BARCO

BARCO Projection Systems

SECTION K

service sheet

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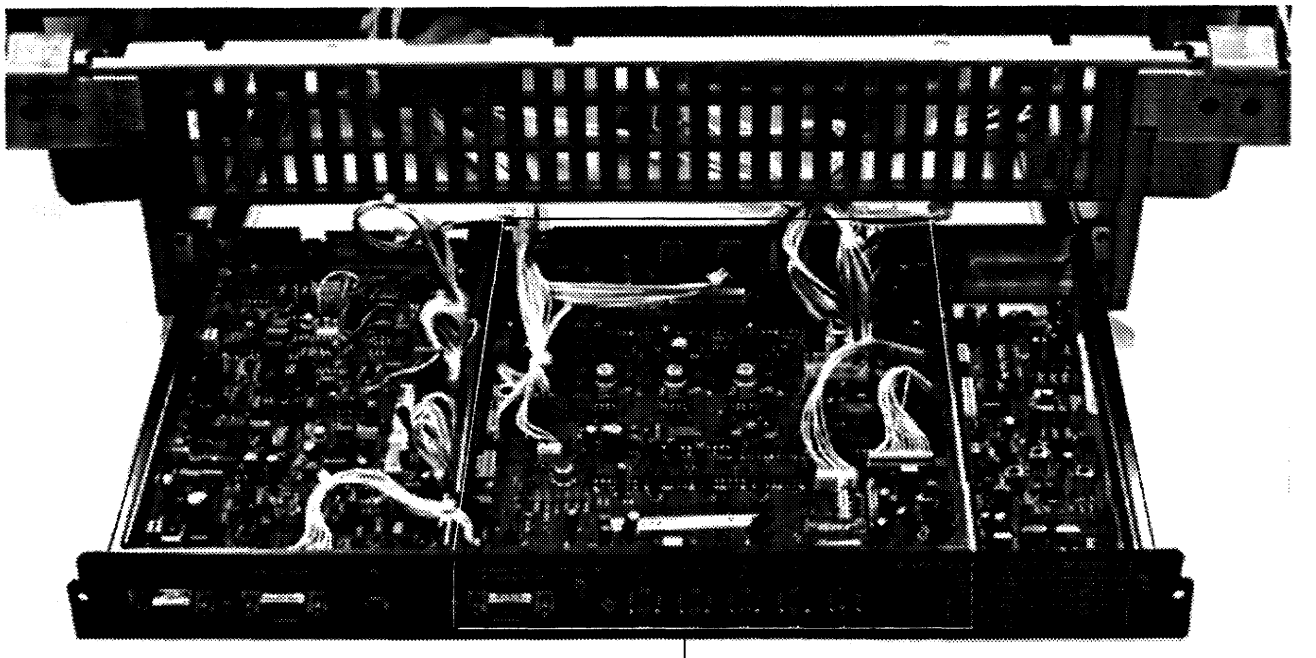
RGB input+Driver module R762228



Input module R762228

BARCO

IR RECENER FRONT

J780		J703
PPMIR	1	1 PPMIR
	2	2
5VSB_REC	3	3 5VSB_REC
GND	4	4 GND

J2		J3
VS	1	1 VS
COIN	2	2 COIN
HP	3	3 HP
GND	4	4 GND
CSO	5	5 CS_CTRL
	6	6 RES RGB
R	7	7 R_CTRL
G	8	8 G_CTRL
B	9	9 B_CTRL
INSERT	10	10 INSERT
SDA	11	11 SDA_CTRL
SCL	12	12 SCL_CTRL

J3		J701
PPMIR	1	1 PPMIR
PPMRC	2	2 PPMRCU
TXDRCV	3	3 TXDRCV
RXDRCV	4	4 RXDRCV
RDY	5	5 RDY
SLC	6	6 SLC
RXDC	7	7 RXDC
TXDC	8	8 TXDC
GND	9	9 GND
	10	10

CONTROLLER MODULE

J713		J779
M/S SELECT	1	1 M/S SELECT
BCL LINK	2	2 MASTER_CONTR
-SB	3	3 -SB
+SB	4	4 +SB
GND	5	5 GND
RXDC	6	6 RXDC
TXDC	7	7 TXDC
GND	8	8 GND
PPMIR	9	9 PPMIR
PPMRC	10	10 PPMRCU
+5VSB_REC	11	11 +5VSB_REC

IR REAR • RS 232 MODULE

J206	
1	PPMRCU
6	SLC
2	RXDRCV
7	RDY
3	TXDRCV
8	+30V
4	+SB
9	GND
5	GND

COMM. PORT
(800-peripherals)

REMOTE

J213	
P2	PPMIR_PHONE
P3	GND
P4	+9VSB_PHONE

R (R-Y)	[J217 (PIN:5 AND 10)]
G(s) Y	[J217 (PIN:4 AND 9)]
B (B-Y)	[J217 (PIN:3 AND 8)]
S	[J217 (PIN:2 AND 7)]
VIDEO	[J217 (PIN:1 AND 6)]

J235	
1	S-VID_GND
2	S-VID_GND
3	S-VID_Y
4	S-VID_C

S-VIDEO

RGB INPUT & DRIVER

J400		J800
+17V	1	1 +17V
SC/CLAMPP	2	2 SC/CLAMPP
+VID	3	3 +VID
SDA_CTRL	4	4 SDA
SCL_CTRL	5	5 SCL
GND	6	6 GND
CS_INV	7	7 CS_INV
GND	8	8 GND
VID/LUMA	9	9 VID/LUMA
HUE	10	10 HUE
CHROMA	11	11 CHROMA
+S_VID	12	12 +S_VID

J405		J801
GND	1	1 GND
(R-Y)_DEC	2	2 (R-Y)
GND	3	3 GND
Y_DEC	4	4 Y
GND	5	5 GND
(B-Y)_DEC	6	6 (B-Y)
GND	7	7 GND

DECODER MODULE

J734		J3
	1	1
	2	2
	3	3
-12V	4	4 -12V
+12V	5	5 +12V
GND	6	6 GND
HFB	7	7 HFB
ABL	8	8 ABL
	9	9
GND	10	10 GND
SC/CLAMPP	11	11 SC/CLAMPP
GND	12	12 GND
CS_INV	13	13 CS_INV
GND	14	14 GND
COMP_BLANKING	15	15 COMP_BLANKING

J735		J1
COIN	1	1 COIN
SCL_CTRL	2	2 SCL
SDA_CTRL	3	3 SDA
+5V	4	4 +5V
GND	5	5 GND
HP'	6	6 HP'
GND	7	7 GND
VFB_INV	8	8 VFB_INV
GND	9	9 GND
FAST/SLOW	10	10 FAST/SLOW
GND	11	11 GND
	12	12
HDTV_INV	13	13 HDTV_INV
+VID	14	14 +VID
SYNC	15	15 SYNC

SYNC MODULE

J757		J757
GAIN_CM_R	1	1 GAIN_CM_R
GAIN_CM_G	2	2 GAIN_CM_G
GAIN_CM_B	3	3 GAIN_CM_B
	4	4
+12V	5	5 +12V
-12V	6	6 -12V
GND	7	7 GND
	8	8
HP	9	9 HP
VFB_INV	10	10 VFB_INV
SDA*	11	11 SDA*
SCL*	12	12 SCL*

(OPTION)
CONTRAST MODULATION

RGB INPUT & DRIVER

J210		J10
+FIL	1	1 +FIL
-FIL	2	2 -FIL
+210V	3	3 +210V
	4	4
+17V	5	5 +17V
-17V	6	6 -17V
+9V	7	7 +9V
COIN	8	8 COINC
GND	9	9 GND
GND	10	10 GND
+SB	11	11 +SB
-SB	12	12 -SB
SF3	13	13 SF3
+30V	14	14 +30V
BCL	15	15 BCL

SMP SUPPLY • EHT

G2_RED	J580	J110	
	1	1	G2_RED
G2_GREEN	2	2	
	3	3	G2_GREEN
G2_BLUE	4	4	
	5	5	G2_BLUE

FOCUS • SHIFT • G2

J550		J1
GND	1	1 GND
RED_OUT	2	2 VIDEO_IN
GND	3	3 GND
ABL_RED	4	4 ABL
GND	5	5 GND
-12V	6	6 -12V
+12V	7	7 +12V
G1	8	8 G1
IBCL	9	9 IBCL
	10	10
+210V	11	11 +210V
-FIL	12	12 -FIL
+FIL	13	13 +FIL
	14	14
G2_RED	15	15 G2

CRT socket (RED)

J560		J1
GND	1	1 GND
GREEN_OUT	2	2 VIDEO_IN
GND	3	3 GND
ABL_GREEN	4	4 ABL
GND	5	5 GND
-12V	6	6 -12V
+12V	7	7 +12V
G1	8	8 G1
IBCL	9	9 IBCL
	10	10
+210V	11	11 +210V
-FIL	12	12 -FIL
+FIL	13	13 +FIL
	14	14
G2_GREEN	15	15 G2

CRT socket (GREEN)

J570		J1
GND	1	1 GND
BLUE_OUT	2	2 VIDEO_IN
GND	3	3 GND
ABL_BLUE	4	4 ABL
GND	5	5 GND
-12V	6	6 -12V
+12V	7	7 +12V
G1	8	8 G1
IBCL	9	9 IBCL
	10	10
+210V	11	11 +210V
-FIL	12	12 -FIL
+FIL	13	13 +FIL
	14	14
G2_BLUE	15	15 G2

CRT socket (BLUE)

Name	Interconnection	Article nr.
RGB INPUT + DRIVER		76 2228
Date	Drawn	Checked
22-03-1995	JVDY	PDG

BARCO PROJECTION SYSTEMS

Modifications reserved

Sheet 1

SCHEMATIC NAME: inpblk.sch SHEET NUMBER: 1 DATE: Apr 27, 1995

COMP.	LOC.	COMP.	LOC.	COMP.	LOC.	COMP.	LOC.	COMP.	LOC.	COMP.	LOC.
C1	H 3	D6	F 3	IC605	C 2	R97	H 3	R373	G 3	R609	F 2
C2	H 3	D12	F 4	IC606	B 5	R98	H 3	R374	G 3	R610	F 2
C3	H 3	D13	F 3	IC607	B 5	R99	H 3	R375	G 2	R611	H 4
C4	H 3	D14	F 4			R200	H 3	R376	G 3	R612	H 4
C5	H 3	D15	F 3	J1	B 2	R201	H 2	R377	G 3	R613	H 4
C6	H 3	D16	F 4	J2	B 3	R202	H 2	R378	G 3	R614	H 5
C7	H 3	D200	F 4	J205	B 5	R203	H 2	R379	G 3	R615	H 4
C8	H 2	D202	H 3	J250	C 2	R204	G 3	R380	G 3	R616	H 4
C9	F 4	D203	H 3	J251	B 5	R205	H 2	R381	G 2	R617	H 5
C10	F 3	D204	F 4	J257	D 5	R206	H 2	R382	G 2	R618	H 5
C11	F 3	D220	H 5	J275	D 5	R207	F 4	R383	G 2	R619	H 5
C12	F 3	D225	H 4	J295	D 4	R208	F 4	R384	G 2	R620	G 4
C13	G 4	D250	G 3	J328	B 2	R209	F 4	R385	G 2	R621	G 4
C14	F 2	D251	G 3	J353	B 2	R210	F 4	R386	G 2	R622	G 4
C15	D 2	D252	G 2	J350	B 2	R211	F 3	R394	G 4	R623	G 5
C16	D 2	D253	G 2	J398	B 2	R213	F 3	R395	G 4	R624	G 5
C17	D 2	D254	C 3	J400	D 4	R214	F 3	R396	G 4	R625	H 5
C132	C 4	D255	G 2	J401	D 5	R215	F 4	R397	G 3	R626	H 5
C250	B 4	D256	G 2	J402	D 5	R216	F 4	R400	F 4	R627	H 5
C89	C 4	D257	G 2	J403	D 5	R217	F 4	R401	F 4	R628	H 5
C252	C 4	D258	G 2	J404	D 5	R218	F 3	R402	F 5	R629	H 5
C253	C 4	D260	C 4	J405	D 4	R219	F 3	R403	F 4	R630	H 5
C254	C 4	D298	G 4	J406	D 4	R220	F 4	R404	F 4	R631	H 5
C255	C 4	D300	F 4	J407	D 4	R41	F 4	R405	F 4	R632	H 5
C256	C 4	D302	H 3	J408	D 4	R42	F 4	R406	F 4	R633	H 5
C257	C 4	D303	H 3	J409	D 4	R43	F 4	R407	F 4	R634	H 5
C209	C 4	D350	G 3	J490	D 4	R44	E 4	R408	F 4	R635	H 5
C202	C 4	D351	G 3	J48	D 4	R45	E 4	R409	H 3	R636	H 5
C203	C 4	D352	G 2	J482	D 4	R46	E 4	R420	H 3	R637	H 5
C220	D 4	D353	G 2	J483	D 4	R47	E 3	R421	H 4	R638	H 5
C221	D 4	D354	G 3	J490	D 4	R48	E 3	R422	H 4	R639	H 4
C222	D 4	D355	G 2	J491	B 2	R49	E 3	R423	H 4	R640	H 5
C223	D 4	D356	G 2	J492	D 3	R50	F 3	R424	H 4	R641	F 5
C224	D 4	D357	G 2	J500	D 5	R51	E 3	R425	G 4	R642	G 5
C225	D 4	D358	G 2	J502	D 5	R52	E 3	R426	F 4	R643	F 5
C226	D 4	D360	C 4	J503	D 5	R53	E 3	R427	F 5	R650	H 5
C227	D 5	D38	G 4	J504	C 5	R54	E 3	R428	H 4	R652	G 2
C228	E 4	D400	F 5	J509	C 5	R55	E 3	R429	H 4	R653	F 2
C229	G 3	D402	F 3	J504	C 5	R56	E 3	R430	H 4	R654	G 2
C230	D 5	D403	H 3	J550	D 2	R57	F 3	R431	G 4	R655	G 5
C250	G 4	D420	H 3	J560	D 2	R58	E 3	R432	G 4	R656	G 5
C29	G 4	D421	H 3	J570	D 2	R59	E 3	R433	F 4	R700	H 3
C252	G 4	D450	G 3	J580	D 2	R60	E 3	R434	F 4	R701	H 3
C253	B 3	D451	G 3	J600	D 4	R61	F 3	R435	G 4	R720	H 5
C254	G 3	D452	G 2	J701	B 4	R62	E 3	R436	F 4	R721	G 5
C256	G 3	D453	G 2	J703	B 4	R63	E 3	R437	G 4	R722	H 5
C256	G 3	D454	D 3	J734	B 4	R64	F 3	R438	G 4	R723	G 5
C257	B 3	D455	F 2	J735	B 4	R65	F 3	R439	G 4	R740	H 5
C258	G 3	D456	F 2	J736	B 4	R66	F 3	R460	F 3	R767	F 3
C259	G 2	D457	F 2	J74	C 2	R67	F 3	R468	G 3	R773	F 3
C260	D 3	D458	F 2	J744	B 4	R68	G 4	R462	G 3	R776	F 3
C264	G 3	D459	D 3	J746	B 3	R69	G 4	R463	G 3	R78	H 5
C264	G 4	D460	C 4	J757	D 3	R70	F 4	R464	G 3	R782	H 5
C267	C 3	D48	F 4	J759	D 3	R71	F 4	R465	F 3	R783	F 3
C270	G 3	D500	F 5	J760	D 3	R72	F 4	R466	G 3	R785	F 4
C271	D 4	D501	F 5	J764	B 3	R73	F 4	R467	G 3	R786	F 4
C272	D 4	D502	F 5	J765	B 3	R74	F 4	R468	G 3		
C300	G 4	D503	F 5	J766	B 2	R75	F 4	R469	F 3	SR2	C 2
C301	G 4	D504	F 5	J778	B 3	R76	F 4	R470	F 3	SR3	C 2
C302	C 4	D505	F 5	J779	B 5	R77	F 2	R471	F 3	SR4	B 2
C303	G 4	D506	F 5	J780	B 3	R78	F 2	R472	F 3	SR5	C 2
C320	F 4	D507	F 5	J78	B 5	R79	F 2	R473	F 3		
C32	F 5	D508	F 5	J782	B 5	R80	F 2	R474	F 3	Z1	H 3
C322	D 5	D509	F 5	J793	B 5	R81	F 2	R475	F 2	Z2	H 3
C350	G 4	D510	F 5	J794	B 5	R82	F 2	R476	F 3	Z3	H 3
C38	G 4	D51	F 5			R84	F 4	R477	F 3	Z4	H 3
C352	G 4	D52	F 5	L250	C 4	R85	F 4	R478	G 3	Z250	G 2
C353	C 3	D53	F 5	L241	C 3	R86	G 4	R479	G 3	Z350	G 3
C354	G 3	D54	F 5	L242	C 3	R87	F 4	R480	F 3	Z450	F 3
C355	G 3	D55	F 5	L243	C 3	R88	F 4	R488	G 2	Z500	H 3
C356	G 3	D56	F 5	L601	C 2	R89	F 4	R482	F 2	Z620	F 2
C357	C 3	D57	G 5	L602	C 2	R90	H 3	R483	F 2	Z623	D 2
C358	G 3	D58	F 5	L603	C 2	R9	F 4	R484	F 2	ZT20	H 5
C359	G 2	D59	F 5	L720	B 5	R92	F 4	R485	F 2		
C360	G 3	D520	G 5			R950	G 4	R486	F 2		
C361	G 3	D521	G 5	P250	C 4	R91	G 3	R487	F 3		
C364	G 4	D522	G 5	P251	C 3	R812	G 4	R488	F 3		
C365	G 3	D523	G 5	P350	C 4	R813	G 4	R489	F 3		
C370	G 4	D524	G 5	P35	C 3	R200	G 4	R490	F 3		
C400	F 4	D525	G 5	P450	C 4	R201	F 4	R492	F 3		
C401	G 4	D526	G 5	P451	C 3	R202	F 4	R493	F 3		
C402	G 4	D527	G 5			R203	F 4	R494	G 4		
C403	G 4	D528	G 5	Q1	H 3	R204	G 4	R495	G 4		
C420	H 4	D529	G 5	Q2	F 4	R206	G 4	R496	G 4		
C421	G 4	D530	G 5	Q3	F 3	R207	F 4	R497	F 3		
C422	G 4	D531	G 5	Q4	F 3	R208	H 3	R500	F 5		
C423	G 4	D532	G 5	Q5	F 3	R209	H 3	R501	F 5		
C424	H 4	D533	G 5	Q6	E 3	R220	F 4	R502	F 5		
C450	G 4	D534	G 5	Q7	E 3	R221	F 4	R503	F 5		
C451	G 4	D535	F 4	Q8	E 2	R222	F 4	R504	F 5		
C452	G 4	D536	G 4	Q9	F 2	R223	F 4	R505	F 5		
C453	C 3	D537	G 4	Q10	E 2	R224	F 4	R506	F 5		
C454	G 3	D538	H 5	Q11	H 3	R225	F 4	R507	F 5		
C455	G 3	D539	F 5	Q200	F 4	R226	F 4	R508	F 5		
C456	F 3	D540	F 5	Q201	G 4	R227	F 4	R509	F 5		
C457	C 3	D541	F 5	Q202	F 4	R228	F 4	R510	F 5		
C458	G 3	D542	F 4	Q220	F 4	R229	F 4	R511	F 5		
C459	C 4	D600	H 4	Q221	F 4	R230	F 4	R512	F 5		
C460	G 3	D601	H 4	Q222	F 4	R231	E 4	R513	F 5		
C461	F 3	D602	H 3	Q223	F 4	R232	F 4	R514	F 5		
C462	D 3	D603	H 3	Q224	F 5	R233	F 5	R515	F 5		
C463	F 3	D604	H 4	Q250	G 4	R234	F 4	R516	F 5		
C464	F 3	D605	H 4	Q251	G 3	R235	F 5	R517	F 5		
C465	F 3	D606	H 4	Q252	G 3	R236	F 4	R518	F 5		
C466	C 4	D607	H 4	Q253	B 3	R237	F 4	R519	F 5		
C467	C 4	D608	H 4	Q254	G 2	R238	E 4	R520	F 5		
C470	G 4	D609	H 2	Q255	G 3	R239	F 5	R521	F 5		
C500	D 5	D610	F 3	Q256	G 2	R240	F 5	R522	F 5		
C501	D 5	D61	B 4	Q300	F 4	R242	F 5	R523	E 5		
C502	F 5	D612	B 4	Q301	G 4	R243	E 4	R524	F 5		
C503	F 5	D613	B 4	Q302	F 4	R244	E 5	R525	F 5		
C504	F 5	D614	B 4	Q350	G 4	R245	F 4	R526	F 5		
C505	F 5	D615	H 5	Q38	G 3	R250	G 4	R527	F 5		
C506	D 5	D616	H 5	Q362	G 3	R251	G 4	R528	F 5		
C507	D 5	D617	H 5	Q353	C 3	R252	G 4	R529	F 5		
C508	E 5	D618	H 5	Q354	G 3	R253	G 4	R530	F 5		
C509	E 5	D619	H 4	Q398	G 3	R254	G 4	R531	F 5		
C510	E 5	D620	H 4	Q356	D 2	R255	G 4	R532	F 5		
C51	D 5	D621	H 4	Q400	F 4	R256	G 4	R534	F 5		
C512	D 5	D623	B 4	Q401	F 4	R257	G 4	R535	F 5		
C513	F 5	D624	B 4	Q402	F 4	R258	H 4	R536	F 5		
C514	F 5	D625	G 5	Q420	H 4	R259	G 4	R537	F 5		
C515	C 5	D626	G 5	Q421	B 4	R260	G 3	R538	F 5		
C519	D 5	D627	H 5	Q450	F 4	R261	G 3	R539	G 5		
C520	F 5	D628	H 5	Q451	G 3	R262	H 3	R540	F 5		
C521	F 5	D629	H 5	Q452	G 3	R263	G 3	R541	F 5		
C522	G 5	D630	H 4	Q453	C 3	R264	G 3	R542	F 5		
C523	G 5	D63	H 4	Q454	F 3	R265	G 3	R543	F 5		
C524	C 5	D640	H 5	Q455	F 3	R266	H 3	R544	F 5		
C525	C 5	D64	H 5	Q456	F 2	R267	G 3	R545	G 5		
C526	G 5	D642	H 5	Q457	F 3	R268	G 3	R546	G 5		
C527	G 5	D643	H 5	Q500	F 5	R269	G 3	R547	G 5		
C528	G 5	D644	H 5	Q501	F 5	R270	G 3	R548	G 5		
C529	C 5	D645	H 5	Q502	F 5	R271	G 3	R549	G 5		
C530	G 5	D646	H 5	Q503	F 5	R272	G 3	R550	G 5		
C53	G 5	D647	H 5	Q504	F 5	R273	G 3	R551	G 5		
C532	C 5	D700	H 3	Q505	F 5	R274	G 3	R552	G 5		
C533	C 5	D701	H 3	Q506	F 5	R275	G 3	R553	G 5		
C534	G 5	D702	H 3	Q507	F 5	R276	G 3	R554	G 5		
C535	G 5	D703	H 3	Q508	F 5	R277	G 3	R555	G 5		
C536	G 5	D704	H 5	Q509	F 5	R278	G 3	R556	G 5		
C537	G 5	D710	F 3	Q510	F 5	R279	G 3	R557	G 5		
C538	C 5	D71	F 3	Q51	F 5	R280	G 3	R558	G 5		
C539	C 5	D712	F 3	Q512	G 5	R28	H 2	R559	G 5		
C540	C 5	D714	F 3	Q513	G 5	R282	G 2	R560	G 5		
C54	G 5	D716	F 3	Q514	G 5	R283	G 2	R561	G 5		
C542	G 5	D717	F 3	Q515	G 5	R284	G 2	R562	G 5		
C543	G 5	D780	F 4	Q516	G 5	R285	G 2	R563	G 5		
C544	G 5	D78	F 4	Q517	G 5	R286	G 2	R564	G 5		
C546	G 5	D782	F 4	Q518	G 5	R294	G 4	R565	G 5		
C547	F 5	D783	F 4	Q519	G 5	R295	G 4	R566	G 5		
C548	F 5	FD1	B 2	Q520	G 5	R296	G 4	R567	G 5		
C549	C 5	FD2	D 5	Q522	G 5	R297	G 3	R568	G 5		
C550	B 5	FD3	B 5	Q523	F 5	R300	G 4	R569	G 5		
C59	D 5			Q524	F 5	R301	F 4	R570	G 5		
C600	F 4	IC1	B 3	Q525	G 5	R302	F 4	R571	G 5		
C603	G 2	IC2	B 3	Q526	G 5	R303	G 4	R572	G 5		
C604	D 2	IC3	B 2	Q527	F 5	R304	G 4	R573	G 5		
C605	G 2	IC4	D 3	Q620	F 2	R305	G 4	R574	G 5		
C606	C 2	IC5	C 4	Q628	D 2	R306	G 4	R575	G 5		
C607	F 2	IC6	D 3	Q622	H 5	R307	F 4	R576	G 5		
C608	D 4	IC7	D 3	Q623	H 5	R308	H 3	R577	G 5		
C609	F 2	IC8	D 4	Q624	G 5	R309	H 3	R578	G 5		
C610	B 2	IC9	D 3	Q625	G 5	R310	E 5	R579	G 5		
C61	C 4	IC10	C 4	Q626	G 5	R311	E 5	R580	G 5		
C612	H 4	IC200	C 4	Q627	H 5	R322	F 5	R58	G 5		
C613	B 4	IC201	C 4	Q628	H 5	R323	G 4	R582	G 5		
C614	G 2	IC202	C 4	Q629	H 5	R324	F 4	R583	G 5		
C615	G 2	IC203	B 4	Q630	H 5	R325	G 4	R584	G 5		
C616	B 2	IC220	D 5	Q63	H 5	R326	G 4	R585	G 5		
C617	D 5	IC221	D 4	Q632	H 5	R327	G 3	R586	G 5		
C618	H 4	IC250	B 3	Q633	H 5	R328	G 3	R587	G 5		
C619	H 4	IC251	C 3	Q634	H 5	R329	G 3	R588	G 5		
C620	D 2	IC252	C 2	Q720	G 5	R330	G 4	R589	F 5		
C621	C 4	IC253	C 3	Q721	G 5	R331	G 4	R590	G 5		
C622	B 5	IC254	B 2	Q722	G 5	R332	G 4	R591	G 5		
C623	B 5	IC350	C 3			R333	G 4	R592	G 5		
C624	H 5	IC351	C 3	R1	H 3	R358	G 4	R593	G 5		
C625	D 4	IC352	C 2	R2	H 3	R359	G 4	R594	G 5		
C700	H 3	IC353	C 3	R3	H 3	R360	G 4	R595	G 5		
C720	H 5	IC354	C 2	R4	H 3	R361	G 4	R596	G 5		
		IC450	C 3	R5	H 3	R362	G 3	R597	H 5		
D1	H 3	IC451	D 3	R6	H 3	R363	G 3	R598	F 5		
D2	H 3	IC452	D 3	R7	H 3	R364	G 3	R599	F 5		
D3	H 3	IC453	C 3	R9	H 3	R365	G 3	R600	F 4		
D4	H 3	IC454	C 2	R10	H 3	R366	G 3	R601	H 3		
D5	H 3	IC455	D 3	R11	H 3	R367	G 3	R602	H 4		
D6	H 3	IC600	B 4	R12	H 3	R368	G 3	R603	H 3		
D7	F 3	IC601	B 4	R13	H 3	R369	G 3	R604	H 3		
D8	F 3	IC602	C 2	R14	H 2	R370	G 3	R605	H 4		
D9	F 3	IC603	D 2	R15	H 3	R371	G 3	R606	H 4		
D10	F 2	IC604	B 4	R16	H 3	R372	G 3	R607	F 2		
								R608	F 2		

BARCO

From FOCUS + SHIFT UNIT + G2 MODULE (J110)

From CONTRAST MODULATION (J1)

From BCL LINK UNIT (J1)

From SMPS MODULE (J10)

To IR RECEIVER FRONT (J780)

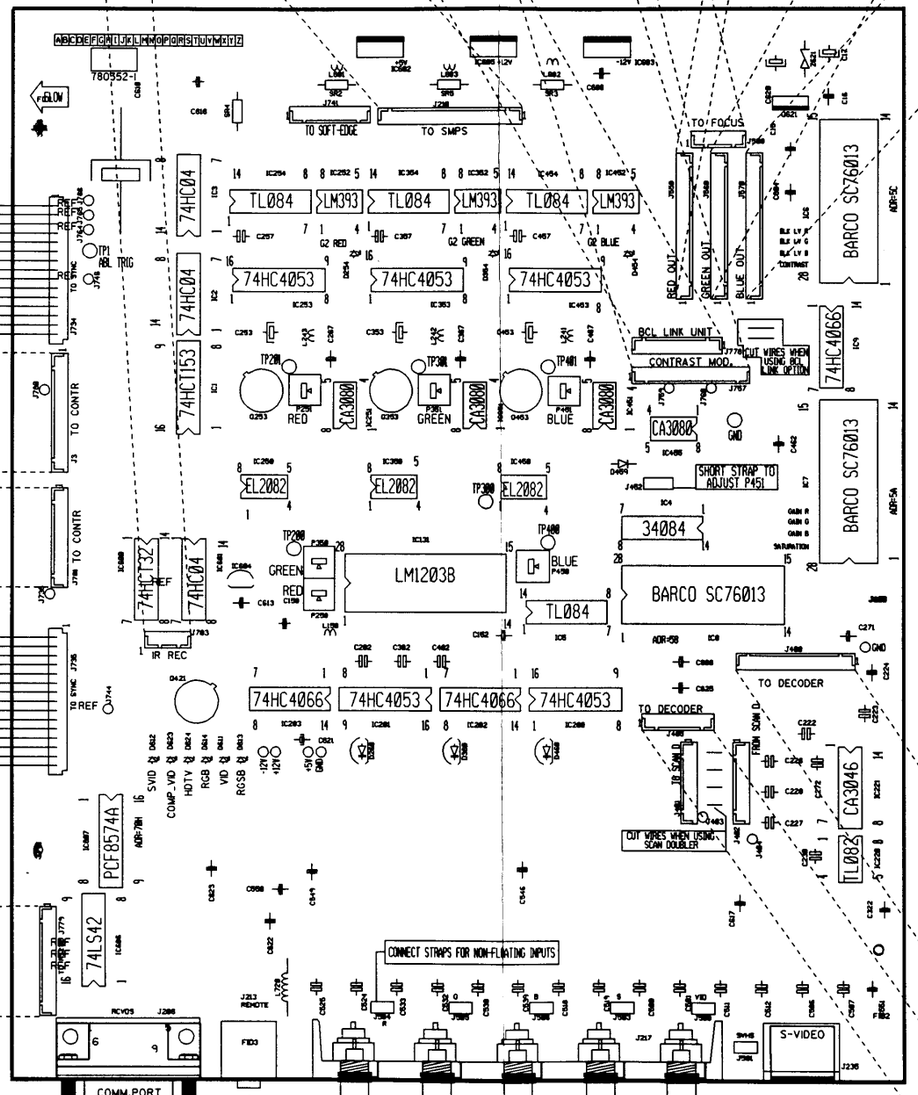
From CONTROLLER (J3)

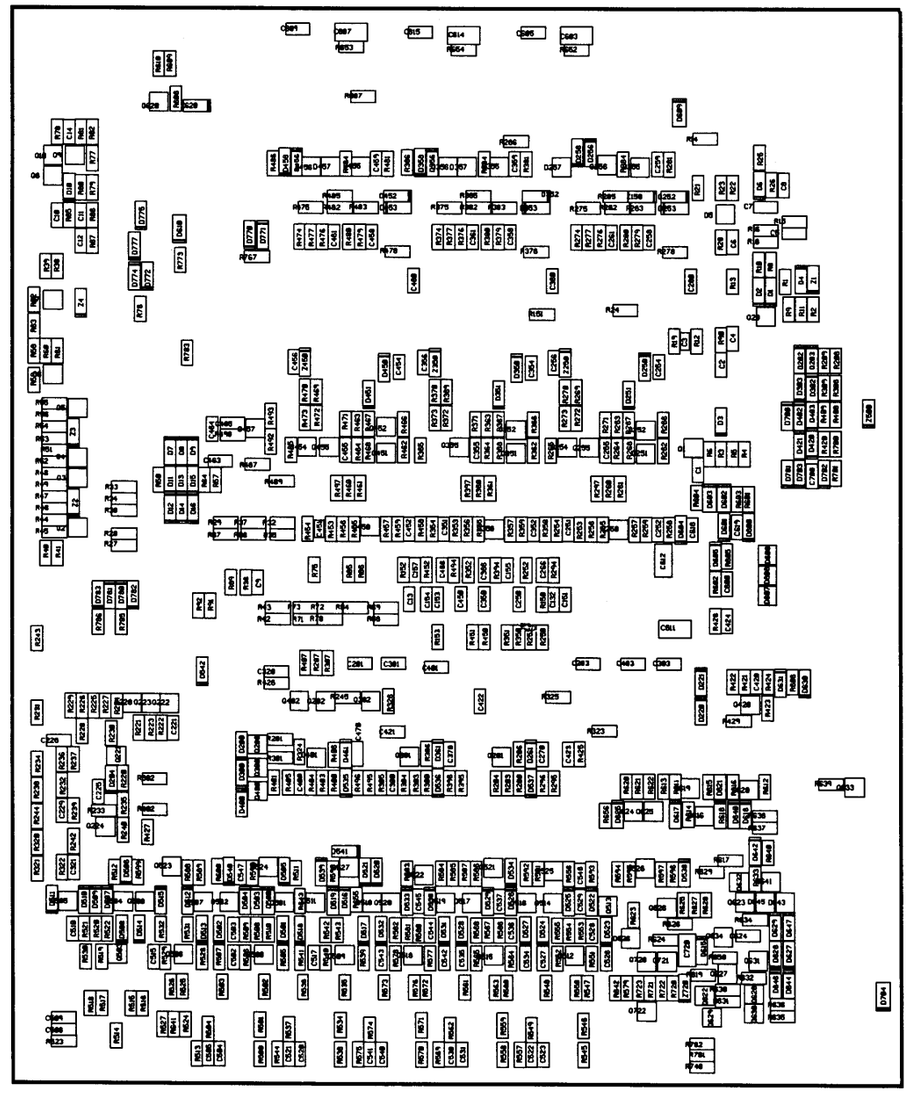
From CONTROLLER (J2)

To CRT SOCKET RED (J550)

To CRT SOCKET GREEN (J560)

To CRT SOCKET BLUE (J570)





To SYNC (J3)

To SYNC (J1)

To IR REC. & RS232 (J713)

COMM.PORT

To remote input

R (R-Y)

G(s) Y(s)

B (B-Y)

S

VIDEO

S-VIDEO

To DECODER (J800)

To DECODER (J801)

Name	Article nr.
RGB INPUT + DRIVER	76 2228-1
Date 26-04-1995 / Drawn JVDY / Checked PDG	

BARCO PROJECTION SYSTEMS

Blockdiagram RGB Drive

From Contrast Mod. module
GAIN__CM_B
GAIN__CM_G
GAIN__CM_R

IC7 Digital Potentiometers
VRP3 VO3 VRN3
VRP2 VO2 VRN2
VRP1 VO1 VRN1
VRP0 VO0 VRN0
SDA
SCL
Address 5A H

SAT
GAIN_B
GAIN_G
GAIN_R

IC4
Buffer
SAT

+5V
+12V
+VRef

LM11203 IC131
R_MUX
G_MUX
B_MUX
Pre-Amplifier
4
25
24
6
20
19
9
16
15
20
14
GAIN R
GAIN G
GAIN B
Contrast
Clamp
Brightness
BRT_P

Brightness pulse insertion Q250
Brightness pulse insertion Q350
Brightness pulse insertion Q450

Multiplier IC250
Multiplier IC350
Multiplier IC450

Contrast control 3..11V
+12V

RS232 OUT
+SB
Master_Contr
M/S select
L=master
H=slave

IBCL (Isense BC)
BCL (from EHT)
Q9
Q8/10
BCL_LINK
W2
W1
+12V
INT_CONTRAST

IBCL LINKING
Attention: remove on the input module the jumpers W1 and W2 for linked BCL operation
When Master: inverting INT_CONTR
When Slave: inverting MASTER_CONTR+Offset
IC1
Buffer
IC1
OFFSET_COMP
-12V

ABL_MP (20ms)
Cut Off control+ ABL ref. pulses

IC6 Digital Potentiometers
VRP3 VO3 VRN3
VRP2 VO2 VRN2
VRP1 VO1 VRN1
VRP0 VO0 VRN0
SDA
SCL
Address 5C H

IC9 Bilateral Switch
INT_CONTRAST
Cut Off_B
Cut Off_G
Cut Off_R
+5V

Q2/3
Q4/5
Q6/7

BRT_P2 (2.1us)

Spot Suppression
Q251
Q351
Q451
R261
R361
R461
Scan Fail (SF)
Spot Suppression Q620/621 C620/Z621
G1

OUTPUT AMPLIFIER

Q252/253
RED_OUT
Q255/ Q254
P251 GAIN R
Clamp Comparator
IC251
ABL-Control loop
BRT_P1 (1.5us)

Q352/353
GREEN_OUT
Q355/ Q354
P351 GAIN R
Clamp Comparator
IC351
ABL-Control loop
BRT_P1 (1.5us)

Blue Gain Correction
D459
R487
Ref Voltage buffer Q257
Ref Voltage Generator
IC455
R489
Q452/453
BLUE_OUT
Q455/ Q454
P451 GAIN R
Clamp Comparator
IC451
ABL-Control loop
BRT_P1 (1.5us)

Blockdiagram
Input selection+Decoder

HSO

Switch Q629/630 → +VID_select

Switch Q627/628 → +S-VID_select

VIDEO → Diff Ampl Q500/Q501 Q502

Luma → Diff Ampl Q503/Q504 Q505

CHROMA → Diff Ampl Q506/Q507 Q508

Current source Q524 → Luma/Video, Chroma

Quad Decoder

Sync gather Q527 → Sync IN

Switch Q624 → +RGsB_select

Sync Det Q626/625

Inv/Current source Q525/526

Hor/Comp SYNC → Diff Ampl Q241/Q283 Q242

0=Vid
1=S-Vid
2=RGsB/RGBS
3=RG3sB/RGB3S
4=Comp Sync
5=Comp 3L-Sync

address 70H
I2C Interface IC607
SDA
SCL
P7 P6 P5 P4
P0 P1 P2 P3

VIDEO
BCD/DEC IC606
0 S-VID
1
RGB
2
3
4
5

Switch Q622/623 → +RGB_select

+S-VID
+VID

HDTV_INV
(to Synchro module)

HDTV
Switch Q631 → HDTV_INV
L (HDTV)
H (HDTV)

R/(R-Y) → Diff Ampl Q241/Q283 Q242 → R/(R-Y) → Current Source Q201 Q200

COMP VIDEO
Switch Q632/Q634 → MATRIX
L (COMP VID)
H (COMP VID)

MATRIX

G/(Y) → Diff Ampl Q241/Q283 Q242 → G/(Y) → Current Source Q300 Q301

Fast/Slow switch Q633 → FAST/SLOW

B/(B-Y) → Diff Ampl Q241/Q283 Q242 → Blue in Green on/off Q522 → B Insert Q521

B/(B-Y) → Current Source Q400 Q401

(R-Y) Y (B-Y)

Saturation IC220

Q220 Q222 Q223 Q221

Multi-/Demulti-plexer IC200

Multi-/Demulti-plexer IC201

R_MUX
G_MUX
B_MUX

Bilateral switch IC202/203

Ref. Level Clamp IC220 → +Ref

Clamp

SAT

SF3 Comp Blanking

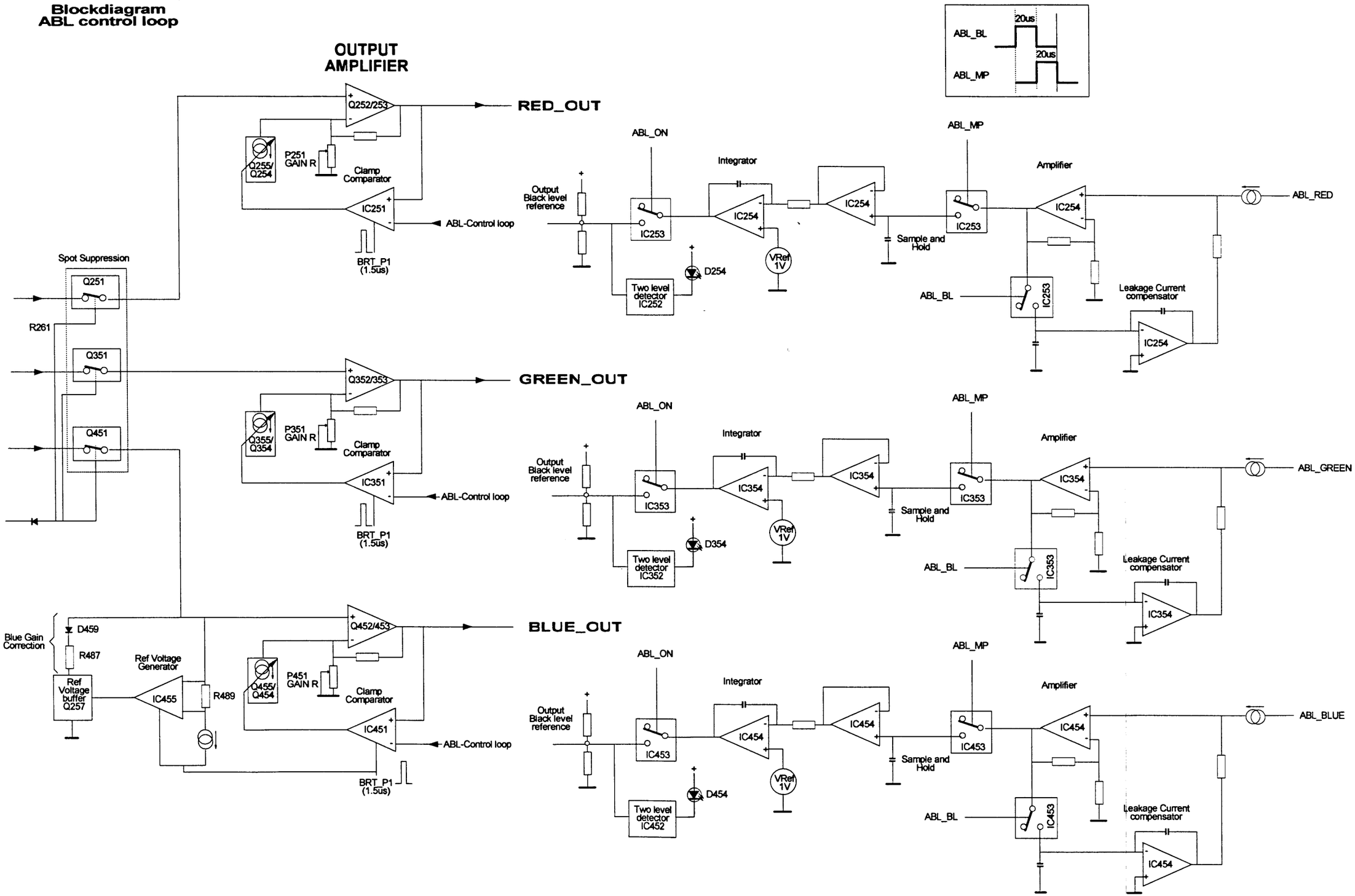
≥1 → Blanking B
≥1 → Blanking G
≥1 → Blanking R

ABL

from Controller
R
G
B
INSERT

Level Shifter Amplifier Q420/421

Blockdiagram ABL control loop



780352-1

DIFFERENTIAL INPUTS

REFERENCE NUMBERS : 500... 599

INTERNAL COMPOSITE SYNC

CS_CTRL >SHEET6 >J3[5]

Z500 6V8

R600 1K2

D540 1N4148 — VIDEO

D505 1N4148 — S-VIDEO

D506 1N4148 — RGBS

D520 1N4148

+12V

R590 150E

Q524 BC859B

D542 1N4148

+5V

R589 680E

R588 270E

Q523 BC859B

R599 680E

R598 100E

Q527 BC859B

D539 1N4148

SYNC_IN

>SHEET2 RGsB_select

D521 1N4148

R596 4E7

C550 22M

-12V

R597 100E

R595 33K

Q526 BC859B

C549 22M

D538 1N4148 — RGsB

R594 220K

R592 470E

R591 270E

C547 100K

Q525 BC859B

C548 100P

RGsB

D537 1N4148

S-VID REAR PANEL

J235

J235 1 3 4 2

J235 5 6 7 8 9

MOUN HOLE S-VI CONN

+17V•

R511 33K

>SHEET2 VID_select

R512 33K

>SHEET2 S-VID_select

R655 33K

>SHEET2 sync_detect

>SHEET2 RGB_select

D500 D503 D504 1N4148

Q501 Q502 BC849B

D501 D502 1N4148

R510 130E C503 33P

R508 270E R509 270E

R507 27K R506 2K7

Q500 BC849B

R505 220E C502 100K

-12V•

R502 39K R503 39K

C500 10M C501 10M

R501 100E R504 100E

R500 75E

R513 2K7

J500 C504 10K C505 100K

J217 1 6

VIDEO INPUT 1 Vpp

D507 D509 D510 1N4148

Q504 Q505 BC849B

D508 D511 1N4148

R522 130E C510 33P

R520 270E R521 270E

Q503 BC849B

R519 220E

R516 39K R517 39K

C506 10M C507 10M

R515 100E R518 100E

R514 75E

R523 2K7

J501 C508 10K C509 100K

S-VID_Y

S-VID_GND

LUMINANCE INPUT 1 Vpp

D512 D515 1N4148

Q507 Q508 BC849B

D513 D514 1N4148

R531 330E R532 330E

R530 27K

Q506 BC849B

R528 180E C515 100K

R529 2K7

R525 39K R526 39K

C511 10M C512 10M

R524 100E R527 100E

R641 75E

S-VID_C

CHROMINANCE INPUT Ø.28 Vpp

D516 D541 D519 1N4148

Q510 Q511 BC849B

D517 D518 1N4148

R543 270E R542 270E

R541 27K

Q509 BC849B

R539 270E C517 100K

R540 2K7

R535 39K R536 39K

C518 10M C519 10M

R534 100E R537 100E

R538 75E

R544 2K7

J503 C520 10K C521 100K

J217 2 7

INPUT COMP SYNC 1-4 Vpp

D522 D525 1N4148

C529 100K

R556 270E

Q513 BFS17 Q514 BFS17

D523 D524 1N4148

C528 47P R555 22E

R553 120E R554 120E

Q512 BC849B

C527 100K

R551 120E

-12V• R550 10E

C526 100K

R552 100E

R547 3K3 R548 3K3

C525 10M C524 10M

R546 100E R549 100E

R545 75E

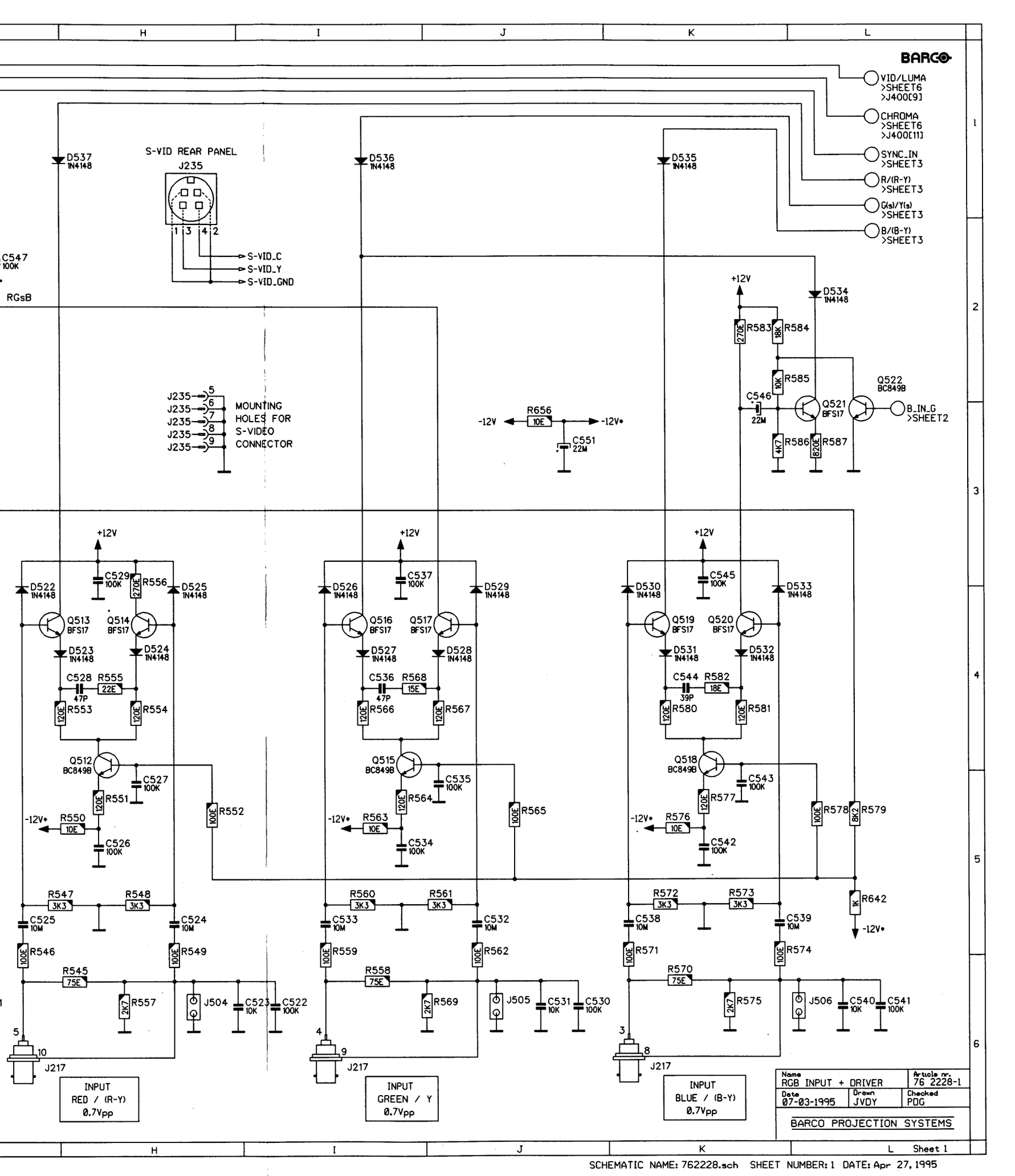
R557 2K7

J504

J217 5 10

INPUT RED / (R-Y) Ø.7Vpp

Modifications reserved


BARCO
VID/LUMA >SHEET6 >J400[9]
CHROMA >SHEET6 >J400[11]
SYNC_IN >SHEET3
R/(R-Y) >SHEET3
G(s)/Y(s) >SHEET3
B/(B-Y) >SHEET3
S-VID REAR PANEL
J235
S-VID_C
S-VID_Y
S-VID_GND
D537 1N4148
D536 1N4148
D535 1N4148
D534 1N4148
+12V
R583 270E
R584 18K
R585 10K
C546 22M
Q521 BFS17
Q522 BC849B
B_IN_G >SHEET2
R586 4K7
R587 820E
MOUNTING HOLES FOR S-VIDEO CONNECTOR
R656 10E
C551 22M
-12V
-12V•
D522 1N4148
D525 1N4148
C529 100K
R556 270E
Q513 BFS17
Q514 BFS17
D523 1N4148
D524 1N4148
C528 47P
R555 22E
R553 120E
R554 120E
Q512 BC849B
C527 100K
R551 120E
R550 10E
C526 100K
R552 100E
R547 3K3
R548 3K3
C525 10M
C524 10M
R546 100E
R549 100E
R545 75E
R557 2K7
J504
C523 10K
C522 100K
J217
INPUT RED / (R-Y) 0.7Vpp
D526 1N4148
D529 1N4148
C537 100K
Q516 BFS17
Q517 BFS17
D527 1N4148
D528 1N4148
C536 47P
R568 15E
R566 120E
R567 120E
Q515 BC849B
C535 100K
R564 120E
R563 10E
C534 100K
R565 100E
R560 3K3
R561 3K3
C533 10M
C532 10M
R559 100E
R562 100E
R558 75E
R569 2K7
J505
C531 10K
C530 100K
INPUT GREEN / Y 0.7Vpp
D530 1N4148
D533 1N4148
C545 100K
Q519 BFS17
Q520 BFS17
D531 1N4148
D532 1N4148
C544 39P
R582 18E
R580 120E
R581 120E
Q518 BC849B
C543 100K
R577 120E
R576 10E
C542 100K
R578 100E
R579 8K2
R642 1K
R572 3K3
R573 3K3
C538 10M
C539 10M
R571 100E
R574 100E
R570 75E
R575 2K7
J506
C540 10K
C541 100K
INPUT BLUE / (B-Y) 0.7Vpp
Name RGB INPUT + DRIVER
Article nr. 76 2228-1
Date 07-03-1995
Drawn JVDY
Checked PDG
BARCO PROJECTION SYSTEMS
H I J K L
1 2 3 4 5 6
Sheet 1
SCHEMATIC NAME: 762228.sch SHEET NUMBER: 1 DATE: Apr 27, 1995

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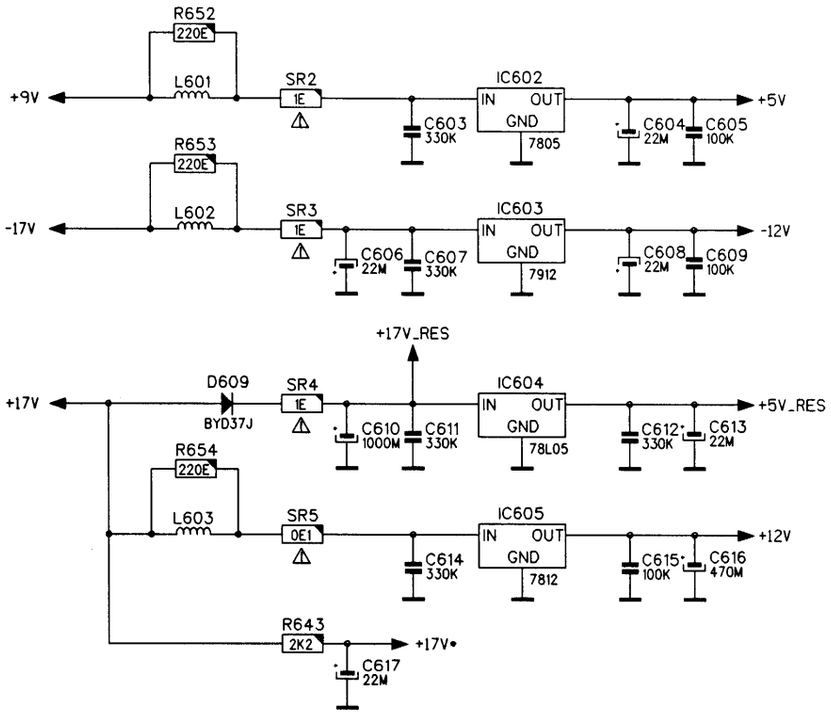
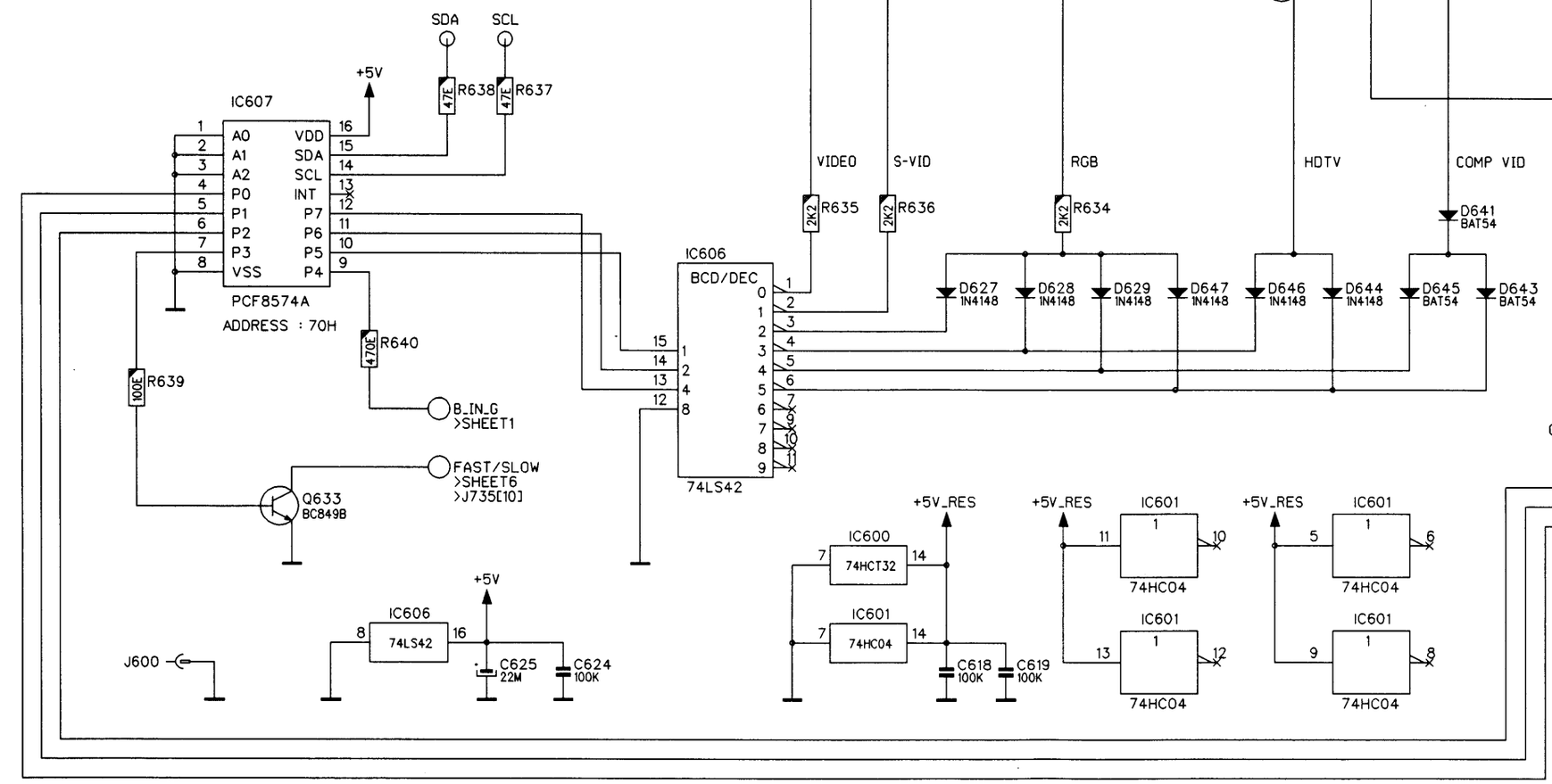
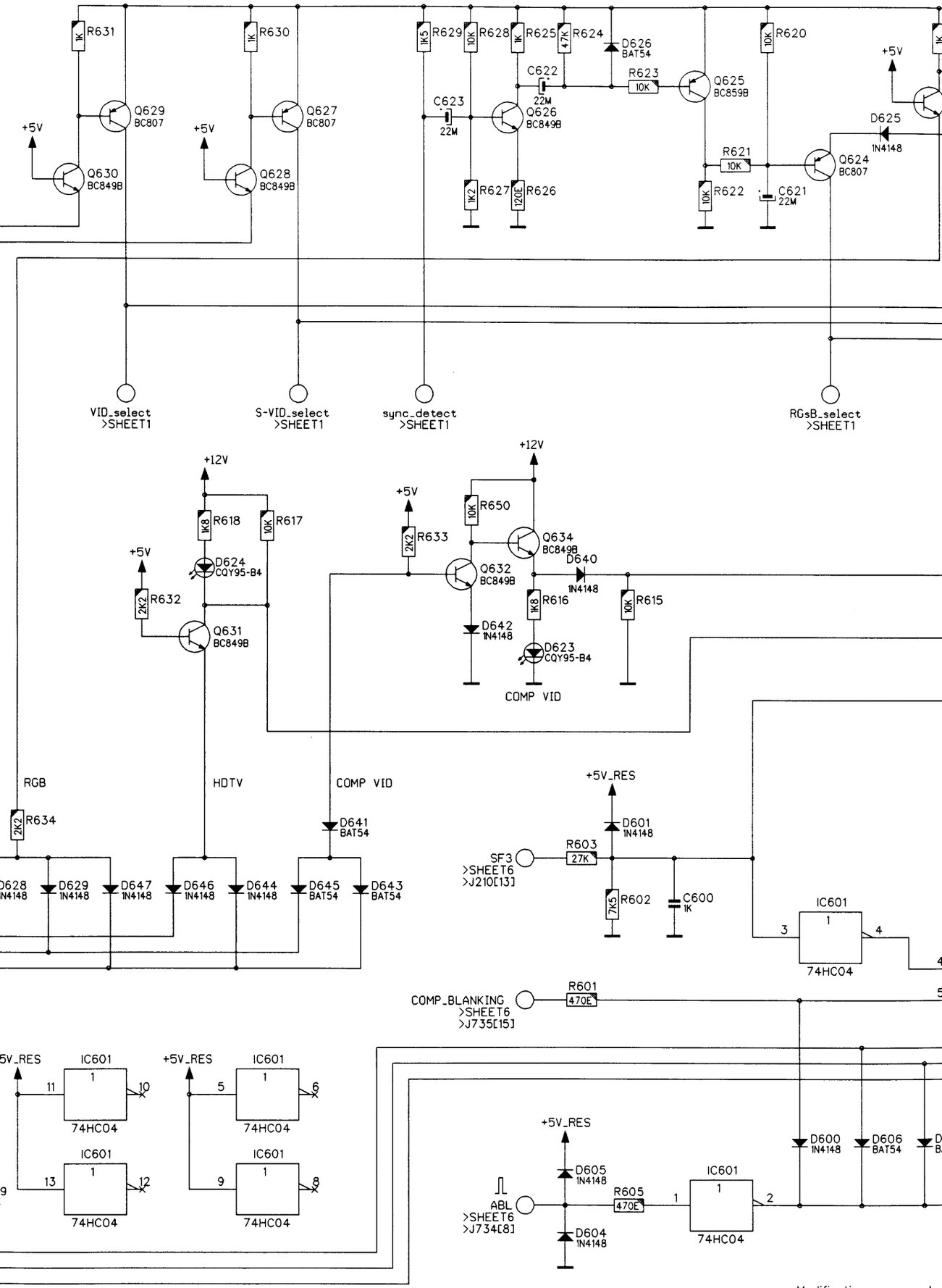
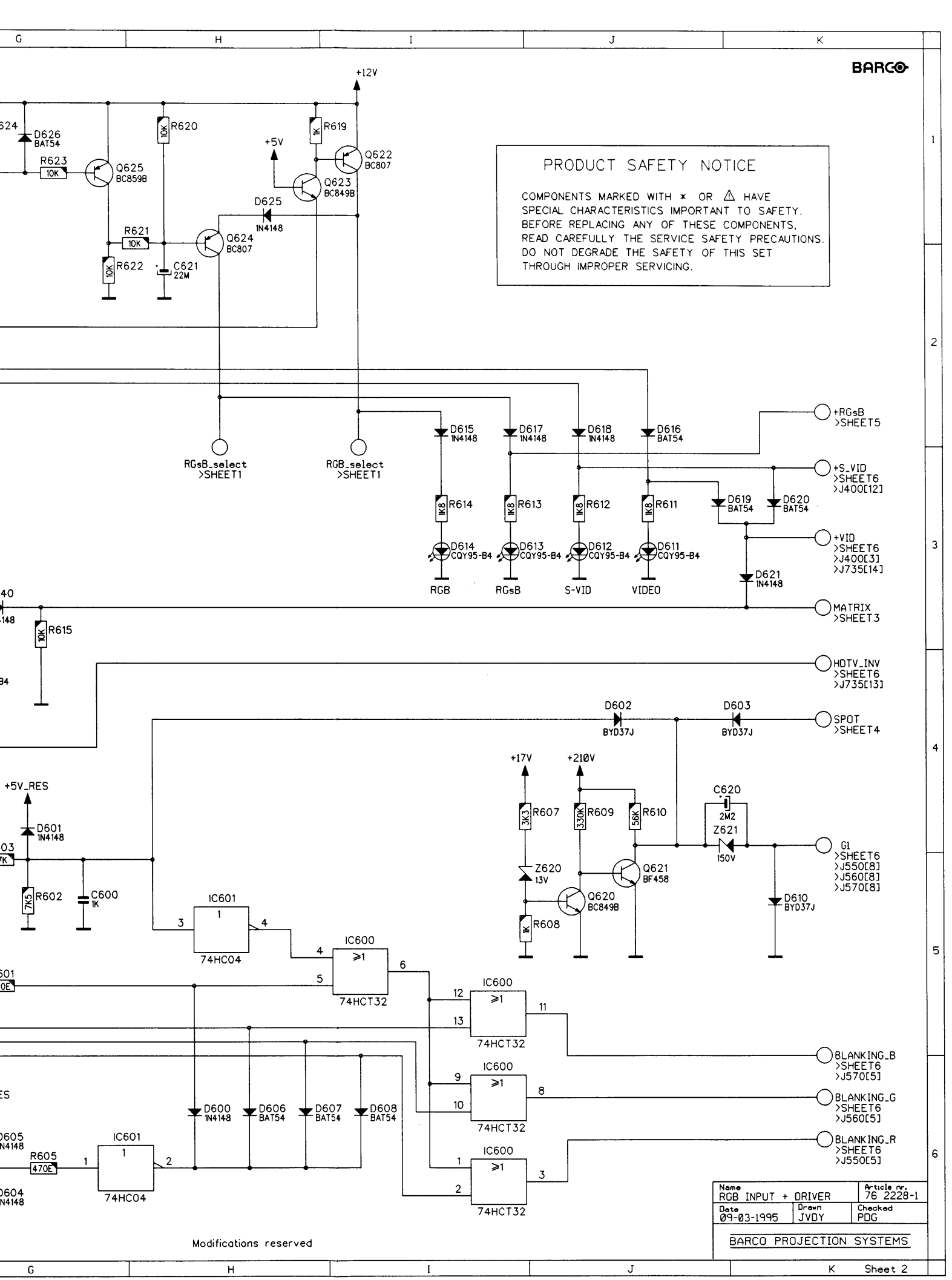
SWITCHING

REFERENCE NUMBERS 600... 699








BARCO
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.
+12V
+5V
+17V
+210V
+5V_RES
D626 BAT54
R623 10K
Q625 BC859B
R620 10K
R619 1K
Q622 BC807
Q623 BC849B
D625 1N4148
R621 10K
Q624 BC807
R622 10K
C621 22M
RGsB_select >SHEET1
RGB_select >SHEET1
D615 1N4148
D617 1N4148
D618 1N4148
D616 BAT54
+RGsB >SHEET5
+S_VID >SHEET6 >J400[12]
+VID >SHEET6 >J400[3] >J735[14]
MATRIX >SHEET3
HDTV_INV >SHEET6 >J735[13]
SPOT >SHEET4
R614 1K8
R613 1K8
R612 1K8
R611 1K8
D619 BAT54
D620 BAT54
D621 1N4148
D614 CQY95-B4
D613 CQY95-B4
D612 CQY95-B4
D611 CQY95-B4
RGB
RGsB
S-VID
VIDEO
R615 10K
D602 BYD37J
D603 BYD37J
R607 3K3
R609 330K
R610 56K
C620 2M2
Z621 150V
Z620 13V
Q621 BF458
Q620 BC849B
R608 1K
D610 BYD37J
G1 >SHEET6 >J550[8] >J560[8] >J570[8]
D601 1N4148
R602 7K5
C600 1K
IC601 74HC04
IC600 74HCT32
D600 1N4148
D606 BAT54
D607 BAT54
D608 BAT54
R605 470E
BLANKING_B >SHEET6 >J570[5]
BLANKING_G >SHEET6 >J560[5]
BLANKING_R >SHEET6 >J550[5]
Name RGB INPUT + DRIVER
Article nr. 76 2228-1
Date 09-03-1995
Drawn JVDY
Checked PDG
BARCO PROJECTION SYSTEMS
Modifications reserved
Sheet 2
SCHEMATIC NAME: inp700.sch SHEET NUMBER: 2 DATE: Apr 27, 1995

780352-1

RGB MIXER AND VIDEO MATRIX

REFERENCE NUMBERS : 200...249, 300... 349, 400... 449

R/(R-Y) >SHEET1
G(s)/Y(s) >SHEET1
B/(B-Y) >SHEET1
SYNC_IN >SHEET1

BWL_VR >SHEET5
BWL_SWITCH >SHEET5
SAT >SHEET5

(R-Y)_DEC >J405[2]
Y_DEC >J405[4]
(B-Y)_DEC >J405[6]

CUT WIRES WHEN USING SCAN-DOUBLER

TO SD J401
FROM SD J402

SYNC >SHEET6 >J735[15]

MATRIX >SHEET2

R_CTRL >SHEET6 >J3[7]
G_CTRL >SHEET6 >J3[8]
B_CTRL >SHEET6 >J3[9]
INSERT >SHEET6 >J3[10]

IC200 MUXDMUX
74HC4053

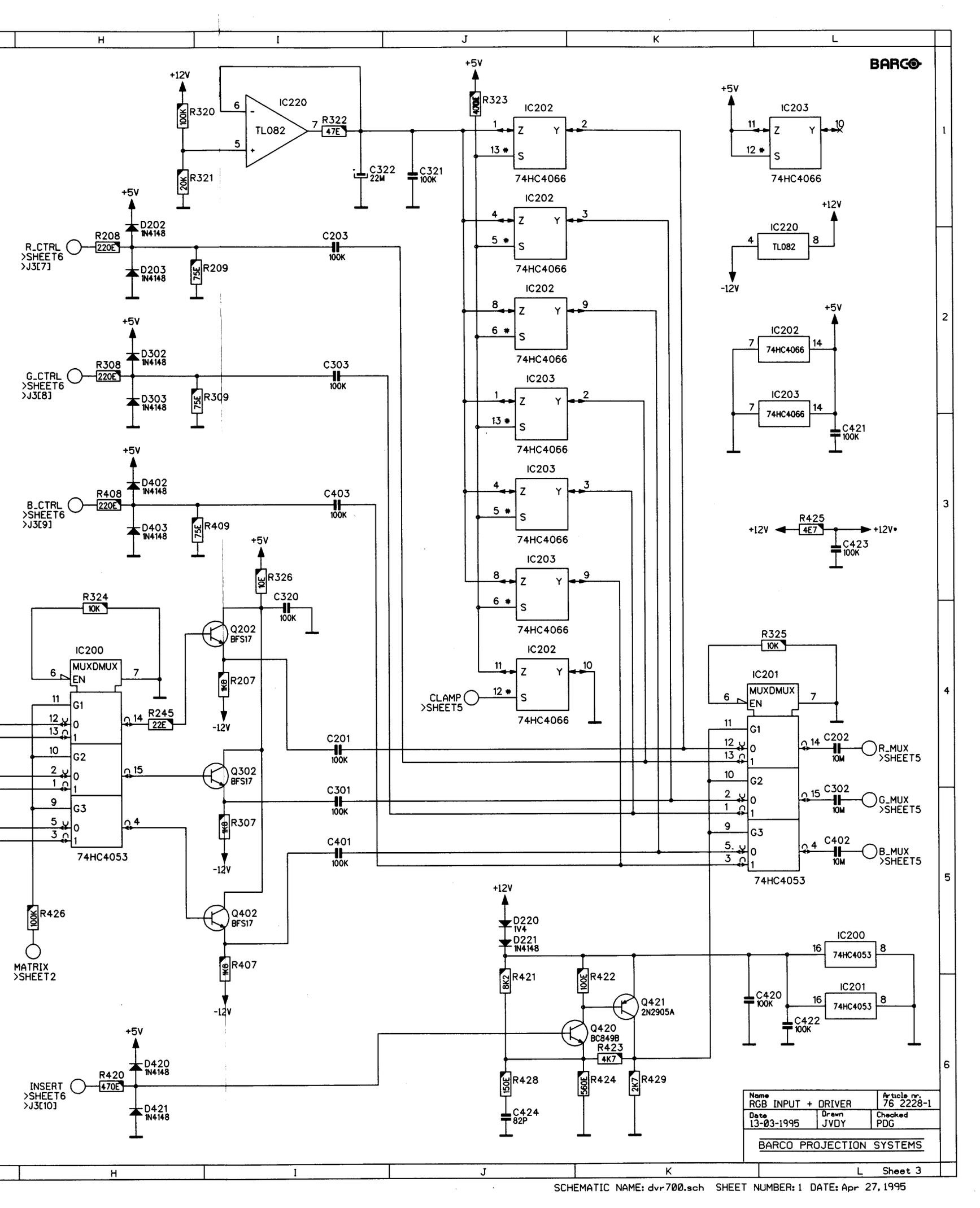
IC220 TL082

IC221 TBA331

(B-Y)
(R-Y)
Y

+12V
+5V
-12V

Modifications reserved


BARCO
+12V
R320
100K
IC220
TL082
R321
20K
R322
47E
C322
22M
C321
100K
+5V
R323
470E
IC202
74HC4066
IC203
74HC4066
+12V
IC220
TL082
-12V
+5V
IC202
74HC4066
IC203
74HC4066
C421
100K
+5V
D202
1N4148
R208
220E
R_CTRL
>SHEET6
>J3[7]
D203
1N4148
75E
R209
C203
100K
+5V
D302
1N4148
R308
220E
G_CTRL
>SHEET6
>J3[8]
D303
1N4148
75E
R309
C303
100K
+5V
D402
1N4148
R408
220E
B_CTRL
>SHEET6
>J3[9]
D403
1N4148
75E
R409
C403
100K
R425
4E7
+12V
+12V
C423
100K
+5V
R326
10E
C320
100K
R324
10K
Q202
BFS17
IC200
MUXDMUX
EN
R207
1K6
-12V
R245
22E
C201
100K
Q302
BFS17
R307
1K6
-12V
C301
100K
Q402
BFS17
R407
1K6
-12V
C401
100K
74HC4053
R426
100K
MATRIX
>SHEET2
CLAMP
>SHEET5
R325
10K
IC201
MUXDMUX
EN
C202
10M
R_MUX
>SHEET5
C302
10M
G_MUX
>SHEET5
C402
10M
B_MUX
>SHEET5
74HC4053
+12V
D220
1V4
D221
1N4148
R421
8K2
R422
100E
Q421
2N2905A
Q420
BC849B
R423
4K7
R428
150E
R424
560E
R429
2K7
C424
82P
IC200
74HC4053
IC201
74HC4053
C420
100K
C422
100K
+5V
D420
1N4148
R420
470E
INSERT
>SHEET6
>J3[10]
D421
1N4148
Name
RGB INPUT + DRIVER
Article nr.
76 2228-1
Date
13-03-1995
Drawn
JVDY
Checked
PDG
BARCO PROJECTION SYSTEMS
Sheet 3
SCHEMATIC NAME: dvr700.sch SHEET NUMBER: 1 DATE: Apr 27, 1995

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RGB AMPLIFIER - DRIVER - ABL

REFERENCE NUMBERS 150... 199, 250... 299, 350... 399, 450... 499

PRE-AMPLIFIER

GAIN CONRTOL STAGE

AMPLIFIER - BUFFER - CLAMPING

IC131 LM1203B

IC250 EL2082

IC350 EL2082

IC450 EL2082

IC251 IC351 IC451 CA3080E

IC252 IC352 IC452 LM393

IC253 IC353 IC453 74HC4053

IC254 IC354 IC454 TL084

CONTRAST CONTROL

GAIN ADJUSTMENT BLUE

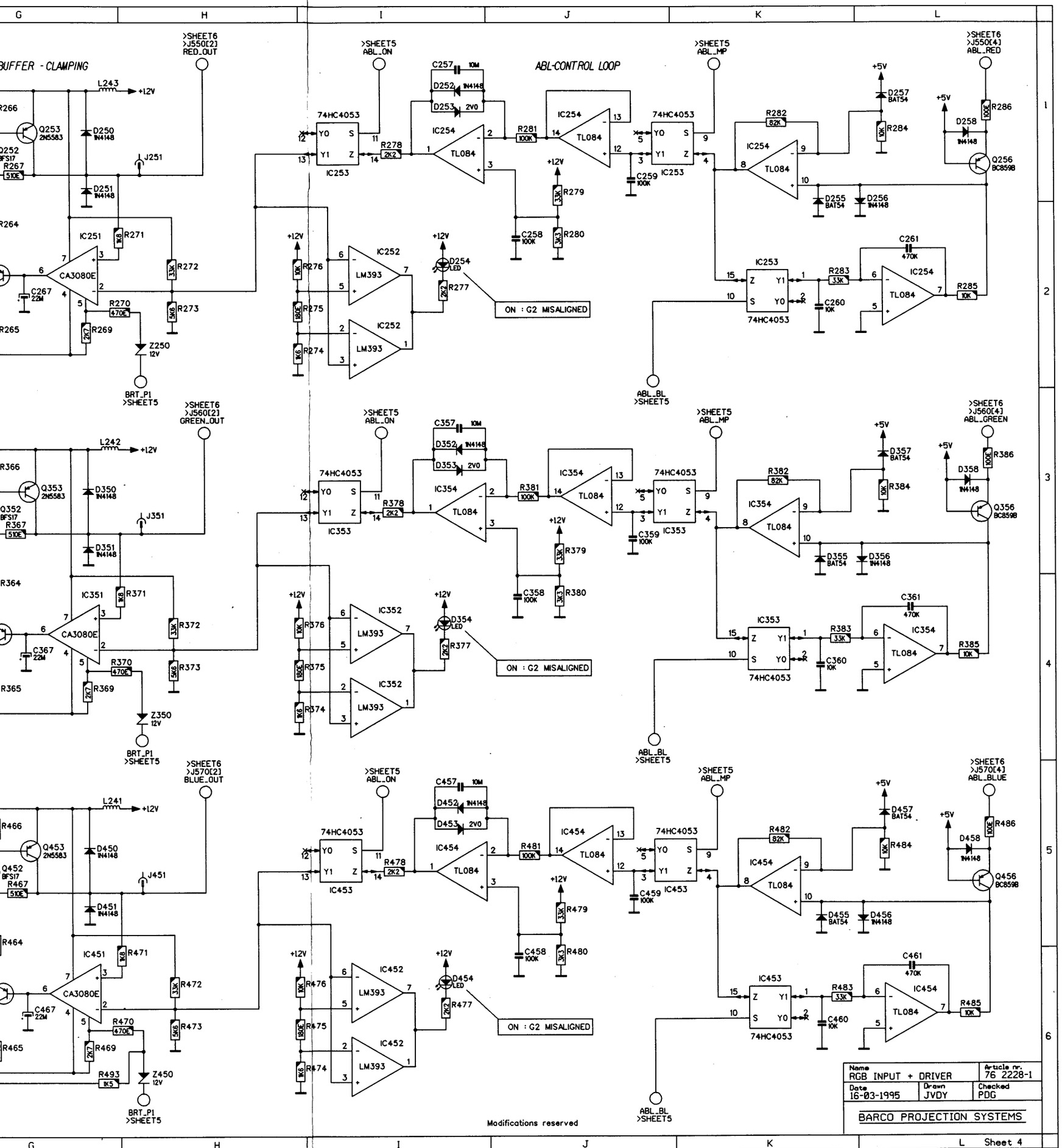
GAIN ADJUSTMENT GREEN

GAIN ADJUSTMENT RED

GAIN RED

GAIN GREEN

GAIN BLUE


BUFFER - CLAMPING
ABL-CONTROL LOOP
>SHEET6 >J550[2] RED_OUT
>SHEET5 ABL_ON
>SHEET5 ABL_MP
>SHEET6 >J550[4] ABL_RED
>SHEET6 >J560[2] GREEN_OUT
>SHEET6 >J560[4] ABL_GREEN
>SHEET6 >J570[2] BLUE_OUT
>SHEET6 >J570[4] ABL_BLUE
>SHEET5 ABL_BL
BRT_P1 >SHEET5
74HC4053
CA3080E
LM393
TL084
ON : G2 MISALIGNED
Modifications reserved
Name RGB INPUT + DRIVER
Article nr. 76 2228-1
Date 16-03-1995
Drawn JVDY
Checked PDG
BARCO PROJECTION SYSTEMS
Sheet 4
SCHEMATIC NAME: dvr700.sch SHEET NUMBER: 2 DATE: Apr 27, 1995

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REMOVE W1 AND W2 WHEN USING LINKED BCL OPTION MODULE

TEST POINT ABL TRIGGER SIGNAL

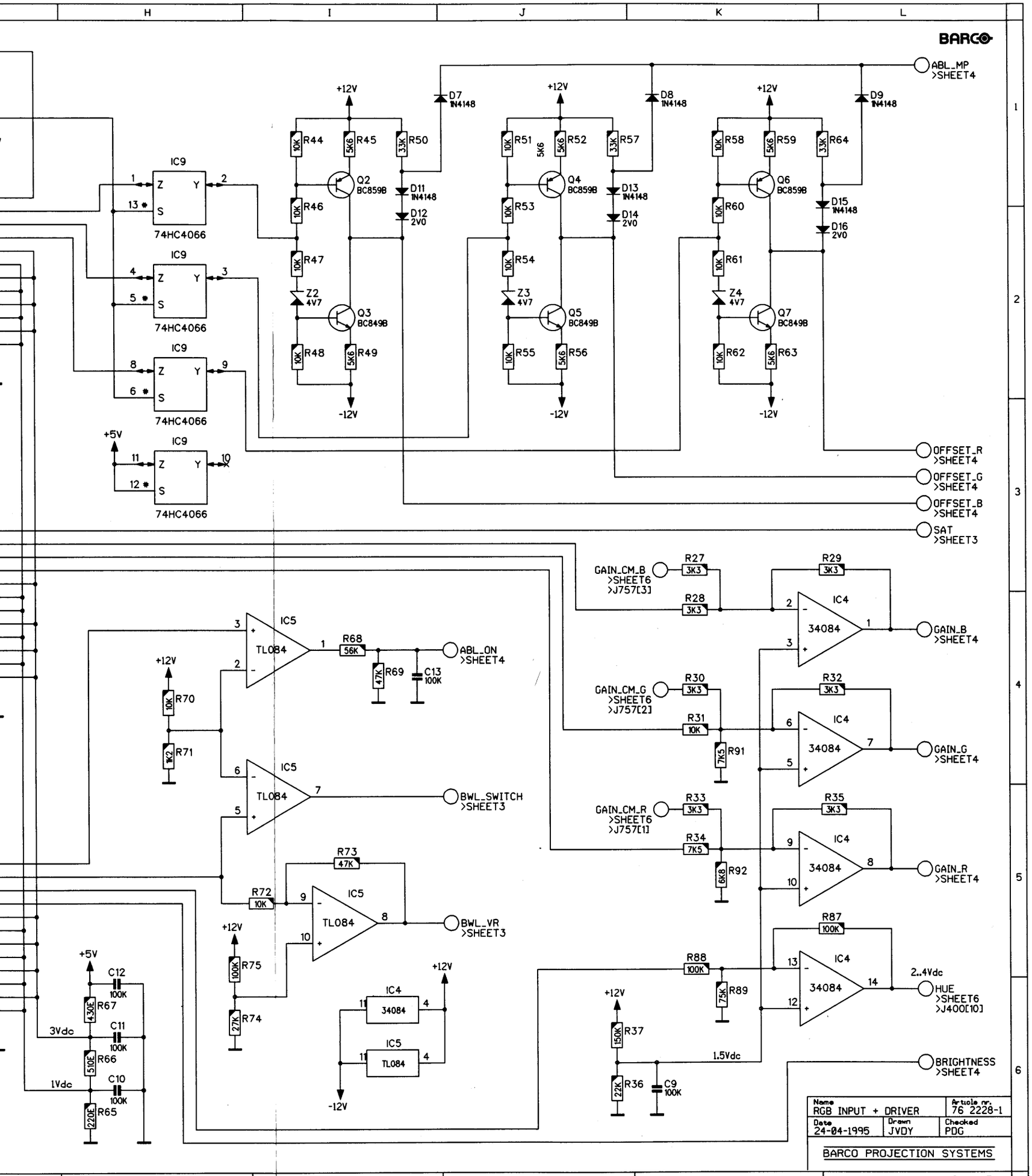
SUPPORT SIGNALS

REFERENCE NUMBERS : 1... 99

ADDRESS : HEX 5C

ADDRESS : HEX 5A

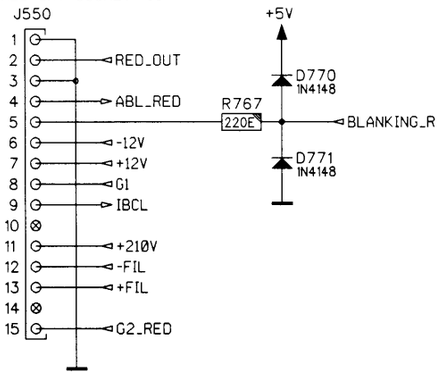
ADDRESS : HEX 58


BARCO
ABL_MP >SHEET4
+12V
D7 1N4148
D8 1N4148
D9 1N4148
R44 10K
R45 5K6
R50 33K
R46 10K
R47 10K
Z2 4V7
R48 10K
R49 5K6
Q2 BC859B
Q3 BC849B
D11 1N4148
D12 2V0
-12V
IC9
74HC4066
R51 10K
R52 5K6
R57 33K
R53 10K
R54 10K
Z3 4V7
R55 10K
R56 5K6
Q4 BC859B
Q5 BC849B
D13 1N4148
D14 2V0
R58 10K
R59 5K6
R64 33K
R60 10K
R61 10K
Z4 4V7
R62 10K
R63 5K6
Q6 BC859B
Q7 BC849B
D15 1N4148
D16 2V0
+5V
OFFSET_R >SHEET4
OFFSET_G >SHEET4
OFFSET_B >SHEET4
SAT >SHEET3
GAIN_CM_B >SHEET6 >J757[3]
GAIN_CM_G >SHEET6 >J757[2]
GAIN_CM_R >SHEET6 >J757[1]
R27 3K3
R28 3K3
R30 3K3
R31 10K
R33 3K3
R34 7K5
R29 3K3
R32 3K3
R35 3K3
R87 100K
R88 100K
R91 7K5
R92 6K8
R89 7K5
IC4
34084
GAIN_B >SHEET4
GAIN_G >SHEET4
GAIN_R >SHEET4
2..4Vdc
HUE >SHEET6 >J400[10]
IC5
TL084
R68 56K
R69 47K
C13 100K
ABL_ON >SHEET4
R70 10K
R71 1K2
BWL_SWITCH >SHEET3
R73 47K
R72 10K
R75 100K
R74 27K
BWL_VR >SHEET3
C12 100K
R67 430E
C11 100K
R66 510E
C10 100K
R65 220E
3Vdc
1Vdc
R37 150K
R36 22K
C9 100K
1.5Vdc
BRIGHTNESS >SHEET4
Name RGB INPUT + DRIVER
Article nr. 76 2228-1
Date 24-04-1995
Drawn JVDY
Checked PDG
BARCO PROJECTION SYSTEMS
H
I
J
K
L
Sheet 5
SCHEMATIC NAME: dvr700.sch SHEET NUMBER: 3 DATE: Apr 27, 1995

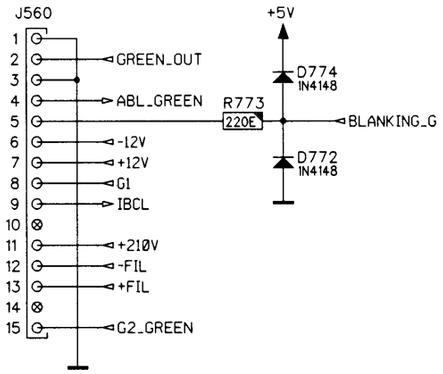
780352-1

BARCO

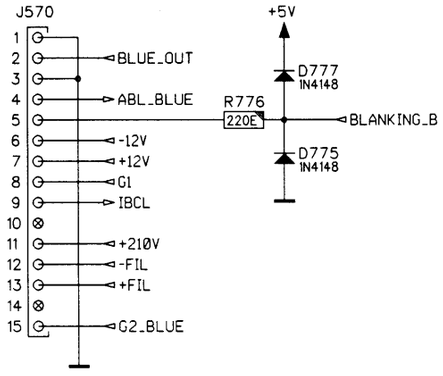
To RED CRT SOCKET (J1)



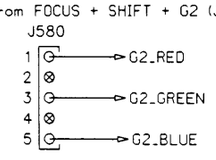
To GREEN CRT SOCKET (J1)



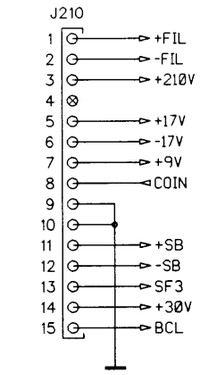
To BLUE CRT SOCKET (J1)



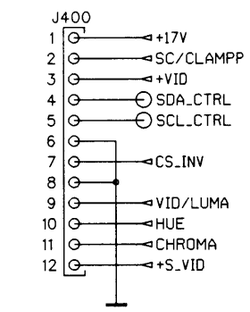
From FOCUS + SHIFT + G2 (J110)



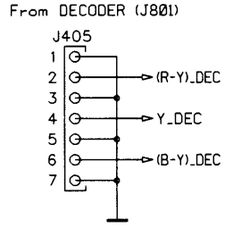
From SMPS + EHT (J10)



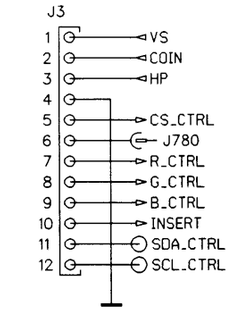
To DECODER (J800)



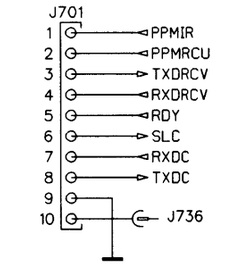
From DECODER (J801)



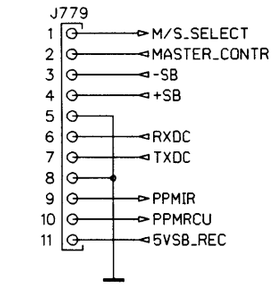
To CONTROLLER (J2)



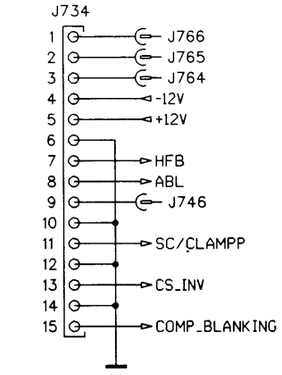
To CONTROLLER (J3)



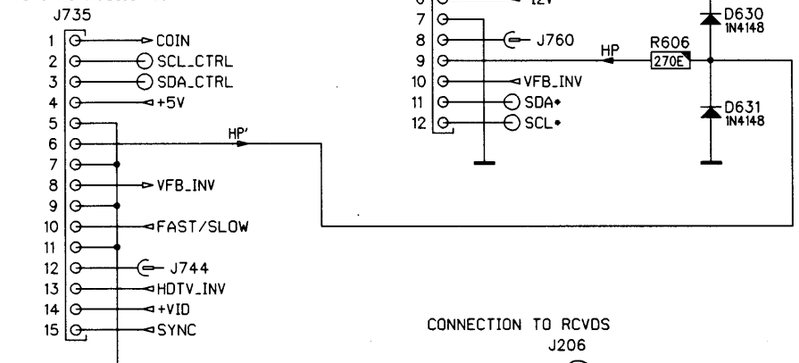
To RS232 module (713)



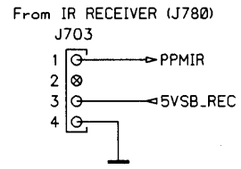
To SYNC module (J3)



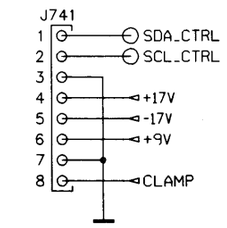
To SYNC module (J1)



From IR RECEIVER (J780)

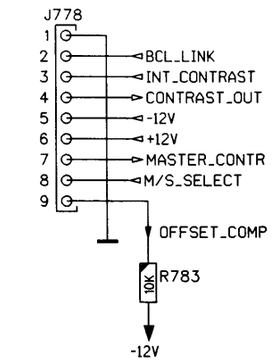


To SOFT EDGE MODULE

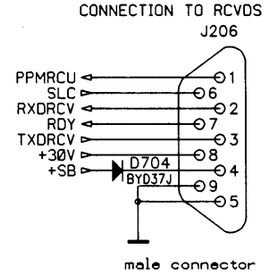


To CONTRAST MODULATION

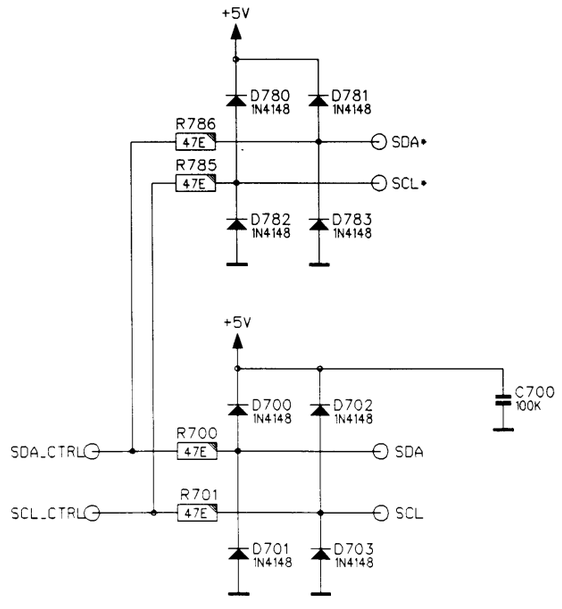
To BCL-LINK UNIT (J1)

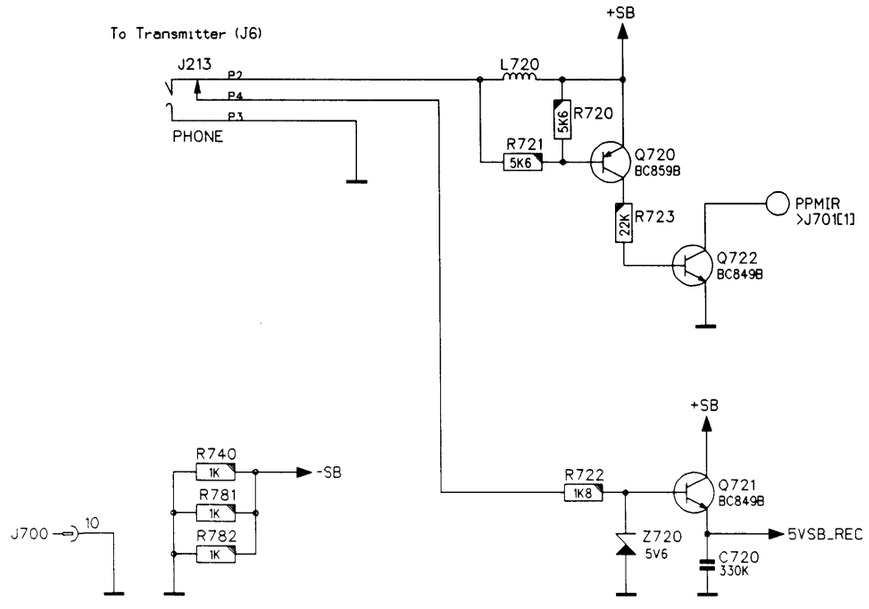


CONNECTION TO RCVDS

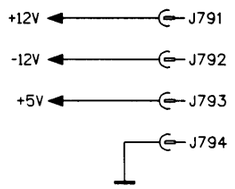


COMM. PORT
(800-peripherals)





SPARE PADS



CONNECTORS

REFERENCE NUMBERS : 700... 799

Name: RGB INPUT + DRIVER		Article nr.: 76 2228-1
Date: 07-03-1995	Drawn: JVDY	Checked: PDG
BARCO PROJECTION SYSTEMS		

SCHEMATIC NAME: conn700.sch SHEET NUMBER: 1 DATE: Apr 27, 1995

COMP.	LOC.	SHEET
C1	A 5	sheet 5
C2	B 6	sheet 5
C3	B 6	sheet 5
C4	D 5	sheet 5
C5	A 4	sheet 5
C6	C 4	sheet 5
C7	D 3	sheet 5
C8	D 2	sheet 5
C9	K 6	sheet 5
C10	H 6	sheet 5
C11	H 6	sheet 5
C12	H 5	sheet 5
C13	I 4	sheet 5
C14	A 2	sheet 5
C15	A 3	sheet 5
C16	A 1	sheet 5
C17	A 1	sheet 5
C18	G 3	sheet 5
C19	G 4	sheet 5
C132	B 2	sheet 4
C150	C 2	sheet 4
C151	C 2	sheet 4
C152	A 4	sheet 4
C153	A 4	sheet 4
C154	C 2	sheet 4
C155	C 2	sheet 4
C156	C 2	sheet 4
C157	A 5	sheet 4
C201	I 4	sheet 3
C202	L 4	sheet 3
C203	I 1	sheet 3
C220	E 6	sheet 3
C221	F 5	sheet 3
C222	E 5	sheet 3
C223	E 5	sheet 3
C224	B 4	sheet 3
C225	B 5	sheet 3
C226	D 6	sheet 3
C227	C 6	sheet 3
C228	E 6	sheet 3
C229	B 4	sheet 3
C230	B 5	sheet 3
C231	E 6	sheet 3
C250	A 3	sheet 4
C251	C 2	sheet 4
C252	D 2	sheet 4
C253	F 1	sheet 4
C254	G 1	sheet 4
C255	G 2	sheet 4
C256	E 2	sheet 4
C257	I 1	sheet 4
C258	J 2	sheet 4
C259	J 1	sheet 4
C260	K 2	sheet 4
C261	L 2	sheet 4
C266	C 4	sheet 4
C267	G 2	sheet 4
C270	D 2	sheet 3
C271	F 6	sheet 3
C272	B 5	sheet 3
C300	F 1	sheet 3
C301	I 4	sheet 3
C302	L 4	sheet 3
C303	I 2	sheet 3
C320	I 3	sheet 3
C321	J 1	sheet 3
C322	I 1	sheet 3
C350	A 3	sheet 4
C351	C 3	sheet 4
C352	D 3	sheet 4
C353	F 3	sheet 4
C354	G 3	sheet 4
C355	G 4	sheet 4
C356	E 4	sheet 4
C357	I 3	sheet 4
C358	J 4	sheet 4
C359	J 3	sheet 4
C360	K 4	sheet 4
C361	L 4	sheet 4
C366	B 4	sheet 4
C367	G 4	sheet 4
C370	D 2	sheet 3
C400	E 1	sheet 3
C401	I 5	sheet 3
C402	L 5	sheet 3
C403	I 3	sheet 3
C420	L 6	sheet 3
C421	L 3	sheet 3
C422	L 6	sheet 3
C423	L 3	sheet 3
C424	J 6	sheet 3
C450	A 4	sheet 4
C451	C 3	sheet 4
C452	D 3	sheet 4
C453	F 5	sheet 4
C454	G 5	sheet 4
C455	G 6	sheet 4
C456	E 6	sheet 4
C457	I 5	sheet 4
C458	J 5	sheet 4
C459	J 5	sheet 4
C460	K 6	sheet 4
C461	L 6	sheet 4
C462	F 6	sheet 4
C463	F 6	sheet 4
C464	E 5	sheet 4
C465	F 6	sheet 4
C466	B 4	sheet 4
C467	G 6	sheet 4
C470	D 2	sheet 3
C500	A 5	sheet 1
C501	B 5	sheet 1
C502	A 5	sheet 1
C503	A 4	sheet 1

COMP.	LOC.	SHEET
C504	B 6	sheet 1
C505	B 6	sheet 1
C506	B 5	sheet 1
C507	C 5	sheet 1
C508	D 6	sheet 1
C509	D 6	sheet 1
C510	C 4	sheet 1
C511	D 5	sheet 1
C512	E 5	sheet 1
C515	E 5	sheet 1
C517	F 5	sheet 1
C518	F 5	sheet 1
C519	G 5	sheet 1
C520	G 6	sheet 1
C521	G 6	sheet 1
C522	I 6	sheet 1
C523	I 6	sheet 1
C524	H 5	sheet 1
C525	G 5	sheet 1
C526	H 5	sheet 1
C527	H 5	sheet 1
C528	H 4	sheet 1
C529	H 3	sheet 1
C530	J 6	sheet 1
C531	J 6	sheet 1
C532	J 5	sheet 1
C533	I 5	sheet 1
C534	I 5	sheet 1
C535	J 5	sheet 1
C536	I 4	sheet 1
C537	I 3	sheet 1
C538	K 5	sheet 1
C539	K 5	sheet 1
C540	L 6	sheet 1
C541	L 6	sheet 1
C542	K 5	sheet 1
C543	K 5	sheet 1
C544	K 4	sheet 1
C545	K 3	sheet 1
C546	K 2	sheet 1
C547	G 2	sheet 1
C548	G 2	sheet 1
C549	G 2	sheet 1
C550	F 2	sheet 1
C551	J 3	sheet 1
C600	G 5	sheet 2
C603	B 2	sheet 2
C604	C 2	sheet 2
C605	C 2	sheet 2
C606	B 2	sheet 2
C607	B 2	sheet 2
C608	C 2	sheet 2
C609	C 2	sheet 2
C610	B 3	sheet 2
C611	B 3	sheet 2
C612	C 3	sheet 2
C613	C 2	sheet 2
C614	B 3	sheet 2
C615	C 3	sheet 2
C616	C 3	sheet 2
C617	B 3	sheet 2
C618	D 6	sheet 2
C619	D 6	sheet 2
C620	J 4	sheet 2
C621	H 2	sheet 2
C622	G 1	sheet 2
C623	F 1	sheet 2
C624	C 6	sheet 2
C625	B 6	sheet 2
C700	D 6	sheet 6
C720	F 6	sheet 6
D1	E 6	sheet 5
D2	E 6	sheet 5
D3	A 5	sheet 5
D4	D 4	sheet 5
D5	D 3	sheet 5
D6	E 2	sheet 5
D7	J 1	sheet 5
D8	K 1	sheet 5
D9	L 1	sheet 5
D10	B 3	sheet 5
D11	I 1	sheet 5
D12	I 1	sheet 5
D13	J 1	sheet 5
D14	J 1	sheet 5
D15	L 1	sheet 5
D16	L 2	sheet 5
D17	D 2	sheet 5
D18	D 2	sheet 5
D200	A 3	sheet 3
D202	H 1	sheet 3
D203	H 2	sheet 3
D204	B 5	sheet 3
D220	J 5	sheet 3
D221	J 5	sheet 3
D250	G 1	sheet 4
D251	G 1	sheet 4
D252	I 1	sheet 4
D253	I 1	sheet 4
D254	I 2	sheet 4
D255	K 1	sheet 4
D256	L 1	sheet 4
D257	L 1	sheet 4
D258	L 1	sheet 4
D260	C 2	sheet 3
D261	D 2	sheet 3
D300	A 3	sheet 3
D302	H 2	sheet 3
D303	H 2	sheet 3
D350	G 3	sheet 4
D351	G 3	sheet 4
D352	I 3	sheet 4
D353	I 3	sheet 4

COMP.	LOC.	SHEET
D354	I 4	sheet 4
D355	K 3	sheet 4
D356	L 3	sheet 4
D357	L 3	sheet 4
D358	L 3	sheet 4
D360	C 2	sheet 3
D361	D 2	sheet 3
D400	A 3	sheet 3
D402	H 3	sheet 3
D403	H 3	sheet 3
D420	H 6	sheet 3
D421	H 6	sheet 3
D450	G 5	sheet 4
D451	G 5	sheet 4
D452	I 5	sheet 4
D453	I 5	sheet 4
D454	I 6	sheet 4
D455	K 5	sheet 4
D456	L 5	sheet 4
D457	L 5	sheet 4
D458	L 5	sheet 4
D459	F 5	sheet 4
D460	D 2	sheet 3
D461	D 2	sheet 3
D500	A 3	sheet 1
D501	A 4	sheet 1
D502	A 4	sheet 1
D503	A 3	sheet 1
D504	B 3	sheet 1
D505	B 2	sheet 1
D506	B 2	sheet 1
D507	B 3	sheet 1
D508	C 4	sheet 1
D509	C 3	sheet 1
D510	C 3	sheet 1
D511	C 4	sheet 1
D512	D 3	sheet 1
D513	D 4	sheet 1
D514	E 4	sheet 1
D515	E 3	sheet 1
D516	F 3	sheet 1
D517	F 4	sheet 1
D518	F 4	sheet 1
D519	G 3	sheet 1
D520	C 2	sheet 1
D521	F 2	sheet 1
D522	G 3	sheet 1
D523	H 4	sheet 1
D524	H 4	sheet 1
D525	H 3	sheet 1
D526	I 3	sheet 1
D527	I 4	sheet 1
D528	J 4	sheet 1
D529	J 3	sheet 1
D530	K 3	sheet 1
D531	K 4	sheet 1
D532	K 4	sheet 1
D533	L 3	sheet 1
D534	L 2	sheet 1
D535	K 1	sheet 1
D536	I 1	sheet 1
D537	H 1	sheet 1
D538	F 2	sheet 1
D539	D 2	sheet 1
D540	B 2	sheet 1
D541	F 3	sheet 1
D542	C 1	sheet 1
D600	H 6	sheet 2
D601	G 4	sheet 2
D602	J 4	sheet 2
D603	J 4	sheet 2
D604	G 6	sheet 2
D605	G 6	sheet 2
D606	H 6	sheet 2
D607	H 6	sheet 2
D608	I 6	sheet 2
D609	A 2	sheet 2
D610	K 5	sheet 2
D611	J 3	sheet 2
D612	J 3	sheet 2
D613	I 3	sheet 2
D614	I 3	sheet 2
D615	I 2	sheet 2
D616	J 2	sheet 2
D617	I 2	sheet 2
D618	J 2	sheet 2
D619	K 3	sheet 2
D620	K 3	sheet 2
D621	K 3	sheet 2
D623	G 4	sheet 2
D624	E 3	sheet 2
D625	H 1	sheet 2
D626	G 1	sheet 2
D627	D 5	sheet 2
D628	D 5	sheet 2
D629	E 5	sheet 2
D630	G 2	sheet 6
D631	G 3	sheet 6
D640	G 3	sheet 2
D641	F 4	sheet 2
D642	F 3	sheet 2
D643	F 5	sheet 2
D644	E 5	sheet 2
D645	F 5	sheet 2
D646	E 5	sheet 2
D647	E 5	sheet 2
D700	C 6	sheet 6
D701	C 6	sheet 6
D702	C 6	sheet 6
D703	C 6	sheet 6
D704	G 4	sheet 6
D770	B 1	sheet 6
D771	B 1	sheet 6
D772	B 3	sheet 6

COMP.	LOC.	SHEET
D774	B 2	sheet 6
D775	B 4	sheet 6
D777	B 4	sheet 6
D780	C 5	sheet 6
D781	C 5	sheet 6
D782	C 5	sheet 6
D783	C 5	sheet 6
IC1	C 4	sheet 5
IC1	C 6	sheet 5
IC2	B 4	sheet 5
IC2	C 4	sheet 5
IC2	B 6	sheet 5
IC2	C 6	sheet 5
IC2	D 4	sheet 5
IC2	E 5	sheet 5
IC2	E 1	sheet 5
IC3	D 5	sheet 5
IC3	C 6	sheet 5
IC3	D 3	sheet 5
IC3	D 3	sheet 5
IC3	E 2	sheet 5
IC3	E 3	sheet 5
IC3	E 3	sheet 5
IC4	L 5	sheet 5
IC4	I 6	sheet 5
IC4	L 4	sheet 5
IC4	L 4	sheet 5
IC4	L 5	sheet 5
IC5	C 2	sheet 5
IC5	I 5	sheet 5
IC5	I 6	sheet 5
IC5	I 4	sheet 5
IC5	I 4	sheet 5
IC6	G 1	sheet 5
IC7	G 3	sheet 5
IC8	G 5	sheet 5
IC9	H 2	sheet 5
IC9	C 6	sheet 5
IC9	H 3	sheet 5
IC9	H 2	sheet 5
IC9	H 1	sheet 5
IC131	A 2	sheet 4
IC200	H 4	sheet 3
IC200	L 5	sheet 3
IC201	L 6	sheet 3
IC201	K 4	sheet 3
IC202	J 1	sheet 3
IC202	J 1	sheet 3
IC202	L 2	sheet 3
IC202	J 2	sheet 3
IC202	J 4	sheet 3
IC203	J 2	sheet 3
IC203	L 2	sheet 3
IC203	J 3	sheet 3
IC203	J 3	sheet 3
IC203	L 1	sheet 3
IC220	L 1	sheet 3
IC220	I 1	sheet 3
IC220	B 5	sheet 3
IC221	C 5	sheet 3
IC221	C 5	sheet 3
IC221	D 5	sheet 3
IC221	D 6	sheet 3
IC250	E 1	sheet 4
IC251	G 2	sheet 4
IC252	A 6	sheet 4
IC252	I 2	sheet 4
IC252	I 2	sheet 4
IC253	B 6	sheet 4
IC253	B 6	sheet 4
IC253	I 1	sheet 4
IC253	K 2	sheet 4
IC253	J 1	sheet 4
IC254	C 6	sheet 4
IC254	I 1	sheet 4
IC254	L 2	sheet 4
IC254	J 1	sheet 4
IC254	K 1	sheet 4
IC350	E 3	sheet 4
IC351	G 4	sheet 4
IC352	A 6	sheet 4
IC352	I 4	sheet 4
IC352	I 4	sheet 4
IC353	B 6	sheet 4
IC353	B 6	sheet 4
IC353	I 3	sheet 4
IC353	J 3	sheet 4
IC353	K 4	sheet 4
IC354	C 6	sheet 4
IC354	I 3	sheet 4
IC354	J 3	sheet 4
IC354	L 4	sheet 4
IC354	K 3	sheet 4
IC450	E 5	sheet 4
IC451	G 6	sheet 4
IC452	A 6	sheet 4
IC452	I 6	sheet 4
IC452	I 6	sheet 4
IC453	B 6	sheet 4
IC453	B 6	sheet 4
IC453	I 5	sheet 4
IC453	K 6	sheet 4
IC453	J 5	sheet 4
IC454	C 6	sheet 4
IC454	I 5	sheet 4
IC454	J 5	sheet 4
IC454	K 5	sheet 4
IC454	L 6	sheet 4
IC455	F 6	sheet 4
IC600	D 6	sheet 2
IC600	I 6	sheet 2
IC600	I 6	sheet 2
IC600	I 5	sheet 2

COMP.	LOC.	SHEET
IC600	I 5	sheet 2
IC601	D 6	sheet 2
IC601	E 5	sheet 2
IC601	E 5	sheet 2
IC601	E 6	sheet 2
IC601	E 6	sheet 2
IC601	G 6	sheet 2
IC601	H 5	sheet 2
IC602	B 1	sheet 2
IC603	B 2	sheet 2
IC604	B 2	sheet 2
IC605	B 3	sheet 2
IC606	B 6	sheet 2
IC606	C 5	sheet 2
IC607	A 4	sheet 2
J1	D 1	sheet 5
J3	D 1	sheet 6
J206	G 3	sheet 6
J210	C 1	sheet 6
J213	E 5	sheet 6
J217	A 6	sheet 1
J217	F 6	sheet 1
J217	G 6	sheet 1
J217	I 6	sheet 1
J217	K 6	sheet 1
J235	H 3	sheet 1
J235	H 3	sheet 1
J235	H 3	sheet 1
J235	H 2	sheet 1
J235	H 2	sheet 1
J235	H 1	sheet 1
J250	C 2	sheet 4
J251	H 1	sheet 4
J253	D 2	sheet 4
J350	C 3	sheet 4
J351	H 3	sheet 4
J400	C 2	sheet 6
J401	D 3	sheet 3
J402	E 3	sheet 3
J403	E 4	sheet 3
J404	E 4	sheet 3
J405	C 3	sheet 6
J406	E 3	sheet 3
J407	E 3	sheet 3
J408	E 3	sheet 3
J409	E 3	sheet 3
J410	E 3	sheet 3
J411	E 3	sheet 3
J412	E 3	sheet 3
J413	E 3	sheet 3
J450	C 3	sheet 4
J451	H 5	sheet 4
J452	F 6	sheet 4
J500	B 6	sheet 1
J501	C 6	sheet 1
J503	G 6	sheet 1
J504	H 6	sheet 1
J505	J 6	sheet 1
J506	L 6	sheet 1
J550	A 1	sheet 6
J560	A 2	sheet 6
J570	A 4	sheet 6
J580	A 5	sheet 6
J600	A 6	sheet 2
J700	D 6	sheet 6
J701	D 2	sheet 6
J703	E 4	sheet 6
J734	E 1	sheet 6
J735	E 2	sheet 6
J736	D 3	sheet 6
J741	F 1	sheet 6
J744	F 3	sheet 6
J746	F 2	sheet 6
J757	F 2	sheet 6
J759	G 2	sheet 6
J760	G 2	sheet 6
J764	F 1	sheet 6
J765	F 1	sheet 6
J766	F 1	sheet 6
J778	H 1	sheet 6
J779	D 3	sheet 6
J780	D 1	sheet 6
J791	H 5	sheet 6
J792	H 5	sheet 6
J793	H 5	sheet 6
J794	H 5	sheet 6
L150	C 2	sheet 4
L241	G 5	sheet 4
L242	G 3	sheet 4
L243	G 1	sheet 4
L601	A 1	sheet 2
L602	A 2	sheet 2
L603	A 3	sheet 2
L720	F 5	sheet 6
P250	C 4	sheet 4
P251	F 2	sheet 4
P350	B 4	sheet 4
P351	F 4	sheet 4
P450	B 4	sheet 4
P451	F 6	sheet 4
Q1	B 5	sheet 5
Q2	I 1	sheet 5
Q3	I 2	sheet 5
Q4	J 1	sheet 5
Q5	J 2	sheet 5
Q6	K 1	sheet 5
Q7	K 2	sheet 5
Q8	A 2	sheet 5
Q9	B 2	sheet 5
Q10	B 2	sheet 5

COMP.	LOC.	SHEET
Q23	E 6	sheet 5
Q200	A 3	sheet 3
Q201	G 1	sheet 3
Q202	I 4	sheet 3
Q220	G 5	sheet 3
Q221	F 6	sheet 3
Q222	F 5	sheet 3
Q223	E 5	sheet 3
Q224	C 6	sheet 3
Q250	D 2	sheet 4
Q251	F 1	sheet 4
Q252	G 1	sheet 4
Q253	G 1	sheet 4
Q254	G 2	sheet 4
Q255	G 2	sheet 4
Q256	L 1	sheet 4
Q300	B 3	sheet 3
Q301	F 1	sheet 3
Q302	I 4	sheet 3
Q350	D 3	sheet 4
Q351	F 3	sheet 4
Q352	G 3	sheet 4
Q353	G 3	sheet 4
Q354	G 4	sheet 4
Q355	G 4	sheet 4
Q356	L 3	sheet 4
Q400	B 3	sheet 3
Q401	E 1	sheet 3
Q402	I 5	sheet 3
Q420	K 6	sheet 3
Q421	K 6	sheet 3
Q450	D 3	sheet 4
Q451	F 5	sheet 4
Q452	G 5	sheet 4
Q453	G 5	sheet 4
Q454	G 6	sheet 4
Q455	G 6	sheet 4
Q456	L 5	sheet 4
Q457	F 6	sheet 4
Q500	A 4	sheet 1
Q501	A 4	sheet 1
Q502	A 4	sheet 1
Q503	C 4	sheet 1
Q504	C 4	sheet 1
Q505	C 4	sheet 1
Q506	D 4	sheet 1
Q507	D 4	sheet 1
Q508	D 4	sheet 1
Q509	F 4	sheet 1
Q510	F 4	sheet 1
Q511	F 4	sheet 1
Q512	H 4	sheet 1
Q513	H 4	sheet 1
Q514	H 4	sheet 1
Q515	I 4	sheet 1
Q516	I 4	sheet 1
Q517	I 4	sheet 1
Q518	K 4	sheet 1
Q519	K 4	sheet 1
Q520	K 4	sheet 1
Q521	L 2	sheet 1
Q522	L 2	sheet 1
Q523	D 1	sheet 1
Q524	C 1	sheet 1
Q525	G 2	sheet 1
Q526	F 2	sheet 1
Q527	C 2	sheet 1
Q620	J 5	sheet 2
Q621	J 5	sheet 2
Q622	I 1	sheet 2
Q623	I 1	sheet 2
Q624	H 1	sheet 2
Q625	G 1	sheet 2
Q626	G 1	sheet 2
Q627	F 1	sheet 2
Q628	E 1	sheet 2
Q629	E 1	sheet 2
Q630	E 1	sheet 2
Q631	E 4	sheet 2
Q632	F 3	sheet 2
Q633	B 5	sheet 2
Q634	G 3	sheet 2
Q720	F 5	sheet 6
Q721	F 6	sheet 6
Q722	F 5	sheet 6
R1	E 6	sheet 5
R2	E 6	sheet 5
R3	A 5	sheet 5
R4	A 4	sheet 5
R5	A 5	sheet 5
R6	B 5	sheet 5
R8	A 6	sheet 5
R9	A 5	sheet 5
R10	A 6	sheet 5
R11	A 6	sheet 5
R12	A 6	sheet 5
R13	D 5	sheet 5
R14	E 5	sheet 5
R15	A 4	sheet 5
R16	A 4	sheet 5
R17	C 4	sheet 5
R18	C 4	sheet 5
R19	E 4	sheet 5
R20	D 3	sheet 5
R21	E 3	sheet 5
R22	D 2	sheet 5
R23	E 3	sheet 5
R24	E 3	sheet 5
R25	D 2	sheet 5
R26	E 2	sheet 5
R27	K 3	sheet 5
R28	K 3	sheet 5
R29	L 3	sheet 5

COMP.	LOC.	SHEET
R30	K 4	sheet 5
R31	K 4	sheet 5
R32	L 4	sheet 5
R33	K 5	sheet 5
R34	K 5	sheet 5
R35	L 5	sheet 5
R36	J 6	sheet 5
R37	J 6	sheet 5
R38	F 1	sheet 5
R39	F 1	sheet 5
R40	F 3	sheet 5
R41	F 3	sheet 5
R42	F 5	sheet 5
R43	F 5	sheet 5
R44	I 1	sheet 5
R45	I 1	sheet 5
R46	I 1	sheet 5
R47	I 2	sheet 5
R48	I 2	sheet 5
R49	I 2	sheet 5
R50	I 1	sheet 5
R51	J 1	sheet 5
R52	J 1	sheet 5
R53	J 1	sheet 5
R54	J 2	sheet 5
R55	J 2	sheet 5
R56	J 2	sheet 5
R57	J 1	sheet 5
R58	K 1	sheet 5
R59	K 1	sheet 5
R60	K 1	sheet 5
R61	K 2	sheet 5
R62	K 2	sheet 5
R63	K 2	sheet 5
R64	L 1	sheet 5
R65	H 6	sheet 5
R66	H 6	sheet 5
R67	H 6	sheet 5
R68	I 4	sheet 5
R69	I 4	sheet 5
R70	H 4	sheet 5
R71	H 4	sheet 5
R72	I 5	sheet 5
R73	I 5	sheet 5
R74	H 6	sheet 5
R75	H 5	sheet 5
R76	A 1	sheet 5
R77	A 2	sheet 5
R78	A 2	sheet 5
R79	A 2	sheet 5
R80	A 3	sheet 5
R81	B 1	sheet 5
R82	A 1	sheet 5
R84	B 2	sheet 5
R85	B 3	sheet 5
R86	C 3	sheet 5
R87	L 5	sheet 5
R88	K 5	sheet 5
R89	K 6	sheet 5
R90	D 5	sheet 5
R91	K 4	sheet 5
R92	K 5	sheet 5
R150	B 2	sheet 4
R151	C 6	sheet 4
R152	A 5	sheet 4
R153	A 4	sheet 4
R200	A 2	sheet 3
R201	A 2	sheet 3
R202	F 3	sheet 3
R203	F 1	sheet 3
R204	G 1	sheet 3
R206	G 2	sheet 3
R207	I 4	sheet 3
R208	H 1	sheet 3
R209	I 2	sheet 3
R220	F 6	sheet 3
R221	G 5	sheet 3
R222	F 5	sheet 3
R223	E 5	sheet 3
R224	G 4	sheet 3
R225	F 4	sheet 3
R226	F 4	sheet 3
R227	E 4	sheet 3
R228	E 4	sheet 3
R229	E 4	sheet 3
R230	E 5	sheet 3
R231	E 5	sheet 3
R232	D 5	sheet 3
R233	C 5	sheet 3
R234	D 6	sheet 3
R235	C 6	sheet 3
R236	D 6	sheet 3
R237	D 4	sheet 3
R238	C 4	sheet 3
R239	B 4	sheet 3
R240	C 6	sheet 3
R241	E 6	sheet 3
R242	B 5	sheet 3
R243	A 5	sheet 3
R244	A 4	sheet 3
R245	H 4	sheet 3
R250	A 4	sheet 4
R251	A 2	sheet 4
R252	C 3	sheet 4
R253	C 2	sheet 4
R254	C 2	sheet 4
R255	C 3	sheet 4
R256	C 3	sheet 4
R257	D 3	sheet 4
R258	D 3	sheet 4
R259	D 2	sheet 4
R260	F 1	sheet 4
R261	F 1	sheet 4
R262	F 1	sheet 4

COMP.	LOC.	SHEET
R263	F 2	sheet 4
R264	G 2	sheet 4
R265	G 2	sheet 4
R266	G 1	sheet 4
R267	G 1	sheet 4
R268	G 2	sheet 4
R269	G 2	sheet 4
R270	G 2	sheet 4
R271	H 2	sheet 4
R272	H 2	sheet 4
R273	H 2	sheet 4
R274	I 2	sheet 4
R275	I 2	sheet 4
R276	I 2	sheet 4
R277	I 2	sheet 4
R278	I 1	sheet 4
R279	J 1	sheet 4
R280	J 2	sheet 4
R281	J 1	sheet 4
R282	K 1	sheet 4
R283	K 2	sheet 4
R284	L 1	sheet 4
R285	L 2	sheet 4
R286	L 1	sheet 4
R294	C 4	sheet 4
R295	C 2	sheet 3
R296	D 2	sheet 3
R297	E 2	sheet 4
R300	B 2	sheet 3
R301	B 2	sheet 3
R302	F 3	sheet 3
R303	E 1	sheet 3
R304	F 1	sheet 3
R305	F 1	sheet 3
R306	F 2	sheet 3
R307	I 5	sheet 3
R308	H 2	sheet 3
R309	I 2	sheet 3
R320	H 1	sheet 3
R321	H 1	sheet 3
R322	I 1	sheet 3
R323	J 1	sheet 3
R324	H 3	sheet 3
R325	L 4	sheet 3
R326	I 3	sheet 3
R350	A 4	sheet 4
R351	A 3	sheet 4
R352	C 3	sheet 4
R353	C 3	sheet 4
R354	C 3	sheet 4
R355	C 3	sheet 4
R356	C 3	sheet 4
R357	D 3	sheet 4
R358	D 3	sheet 4
R359	D 3	sheet 4
R360	F 3	sheet 4
R361	F 3	sheet 4
R362	F 3	sheet 4
R363	F 4	sheet 4
R364	G 4	sheet 4
R365	G 4	sheet 4
R366	G 3	sheet 4
R367	G 3	sheet 4
R368	G 4	sheet 4
R369	G 4	sheet 4
R370	G 4	sheet 4
R371	H 4	sheet 4
R372	H 4	sheet 4
R373	H 4	sheet 4
R374	I 4	sheet 4
R375	I 4	sheet 4
R376	I 4	sheet 4
R377	I 4	sheet 4
R378	I 3	sheet 4
R379	J 3	sheet 4
R380	J 4	sheet 4
R381	J 3	sheet 4
R382	K 3	sheet 4
R383	K 4	sheet 4
R384	L 3	sheet 4
R385	L 4	sheet 4
R386	L 3	sheet 4
R394	B 4	sheet 4
R395	C 2	sheet 3
R396	D 2	sheet 3
R397	E 4	sheet 4
R400	B 2	sheet 3
R401	B 2	sheet 3
R402	F 3	sheet 3
R403	D 1	sheet 3
R404	E 1	sheet 3
R405	E 1	sheet 3
R406	E 2	sheet 3
R407	I 5	sheet 3
R408	H 3	sheet 3
R409	I 3	sheet 3
R420	H 6	sheet 3
R421	J 5	sheet 3
R422	K 5	sheet 3
R423	K 6	sheet 3
R424	K 6	sheet 3
R425	L 3	sheet 3
R426	H 5	sheet 3
R427	F 6	sheet 3
R428	J 6	sheet 3
R429	K 6	sheet 3
R450	A 4	sheet 4
R451	A 3	sheet 4
R452	C 4	sheet 4
R453	C 3	sheet 4
R454	C 3	sheet 4
R455	C 4	sheet 4
R456	C 4	sheet 4
R457	D 4	sheet 4

COMP.	LOC.	SHEET
R458	D 4	sheet 4
R459	D 3	sheet 4
R460	F 5	sheet 4
R461	F 5	sheet 4
R462	F 5	sheet 4
R463	F 5	sheet 4
R464	G 5	sheet 4
R465	G 6	sheet 4
R466	G 5	sheet 4
R467	G 5	sheet 4
R468	G 5	sheet 4
R469	G 6	sheet 4
R470	G 6	sheet 4
R471	H 5	sheet 4
R472	H 6	sheet 4
R473	H 6	sheet 4
R474	I 6	sheet 4
R475	I 6	sheet 4
R476	I 6	sheet 4
R477	I 6	sheet 4
R478	I 5	sheet 4
R479	J 5	sheet 4
R480	J 5	sheet 4
R481	J 5	sheet 4
R482	K 5	sheet 4
R483	K 6	sheet 4
R484	L 5	sheet 4
R485	L 6	sheet 4
R486	L 5	sheet 4
R487	F 5	sheet 4
R488	E 5	sheet 4
R489	E 6	sheet 4
R490	E 6	sheet 4
R492	E 6	sheet 4
R493	G 6	sheet 4
R494	B 4	sheet 4
R495	C 2	sheet 3
R496	D 2	sheet 3
R497	E 6	sheet 4
R500	A 6	sheet 1
R501	A 5	sheet 1
R502	A 5	sheet 1
R503	A 5	sheet 1
R504	B 5	sheet 1
R505	A 5	sheet 1
R506	B 5	sheet 1
R507	B 4	sheet 1
R508	A 4	sheet 1
R509	A 4	sheet 1
R510	A 4	sheet 1
R511	A 3	sheet 1
R512	C 3	sheet 1
R513	A 6	sheet 1
R514	C 6	sheet 1
R515	B 5	sheet 1
R516	B 5	sheet 1
R517	C 5	sheet 1
R518	C 5	sheet 1
R519	C 5	sheet 1
R520	C 4	sheet 1
R521	C 4	sheet 1
R522	C 4	sheet 1
R523	C 6	sheet 1
R524	D 5	sheet 1
R525	D 5	sheet 1
R526	E 5	sheet 1
R527	E 5	sheet 1
R528	D 5	sheet 1
R529	E 5	sheet 1
R530	E 4	sheet 1
R531	D 4	sheet 1
R532	E 4	sheet 1
R534	F 5	sheet 1
R535	F 5	sheet 1
R536	F 5	sheet 1
R537	G 5	sheet 1
R538	F 6	sheet 1
R539	F 5	sheet 1
R540	G 5	sheet 1
R541	G 4	sheet 1
R542	F 4	sheet 1
R543	F 4	sheet 1
R544	F 6	sheet 1
R545	H 6	sheet 1
R546	G 5	sheet 1
R547	G 5	sheet 1
R548	H 5	sheet 1
R549	H 5	sheet 1
R550	H 5	sheet 1
R551	H 5	sheet 1
R552	H 5	sheet 1
R553	H 4	sheet 1
R554	H 4	sheet 1
R555	H 4	sheet 1
R556	H 3	sheet 1
R557	H 6	sheet 1
R558	I 6	sheet 1
R559	I 5	sheet 1
R560	I 5	sheet 1
R561	J 5	sheet 1
R562	J 5	sheet 1
R563	I 5	sheet 1
R564	I 5	sheet 1
R565	J 5	sheet 1
R566	I 4	sheet 1
R567	J 4	sheet 1
R568	I 4	sheet 1
R569	J 6	sheet 1
R570	K 6	sheet 1
R571	K 5	sheet 1
R572	K 5	sheet 1
R573	K 5	sheet 1
R574	K 5	sheet 1
R575	K 6	sheet 1

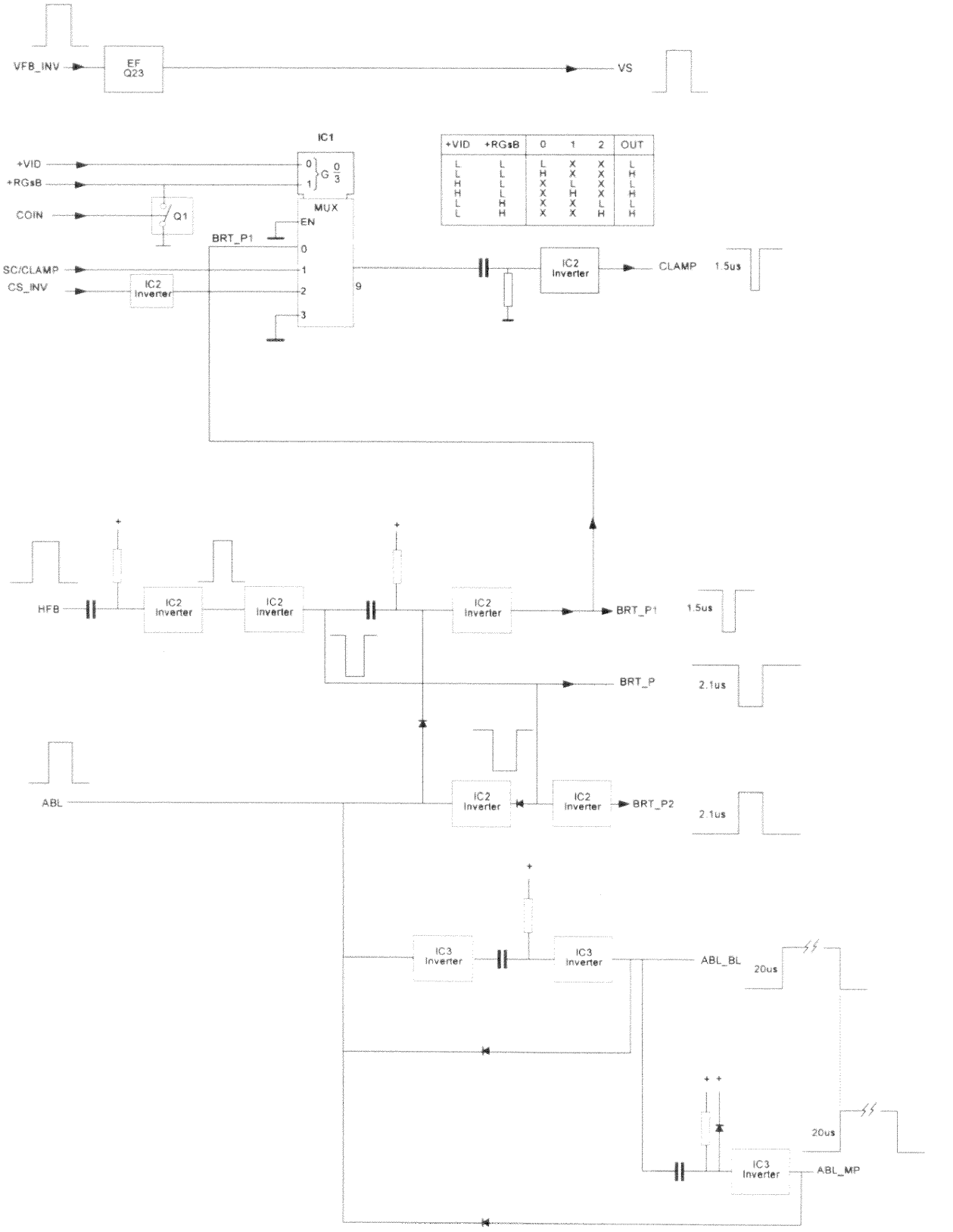
COMP.	LOC.	SHEET
R576	K 5	sheet 1
R577	K 5	sheet 1
R578	L 5	sheet 1
R579	L 5	sheet 1
R580	K 4	sheet 1
R581	K 4	sheet 1
R582	K 4	sheet 1
R583	K 2	sheet 1
R584	K 2	sheet 1
R585	K 2	sheet 1
R586	K 3	sheet 1
R587	L 3	sheet 1
R588	D 1	sheet 1
R589	D 1	sheet 1
R590	C 1	sheet 1
R591	G 2	sheet 1
R592	G 2	sheet 1
R593	G 2	sheet 1
R594	F 2	sheet 1
R595	F 2	sheet 1
R596	F 1	sheet 1
R597	F 2	sheet 1
R598	C 2	sheet 1
R599	C 2	sheet 1
R600	A 2	sheet 1
R601	G 5	sheet 2
R602	G 5	sheet 2
R603	G 4	sheet 2
R604	F 1	sheet 4
R605	G 6	sheet 2
R606	G 2	sheet 6
R607	J 4	sheet 2
R608	J 5	sheet 2
R609	J 4	sheet 2
R610	J 4	sheet 2
R611	J 3	sheet 2
R612	J 3	sheet 2
R613	I 3	sheet 2
R614	I 3	sheet 2
R615	G 3	sheet 2
R616	G 3	sheet 2
R617	F 3	sheet 2
R618	E 3	sheet 2
R619	I 1	sheet 2
R620	H 1	sheet 2
R621	H 1	sheet 2
R622	G 2	sheet 2
R623	G 1	sheet 2
R624	G 1	sheet 2
R625	G 1	sheet 2
R626	G 2	sheet 2
R627	F 2	sheet 2
R628	F 1	sheet 2
R629	F 1	sheet 2
R630	E 1	sheet 2
R631	E 1	sheet 2
R632	E 3	sheet 2
R633	F 3	sheet 2
R634	D 4	sheet 2
R635	D 4	sheet 2
R636	D 4	sheet 2
R637	B 4	sheet 2
R638	B 4	sheet 2
R639	A 5	sheet 2
R640	B 5	sheet 2
R641	D 6	sheet 1
R642	L 5	sheet 1
R643	A 3	sheet 2
R650	F 3	sheet 2
R652	A 1	sheet 2
R653	A 2	sheet 2
R654	A 3	sheet 2
R655	F 3	sheet 1
R656	J 3	sheet 1
R700	C 6	sheet 6
R701	C 6	sheet 6
R720	F 5	sheet 6
R721	F 5	sheet 6
R722	F 6	sheet 6
R723	F 5	sheet 6
R740	E 6	sheet 6
R767	B 1	sheet 6
R773	B 3	sheet 6
R776	B 4	sheet 6
R781	E 6	sheet 6
R782	E 6	sheet 6
R783	H 2	sheet 6
R785	C 5	sheet 6
R786	C 5	sheet 6
SR2	B 1	sheet 2
SR3	B 2	sheet 2
SR4	B 2	sheet 2
SR5	B 3	sheet 2
W1	C 1	sheet 5
W2	C 2	sheet 5
Z1	A 6	sheet 5
Z2	I 2	sheet 5
Z3	J 2	sheet 5
Z4	K 2	sheet 5
Z150	C 6	sheet 4
Z250	H 2	sheet 4
Z350	H 4	sheet 4
Z450	H 6	sheet 4
Z500	A 2	sheet 1
Z620	J 5	sheet 2
Z621	J 4	sheet 2
Z720	F 6	sheet 6

Name		Article nr.
RGB INPUT + DRIVER		76 2228-1
Date: 24-04-1995	Drawn: JVDY	Checked: PD

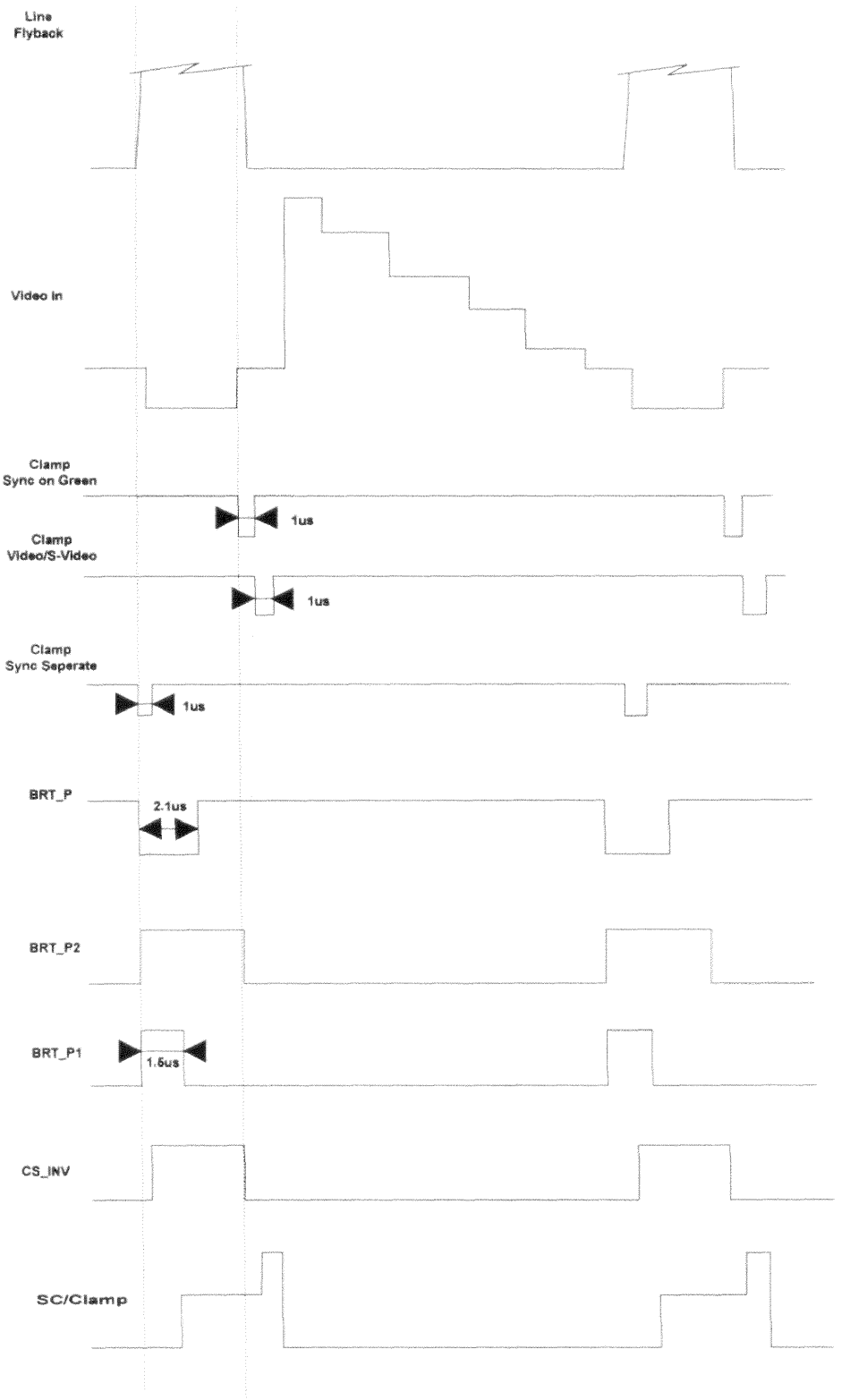
BARCO PROJECTION SYSTEMS

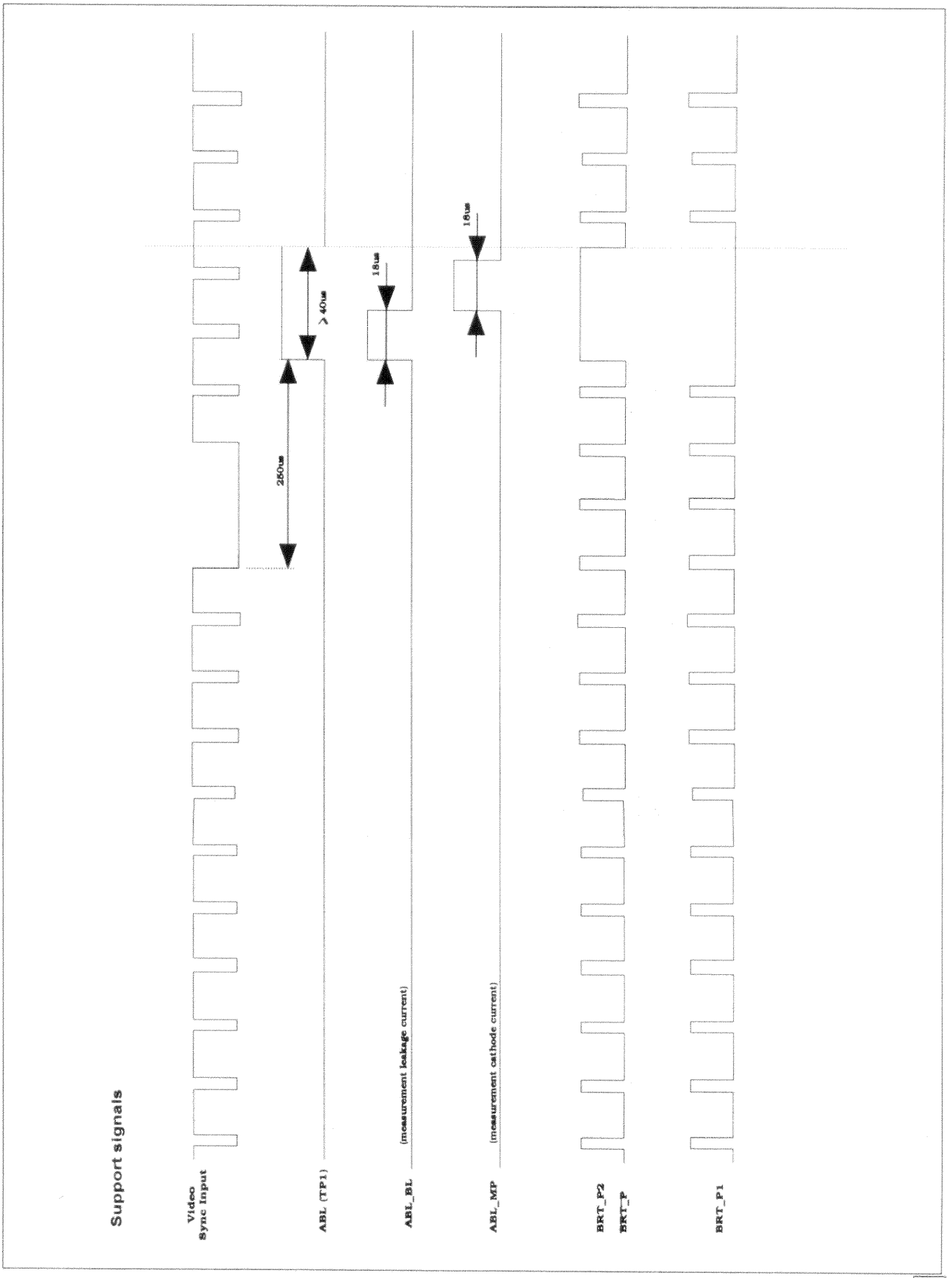
Sheet 7

Blockdiagram Support signals



Support signals



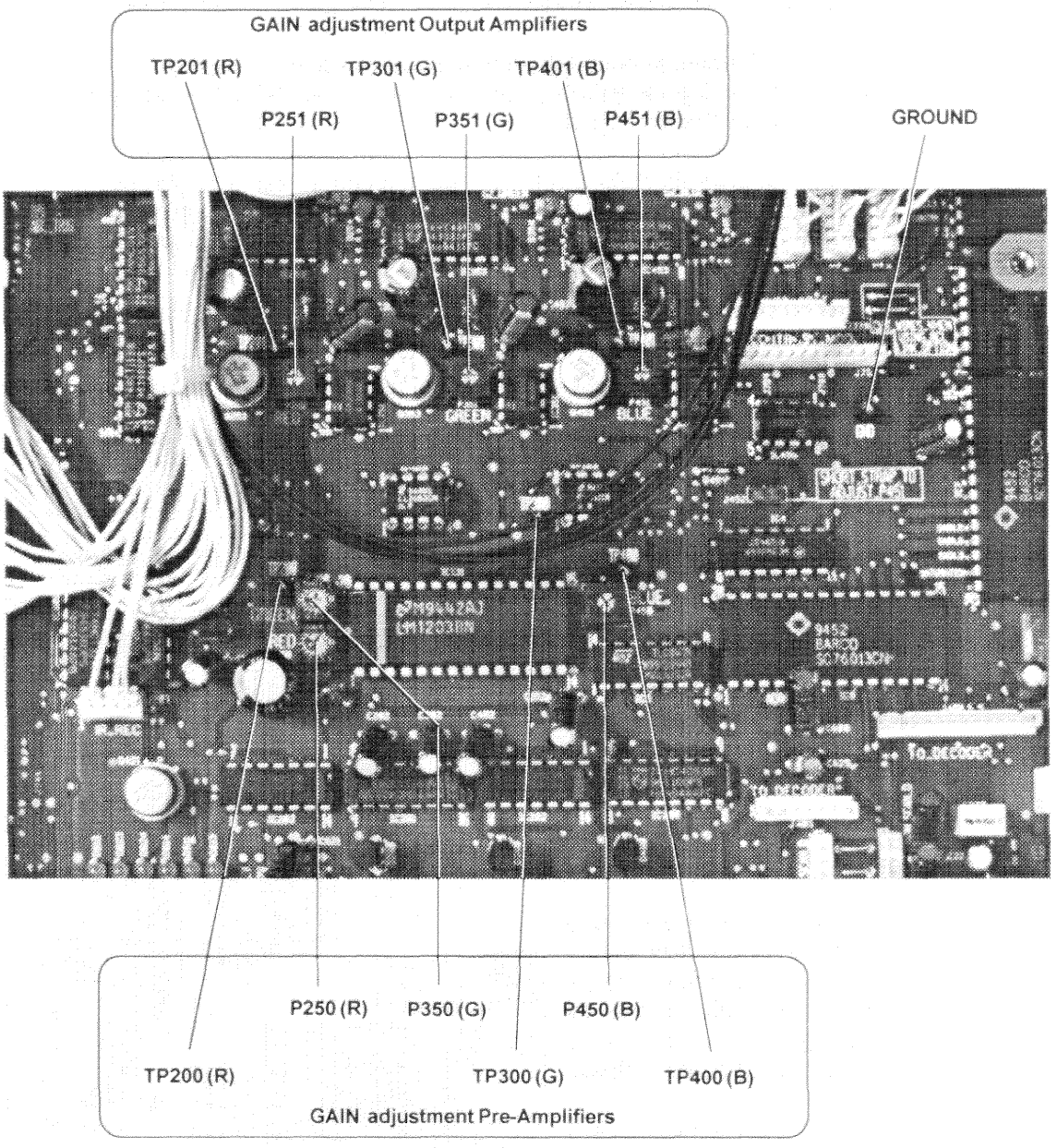

Support signals
Video
Sync Input
ABL (TP1)
ABL_BL
(measurement leakage current)
ABL_MP
(measurement cathode current)
BRT_P2
BRT_P
BRT_P1
250us
> 40us
18us
18us

Adjustment procedure for the RGB Input + Driver module

Adjustments on the module:

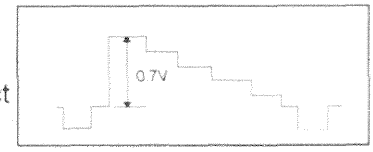
- adjustment of the GAIN of the Pre-Amplifiers for Red (P250), Green (P350) and Blue (P450)
- adjustment of the GAIN of the output Amplifiers for Red (P251), Green (P351) and Blue (P451)

Location of the controls



Adjusting conditions

Signal input:



- Connect a RGB signal (0.7Vpp BI&Wh) to the projector and select the corresponding input (refer to the manuals of the projector).

Contrast and Brightness setting (refer to the Owner's manual of the projector)

- adjust the Contrast level until the bar scale on the screen indicates 100.
- adjust the Brightness level until the bar scale on the screen indicates 50.

GAIN adjustment For Red, Green and Blue (refer to the Owner's manual of the projector)

- Proceed to Random Access Adjustment mode and select the Picture tuning.
- Highlight *White Balance* with the arrow keys and press ENTER to display the White Balace menu.
- Proceed to *For Custom adjust.*

  - *Adjust the GAIN for RED* until the bar scale on the screen indicates 50.
  - *Adjust the GAIN for GREEN* until the bar scale on the screen indicates 50.
  - *Adjust the GAIN for BLUE* until the bar scale on the screen indicates 100.

Adjustment

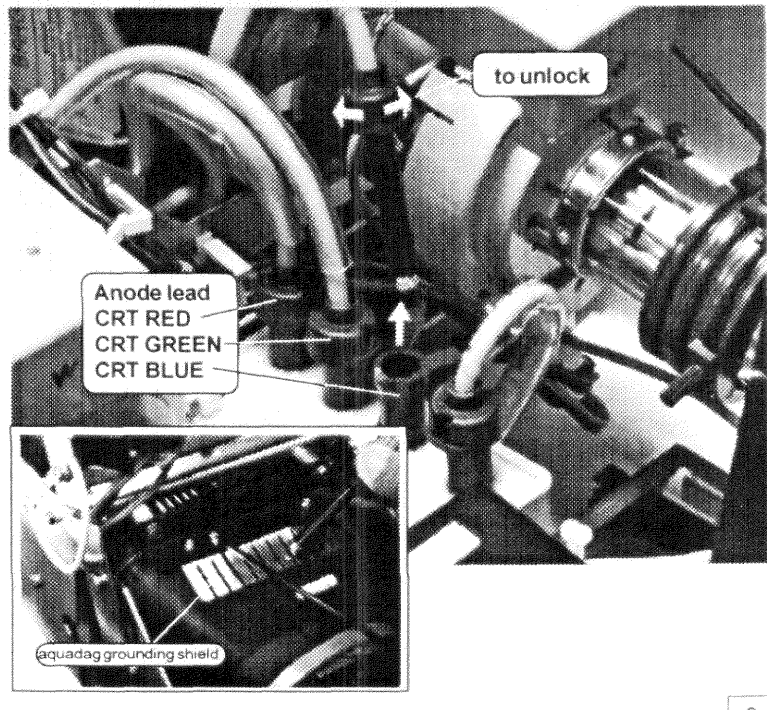
Attention: To eliminate Beam Current Limiting (BCL) while adjusting the GAIN potentiometers, remove the anode lead of the three picture tubes on the EHT Splitter.

WARNING
The power must be OFF before removing any connector from EHT splitter. Failure to do so may result in DANGER TO LIFE and severe damage to the projection unit.

Removing the anode lead of the three picture tubes

- switch OFF the projector and unplug the power cord from the power input on the front panel.
- unlock the anode lead cap by turning it counter clockwise.
- pull out, by the cap, the anode lead for each picture tube from the EHT splitter and discharge the picture tube anode by touching the top of the lead to the aquadag grounding shield.
- reinstall Power connection and switch ON the projector.

e.g. Removing the anode lead of the Blue picture tube



Adjustment of the RED channel

Pre-amplifier P250

- connect the probe of the oscilloscope to the testpoint TP200.
- Adjust the potentiometer P250 for a video signal amplitude of 4V (refer to fig.)
- (the black level is at about 2V DC)

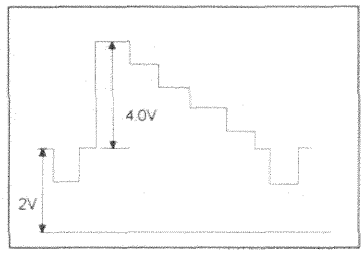


Fig. 1

Output Amplifier P251

- connect the probe of the oscilloscope to the testpoint TP201.
- Adjust the potentiometer P251 for a video signal amplitude of 4V (refer to fig.)

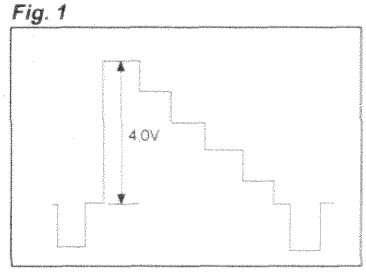


Fig. 2

Adjustment of the GREEN channel

Pre-amplifier P350

- connect the probe of the oscilloscope to the testpoint TP300.
- Adjust the potentiometer P350 for a video signal amplitude of 4V (refer to fig.1)
- (the black level is at about 2V DC)

Output Amplifier P351

- connect the probe of the oscilloscope to the testpoint TP301.
- Adjust the potentiometer P351 for a video signal amplitude of 4V (refer to fig.2)

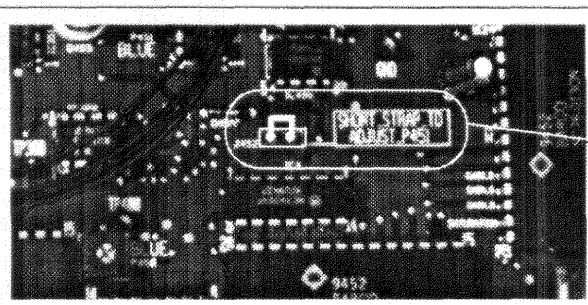
Adjustment of the BLUE channel

Pre-amplifier P450

- connect the probe of the oscilloscope to the testpoint T400.
- Adjust the potentiometer P450 for a video signal amplitude of 4V (refer to fig.1)
- (the black level is at about 2V DC)

Output Amplifier P451

- connect the probe of the oscilloscope to the testpoint TP401.
- short-circuit the two pins of the connector J452.
- Adjust the potentiometer P451 for a video signal amplitude of 4V (refer to fig.2)



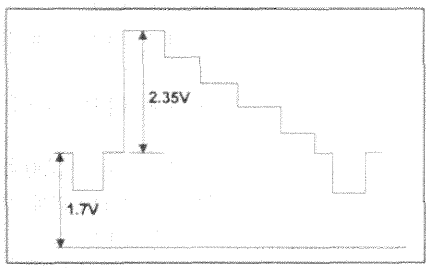
Short strap J452 to adjust P451

Adjustment procedure for the RGB Output

Attention: To eliminate Beam Current Limiting (BCL) while adjusting the GAIN and CUT OFF potentiometers, remove the anode lead of the three picture tubes on the EHT Splitter (see page 8 for procedure 'anode lead removal').

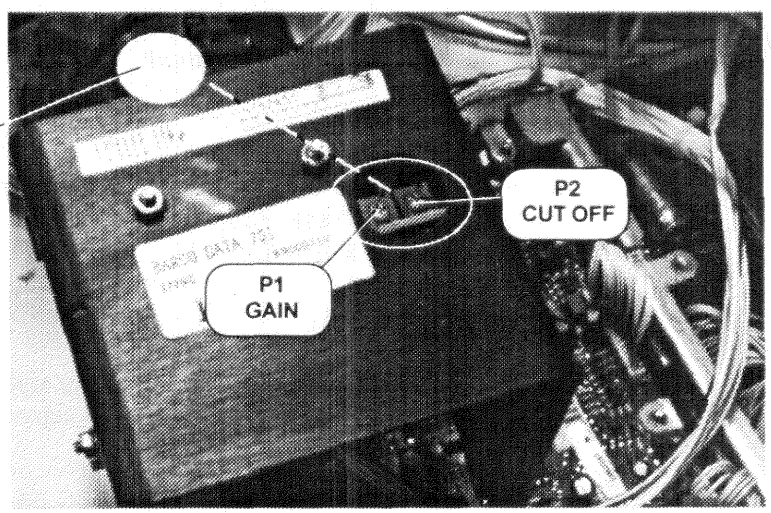
Adjustment of the input signal

- connect the probe of the oscilloscope to pin 2 of the connector J1 on the output module.
- adjust Contrast and Brightness levels by means of the RCU or the local keypad for an input signal with amplitude of 2.35V and a the black level on 1.7V



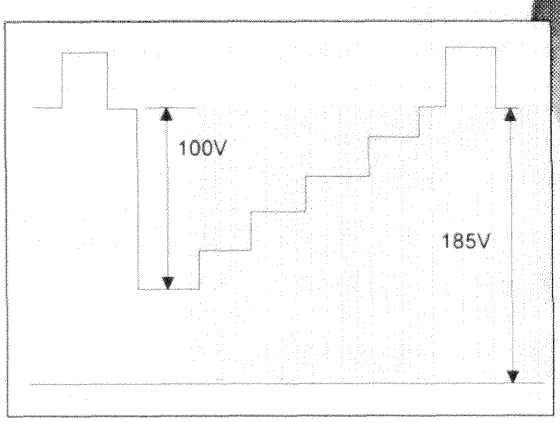
Location of the controls

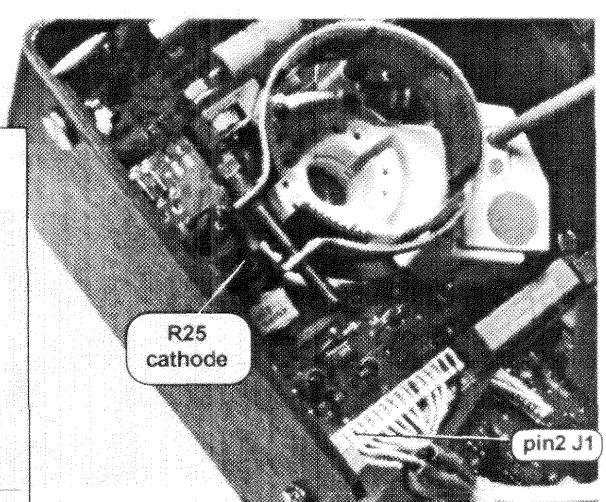
remove the plastic cover to access the controls



Adjustments

- connect the probe of the oscilloscope to the cathode of the respective picture tube (resistor R25).
- Adjust the potentiometer P1 for a video signal amplitude of 100V and the potentiometer P2 for a DC level of 185V (refer to fig.)
- As both adjustments affect each other, repeat the adjustment of both potentiometers.
- Repeat the adjustment procedure for each picture tube.





End of the adjustments

At the end of the adjustment procedure, reinsert the anode lead of each picture tube and remove the short circuit on connector J452. Proceed as follows:

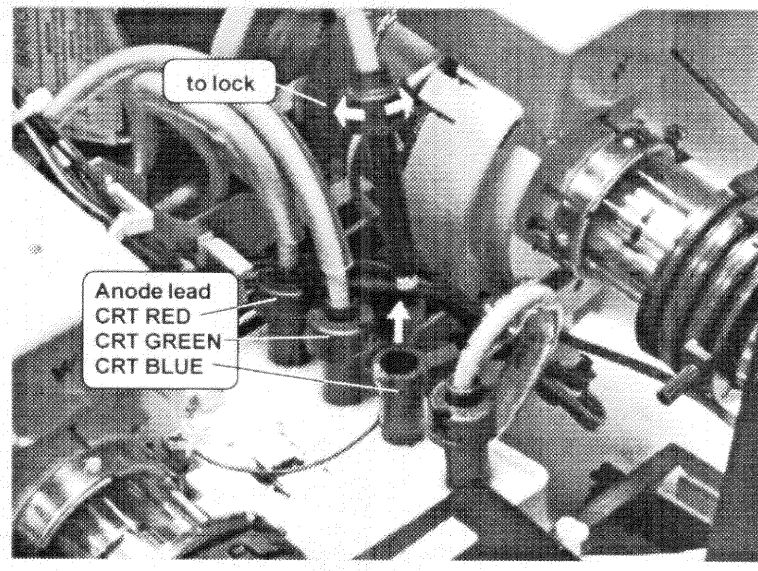
Inserting the anode lead of each picture tube

WARNING
The power must be OFF before inserting any connector on the EHT splitter. Failure to do so may result in DANGER TO LIFE and severe damage to the projection unit.

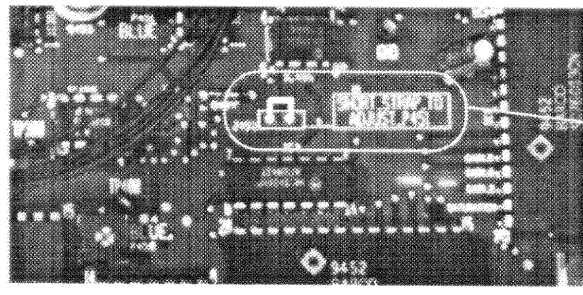
Inserting the anode lead of the three picture tubes

- switch OFF the projector and unplug the power cord from the power input on the front panel.
- insert the anode lead of each picture tube into the EHT splitter
- lock the anode lead cap by turning it clockwise.
- reinstall Power connection and switch ON the projector.

e.g.Inserting the anode lead of the Blue picture tube

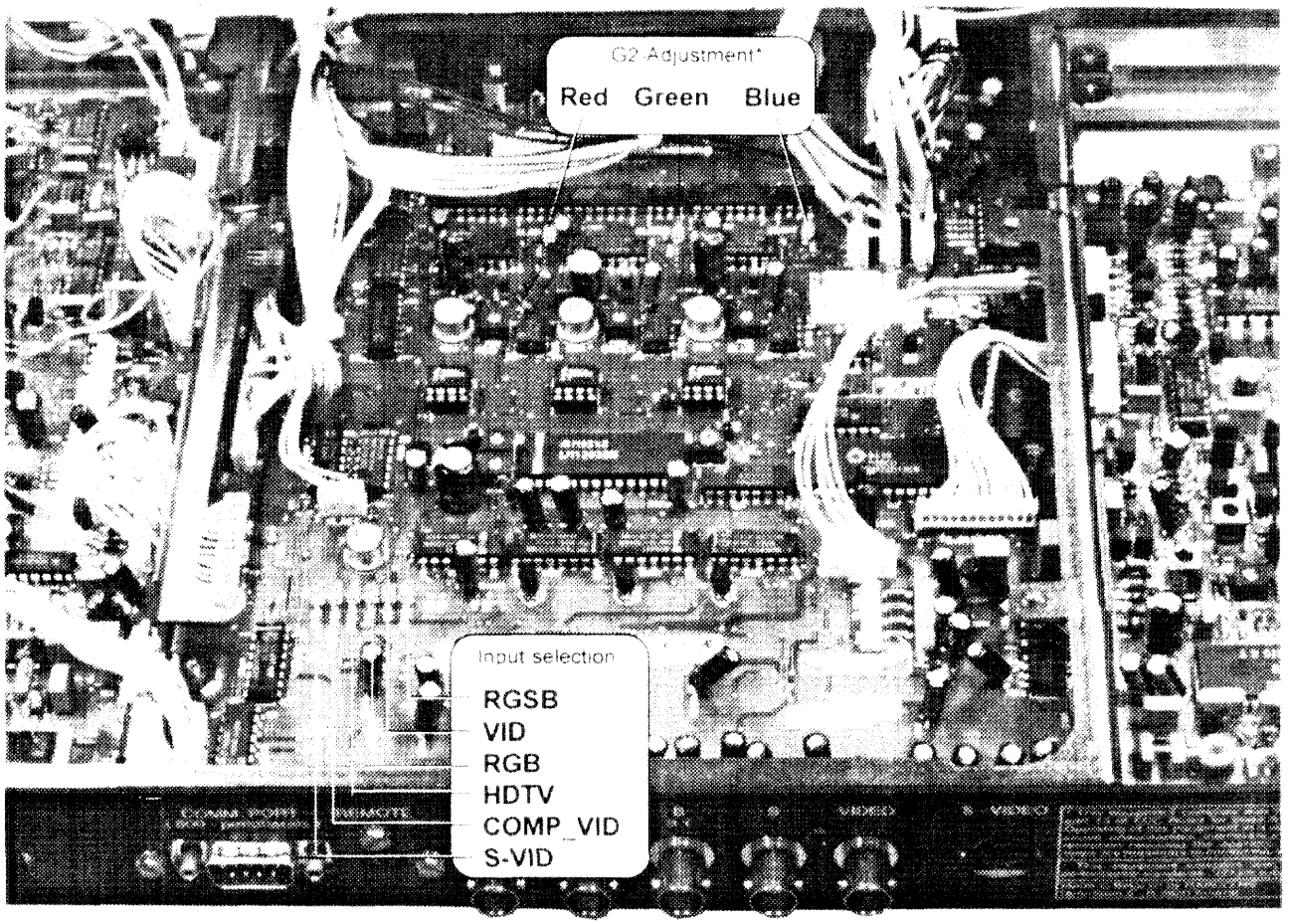


Removing the short circuit on connector J452



Short strap J452 to adjust P451

Control LED's on the module



** For the G2-Adjustment, refer to the service sheet 'Shift+Focus module 762488'*

TECHNICAL DESCRIPTION "SIGNAL INPUT "

Introduction

The projector can operate in one of the following modes by pushing the corresponding numeric button or by means of the identification of the input board of a switcher RCVS800 or RCVDS05 :

1) Video composite
2) Super Video (SVHS)
3) RGB Analog level (automatically switching between Sync on Green and Separate Sync, with priority on Separate Sync).
4) Component input : Y, R-Y, B-Y with Bi-level sync
5) RGB analog level with Tri-Level Sync (HDTV)
6) Component input : Y, R-Y, B-Y with Tri-level sync (HDTV).

The selection between the standard BI-level sync and the HDTV TRI-level is NOT automatic but is done by the selection of the corresponding input.

The selection of the sync signal between RGBS and RGsB however is automatic and there is always priority for the separate sync if both are applied.

Input selection

The different signals are selected by means of 7 current generators activating each time a differential input. All of these 7 inputs are switchable between non-differential or differential , but, are factory set for non-differential.

The electronic circuit comprises different sheets. On sheet 2 the selection voltages are generated by a BCD/ DEC decoder which is directed from a BCD coded info using three output ports of the I²C interface. The spot suppression circuit and the combined blanking is also represented on this sheet.
Sheet 1 is purely representing the signal input amplifiers.

A. Mode Selection .

The I²C Interface PCF8574A output ports P7 - P5 are connected to IC606 inputs. The respective output of the Decoder IC drives one or more switching transistors on.
Five switching voltages have to be generated. These switching voltages activate an input amplifier, switch the correct brightness pulse etc...
Six green diodes supply a visual indication of the status of these switching voltages as a kind of service information.
Hereafter we discuss the different modes in more detail.

B. Composite video .

The output pin 1 of the BCD/DEC decoder goes low and turns on Q630 and Q629 to provide the *VID_select* voltage. This voltage selects the video composite input by activating Q501/Q502 .

The same +VID voltage also must switch high the *MATRIX* line through D621 since the MUXDMUX needs to select the matrixed RGB signal
(see sheet 3).
The video is now passed on to Q527 and the connector J401 for synchronisation. This connector is wired pin to pin with J402 if no module is inserted between the connectors, and the sync is now referred to as *SYNC_SD* to be applied to the SYNC module.

The same video signal is also applied to Q524 and further proceeds to the DECODER module (LUMA/VID line).
The decoder module will be handled separately, as it is a different module. The output of this module is a component signal Y / (R-Y) / (B-Y) and returns to the input module on connector J401 (same connector of *SYNC_EXT*).

Note that these signals are accompanied by a DC voltage which must forward bias the serial diodes D200, D300 and D400.

The component signals *(R-Y)_DEC*, *Y_DEC* and *(B-Y)_DEC* from the decoder are now matrixed and the chrominance is adjusted in amplitude (saturation control) and they proceed then to the MUXDMUX IC200 (see sheet 3). Because the MATRIX line is high this IC200 selects these R/G/B signals for further processing.

C. S-VHS input.

Output "1" or pin 2 of the BCD/DEC switches low and turns on Q628/Q627. The S-VID_select voltage comes high and via some diodes the +VID and +MATRIX lines both come high as well. In this case three lines are high.
The luminance input is selected by the input amplifier and flows through the same circuit as if it were video.
The chrominance input is sent straight to the DECODER module via Q523.

D. RGB Analog input with standard BI-level sync.

In this case output 3 of the BCD/DEC is switched low and turns on Q623 and Q622. Via D625 the emitter of Q624 is provided with the same voltage. However, conduction of the latter will be determined by the base voltage. This base voltage is the result of the automatic sync detector.

Automatic sync detection :

The input transistor Q511 (sheet 1) supplies the separate sync (S input) to the *sync_detect* line. This sync is amplified in Q626 (sheet 2) . When no sync is applied Q625 remains in the blocked state and the base divider R620/R621/R622 drops the base voltage below the emitter and Q624 is turned on to provide the *RGsB_select* voltage.

A similar explanation applies in case separate sync is applied.
If *RGsB* is high Q526 is forward biased delivers the Green signal to the SYNC_EXT line. In this case D520 is blocked via D521. If separate sync is detected, it passes via D520 to Q527.

The R, G and B analog signals are selected by the three inputs and proceed now to the MUXDMUX IC200 (sheet 3) via thee current drivers Q201, Q301 and Q401.Since the *+MATRIX* line is low here, these signals are selected by the MUXDMUX and are further handled as will be described later .

E. RGB Analog with TRI-level sync (HDTV).

In this case output 4 or pin 3 is switched to a low level. Via D628 the RGB_select voltage becomes high and via D646 transistor Q631 is fully on to pull the */HDTV* line at a low level (active low !).

The RGB signal is passing exactly the same flow as described above. The sync signal however is now passing the HDTV or TRI-level electronic circuit on the SYNC module. This will be discussed in more detail in the description of this board.

F. Component input (Y / R-Y / B-Y).

The Y-signal must be connected to the G - input, the R-Y and B-Y to the respective R and B inputs of the projector.
Here, two lines must be high level : the *MATRIX* and *RGB_select* lines.
Output 5 or pin 4 is switched low and via D629 the RGB_select voltage can be generated same as described before.
Via D645 transistor Q632 is blocked and this turns on Q634 to light up the green *COMP VID* LED and put at a high level the *+MATRIX* line.

Most likely the sync is on the Y signal, the projector must then be switched to the RGsB mode. In the unlikely event that the sync is separate, the projector will switch to the RGBS mode by priority.

The three signals arrive at the bases of Q200, Q300 and Q400 (sheet 3). The DC level of these signals block the diodes D200/D300/D400 and pass now to the matrix / saturation circuit . Since the *MATRIX* line is high, the matrixed R, G and B signals are selected by the MUXDMUX IC200.

G. Component HDTV or TRI-Level Sync input.

In this case three lines must be active : the */HDTV*, *MATRIX* and *RGB_select* .

Output 6, or pin 5 is switched low level. Via D547 the *RGB_select* voltage is generated. D644 turns on Q631 to pull the */HDTV* line at a low level. Finally, D643 blocks Q632 and the *MATRIX* line is put at a high level.

The component signals are handled just like described in paragraph F but the sync is here passing through the TRI - level sync circuit.

Blanking - Spot Suppression.

The preparation of the total blanking information for the video amplifiers on the CRT sockets is finalised on this board.

The composite blanking *(COMP BLANKING)* is here combined with SF3 (Scan Fail) , ABL (Automatic Black Level) , and the software blanking.

The COMP BLANKING is composed of the flyback blankings, the user adjusted left/ right and top/bottom blankings and the coincidence information. The composition of this signal will be discussed in the SYNC module description.

The output ports P0, P1 and P2 can be switched at a high level via I²C. The high output level of this I²C interface output is cancelled by the ABL pulse output pin 2 of IC601 as we need to unblank during the ABL measurement time.
This is necessary not to disturb the black current measurement during this measuring time.
The composite blanking must also be cancelled during this time and this is realised with D600, a diode connected from the ABL pulse output to the composite sync input.
In case of a scan fail, the SF3 line is switched low, the Schmidt trigger output is then high (pin 4 of IC601) and all the blanking outputs are high. It does not matter in this situation that the black current measurement is wrong, as there is no EHT.

Spot Suppression :

The spot suppression circuit is built around Q620 / Q621 and senses the +17V and the +210V at the moment the projector is switched off.
Indeed, the moment the projector is turned off, the +17V drops very quickly whereas the +210V drops only slowly due to the heavier load on the +17V compared with the +210V.
For a correct +17V, the transistor Q620 is in saturation and cuts off Q621. The electrolytic capacitor C620 is loaded to the zener voltage of 150V.

At switching off, Q620 turns off very rapidly and Q621 is thereby turned on. The sudden drop of the collector voltage of the latter is coupled to the G1's as the capacitor cannot discharge so fast. This heavy negative G1 voltage means an efficient spot suppression.

Notes :
a) An inaccurate alignment of the +17V (too low) can cause intermittent blanking by heavy loads (plain white pictures).

b) The spot suppression can only behave correctly on condition the two sensed voltages are present or correct at the moment of turning off the projector.

c) An incorrect alignment of the G2 voltages (too high) reduces the efficiency of the spot suppression.

The drop of the collector voltage of Q621 is also coupled to the Schmidt trigger input pin 3 (same as for the SF3) via diode D602 to cause an immediate blanking.
Finally, diode D603 applies this (*SPOT*) voltage to the gates of Q251, Q351, Q451 (see sheet 4) in order to turn black the picture tubes via the cathodes.

Two more switching functions are performed by the I²C interface IC607 :
- Fast / Slow : Especially in video on reproduction of video tapes, the fast mode is almost a must to avoid tearing of the picture.
- Blue in Green : this feature can only be set in the RGB mode, but is becoming obsolete since most computers already have blue in green or avoid blue characters.

Matrix - Saturation control

The matrix - saturation is done by the circuit Q220 - Q224 and IC221 (TBA331) on sheet 3 of the diagrams.

The saturation voltage (*Saturation*) is delivered by the VO3 output of IC7 (sheet 5) and buffered by the OPAMP TL082. The colour difference signal is applied each time to the common emitter current source of two identical differential amplifiers. The outputs are then respectively mixed with the Y signal in Q220 and Q223. On the collectors of these transistors we find the Red and Blue signals. These are now applied to the MUXDMUX on the pins 3 and 13.
The G-Y is formed by adding via R225 and R226 the (R-Y) and (B-Y) signals and by adding the Y, the Green is obtained. This Green signal is also sent to pin 1 of the MUXDMUX.

Selection of the RGB signals - Clamping

The MUXDMUX IC200 selects between the RGB Analog coming straight from the BNC inputs and the RGB which is the result of the matrix. This section is done by the selecting voltage *"MATRIX"* as described before.
The RGB analog signals can undergo an adjustable bandwidth limiting by using

varicap diodes on which a variable voltage *BWL_VR* is applied.
This voltage is generated by IC8, and the range is adapted by an OPAMP in IC5. From some (minimum) threshold onwards, the varicap diodes are fully isolated by switching diodes D261/D361/D461 driven by the *BWL_SWITCH* voltage coming from the OPAMP output pin 7 of IC5. This must avoid any influence from the varicapdiodes in the minimum position of the enhancing.

Bandwidth limiting is useful for improving the legibility of reversed characters (black characters on a white background).

The next MUXDMUX (IC201) has as task to select between the RGB signals and the text *(R_IN, G_IN, B_IN)* informations coming from the Controller board. This selection is done by the *INSERT* voltage accompanying the above pixel information.

In order to obtain the same brightness level, all the 6 available signals at the select inputs are clamped by a *"CLAMP"* pulse as follows.
The divider R320/R321 determines the clamping DC level which is then buffered and is available at the inputs of the six bilateral switches in IC202 and IC203. At the moment the CLAMP is presented the above DC level is implemented to the inputs and since this level is the same for all of the six possible signals, the text is correctly inserted irrelevant the fluctuations of the input signals.
The outputs of the MUXDMUX are referred to as *R_MUX, G_MUX* and *B_MUX* and proceed now to the contrast and brightness adjustments (see sheet 4). Since ABL is applied, some precautions and automatic corrections are necessary.

All these adjustments require pulses. The generation of these pulses will be discussed prior to the RGB flow and preparation for the video end amplifiers (sheet 5).

K. Generation of the supporting pulses

CLAMP pulse :

The position of this clamping pulse for the brightness control depends on the active mode of the projector. There are three different pulses available to determine the start of the brightness pulse (= leading edge). These pulses are :

* SC/CLAMP pulse
* CS_INV
* HFB or BRT_P1 pulse

a) The *SC/CLAMP* pulse is the Sandcastle pulse provided by the TDA2595 or a delayed *CLAMP* pulse to avoid clamping during the third sync level in HDTV.

b) The *CS_INV* is the composite sync. The clamping pulse starts the moment the sync pulse is terminated (trailing edge of the positive sync pulse).

c) The *BRT_P1* pulse is coincident with the flyback pulse. This means that the pulse position varies with the phase control. On other terms, the phase control has an influence on the clamping position and can affect the brightness.

When in the Sync on Green mode, the composite sync is selected to produce the clamping pulse and no sync is applied to the projector, there is no clamp pulse and the brightness control is in trouble. In fact, when there is no sync, the picture is blanked, but, the moment the sync is back it would take too long to settle down to

normal conditions. Therefore, the CS_INV is replaced by the BRT_P1 pulse when there is no coincidence in the Sync on Green mode.
For that reason, the COIN (coincidence) signal is sent to the base of Q1 and the latter pulls pin 1 at ground level. As then both switching pins are at low level, the BRT_P1 pulse is selected in stead.

The *CLAMP* pulse is used to restore the black level of the signals before entering the MUXDMUX IC201 and for the brightness in the LM1203.

BRT_P pulse :

The negative HFB pulse is differentiated by C5/R15 in order to reduce the width to 2.1 µS . These pulses are used to drive the Mosfets Q250/Q350/Q450 into cut-off and install a zero DC level at their Sources during the cut-off time (=inserting a brightness pulse for the preparation of the brightness control).
Note that the ABL pulse is added to this BRT_P pulse via D5 in order to implement the black level during the ABL-time.

BRT_P2 pulse :

This is the same as BRT_P but with opposite polarity, thus, a positive pulse of 2.1 µS long.

Both these pulses are used to install the DC level of a brightness pulse with respect to the black level of the video signal.

Note that the ABL pulse of 20µS is added to both of these pulses. As will be described later the *Offsets* must be cancelled during the measurement time of the black level, otherwise the ABL receives a wrong information on the real black currents.

BRT_P1 pulse :

The BRT_P pulse is once more differentiated by C8/R17 to reduce the width to 1.5 µS . After inversion we get a positive BRT_P1 pulse, smaller than the former pulses and used in the clamping circuits around IC251 / IC351 / IC451.
Note that these pulses are cancelled during the ABL time by applying the ABL pulse via D4 to the input of the inverter, pin 5.

ABL - ABL_BL - ABL_MP.

An ABL pulse of 40µS, positioned at the end of the vertical flyback time, is generated on the DEFLECTION module.
This pulse is inverted by an inverter in IC3 and then differentiated by C7 / R22 to determine the width of the pulse that must be 20 µS. The next inverter changes the polarity and generates the *ABL_BL* pulse. This pulse determines the time of the leakage or black current measurement.

This positive pulse is once again differentiated by C8/R26 to generate in association with the inverter, another positive *ABL_MP* pulse of the same width but this one is coming just behind the former one.

Indeed, during the total 40 µS ABL time the first 20 µS the leakage current is measured , followed by a window in which the result of a 10 µA cathode current implementation is measured (see ABL description in the coming RGB DRIVE section).

RGB Amplifier - Driver - ABL

The R, G and B signals are all three adjusted in amplitude and the DC level is varied by the respective contrast and brightness controls in the LM1203. These are the *general* contrast and brightness controls before the individual adjustments per colour are applied.

There are three identical circuits for Red, Green and Blue. We limit the description to the red channel. The Blue channel is slightly different as it has an additional gamma correction.

The black level of the video signal at the output of the LM1203 is determined by the brightness voltage. It is 2 volts for 50% brightness.
The divider R253/R256 reduces the video amplitude at the output of the LM1203 since it is too big to drive the amplifier EL2082.
Because an user's adjustable brightness and contrast control per colour is required to compensate the tolerances, the three signals will undergo now an adaptation of these levels.

Gain control per colour :
The individual gain control is realized by means of an EL2082 (IC250 / IC350 / IC450). The waveforms for the optional contrast modulation are also applied to these gain control inputs, in combination with a DC level between 0 - 2 V for the individual gain controls.

Black level control per colour :

An offset on the black levels (colour temperature adjustment) is obtained in two steps. In a first stage, a zero DC level is installed. In a second stage this level is altered (offset) by the user. In a third stage, a comparison -clamping circuit varies the DC level of the video in accordance with this offset. The ABL circuit has as task to stabilize this colour temperature in the time, or to correct the normal usage of the picture tubes.

Q250 is blocked during the BRT_P pulse time and because the Source is then at ground level via R258, a 'brightness pulse' of zero volt is inserted in the video signal on the backporch. This zero level is also implemented during the ABL time, since the ABL pulse is added to the BRT_P pulses via D5.
The signal passes then the amplifier IC250 and proceeds to the darlington Q252 / Q253.
The OFFSET_R can shift this previously inserted level in a positive or negative sense as follows.
On sheet 5 we have the electronic diagram for the OFFSET_R/G/B lines. The IC6 VO0 DC output level output is switched to the node R60/R61 during the BRT_P2 pulse time and also during the ABL time. The ABL pulse is therefore added to the BRT_P2 via D5 (see diagram BRT_P2 generation, same sheet).
The current generator Q6/Q7 provides a variable current to the resistors R64 / D15 / D16 / R260 / R261. The drain voltage is consequently altered in a positive or negative sense in accordance with the named VO0 output. During the ABL_MP time slot diode D9 gets blocked and an additional current flows through D15/D16 R64. This is the current that will be measured for the ABL control.

This divider is designed to implement a cathode voltage to all the three tubes which must result in a small 10 µA current. The offset voltage however can change this implemented current. The measured current during the ABL_MP (Measurement Period) time slot depends on the offset adjusted by the user.
This level will be stabilized in the time by a sample and hold circuit.

IC251 is a Norton amplifier. It compares the instant DC levels at the inputs the moment pin 5 is lifted up. This pin 5 is supplied with the BRT_P1 pulses.
When pin 5 is at a low level, the output is very high impedent.

Consequently, during the BRT_P1 pulse time the instant DC level of the video is compared to the ABL voltage (=output of the analog switcher IC253).
A correction and stabilisation of the DC level of the video signal is realized by the above looped circuit.

When the ABL voltage is switched off a resistive divider R272 / R273 guarantees a correct DC level output for the video signal.

Automatic Black Level (ABL) :

The automatic Black level is done in two steps : a leakage measurement, followed by a small current measurement.

Leakage measurement.

The cathode current flows through Q6 on the output module (see schematics of the video output amplifier - CRT socket) and is returned to the RGB drive module via pin 4 of the J1 connector as *ABL RED*. The voltage developed across R285 is applied to the non - inverting input of the OPAMP IC254. The gain of this OPAMP is determined by the feedback R282/R284. and the input is limited by two diodes.

The output of the OPAMP is sampled by the ABL_BL pulse and hold on the capacitor C260. This voltage is integrated by the OPAMP and found at the output pin 7.

During the next time slot ABL_MP, the voltage across R285 is the result of the output voltage pin 7 and the implemented small cathode current (10 µA +or - the offset).

The output voltage at pin 8 of the OPAMP is sampled by the ABL_MP pulse and hold on the capacitor C259.
The voltage range needs now to be adapted. Therefore, the voltage is buffered and shifted upwards by the next OPAMP amplifier. The initial voltage is set at 1.2V by the resistors R279 / R280. Two diodes limit here again the output voltage to avoid a drifting away of the amplifier.
When the ABL_ON line is high, the voltage is applied to the inverting input of the Norton amplifier and used as the clamping voltage to adjust the DC level of the video.
The ABL voltage can be switched off by software. The VO3 output of IC8 is used for this function (see sheet 5).

G2 adjustment :

The correct behaviour of the ABL (on other terms, the implemented cathode current during the ABL_MP time is really 10 µA) is only guaranteed on condition the G2 voltages are correctly adjusted.
In the service menu, when activating the G2 ADJUST item, the special conditions to align the G2's are switched by software :

- internal pattern on 15 khz
- brightness and contrast at 50%
- no video (= black)

The developed ABL voltage under the above conditions is applied to two level detectors. Three resistors R274/275/276 determine a minimum and maximum voltage for the level detectors. Only when the ABL voltage is in the accepted zone, the LED is off and the G2 is correctly adjusted.

Note :

The LEDs do not play any significant role in the normal operating modes. They can be on, off or go on and off depending on different parameters. Disregard the LEDs in the normal mode.

Parts listing R762228

SIT.	ITEM NO.	DESCRIPTION	QUANTITY
160	R133029	Q ACC ISO SET TO220	1
10	R133076	Q ACC ISO WSHR TO39	4
20	R3133921	J MD JMP P 1 E1SN	6
8100	R348100	WU JUMP 0,6	6
	R3485154	CD CT FTMS P15 70	2
120	R3631049	SCR D933 M 3 X 6 XIC	6
130	R3631069	SCR D933 M 3 X 10 XIC	1
150	R366102	NUT D934 M 3 S Z	1
140	R367502	WSHR D6798 A 3.2 S Z	1
30	R367600	NUT BLOC M 3	2
100	R805375	HTSNK PJ53 V700 INP MK2	1
170	V3134911	J U0.3 FBT P 8 E1AU TLP	3
C 1	P210122	C# X7R MU 100N K 50 1206	1
C 2	P210158	C# COG MU 150P J 50 1206	1
C 3	P210061	C# COG MU 4P7D 50 0805	1
C 4	P210101	C# COG MU 560P J 50 1206	1
C 5	P210101	C# COG MU 560P J 50 1206	1
C 6	P210006	C# COG MU 820P J 50 1206	1
C 7	P210101	C# COG MU 560P J 50 1206	1
C 8	P210101	C# COG MU 560P J 50 1206	1
C 9	P210122	C# X7R MU 100N K 50 1206	1
C 10	P210122	C# X7R MU 100N K 50 1206	1
C 11	P210122	C# X7R MU 100N K 50 1206	1
C 12	P210122	C# X7R MU 100N K 50 1206	1
C 13	P210122	C# X7R MU 100N K 50 1206	1
C 14	P210122	C# X7R MU 100N K 50 1206	1
C 15	R111477	C EL RA 100M Z 25E2 85	1
C 16	R111500	C EL RA 47M M 10E2 85	1
C 17	R111546	C EL RA 1M M 50E2 85	1
C132	P210092	C# X7R MU 10N K 50 1206	1
C150	R111468	C EL RA 470M Z 16E2 85	1
C151	P210122	C# X7R MU 100N K 50 1206	1
C152	R111510	C EL RA 22M M 25E2 85	1
C153	P210122	C# X7R MU 100N K 50 1206	1
C154	P210122	C# X7R MU 100N K 50 1206	1
C155	P210122	C# X7R MU 100N K 50 1206	1
C156	P210122	C# X7R MU 100N K 50 1206	1
C157	P210122	C# X7R MU 100N K 50 1206	1
C201	P210122	C# X7R MU 100N K 50 1206	1
C202	R111678	C EL BRA 10M M 25E2 85	1
C203	P210122	C# X7R MU 100N K 50 1206	1
C220	R111678	C EL BRA 10M M 25E2 85	1
C221	P210122	C# X7R MU 100N K 50 1206	1
C222	R114090	C POMERA 1M M 63E2	1
C223	R114090	C POMERA 1M M 63E2	1
C224	R111510	C EL RA 22M M 25E2 85	1
C225	P210122	C# X7R MU 100N K 50 1206	1
C226	R111678	C EL BRA 10M M 25E2 85	1
C227	R111678	C EL BRA 10M M 25E2 85	1
C228	P210122	C# X7R MU 100N K 50 1206	1
C229	P210122	C# X7R MU 100N K 50 1206	1
C230	R111678	C EL BRA 10M M 25E2 85	1
C231	R112242	C NP0 MI 100P G100E2	1
C250	P210122	C# X7R MU 100N K 50 1206	1
C251	P210100	C# COG MU 47P J 50 1206	1
C252	P210204	C# COG MU 8P2D 50 1206	1
C253	R111478	C EL RA 220M M 25E2 85	1
C254	P210122	C# X7R MU 100N K 50 1206	1
C255	P210064	C# COG MU 22P J 50 1206	1
C256	P210122	C# X7R MU 100N K 50 1206	1
C257	R111678	C EL BRA 10M M 25E2 85	1
C258	P210122	C# X7R MU 100N K 50 1206	1
C259	P210122	C# X7R MU 100N K 50 1206	1
C260	P210092	C# X7R MU 10N K 50 1206	1
C261	P210148	C# Y5V MU 470N Z 50 1206	1
C266	P210029	C# COG MU 2N2J 50 1206	1
C267	R111510	C EL RA 22M M 25E2 85	1
C270	P210076	C# COG MU 220P J 50 1206	1
C271	R111510	C EL RA 22M M 25E2 85	1
C272	R111678	C EL BRA 10M M 25E2 85	1
C300	P210008	C# COG MU 15P J 50 1206	1
C301	P210122	C# X7R MU 100N K 50 1206	1
C302	R111678	C EL BRA 10M M 25E2 85	1
C303	P210122	C# X7R MU 100N K 50 1206	1
C320	P210122	C# X7R MU 100N K 50 1206	1
C321	P210122	C# X7R MU 100N K 50 1206	1
C322	R111510	C EL RA 22M M 25E2 85	1
C350	P210122	C# X7R MU 100N K 50 1206	1
C351	P210010	C# COG MU 68P J 50 1206	1
C352	P210236	C# COG MU 6P8D 50 1206	1
C353	R111478	C EL RA 220M M 25E2 85	1
C354	P210122	C# X7R MU 100N K 50 1206	1
C355	P210064	C# COG MU 22P J 50 1206	1
C356	P210122	C# X7R MU 100N K 50 1206	1
C357	R111678	C EL BRA 10M M 25E2 85	1
C358	P210122	C# X7R MU 100N K 50 1206	1
C359	P210122	C# X7R MU 100N K 50 1206	1
C360	P210092	C# X7R MU 10N K 50 1206	1
C361	P210148	C# Y5V MU 470N Z 50 1206	1
C366	P210029	C# COG MU 2N2J 50 1206	1
C367	R111510	C EL RA 22M M 25E2 85	1
C370	P210076	C# COG MU 220P J 50 1206	1
C400	P210159	C# COG MU 18P J 50 1206	1
C401	P210122	C# X7R MU 100N K 50 1206	1
C402	R111678	C EL BRA 10M M 25E2 85	1
C403	P210122	C# X7R MU 100N K 50 1206	1
C420	P210122	C# X7R MU 100N K 50 1206	1
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C422	P210122	C# X7R MU 100N K 50 1206	1
C423	P210122	C# X7R MU 100N K 50 1206	1
C424	P210073	C# COG MU 82P J 50 1206	1
C450	P210122	C# X7R MU 100N K 50 1206	1
C451	P210074	C# COG MU 39P K 50 0805	1
C452	P210236	C# COG MU 6P8D 50 1206	1
C453	R111478	C EL RA 220M M 25E2 85	1
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C456	P210122	C# X7R MU 100N K 50 1206	1
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C458	P210122	C# X7R MU 100N K 50 1206	1
C459	P210122	C# X7R MU 100N K 50 1206	1
C460	P210092	C# X7R MU 10N K 50 1206	1
C461	P210148	C# Y5V MU 470N Z 50 1206	1
C462	R111510	C EL RA 22M M 25E2 85	1
C463	P210122	C# X7R MU 100N K 50 1206	1
C464	P210122	C# X7R MU 100N K 50 1206	1
C465	P210122	C# X7R MU 100N K 50 1206	1
C466	P210029	C# COG MU 2N2J 50 1206	1
C467	R111510	C EL RA 22M M 25E2 85	1
C470	P210076	C# COG MU 220P J 50 1206	1
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C503	P210139	C# COG MU 33P J 50 1206	1

C504	P210092	C# X7R MU 10N K 50 1206	1
C505	P210122	C# X7R MU 100N K 50 1206	1
C506	R111678	C EL BRA 10M M 25E2 85	1
C507	R111678	C EL BRA 10M M 25E2 85	1
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C509	P210122	C# X7R MU 100N K 50 1206	1
C510	P210139	C# COG MU 33P J 50 1206	1
C511	R111678	C EL BRA 10M M 25E2 85	1
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C515	P210122	C# X7R MU 100N K 50 1206	1
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C518	R111678	C EL BRA 10M M 25E2 85	1
C519	R111678	C EL BRA 10M M 25E2 85	1
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C521	P210122	C# X7R MU 100N K 50 1206	1
C522	P210122	C# X7R MU 100N K 50 1206	1
C523	P210092	C# X7R MU 10N K 50 1206	1
C524	R111678	C EL BRA 10M M 25E2 85	1
C525	R111678	C EL BRA 10M M 25E2 85	1
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C527	P210122	C# X7R MU 100N K 50 1206	1
C528	P210100	C# COG MU 47P J 50 1206	1
C529	P210122	C# X7R MU 100N K 50 1206	1
C530	P210122	C# X7R MU 100N K 50 1206	1
C531	P210092	C# X7R MU 10N K 50 1206	1
C532	R111678	C EL BRA 10M M 25E2 85	1
C533	R111678	C EL BRA 10M M 25E2 85	1
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C535	P210122	C# X7R MU 100N K 50 1206	1
C536	P210100	C# COG MU 47P J 50 1206	1
C537	P210122	C# X7R MU 100N K 50 1206	1
C538	R111678	C EL BRA 10M M 25E2 85	1
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C540	P210092	C# X7R MU 10N K 50 1206	1
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C542	P210122	C# X7R MU 100N K 50 1206	1
C543	P210122	C# X7R MU 100N K 50 1206	1
C544	P210165	C# COG MU 39P J 50 1206	1
C545	P210122	C# X7R MU 100N K 50 1206	1
C546	R111510	C EL RA 22M M 25E2 85	1
C547	P210122	C# X7R MU 100N K 50 1206	1
C548	P210137	C# COG MU 100P J 50 1206	1
C549	R111510	C EL RA 22M M 25E2 85	1
C550	R111510	C EL RA 22M M 25E2 85	1
C551	R111510	C EL RA 22M M 25E2 85	1
C600	P210013	C# COG MU 1N J 50 1206	1
C603	P210095	C# X7R MU 330N M 50 1812	1
C604	R111510	C EL RA 22M M 25E2 85	1
C605	P210122	C# X7R MU 100N K 50 1206	1
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C607	P210095	C# X7R MU 330N M 50 1812	1
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C613	R111510	C EL RA 22M M 25E2 85	1
C614	P210095	C# X7R MU 330N M 50 1812	1
C615	P210122	C# X7R MU 100N K 50 1206	1
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C617	R111510	C EL RA 22M M 25E2 85	1
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C619	P210122	C# X7R MU 100N K 50 1206	1
C620	R111571	C EL RA 2M2M350E2 85	1
C621	R111510	C EL RA 22M M 25E2 85	1
C622	R111510	C EL RA 22M M 25E2 85	1
C623	R111510	C EL RA 22M M 25E2 85	1
C624	P210122	C# X7R MU 100N K 50 1206	1
C625	R111510	C EL RA 22M M 25E2 85	1
C700	P210122	C# X7R MU 100N K 50 1206	1
C720	P210095	C# X7R MU 330N M 50 1812	1
D 1	P234099	D#4148 R DMMELF	1
D 2	P234099	D#4148 R DMMELF	1
D 3	P234099	D#4148 R DMMELF	1
D 4	P234099	D#4148 R DMMELF	1
D 5	P234055	D#BAT54 SCH SOT23	1
D 6	P234099	D#4148 R DMMELF	1
D 7	P234099	D#4148 R DMMELF	1
D 8	P234099	D#4148 R DMMELF	1
D 9	P234099	D#4148 R DMMELF	1
D 10	P234099	D#4148 R DMMELF	1
D 11	P234099	D#4148 R DMMELF	1
D 12	P234088	D#BZV87B2V0 STA DMMELF	1
D 13	P234099	D#4148 R DMMELF	1
D 14	P234088	D#BZV87B2V0 STA DMMELF	1
D 15	P234099	D#4148 R DMMELF	1
D 16	P234088	D#BZV87B2V0 STA DMMELF	1
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D 18	R1316361	D Y BAT85 030200 DO34	1
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D204	P234088	D#BZV87B2V0 STA DMMELF	1
D220	P234219	D#BZV87B1V4 STA DMMELF	1
D221	P234099	D#4148 R DMMELF	1
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D251	P234099	D#4148 R DMMELF	1
D252	P234099	D#4148 R DMMELF	1
D253	P234088	D#BZV87B2V0 STA DMMELF	1
D254	R131667	D LED D3 T GN	1
D255	P234055	D#BAT54 SCH SOT23	1
D256	P234099	D#4148 R DMMELF	1
D257	P234055	D#BAT54 SCH SOT23	1
D258	P234099	D#4148 R DMMELF	1
D260	R131826	D V BB112 008 SOD69	1
D261	P234259	D#BA682 S035A1 DMMELF	1
D300	P234099	D#4148 R DMMELF	1
D302	P234099	D#4148 R DMMELF	1
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D354	R131667	D LED D3 T GN	1
D355	P234055	D#BAT54 SCH SOT23	1
D356	P234099	D#4148 R DMMELF	1
D357	P234055	D#BAT54 SCH SOT23	1
D358	P234099	D#4148 R DMMELF	1
D360	R131826	D V BB112 008 SOD69	1
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D454	R131667	D LED D3 T GN	1
D455	P234055	D#BAT54 SCH SOT23	1
D456	P234099	D#4148 R DMMELF	1
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D460	R131826	D V BB112 008 SOD69	1
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D501	P234099	D#4148 R DMMELF	1
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D530	P234099	D#4148 R DMMELF	1
D531	P234099	D#4148 R DMMELF	1
D532	P234099	D#4148 R DMMELF	1
D533	P234099	D#4148 R DMMELF	1
D534	P234099	D#4148 R DMMELF	1
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D540	P234099	D#4148 R DMMELF	1
D541	P234099	D#4148 R DMMELF	1
D542	P234099	D#4148 R DMMELF	1
D600	P234099	D#4148 R DMMELF	1
D601	P234099	D#4148 R DMMELF	1
D602	P234196	D#BYD37J AVA SOD87	1
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D604	P234099	D#4148 R DMMELF	1
D605	P234099	D#4148 R DMMELF	1
D606	P234055	D#BAT54 SCH SOT23	1
D607	P234055	D#BAT54 SCH SOT23	1
D608	P234055	D#BAT54 SCH SOT23	1
D609	P234196	D#BYD37J AVA SOD87	1
D610	P234196	D#BYD37J AVA SOD87	1
D611	R131667	D LED D3 T GN	1
D612	R131667	D LED D3 T GN	1
D613	R131667	D LED D3 T GN	1
D614	R131667	D LED D3 T GN	1
D615	P234099	D#4148 R DMMELF	1
D616	P234055	D#BAT54 SCH SOT23	1
D617	P234099	D#4148 R DMMELF	1
D618	P234099	D#4148 R DMMELF	1
D619	P234055	D#BAT54 SCH SOT23	1
D620	P234055	D#BAT54 SCH SOT23	1
D621	P234099	D#4148 R DMMELF	1
D623	R131667	D LED D3 T GN	1
D624	R131667	D LED D3 T GN	1
D625	P234099	D#4148 R DMMELF	1
D626	P234055	D#BAT54 SCH SOT23	1
D627	P234099	D#4148 R DMMELF	1
D628	P234099	D#4148 R DMMELF	1
D629	P234099	D#4148 R DMMELF	1
D630	P234099	D#4148 R DMMELF	1
D631	P234099	D#4148 R DMMELF	1
D640	P234099	D#4148 R DMMELF	1
D641	P234055	D#BAT54 SCH SOT23	1
D642	P234099	D#4148 R DMMELF	1
D643	P234055	D#BAT54 SCH SOT23	1
D644	P234099	D#4148 R DMMELF	1
D645	P234055	D#BAT54 SCH SOT23	1
D646	P234099	D#4148 R DMMELF	1
D647	P234099	D#4148 R DMMELF	1
D699	R1319481	D R BYD33J 6001A3 SOD81	1
D700	P234099	D#4148 R DMMELF	1
D701	P234099	D#4148 R DMMELF	1
D702	P234099	D#4148 R DMMELF	1
D703	P234099	D#4148 R DMMELF	1
D704	P234196	D#BYD37J AVA SOD87	1
D770	P234099	D#4148 R DMMELF	1
D771	P234099	D#4148 R DMMELF	1
D772	P234099	D#4148 R DMMELF	1
D774	P234099	D#4148 R DMMELF	1
D775	P234099	D#4148 R DMMELF	1
D777	P234099	D#4148 R DMMELF	1
D780	P234099	D#4148 R DMMELF	1
D781	P234099	D#4148 R DMMELF	1
D782	P234099	D#4148 R DMMELF	1
D783	P234099	D#4148 R DMMELF	1
I 1	R137011	U 74HCT153 DIP16 P	1
I 2	R137598	U 74HC04 DIP14 P	1
I 3	R137598	U 74HC04 DIP14 P	1
I 4	R134125	U 34084 DIP14 P	1
I 5	R134113	U 084 TL DIP14 P	1
I 6	R132833	U 76013 SC DIP28 P	1
I 7	R132833	U 76013 SC DIP28 P	1
I 8	R132833	U 76013 SC DIP28 P	1
I 9	R136600	U 74HC4066 DIP14 P	1
I131	R1328261	U 1203B LM DIP28 P	1
I200	R137583	U 74HC4053 DIP16 P	1
I201	R137583	U 74HC4053 DIP16 P	1
I202	R136600	U 74HC4066 DIP14 P	1
I203	R136600	U 74HC4066 DIP14 P	1
I220	R134124	U 082 TL DIP8 P	1
I221	R132134	U 331 TBA DIP14 P	1
I250	R134225	U 2082 EL DIP8 P	1
I251	R134145	U 3080 CA DIP8 P	1
I252	R134114	U 393 LM DIP8 P	1
I253	R137583	U 74HC4053 DIP16 P	1
I254	R134113	U 084 TL DIP14 P	1
I350	R134225	U 2082 EL DIP8 P	1
I351	R134145	U 3080 CA DIP8 P	1
I352	R134114	U 393 LM DIP8 P	1
I353	R137583	U 74HC4053 DIP16 P	1
I354	R134113	U 084 TL DIP14 P	1
I450	R134225	U 2082 EL DIP8 P	1
I451	R134145	U 3080 CA DIP8 P	1
I452	R134114	U 393 LM DIP8 P	1
I453	R137583	U 74HC4053 DIP16 P	1
I454	R134113	U 084 TL DIP14 P	1
I455	R134145	U 3080 CA DIP8 P	1
I600	R137546	U 74HCT32 DIP14 P	1
I601	R137598	U 74HC04 DIP14 P	1
I602	R134001	U 7805 TO220 P	1

I603	R134016	U 7912 TO220 P	1
I604	R134032	U 78L05 TO92 P	1
I605	R134002	U 7812 TO220 P	1
I606	R137492	U 74LS42 DIP16 P	1
I607	R132832	U 8574A PCF DIP16 P	1
J 3	R313932	J CT H MBT P12 M2SN	1
J206	R3135005	J DE P8 MBS P 9 FUMBLPGDB	1
J210	R313935	J CT H MBT P15 M2SN	1
J213	R3130421	J PHN FCS D 2.5MON P	1
J217	R313896	J BNC FBS P 5 50E SIP	1
J235	R313851	J CIRC FBS P 4 M	1
J400	R313932	J CT H MBT P12 M2SN	1
J401	R313928	J CT H MBT P 8 M2SN	1
J402	R313928	J CT H MBT P 8 M2SN	1
J405	R313927	J CT H MBT P 7 M2SN	1
J452	R3132862	J MD1 MBT P 2 E1SN	1
J500	R3132862	J MD1 MBT P 2 E1SN	1
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J506	R3132862	J MD1 MBT P 2 E1SN	1
J550	R313935	J CT H MBT P15 M2SN	1
J560	R313935	J CT H MBT P15 M2SN	1
J570	R313935	J CT H MBT P15 M2SN	1
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J701	R313930	J CT H MBT P10 M2SN	1
J703	R313924	J CT H MBT P 4 M2SN	1
J741	R313928	J CT H MBT P 8 M2SN	1
J757	R313932	J CT H MBT P12 M2SN	1
J778	R313929	J CT H MBT P 9 M2SN	1
J779	R313931	J CT H MBT P11 M2SN	1
L150	R3061322	CH AX NS 10 UH	1
L241	R3061322	CH AX NS 10 UH	1
L242	R3061322	CH AX NS 10 UH	1
L243	R3061322	CH AX NS 10 UH	1
L601	R3061322	CH AX NS 10 UH	1
L602	R3061322	CH AX NS 10 UH	1
L603	R3061322	CH AX NS 10 UH	1
L720	R3061582	CH AX NS 1.5 MH	1
P250	R107004	R TCE H200E K 0W5 S 7TS	1
P251	R107005	R TCE H500E K 0W5 S 7TS	1
P350	R107004	R TCE H200E K 0W5 S 7TS	1
P351	R107005	R TCE H500E K 0W5 S 7TS	1
P450	R107004	R TCE H200E K 0W5 S 7TS	1
P451	R107005	R TCE H500E K 0W5 S 7TS	1
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Q 2	P232044	Q#BC859B P SS SOT23	1
Q 3	P232043	Q#BC849B N SS SOT23	1
Q 4	P232044	Q#BC859B P SS SOT23	1
Q 5	P232043	Q#BC849B N SS SOT23	1
Q 6	P232044	Q#BC859B P SS SOT23	1
Q 7	P232043	Q#BC849B N SS SOT23	1
Q 8	P232043	Q#BC849B N SS SOT23	1
Q 9	P232043	Q#BC849B N SS SOT23	1
Q 10	P232044	Q#BC859B P SS SOT23	1
Q 23	P232043	Q#BC849B N SS SOT23	1
Q200	P232044	Q#BC859B P SS SOT23	1
Q201	P232044	Q#BC859B P SS SOT23	1
Q202	P232076	Q#BFS17 N SS SOT23	1
Q220	P232044	Q#BC859B P SS SOT23	1
Q221	P232044	Q#BC859B P SS SOT23	1
Q222	P232044	Q#BC859B P SS SOT23	1
Q223	P232044	Q#BC859B P SS SOT23	1
Q224	P232043	Q#BC849B N SS SOT23	1
Q250	P232046	Q#BSS123 F SS SOT23	1
Q251	P232046	Q#BSS123 F SS SOT23	1
Q252	P232076	Q#BFS17 N SS SOT23	1
Q253	R132911	Q 2N5583 P SS TO39	1
Q254	P232043	Q#BC849B N SS SOT23	1
Q255	P232044	Q#BC859B P SS SOT23	1
Q256	P232044	Q#BC859B P SS SOT23	1
Q300	P232044	Q#BC859B P SS SOT23	1
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Q302	P232076	Q#BFS17 N SS SOT23	1
Q350	P232046	Q#BSS123 F SS SOT23	1
Q351	P232046	Q#BSS123 F SS SOT23	1
Q352	P232076	Q#BFS17 N SS SOT23	1
Q353	R132911	Q 2N5583 P SS TO39	1
Q354	P232043	Q#BC849B N SS SOT23	1
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Q356	P232044	Q#BC859B P SS SOT23	1
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Q402	P232076	Q#BFS17 N SS SOT23	1
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Q421	R132904	Q 2N2905A P SS TO39	1
Q450	P232046	Q#BSS123 F SS SOT23	1
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Q452	P232076	Q#BFS17 N SS SOT23	1
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Q456	P232044	Q#BC859B P SS SOT23	1
Q457	P232101	Q#BC859C P SS SOT23	1
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R 10	P200113	R# CE H 47K J 0W12 1206	1
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R 12	P200091	R# CE H 5K6 J 0W12 1206	1
R 13	P200065	R# CE H470E J 0W12 1206	1
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R 16	P200081	R# CE H 2K2 J 0W12 1206	1
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R 25	P200049	R# CE H100E J 0W12 1206	1
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R 27	P200423	R# CE H 3K3 F 0W12 1206	1
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R 30	P200423	R# CE H 3K3 F 0W12 1206	1
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R 32	P200423	R# CE H 3K3 F 0W12 1206	1
R 33	P200423	R# CE H 3K3 F 0W12 1206	1
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R 37	P200463	R# CE H150K F 0W12 1206	1
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R 62	P200097	R# CE H 10K J 0W12 1206	1
R 63	P200091	R# CE H 5K6 J 0W12 1206	1
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R 67	P200402	R# CE H430E F 0W12 1206	1
R 68	P200115	R# CE H 56K J 0W12 1206	1
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R 80	P200095	R# CE H 8K2 J 0W12 1206	1
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R 82	P200396	R# CE H240E F 0W12 1206	1
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R228	P200119	R# CE H 82K J 0W12 1206	1
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R230	P200123	R# CE H120K J 0W12 1206	1
R231	P200123	R# CE H120K J 0W12 1206	1
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R233	P200113	R# CE H 47K J 0W12 1206	1
R234	P200097	R# CE H 10K J 0W12 1206	1
R235	P200097	R# CE H 10K J 0W12 1206	1
R236	P200397	R# CE H270E F 0W12 1206	1
R237	P200405	R# CE H560E F 0W12 1206	1
R238	P200405	R# CE H560E F 0W12 1206	1
R239	P200420	R# CE H 2K4 F 0W12 1206	1

R240	P200397	R# CE H270E F 0W12 1206	1
R241	R101520	R MF H 47E F 0W4 E3	1
R242	P200097	R# CE H 10K J 0W12 1206	1
R243	P200111	R# CE H 39K J 0W12 1206	1
R244	P200025	R# CE H 10E J 0W12 1206	1
R245	P200033	R# CE H 22E J 0W12 1206	1
R250	P200127	R# CE H180K J 0W12 1206	1
R251	P200041	R# CE H 47E J 0W12 1206	1
R252	P200073	R# CE H 1K J 0W12 1206	1
R253	P200399	R# CE H330E F 0W12 1206	1
R254	P200081	R# CE H 2K2 J 0W12 1206	1
R255	P200418	R# CE H 2K F 0W12 1206	1
R256	P200387	R# CE H100E F 0W12 1206	1
R257	P200081	R# CE H 2K2 J 0W12 1206	1
R258	P200398	R# CE H300E F 0W12 1206	1
R259	P200404	R# CE H510E F 0W12 1206	1
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R262	P200113	R# CE H 47K J 0W12 1206	1
R263	P200049	R# CE H100E J 0W12 1206	1
R264	P200057	R# CE H220E J 0W12 1206	1
R265	P200065	R# CE H470E J 0W12 1206	1
R266	P200047	R# CE H 82E J 0W12 1206	1
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SR 5	R1011907	R CFFH E1 J 0W4	1
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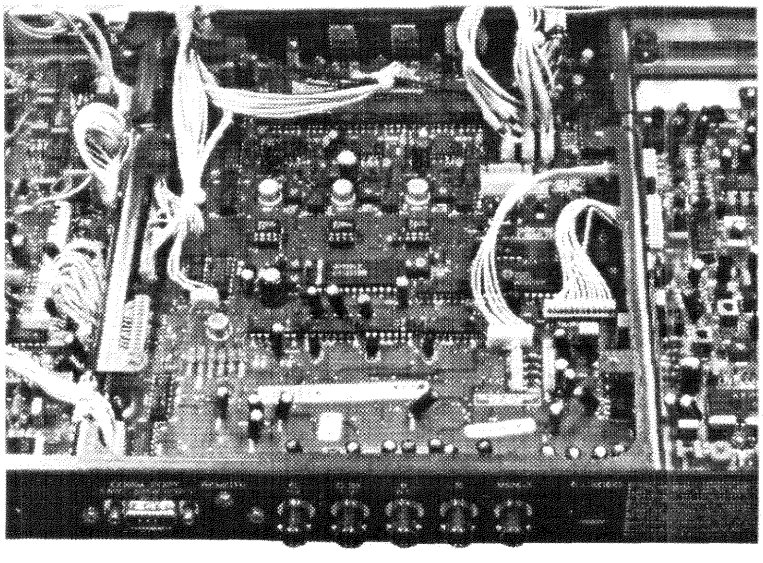
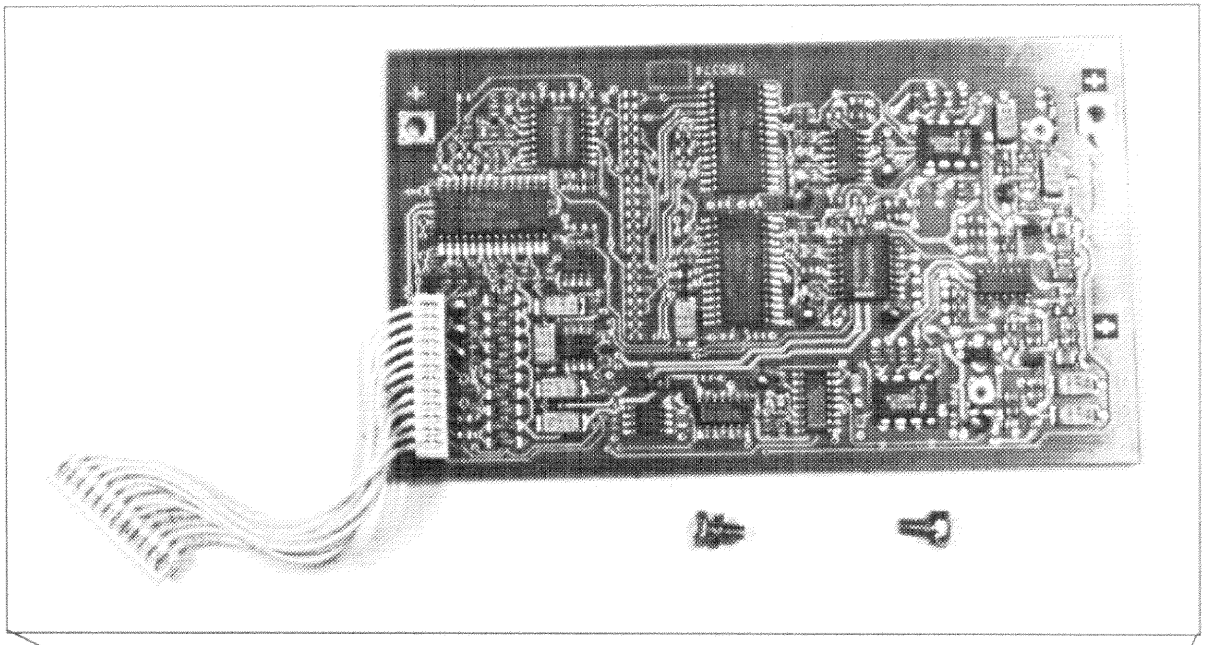
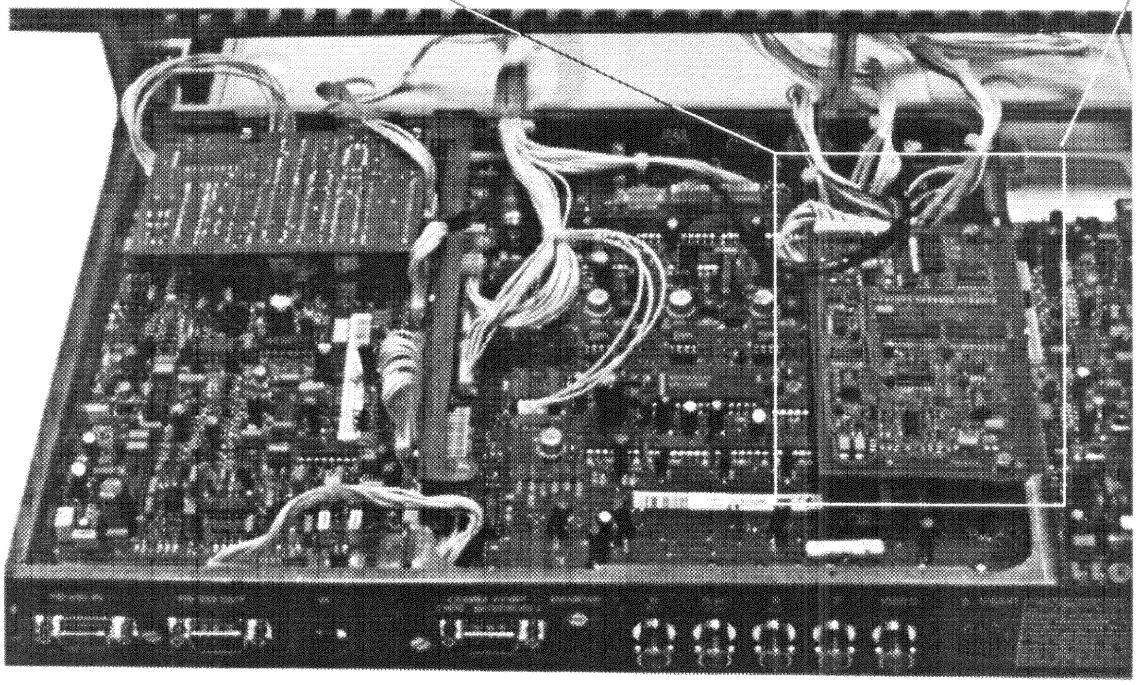


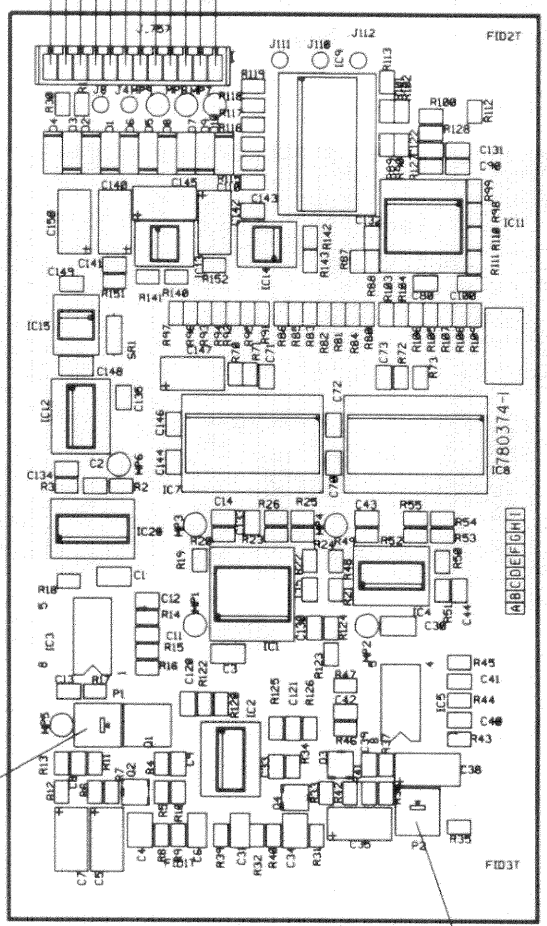
CONTRAST MODULATION KIT R9828140
(module R762484)





BARCO

To SYNCHRONISATION UNIT (J757)



ADJUSTMENT SYMMETRY HORIZONTAL PARABOLA

ADJUSTMENT SYMMETRY VERTICAL PARABOLA

COMP.	LOC.	COMP.	LOC.
C1	B 3	R1	B 2
C2	B 3	R2	B 3
C3	B 3	R3	B 3
C4	B 4	R4	B 4
C5	B 4	R5	B 4
C6	B 4	R6	B 4
C7	B 4	R7	B 4
C8	B 4	R8	B 4
C9	B 4	R9	B 4
C11	B 3	R10	B 4
C12	B 3	R11	B 4
C13	B 3	R12	B 4
C14	B 3	R13	B 4
C15	B 3	R14	B 3
C30	C 3	R15	B 3
C31	B 4	R16	B 3
C33	B 4	R17	B 3
C34	B 4	R18	B 3
C35	C 4	R19	B 3
C38	C 4	R20	B 3
C39	C 4	R21	C 3
C40	C 4	R22	B 3
C41	C 3	R23	B 3
C42	B 3	R24	B 3
C43	C 3	R25	B 3
C44	C 3	R26	B 3
C70	B 3	R30	B 2
C71	B 2	R31	B 4
C72	B 3	R32	B 4
C73	C 2	R33	B 4
C80	C 2	R34	B 4
C90	C 2	R35	C 4
C100	C 2	R36	C 4
C110	B 2	R37	C 4
C120	B 3	R39	B 4
C121	B 3	R40	B 4
C122	C 2	R41	C 4
C130	B 3	R42	B 4
C131	C 2	R43	C 4
C132	C 2	R44	C 3
C133	B 3	R45	C 3
C134	B 3	R46	B 4
C135	B 3	R47	B 3
C140	B 2	R48	C 3
C141	B 2	R49	B 3
C142	B 2	R50	C 3
C143	B 2	R51	C 3
C144	B 3	R52	C 3
C145	B 2	R53	C 3
C146	B 3	R54	C 3
C147	B 2	R55	C 3
C148	B 2	R70	B 2
C149	B 2	R71	B 2
C150	B 2	R72	C 2
		R73	C 2
D1	B 2	R80	C 2
D2	B 2	R81	B 2
D3	B 2	R82	B 2
D4	B 2	R83	B 2
D5	B 2	R84	C 2
D6	B 2	R85	B 2
D7	B 2	R86	B 2
D8	B 2	R87	C 2
D9	B 2	R88	C 2
D10	B 2	R89	C 2
		R90	C 2
FIDIT	B 4	R91	B 2
FID2T	C 1	R92	B 2
FID3T	C 4	R93	B 2
		R94	B 2
IC1	B 3	R95	B 2
IC2	B 3	R96	B 2
IC3	B 3	R97	B 2
IC4	C 3	R98	C 2
IC5	C 3	R99	C 2
IC7	B 3	R100	C 2
IC8	C 3	R101	C 2
IC9	B 2	R102	C 2
IC11	C 2	R103	C 2
IC12	B 3	R104	C 2
IC13	B 2	R105	C 2
IC14	B 2	R106	C 2
IC15	B 2	R107	C 2
IC20	B 3	R108	C 2
		R109	C 2
J757	B 1	R110	C 2
J4	B 2	R111	C 2
J8	B 2	R112	C 2
J110	B 1	R113	C 2
J111	B 1	R115	B 2
J112	C 1	R116	B 2
		R117	B 2
MP1	B 3	R118	B 2
MP2	C 3	R119	B 2
MP3	B 3	R120	B 3
MP4	B 3	R122	B 3
MP5	B 4	R123	B 3
MP6	B 3	R124	C 3
MP7	B 2	R125	B 3
MP8	B 2	R126	B 3
MP9	B 2	R127	C 2
		R128	C 2
P1	B 3	R140	B 2
P2	C 4	R141	B 2
		R142	B 2
Q1	B 4	R143	B 2
Q2	B 4	R151	B 2
Q3	B 4	R152	B 2
Q4	B 4		
		SR1	B 2

Name	Article nr.
CONTRAST MODULATION	76 2484-1
Date: 26-04-1995 / Drawn: JVDY / Checked: KBU	

BARCO PROJECTION SYSTEMS

780374-1

ADJUSTMENT SYMMETRY HORIZONTAL PARABOLA

HORIZONTAL SAWTOOTH GENERATOR

ADJUSTMENT SYMMETRY VERTICAL PARABOLA

VERTICAL SAWTOOTH GENERATOR

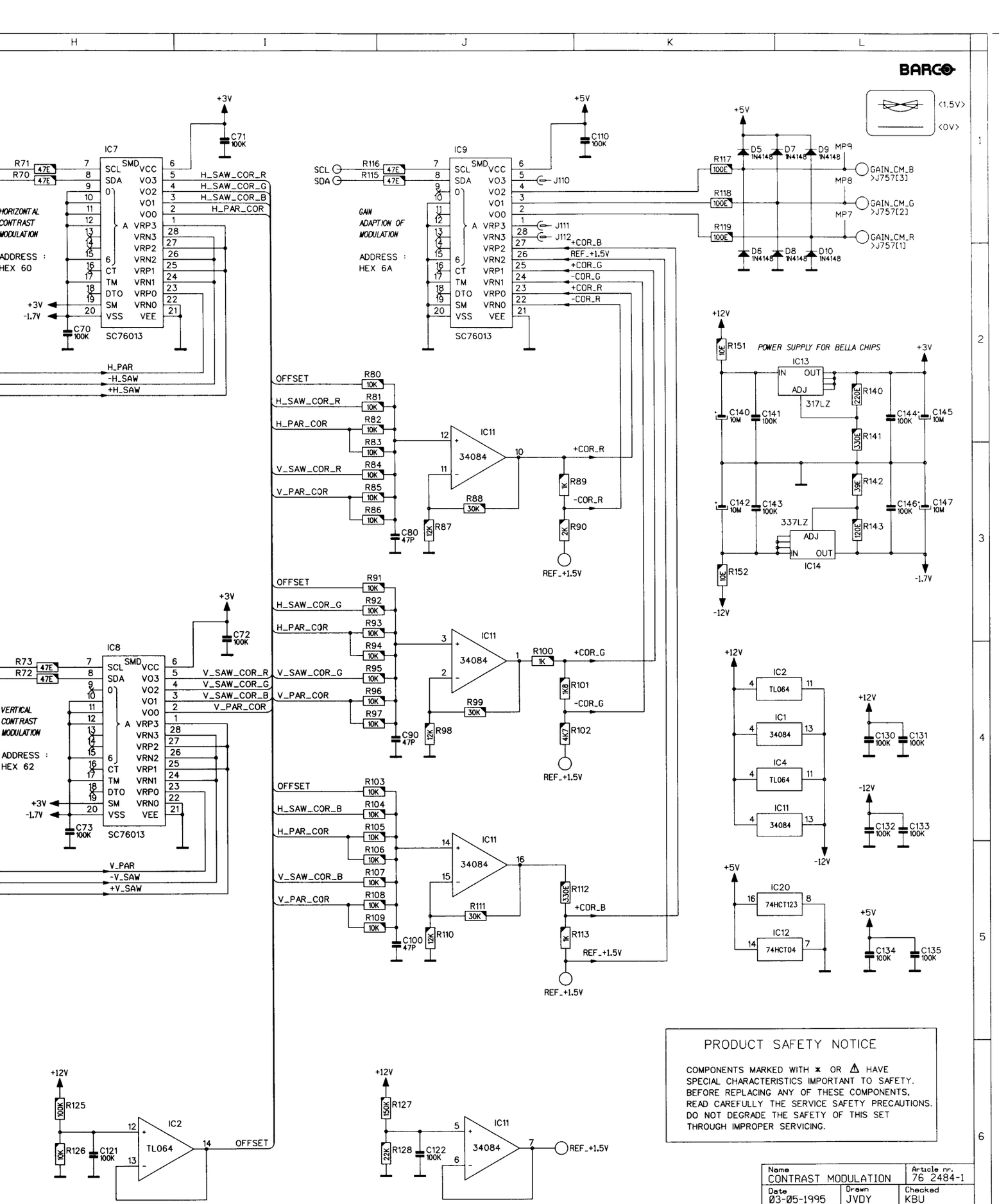
HORIZONTAL CONTRAST MODULATION

ADDRESS : HEX 60

VERTICAL CONTRAST MODULATION

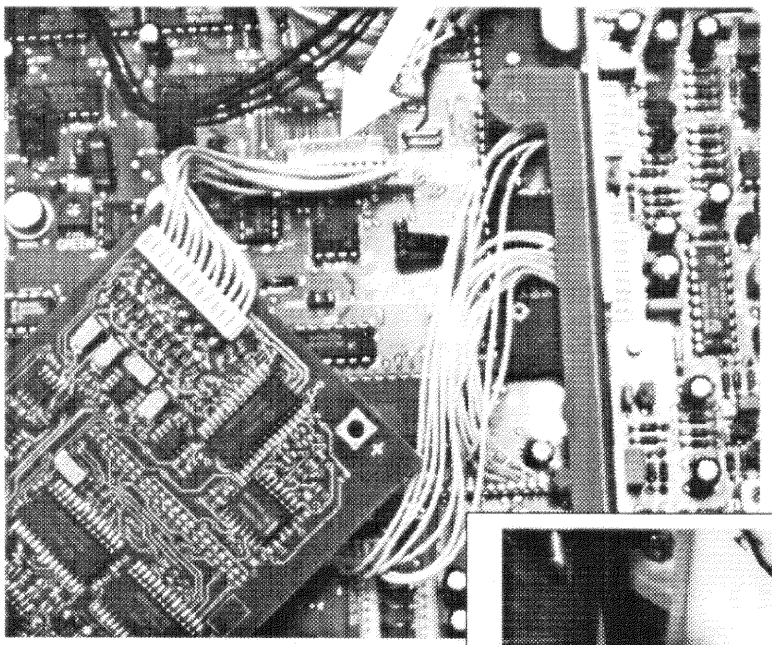
ADDRESS : HEX 62

Modifications reserved



COMP.	LOC.	COMP.	LOC.
C1	B 2	R11	D 1
C2	B 2	R12	B 1
C3	C 2	R13	D 1
C4	C 2	R14	E 2
C5	C 2	R15	E 1
C6	C 2	R16	E 1
C7	B 1	R17	F 1
C8	B 1	R18	F 2
C9	D 1	R19	F 1
C11	E 1	R20	F 1
C12	E 2	R21	E 3
C13	F 1	R22	F 3
C14	F 1	R23	F 3
C15	F 3	R24	G 2
C30	C 5	R25	G 2
C31	C 4	R26	G 3
C33	D 4	R30	A 5
C34	C 4	R31	C 5
C35	C 4	R32	C 5
C38	B 3	R33	C 5
C39	B 3	R34	D 4
C40	E 4	R35	D 4
C41	F 4	R36	D 3
C42	F 4	R37	B 3
C43	F 3	R39	C 4
C44	F 6	R40	C 4
C70	H 2	R41	C 4
C71	I 1	R42	C 4
C72	I 3	R43	E 4
C73	H 4	R44	E 4
C80	J 3	R45	E 4
C90	J 4	R46	F 3
C100	J 5	R47	F 4
C110	K 1	R48	F 4
C120	D 6	R49	F 4
C121	H 6	R50	F 5
C122	J 6	R51	E 5
C130	L 4	R52	F 5
C131	L 4	R53	G 5
C132	L 4	R54	G 5
C133	L 4	R55	G 5
C134	L 5	R70	H 1
C135	L 5	R71	H 1
C140	K 2	R72	H 4
C141	K 2	R73	H 4
C142	K 3	R80	I 2
C143	K 3	R81	I 2
C144	L 2	R82	I 2
C145	L 2	R83	I 2
C146	L 3	R84	I 3
C147	L 3	R85	I 3
C148	C 6	R86	I 3
C149	B 6	R87	J 3
C150	B 6	R88	J 3
		R89	J 3
D1	A 1	R90	J 3
D2	A 2	R91	I 3
D3	A 5	R92	I 3
D4	A 5	R93	I 3
D5	K 1	R94	I 3
D6	K 1	R95	I 4
D7	L 1	R96	I 4
D8	L 1	R97	I 4
D9	L 1	R98	J 4
D10	L 1	R99	J 4
		R100	J 4
IC1	D 2	R101	J 4
IC1	F 1	R102	J 4
IC1	F 2	R103	I 4
IC1	F 3	R104	I 4
IC1	L 4	R105	I 4
IC2	H 6	R106	I 5
IC2	D 6	R107	I 5
IC2	C 1	R108	I 5
IC2	K 4	R109	I 5
IC2	C 4	R110	J 5
IC3	E 1	R111	J 5
IC4	F 4	R112	J 5
IC4	F 5	R113	J 5
IC4	F 5	R115	J 1
IC4	K 4	R116	J 1
IC4	D 4	R117	K 1
IC5	E 4	R118	K 1
IC7	H 1	R119	K 1
IC8	H 3	R120	D 6
IC9	J 1	R122	D 6
IC11	J 6	R123	E 6
IC11	J 3	R124	E 6
IC11	J 2	R125	H 6
IC11	J 4	R126	H 6
IC11	L 4	R127	J 6
IC12	K 5	R128	J 6
IC12	A 4	R140	L 2
IC12	A 4	R141	L 2
IC12	B 5	R142	L 3
IC12	B 5	R143	L 3
IC12	A 3	R151	K 2
IC12	A 4	R152	K 3
IC13	L 2		
IC14	L 3	SR1	C 6
IC15	B 6		
IC20	B 1		
IC20	B 2		
IC20	K 5		
J4	A 6		
J8	A 6		
J_757	A 5		
J110	J 1		
J111	J 1		
J112	J 1		
MP1	D 2		
MP2	D 5		
MP3	G 1		
MP4	G 4		
MP5	B 2		
MP6	B 5		
MP7	L 1		
MP8	L 1		
MP9	L 1		
P1	D 1		
P2	D 4		
Q1	C 2		
Q2	C 2		
Q3	C 5		
Q4	C 4		
R1	A 2		
R2	A 3		
R3	A 2		
R4	C 2		
R5	C 2		
R6	C 2		
R7	C 2		
R8	C 2		
R9	C 1		
R10	D 2		

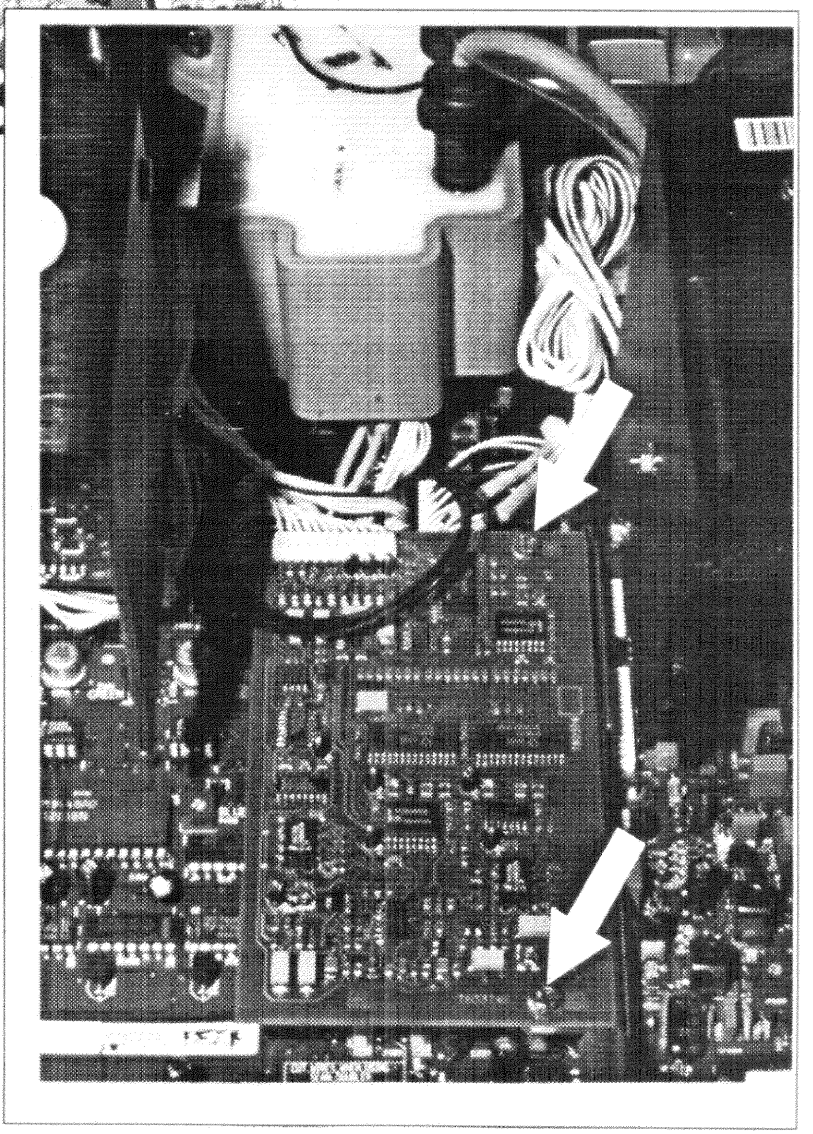
Electrical connection



Connect the CONTRAST MOD. module to the RGB Input+Driver module by plugging in the CONTRAST_MOD plug into the CONTRAST_MOD connector (J757) on the input module

Mechanical mounting

Place the CONTRAST MOD. module on the mechanical frame lining up the two holes in the module with the threaded holes in the frame. Fix the module to the frame by inserting and tightening the two provided screws.



Parts listing CONTAST MOD. module R762484

SIT.	ITEM NO.	DESCRIPTION	QUANTITY
9000	R3631049	SCR D933 M 3 X 6 XIC	2
C 1	P210013	C# COG MU 1N J 50 1206	1
C 2	P210055	C# COG MU 390P F 50 0805	1
C 3	P210140	C# X7R MU 4N7K 50 1206	1
C 4	P210169	C# X7R MU 220N K 50 1210	1
C 5	P212018	C# TA 10M M 16 6032	1
C 6	P210136	C# Y5V MU 330N Z 50 1206	1
C 7	P212018	C# TA 10M M 16 6032	1
C 8	P210213	C# Y5V MU 100N Z 25 0805	1
C 9	P210213	C# Y5V MU 100N Z 25 0805	1
C 11	P210213	C# Y5V MU 100N Z 25 0805	1
C 12	P210213	C# Y5V MU 100N Z 25 0805	1
C 13	P210213	C# Y5V MU 100N Z 25 0805	1
C 14	P210132	C# COG MU 3P3D 50 0805	1
C 15	P210213	C# Y5V MU 100N Z 25 0805	1
C 30	P210178	C# Y5V MU 1M Z 16 1206	1
C 31	P210178	C# Y5V MU 1M Z 16 1206	1
C 33	P210213	C# Y5V MU 100N Z 25 0805	1
C 34	P210169	C# X7R MU 220N K 50 1210	1
C 35	P212018	C# TA 10M M 16 6032	1
C 38	P212018	C# TA 10M M 16 6032	1
C 39	P210213	C# Y5V MU 100N Z 25 0805	1
C 40	P210213	C# Y5V MU 100N Z 25 0805	1
C 41	P210213	C# Y5V MU 100N Z 25 0805	1
C 42	P210213	C# Y5V MU 100N Z 25 0805	1
C 43	P210132	C# COG MU 3P3D 50 0805	1
C 44	P210213	C# Y5V MU 100N Z 25 0805	1
C 70	P210213	C# Y5V MU 100N Z 25 0805	1
C 71	P210213	C# Y5V MU 100N Z 25 0805	1
C 72	P210213	C# Y5V MU 100N Z 25 0805	1
C 73	P210213	C# Y5V MU 100N Z 25 0805	1
C 80	P210019	C# COG MU 47P J 50 0805	1
C 90	P210019	C# COG MU 47P J 50 0805	1
C100	P210019	C# COG MU 47P J 50 0805	1
C110	P210213	C# Y5V MU 100N Z 25 0805	1
C120	P210213	C# Y5V MU 100N Z 25 0805	1
C121	P210213	C# Y5V MU 100N Z 25 0805	1
C122	P210213	C# Y5V MU 100N Z 25 0805	1
C130	P210213	C# Y5V MU 100N Z 25 0805	1
C131	P210213	C# Y5V MU 100N Z 25 0805	1
C132	P210213	C# Y5V MU 100N Z 25 0805	1
C133	P210213	C# Y5V MU 100N Z 25 0805	1
C134	P210213	C# Y5V MU 100N Z 25 0805	1
C135	P210213	C# Y5V MU 100N Z 25 0805	1
C140	P212018	C# TA 10M M 16 6032	1
C141	P210213	C# Y5V MU 100N Z 25 0805	1
C142	P212018	C# TA 10M M 16 6032	1
C143	P210213	C# Y5V MU 100N Z 25 0805	1
C144	P210213	C# Y5V MU 100N Z 25 0805	1
C145	P212018	C# TA 10M M 16 6032	1
C146	P210213	C# Y5V MU 100N Z 25 0805	1
C147	P212018	C# TA 10M M 16 6032	1
C148	P210136	C# Y5V MU 330N Z 50 1206	1
C149	P210213	C# Y5V MU 100N Z 25 0805	1
C150	P212018	C# TA 10M M 16 6032	1
D 1	P234099	D#4148 R DMMELF	1
D 2	P234099	D#4148 R DMMELF	1
D 3	P234099	D#4148 R DMMELF	1
D 4	P234099	D#4148 R DMMELF	1
D 5	P234099	D#4148 R DMMELF	1
D 6	P234099	D#4148 R DMMELF	1
D 7	P234099	D#4148 R DMMELF	1
D 8	P234099	D#4148 R DMMELF	1
D 9	P234099	D#4148 R DMMELF	1
D 10	P234099	D#4148 R DMMELF	1
I 1	P230705	U#34084 MC SOL16 P	1
I 2	P230328	U#064 TL SO14 I	1
I 3	R134225	U 2082 EL DIP8 P	1
I 4	P230328	U#064 TL SO14 I	1
I 5	R134225	U 2082 EL DIP8 P	1
I 7	P230653	U#76013 SC SOL28 P	1
I 8	P230653	U#76013 SC SOL28 P	1
I 9	P230653	U#76013 SC SOL28 P	1
I 11	P230705	U#34084 MC SOL16 P	1
I 12	P230103	U#74HCT04 SO14 I	1
I 13	P230374	U#317 LM SO8 P	1
I 14	P230905	U#337L LM SO8 P	1
I 15	P230062	U#78L05A LM SO8 P	1
I 20	P230073	U#74HCT123 SO16 I	1
J757	R3484128	CD CT FTMS P12 70	1
MP 1	R313729	J PIN TESTEYE	1
MP 2	R313729	J PIN TESTEYE	1
MP 3	R313729	J PIN TESTEYE	1
MP 4	R313729	J PIN TESTEYE	1
MP 5	R313729	J PIN TESTEYE	1
MP 6	R313729	J PIN TESTEYE	1
MP 7	R313729	J PIN TESTEYE	1
MP 8	R313729	J PIN TESTEYE	1
MP 9	R313729	J PIN TESTEYE	1
P 1	P201375	R#TCE H 2K M 0W1 S4 TO	1
P 2	P201375	R#TCE H 2K M 0W1 S4 TO	1
PC	R780374	PCD#PJ53 D700 C_M	1
Q 1	P232118	Q#BSS87 F SS SOT89	1
Q 2	P232044	Q#BC859B P SS SOT23	1
Q 3	P232043	Q#BC849B N SS SOT23	1
Q 4	P232044	Q#BC859B P SS SOT23	1
R 1	P200725	R# CE H100E J 0W1 0805	1
R 2	P201107	R# CE H 6K8 F 0W1 0805	1
R 3	P201094	R# CE H 2K F 0W1 0805	1
R 4	P201093	R# CE H 1K8 F 0W1 0805	1
R 5	P201156	R# CE H750K F 0W1 0805	1
R 6	P201107	R# CE H 6K8 F 0W1 0805	1
R 7	P201109	R# CE H 8K2 F 0W1 0805	1
R 8	P200749	R# CE H 1K J 0W1 0805	1
R 9	P200733	R# CE H220E J 0W1 0805	1
R 10	P201139	R# CE H150K F 0W1 0805	1
R 11	P201125	R# CE H 39K F 0W1 0805	1
R 12	P200701	R# CE H 10E J 0W1 0805	1
R 13	P201093	R# CE H 1K8 F 0W1 0805	1
R 14	P200701	R# CE H 10E J 0W1 0805	1
R 15	P200725	R# CE H100E J 0W1 0805	1
R 16	P201087	R# CE H 1K F 0W1 0805	1
R 17	P200701	R# CE H 10E J 0W1 0805	1
R 18	P201087	R# CE H 1K F 0W1 0805	1
R 19	P201111	R# CE H 10K F 0W1 0805	1
R 20	P201117	R# CE H 18K F 0W1 0805	1
R 21	P200725	R# CE H100E J 0W1 0805	1
R 22	P201111	R# CE H 10K F 0W1 0805	1
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R 35	P201097	R# CE H 2K7 F 0W1 0805	1
R 36	P201125	R# CE H 39K F 0W1 0805	1
R 37	P200701	R# CE H 10E J 0W1 0805	1
R 39	P200733	R# CE H220E J 0W1 0805	1
R 40	P200765	R# CE H 4K7 J 0W1 0805	1
R 41	P201107	R# CE H 6K8 F 0W1 0805	1
R 42	P201109	R# CE H 8K2 F 0W1 0805	1
R 43	P201087	R# CE H 1K F 0W1 0805	1
R 44	P200725	R# CE H100E J 0W1 0805	1
R 45	P200701	R# CE H 10E J 0W1 0805	1
R 46	P200701	R# CE H 10E J 0W1 0805	1
R 47	P201087	R# CE H 1K F 0W1 0805	1
R 48	P201111	R# CE H 10K F 0W1 0805	1
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R 72	P200717	R# CE H 47E J 0W1 0805	1
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R 86	P201111	R# CE H 10K F 0W1 0805	1
R 87	P201113	R# CE H 12K F 0W1 0805	1
R 88	P201122	R# CE H 30K F 0W1 0805	1
R 89	P201087	R# CE H 1K F 0W1 0805	1
R 90	P201094	R# CE H 2K F 0W1 0805	1
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R 92	P201111	R# CE H 10K F 0W1 0805	1
R 93	P201111	R# CE H 10K F 0W1 0805	1
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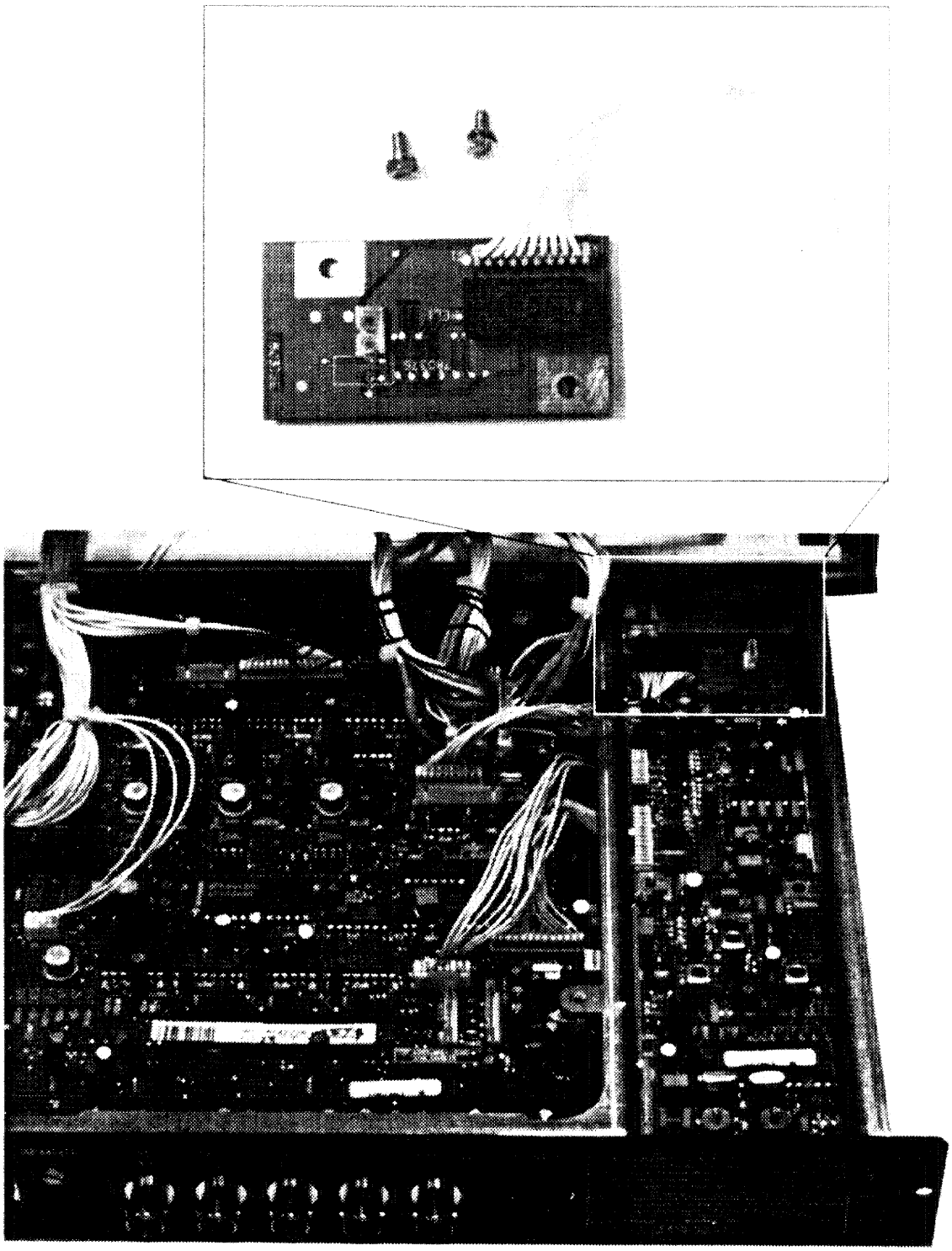
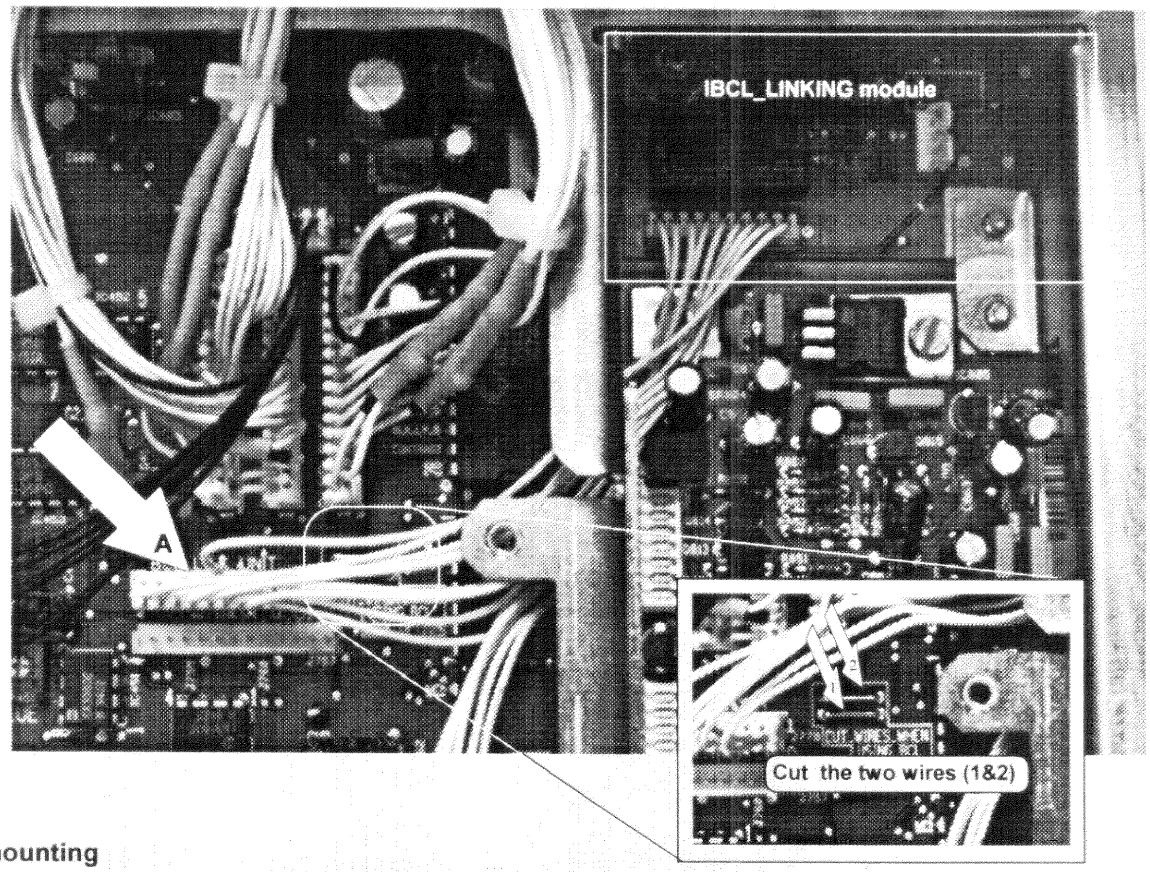
R101	P201093	R# CE H 1K8 F 0W1 0805	1
R102	P201103	R# CE H 4K7 F 0W1 0805	1
R103	P201111	R# CE H 10K F 0W1 0805	1
R104	P201111	R# CE H 10K F 0W1 0805	1
R105	P201111	R# CE H 10K F 0W1 0805	1
R106	P201111	R# CE H 10K F 0W1 0805	1
R107	P201111	R# CE H 10K F 0W1 0805	1
R108	P201111	R# CE H 10K F 0W1 0805	1
R109	P201111	R# CE H 10K F 0W1 0805	1
R110	P201113	R# CE H 12K F 0W1 0805	1
R111	P201122	R# CE H 30K F 0W1 0805	1
R112	P201075	R# CE H330E F 0W1 0805	1
R113	P201087	R# CE H 1K F 0W1 0805	1
R115	P201055	R# CE H 47E F 0W1 0805	1
R116	P201055	R# CE H 47E F 0W1 0805	1
R117	P200725	R# CE H100E J 0W1 0805	1
R118	P200725	R# CE H100E J 0W1 0805	1
R119	P200725	R# CE H100E J 0W1 0805	1
R120	P201108	R# CE H 7K5 F 0W1 0805	1
R122	P201091	R# CE H 1K5 F 0W1 0805	1
R123	P201081	R# CE H560E F 0W1 0805	1
R124	P201081	R# CE H560E F 0W1 0805	1
R125	P201135	R# CE H100K F 0W1 0805	1
R126	P201111	R# CE H 10K F 0W1 0805	1
R127	P201139	R# CE H150K F 0W1 0805	1
R128	P201119	R# CE H 22K F 0W1 0805	1
R140	P200733	R# CE H220E J 0W1 0805	1
R141	P201075	R# CE H330E F 0W1 0805	1
R142	P200715	R# CE H 39E J 0W1 0805	1
R143	P201065	R# CE H120E F 0W1 0805	1
R151	P200701	R# CE H 10E J 0W1 0805	1
R152	P200701	R# CE H 10E J 0W1 0805	1
SR 1	R1011129	R CFFH 10E J 0W25	1

IBCL LINKING KIT R9827861
(module R762485)



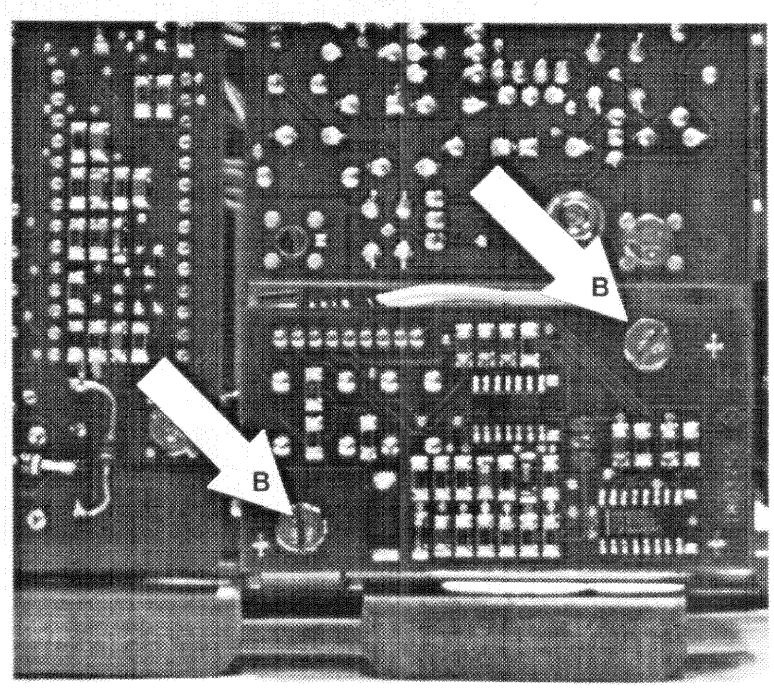
Electrical connection

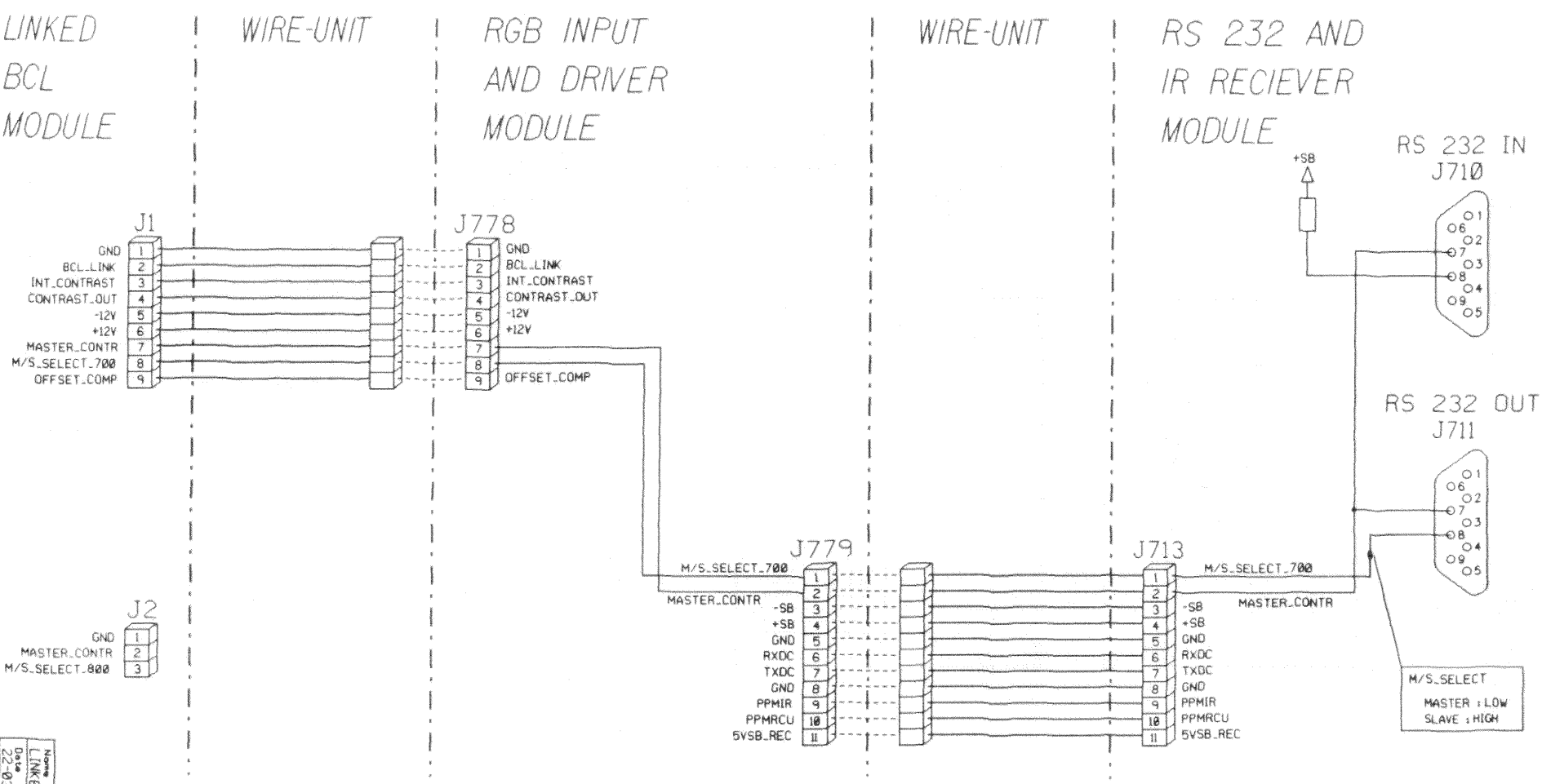
- Connect the IBCL_LINKING module to the RGB Input+Driver module by plugging in the BCL_LINK_INT plug (A) into the BCL_LINK_INT connector (J778) on the input module
- !! Cut the two wires (1&2) on the input module to allow BCL Linking operation (see illustration below)



Mechanical mounting

Place the IBCL LINKING module on the mechanical frame lining up the two holes in the module with the threaded holes in the frame. Fix the module to the frame by inserting and tightening the two provided screws (B).



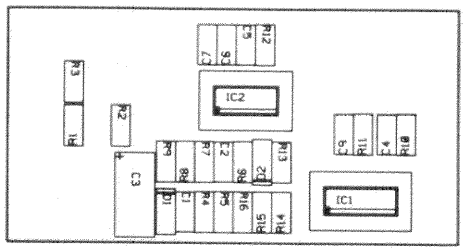


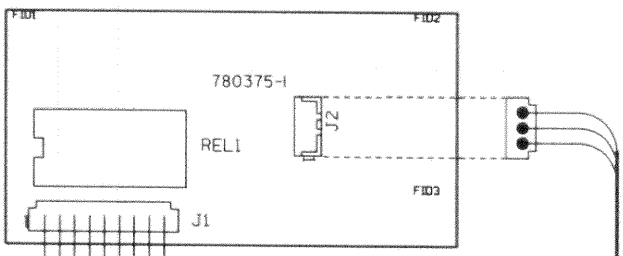
LINKED BCL

BARCO PROJECTION SYSTEMS

Name: LINKED BCL
Date: 22-03-1995
Drawn: JVDY
Checked: KBU
Article nr.: 781 series
Sheet 1

BARCO





ONLY FOR 800 SERIES
TO IBCL-LINK UNIT

700 SERIES : FROM INPUT DRIVER (J778)
800 SERIES : FROM DECODER (J4)

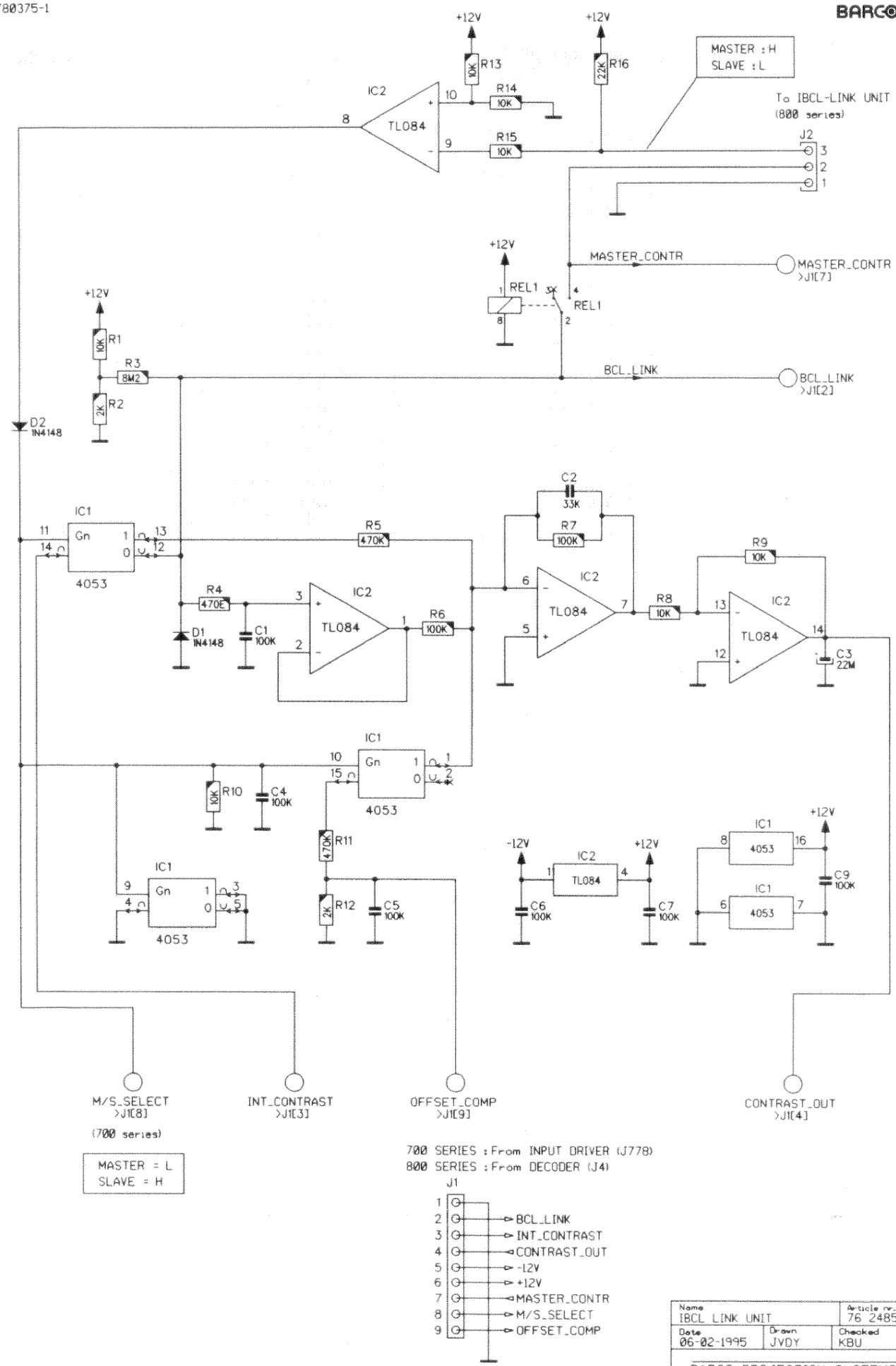
COMP.	LOC.	COMP.	LOC.
C1	B 2	J1	C 3
C2	C 2	J2	C 3
C3	B 2		
C4	C 2	R1	B 2
C5	C 1	R2	B 2
C6	C 2	R3	B 2
C7	C 2	R4	C 2
C9	C 2	R5	C 2
		R6	C 2
D1	B 2	R7	C 2
D2	C 2	R8	C 2
		R9	B 2
FID1	B 3	R10	C 2
FID2	C 3	R11	C 2
FID3	C 3	R12	C 1
		R13	C 2
IC1	C 2	R14	C 2
IC2	C 2	R15	C 2
		R16	C 2
		REL1	C 3

Name	Article nr.
LINKED BCL UNIT	76 2485-I
Date: 26-04-1995	Drawn: JVDY
	Checked: KBU

BARCO PROJECTION SYSTEMS

780375-1

BARCO



Name	Article nr.
IBCL LINK UNIT	76 2485-1
Date: 06-02-1995	Drawn: JVDY
	Checked: KBU

BARCO PROJECTION SYSTEMS

Parts listing IBCL_LINKING module R762485

SIT.	ITEM NO.	DESCRIPTION	QUANTITY
3000	R3484092	CD CT FTMT P 9 100	1
3100	R3485070	CD CT $FTFT P7/3 400	1
110	R3631059	SCR D933 M 3 X 8 XIC	4
100	R802666	SPR L17 D 6 M 3 B	2
C 1	P210122	C# X7R MU 100N K 50 1206	1
C 2	P210097	C# X7R MU 33N K 50 1206	1
C 3	P212031	C# TA 22M M 16 7343	1
C 4	P210122	C# X7R MU 100N K 50 1206	1
C 5	P210122	C# X7R MU 100N K 50 1206	1
C 6	P210122	C# X7R MU 100N K 50 1206	1
C 7	P210122	C# X7R MU 100N K 50 1206	1
C 9	P210122	C# X7R MU 100N K 50 1206	1
D 1	P234099	D#4148 R DMMELF	1
D 2	P234099	D#4148 R DMMELF	1
I 1	P230030	U#4053 SO16 I	1
I 2	P230203	U#084 TL SO14 P	1
J 1	R313923	J CT H MBT P 3 M2SN	1
PC	R780375	PCD#PJ53 D700 IBCL	1
R 1	P200097	R# CE H 10K J 0W12 1206	1
R 2	P200080	R# CE H 2K J 0W12 1206	1
R 3	P200674	R# CE H 8M2 K 0W12 1206	1
R 4	P200065	R# CE H470E J 0W12 1206	1
R 5	P200137	R# CE H470K J 0W12 1206	1
R 6	P200121	R# CE H100K J 0W12 1206	1
R 7	P200121	R# CE H100K J 0W12 1206	1
R 8	P200097	R# CE H 10K J 0W12 1206	1
R 9	P200097	R# CE H 10K J 0W12 1206	1
R 10	P200097	R# CE H 10K J 0W12 1206	1
R 11	P200137	R# CE H470K J 0W12 1206	1
R 12	P200080	R# CE H 2K J 0W12 1206	1
R 13	P200097	R# CE H 10K J 0W12 1206	1
R 14	P200097	R# CE H 10K J 0W12 1206	1
R 15	P200097	R# CE H 10K J 0W12 1206	1
R 16	P200105	R# CE H 22K J 0W12 1206	1
REL1	R324350	RLY 12V 2C BH DIP M	1