126	R CF H150E J 0W25	
R 2	R101141	R CF H 2K7 J 0W25	
R 3	R1011231	R CF H 75E J 0W25	
R 4	R101136	R CF H 1K J 0W25	
R 5	R101119	R CF H 39E J 0W25	
R 6	R101125	R CF H120E J 0W25	
R 7	R101125	R CF H120E J 0W25	
R 8	R101129	R CF H270E J 0W25	
R 9	R101129	R CF H270E J 0W25	
R 10	R101150	R CF H 15K J 0W25	
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R 12	R101138	R CF H 1K5 J 0W25	
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R 15	R101112	R CF H 10E J 0W25	
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R 81	R101145	R CF H 5K6 J 0W25	
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R113	R101557	R MF H 56K F 0W4 E3	
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R121	R1011907	R CFFH E1 J 0W4	1
R123	R101157	R CF H 56K J 0W25	
R125	R101152	R CF H 22K J 0W25	
R127	R1015431	R MF H 3K6 F 0W4 E3	1
R129	R1011584	R MF H 68K F 0W25	1
R140	R101144	R CF H 4K7 J 0W25	
R141	R101130	R CF H330E J 0W25	
R142	R102120	R CC H 47E K 1W	1
R143	R102120	R CC H 47E K 1W	1
R144	R102148	R CC H 10K K 1W	1
R145	R101138	R CF H 1K5 J 0W25	1
R146	R102038	R CC H 1K5 K 0W5	1
R147	R101160	R CF H100K J 0W25	
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R162	R101132	R CF H470E J 0W25	
R163	R101134	R CF H680E J 0W25	
R164	R101143	R CF H 3K9 J 0W25	
R165	R101520	R MF H 47E F 0W4 E3	
R166	R101128	R CF H220E J 0W25	

R167	R101120	R CF H 47E J 0W25	
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R169	R101117	R CF H 27E J 0W25	1
R170	R101133	R CF H560E J 0W25	1
R171	R101148	R CF H 10K J 0W25	1
R172	R101532	R MF H470E F 0W4 E3	1
R173	R101524	R MF H100E F 0W4 E3	1
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SR 4	R1011008	R CFFH 1E J 0W25	1
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Z 3	R131729	D ZEN 4V7 0W5 C DO35	
Z 5	R131733	D STB 2V 0W33 DO35	
Z 8	R131749	D ZEN 18V 0W5 C DO35	
Z 10	R131744	D ZEN 5V6 0W5 C DO35	
Z 11	R131749	D ZEN 18V 0W5 C DO35	
Z 12	R131734	D ZEN 5V6 0W5 B DO35	
Z 13	R131749	D ZEN 18V 0W5 C DO35	
Z 15	R131733	D STB 2V 0W33 DO35	
Z 17	R131744	D ZEN 5V6 0W5 C DO35	
Z 19	R131714	D STB 1V4 0W33 DO35	
Z 21	R131733	D STB 2V 0W33 DO35	
Z 23	R131765	D ZEN 27V 0W5 B DO35	
Z 24	R131732	D ZEN 36V 0W5 B DO35	
Z 25	R131734	D ZEN 5V6 0W5 B DO35	
Z 27	R131749	D ZEN 18V 0W5 C DO35	
Z 30	R131712	D ZEN 30V 0W5 C DO35	
Z 31	R131787	D ZEN 51V 0W5 C DO35	
Z 32	R131787	D ZEN 51V 0W5 C DO35	
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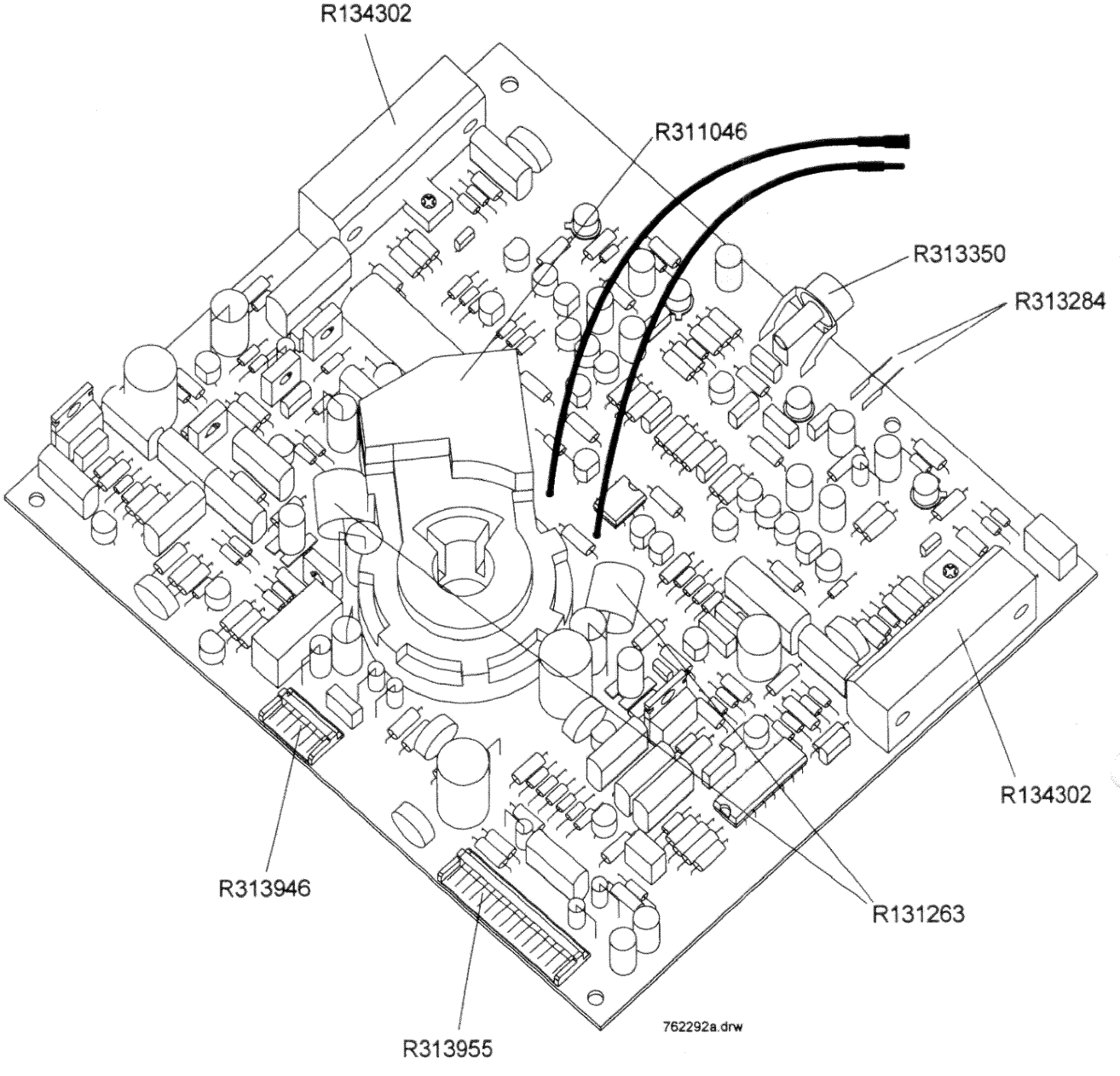
Z 34	R131716	D ZEN 5V1 0W5 C DO35	1

R-G-B Output module R762292



R-G-B Output module R762292