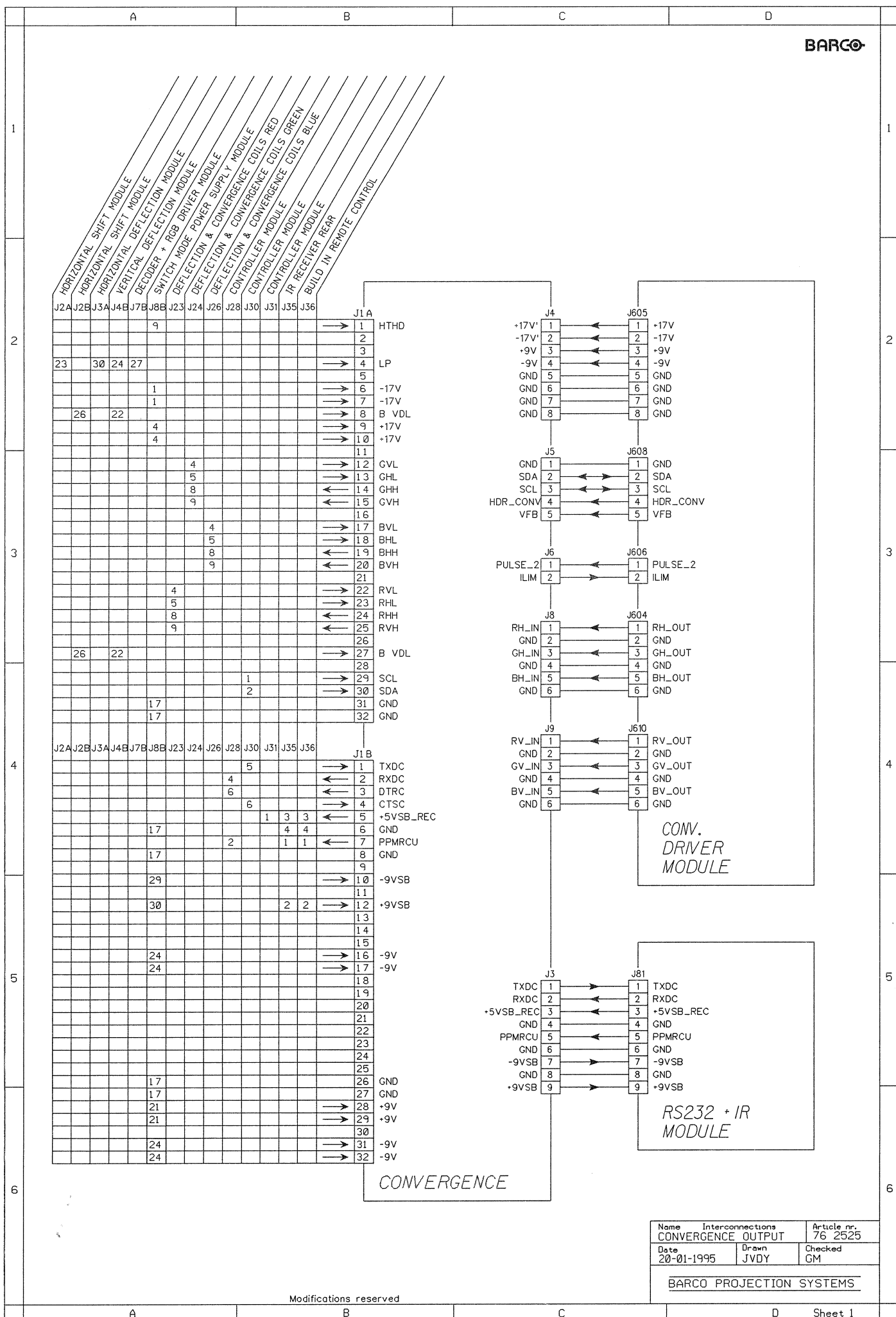


Convergence module (Output) R762525



ADJUSTMENT OF  
THE BIAS-CURRENT  
IN ENDSTAGES  
  
FACTORY PREADJUSTED  
ON 5mA FOR  
EACH ENDSTAGE

POSITION OF THE STRAP ON J102 J107 J108  
FOR ALL THE PROJECTORS  
EXCEPTION:  
RETRO GRAPHICS 80IS  
RETRO DATA 80IS

780336-3

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
[Symbol]

To RS 232 + IR (J81)

To CONV. DRIVER. (J608)

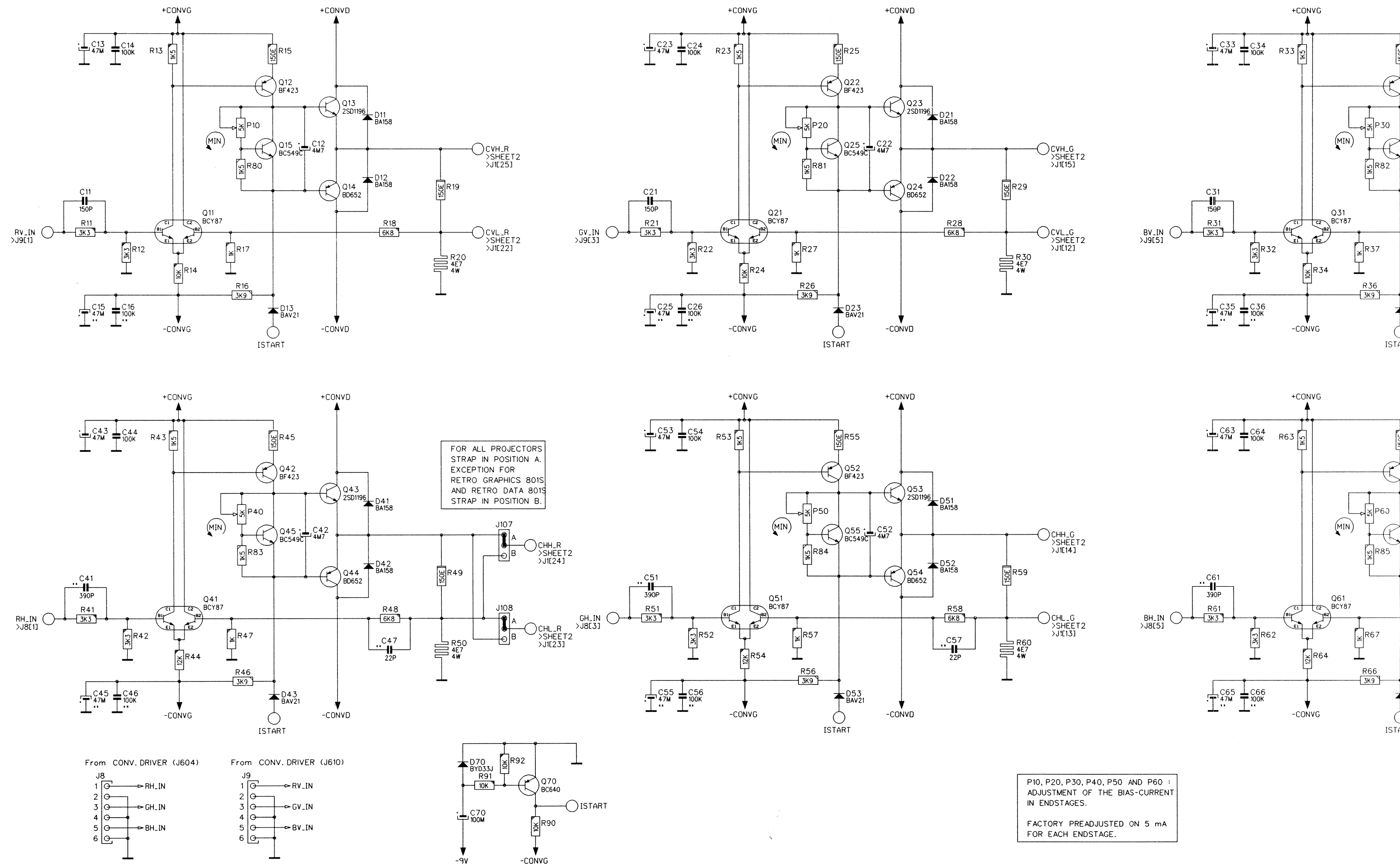
To CONV. DRIVER. (J605)

From CONV. DRIVER (J610)

From CONV. DRIVER (J606)

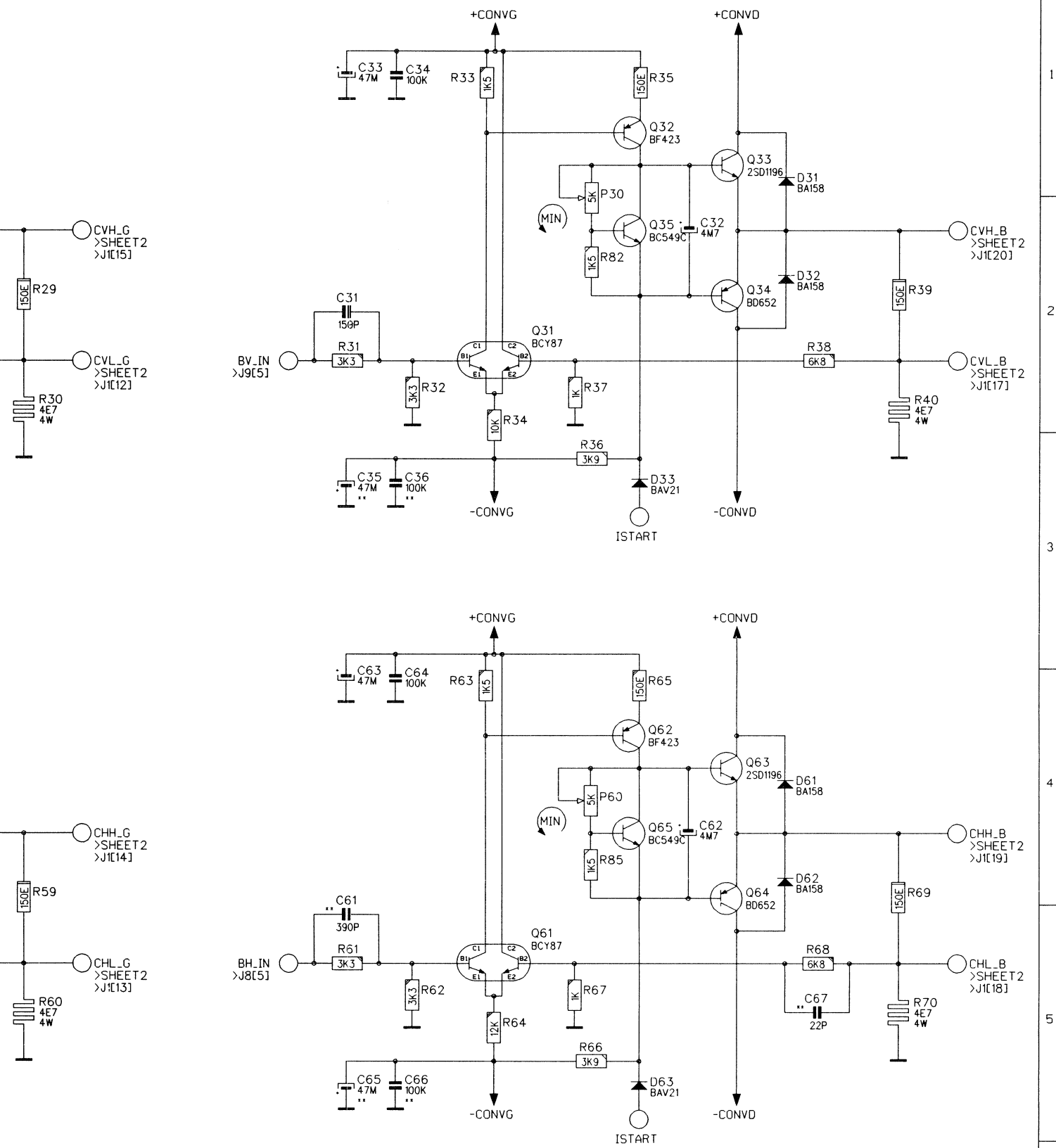
From CONV. DRIVER (J604)

COMP.	LOC.	COMP.	LOC.
C11	H 4	O05	D 3
C12	G 3	O06	D 3
C13	G 4	O07	D 3
C14	H 3	O08	D 4
C15	G 4		
C16	G 3	R11	H 4
C17	E 4	R12	H 4
C18	G 3	R13	G 3
C19	E 4	R14	H 4
C20	E 3	R15	G 3
C21	E 4	R16	G 3
C22	E 3	R17	H 4
C23	E 4	R18	H 4
C24	E 3	R19	G 2
C25	E 4	R20	G 2
C26	E 3	R21	E 4
C27	F 4	R22	E 4
C28	F 3	R23	E 3
C29	F 4	R24	E 4
C30	F 3	R25	E 3
C31	F 4	R26	E 3
C32	F 3	R27	E 4
C33	F 4	R28	E 4
C34	F 3	R29	E 2
C35	F 4	R30	E 2
C36	F 3	R31	F 4
C37	F 4	R32	F 4
C38	F 3	R33	F 3
C39	F 4	R34	F 4
C40	F 3	R35	F 3
C41	F 4	R36	F 3
C42	F 3	R37	F 4
C43	H 4	R38	F 4
C44	H 3	R39	F 2
C45	H 4	R40	F 2
C46	H 3	R41	H 4
C47	H 4	R42	H 4
C48	H 3	R43	H 4
C49	H 4	R44	H 4
C50	H 4	R45	H 3
C51	H 3	R46	H 3
C52	H 3	R47	H 4
C53	F 4	R48	H 4
C54	F 3	R49	H 2
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C58	F 3	R53	E 3
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C60	F 3	R55	F 4
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C62	F 3	R57	F 4
C63	F 4	R58	F 4
C64	G 3	R59	F 2
C65	G 4	R60	E 2
C66	G 3	R61	G 4
C67	G 4	R62	G 4
C68	G 3	R63	G 4
C69	G 4	R64	G 4
C70	D 4	R65	G 4
C71	D 4	R66	G 4
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C73	D 3	R68	G 4
C74	D 3	R69	G 2
C75	D 3	R70	F 2
C76	D 3	R71	G 3
C77	D 3	R72	F 3
C78	D 3	R73	H 3
C79	D 3	R74	E 3
C80	D 3	R75	F 3
C81	F 3	R80	D 3
C82	F 3	R81	D 4
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C84	H 3	R83	D 4
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C373	H 3	R372	D 3
C374	H 3	R373	D 3
C375	H 3	R374	D 3
C376	H 3	R375	D 3



(COMPONENTS MARKED WITH \*\* ARE NOT MOUNTED)

Modifications reserved

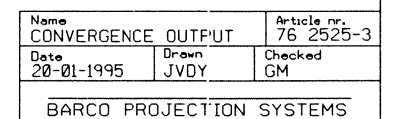


P10, P20, P30, P40, P50 AND P60 :  
ADJUSTMENT OF THE BIAS-CURRENT  
IN ENDSTAGES.

FACTORY PREADJUSTED ON 5 mA  
FOR EACH ENDSTAGE.

Modifications reserved

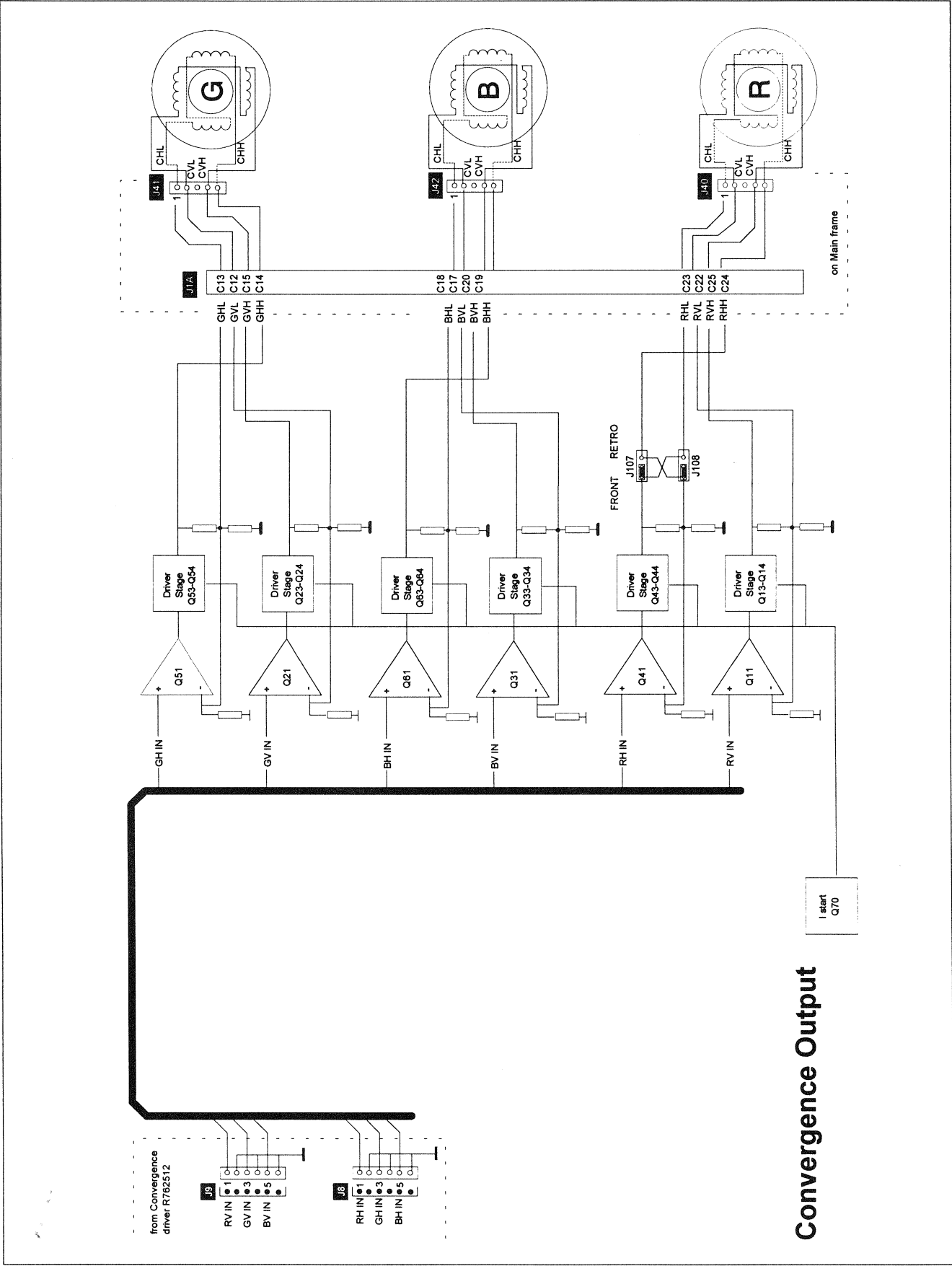
Name CONVERGENCE OUTPUT		Article nr. 76 2525-3
Date 19-01-1995	Drawn JVDY	Checked GM
BARCO PROJECTION SYSTEMS		



Sheet 2



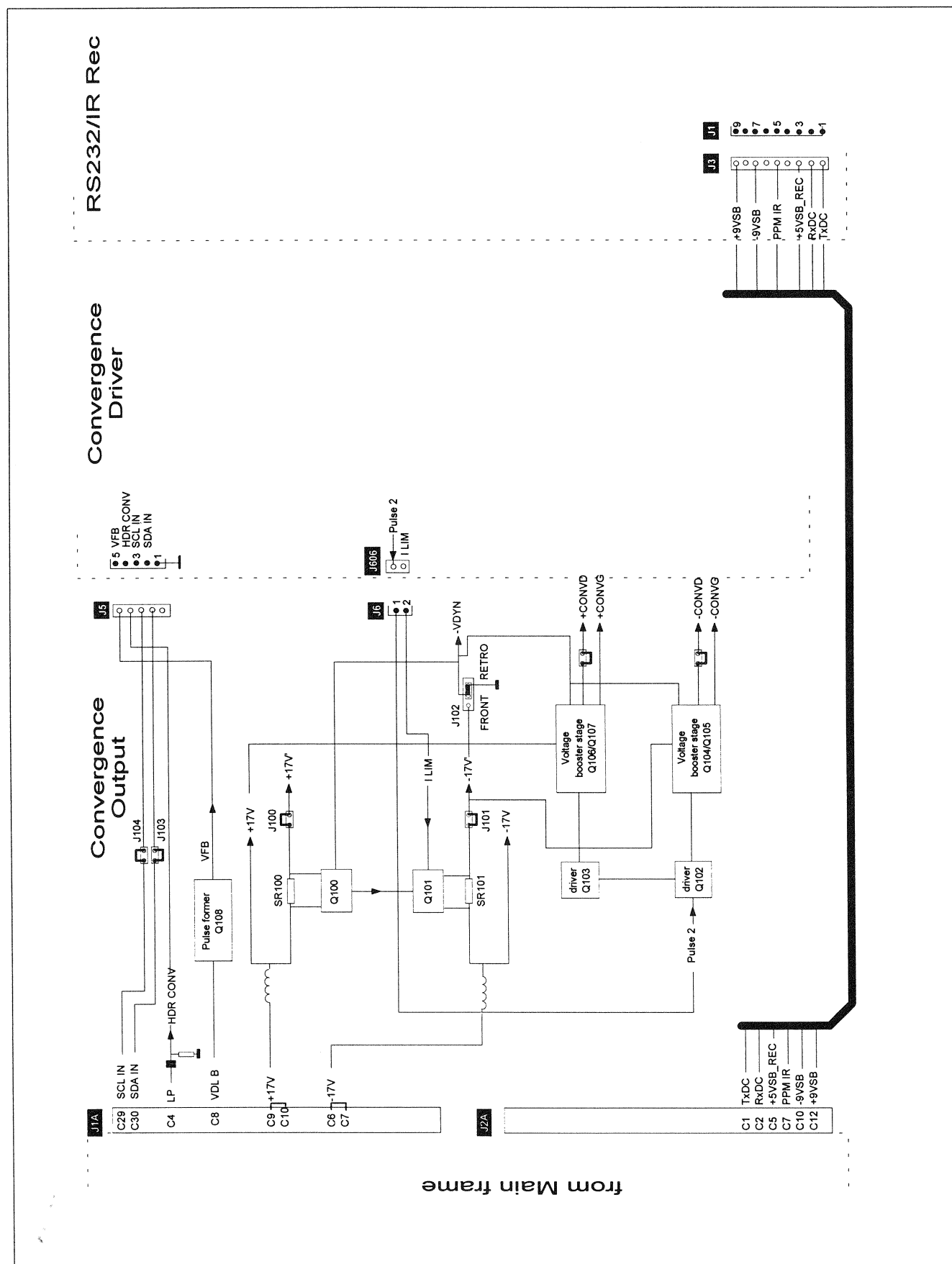
COMP.	LOC.	SHEET	COMP.	LOC.	SHEET	COMP.	LOC.	SHEET
C11	A 2	sheet 1	L101	D 3	sheet 2	R81	F 2	sheet 1
C12	C 2	sheet 1	L102	D 5	sheet 2	R82	J 2	sheet 1
C13	A 1	sheet 1	L103	D 5	sheet 2	R83	B 4	sheet 1
C14	A 1	sheet 1	L104	G 5	sheet 2	R84	F 4	sheet 1
C15	A 3	sheet 1				R85	J 4	sheet 1
C16	A 3	sheet 1	P10	B 1	sheet 1	R90	D 6	sheet 1
C21	E 2	sheet 1	P20	F 1	sheet 1	R91	D 6	sheet 1
C22	F 2	sheet 1	P30	J 1	sheet 1	R92	D 6	sheet 1
C23	E 1	sheet 1	P40	B 4	sheet 1	R100	E 4	sheet 2
C24	E 1	sheet 1	P50	F 4	sheet 1	R101	E 4	sheet 2
C25	E 3	sheet 1	P60	J 4	sheet 1	R102	E 4	sheet 2
C26	E 3	sheet 1				R103	E 5	sheet 2
C31	I 2	sheet 1	Q11	B 2	sheet 1	R104	E 6	sheet 2
C32	J 2	sheet 1	Q12	B 1	sheet 1	R105	E 6	sheet 2
C33	I 1	sheet 1	Q13	C 1	sheet 1	R106	E 6	sheet 2
C34	I 1	sheet 1	Q14	C 2	sheet 1	R107	E 6	sheet 2
C35	I 3	sheet 1	Q15	B 2	sheet 1	R108	D 1	sheet 2
C36	I 3	sheet 1	Q21	F 2	sheet 1	R109	D 1	sheet 2
C41	A 4	sheet 1	Q22	F 1	sheet 1	R110	E 1	sheet 2
C42	C 4	sheet 1	Q23	G 1	sheet 1	R111	E 1	sheet 2
C43	A 3	sheet 1	Q24	G 2	sheet 1	R112	E 1	sheet 2
C44	A 3	sheet 1	Q25	F 2	sheet 1	R113	F 1	sheet 2
C45	A 5	sheet 1	Q31	I 2	sheet 1	R114	F 1	sheet 2
C46	A 5	sheet 1	Q32	J 1	sheet 1	R115	G 5	sheet 2
C47	C 5	sheet 1	Q33	J 1	sheet 1	R116	G 4	sheet 2
C51	E 4	sheet 1	Q34	J 2	sheet 1	R117	G 4	sheet 2
C52	F 4	sheet 1	Q35	J 2	sheet 1	R118	H 4	sheet 2
C53	E 3	sheet 1	Q41	B 5	sheet 1	R119	H 4	sheet 2
C54	E 3	sheet 1	Q42	B 4	sheet 1	R120	G 5	sheet 2
C55	E 5	sheet 1	Q43	C 4	sheet 1	R121	G 6	sheet 2
C56	E 5	sheet 1	Q44	C 4	sheet 1	R122	H 5	sheet 2
C57	G 5	sheet 1	Q45	B 4	sheet 1			
C61	I 4	sheet 1	Q51	F 5	sheet 1	SR100	E 3	sheet 2
C62	J 4	sheet 1	Q52	F 4	sheet 1	SR101	E 5	sheet 2
C63	I 3	sheet 1	Q53	G 4	sheet 1			
C64	I 3	sheet 1	Q54	G 4	sheet 1			
C65	I 5	sheet 1	Q55	F 4	sheet 1			
C66	I 5	sheet 1	Q61	I 5	sheet 1			
C67	K 5	sheet 1	Q62	J 4	sheet 1			
C70	D 6	sheet 1	Q63	J 4	sheet 1			
C100	D 4	sheet 2	Q64	J 4	sheet 1			
C101	E 4	sheet 2	Q65	J 4	sheet 1			
C102	D 5	sheet 2	Q70	D 6	sheet 1			
C103	E 5	sheet 2	Q100	D 4	sheet 2			
C104	E 4	sheet 2	Q101	D 6	sheet 2			
C105	E 5	sheet 2	Q102	E 1	sheet 2			
C106	C 1	sheet 2	Q103	F 1	sheet 2			
C107	D 1	sheet 2	Q104	G 2	sheet 2			
C108	E 1	sheet 2	Q105	G 3	sheet 2			
C109	G 3	sheet 2	Q106	G 1	sheet 2			
C110	H 3	sheet 2	Q107	G 1	sheet 2			
C111	G 1	sheet 2	Q108	H 4	sheet 2			
C112	H 1	sheet 2						
C113	G 5	sheet 2	R11	A 2	sheet 1			
C114	G 4	sheet 2	R12	A 2	sheet 1			
C115	H 4	sheet 2	R13	B 1	sheet 1			
C116	G 4	sheet 2	R14	B 2	sheet 1			
C117	H 4	sheet 2	R15	B 1	sheet 1			
C118	F 1	sheet 2	R16	B 3	sheet 1			
C119	F 1	sheet 2	R17	B 2	sheet 1			
C120	C 2	sheet 2	R18	C 2	sheet 1			
C121	F 1	sheet 2	R19	C 2	sheet 1			
C122	E 2	sheet 2	R20	D 2	sheet 1			
			R21	E 2	sheet 1			
D11	C 1	sheet 1	R22	E 2	sheet 1			
D12	C 2	sheet 1	R23	E 1	sheet 1			
D13	B 3	sheet 1	R24	E 2	sheet 1			
D21	G 1	sheet 1	R25	F 1	sheet 1			
D22	G 2	sheet 1	R26	F 3	sheet 1			
D23	F 3	sheet 1	R27	F 2	sheet 1			
D31	J 1	sheet 1	R28	G 2	sheet 1			
D32	J 2	sheet 1	R29	G 2	sheet 1			
D33	J 3	sheet 1	R30	G 2	sheet 1			
D41	C 4	sheet 1	R31	I 2	sheet 1			
D42	C 4	sheet 1	R32	I 2	sheet 1			
D43	B 5	sheet 1	R33	I 1	sheet 1			
D51	G 4	sheet 1	R34	I 2	sheet 1			
D52	G 4	sheet 1	R35	J 1	sheet 1			
D53	F 5	sheet 1	R36	J 3	sheet 1			
D61	J 4	sheet 1	R37	J 2	sheet 1			
D62	J 4	sheet 1	R38	K 2	sheet 1			
D63	J 5	sheet 1	R39	K 2	sheet 1			
D70	D 6	sheet 1	R40	K 2	sheet 1			
D100	D 1	sheet 2	R41	A 5	sheet 1			
D102	G 3	sheet 2	R42	A 5	sheet 1			
D103	G 3	sheet 2	R43	B 4	sheet 1			
D104	G 1	sheet 2	R44	B 5	sheet 1			
D105	G 1	sheet 2	R45	B 4	sheet 1			
D106	G 4	sheet 2	R46	B 5	sheet 1			
			R47	B 5	sheet 1			
J1	A 1	sheet 2	R48	C 5	sheet 1			
J2	A 4	sheet 2	R49	C 4	sheet 1			
J3	C 3	sheet 2	R50	D 5	sheet 1			
J4	C 4	sheet 2	R51	E 5	sheet 1			
J5	C 5	sheet 2	R52	E 5	sheet 1			
J6	C 5	sheet 2	R53	E 4	sheet 1			
J7	C 6	sheet 2	R54	E 5	sheet 1			
J8	A 6	sheet 1	R55	F 4	sheet 1			
J9	B 6	sheet 1	R56	F 5	sheet 1			
J10	C 6	sheet 2	R57	F 5	sheet 1			
J11	D 6	sheet 2	R58	G 5	sheet 1			
J12	D 6	sheet 2	R59	G 4	sheet 1			
J13	D 6	sheet 2	R60	G 5	sheet 1			
J100	E 3	sheet 2	R61	I 5	sheet 1			
J101	E 5	sheet 2	R62	I 5	sheet 1			
J102	C 2	sheet 2	R63	I 4	sheet 1			
J103	H 5	sheet 2	R64	I 5	sheet 1			
J104	H 6	sheet 2	R65	J 4	sheet 1			
J105	H 2	sheet 2	R66	J 5	sheet 1			
J106	H 2	sheet 2	R67	J 5	sheet 1			
J107	D 4	sheet 1	R68	K 5	sheet 1			
J108	D 5	sheet 1	R69	K 4	sheet 1			
			R70	K 5	sheet 1			
L100	D 3	sheet 2	R80	B 2	sheet 1			





## Convergence module (OUTPUT)

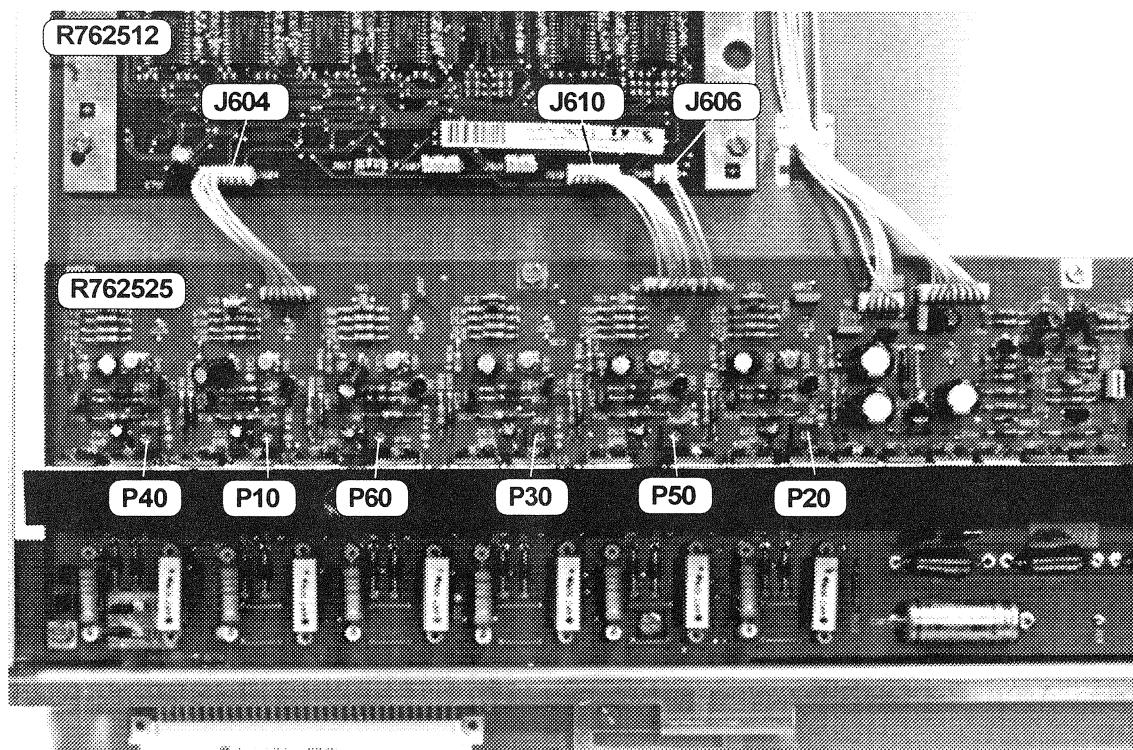
**R762525**



## Adjustment procedure and explanation of the provided links

### Adjustment procedure for the end-amplifiers

#### location of the controls



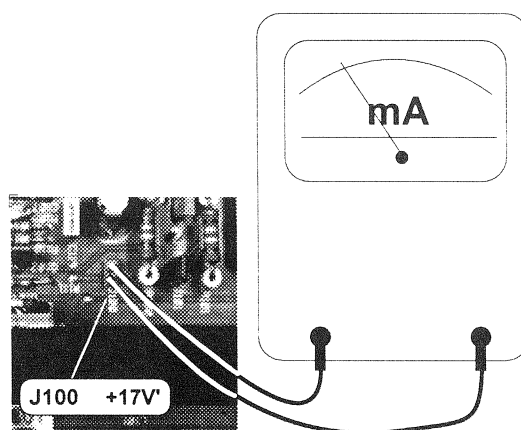
#### Adjustment

- Disconnect the Output module from the Driver module by pulling out the cable plugs **J604** and **J610** on the Driver module.

#### Attention!

Do not pull out the cable plug **J606** on the Driver module in order to allow Power voltage boosting for the output amplifiers

- Turn all the potentiometers in their minimum position, totally counter-clockwise.
- Remove the strap on connector **J100** and insert a current meter.
- To adjust the output amplifiers, the projector has to operate on the highest line frequency (94 kHz).

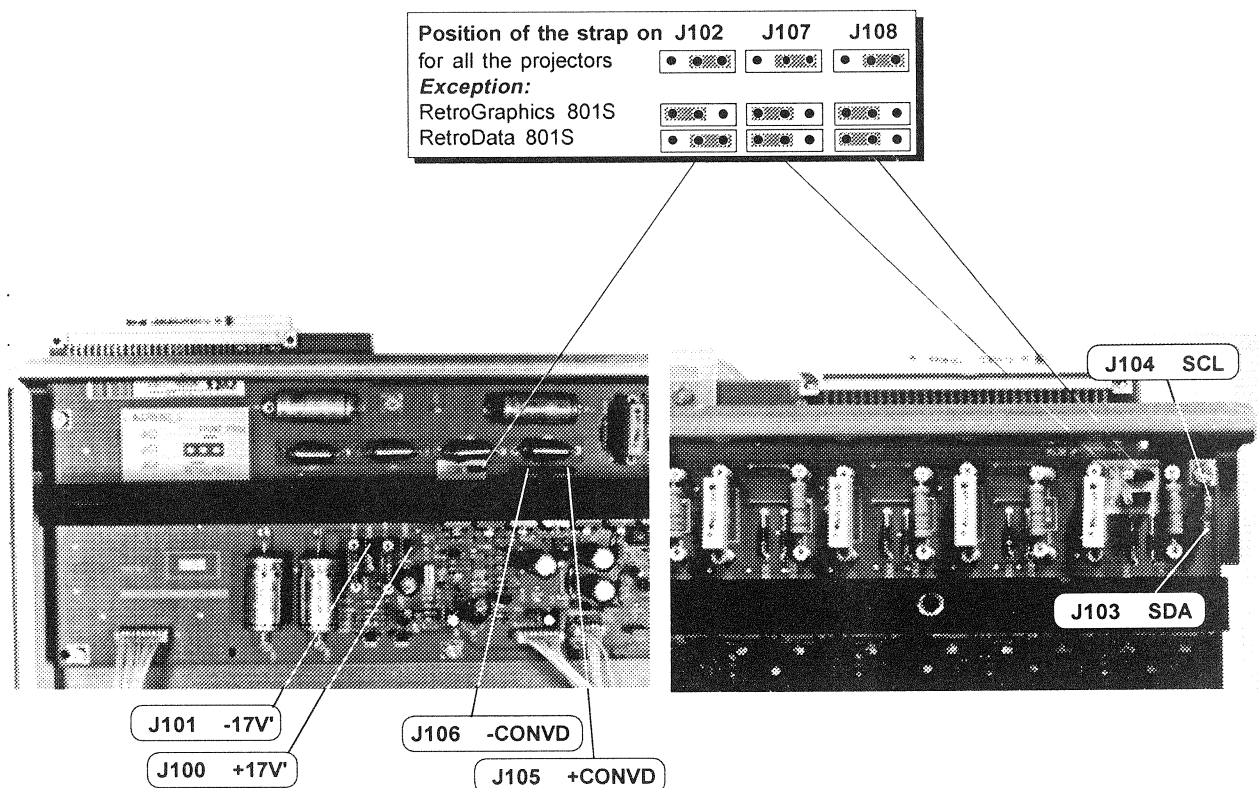


- Adjustment:
- start up the projector.
  - from the measured current value at start up, adjust consecutively the potentiometers P10, P20, P30, P40, P50 and P60 for each time a current incrementation of 5mA each time.
  - remove the current meter and reinstall the strap on J100.
  - reinstall the connection with the driver module (connection J604 and J610).

# Convergence module (OUTPUT)

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Explanations of the provided links (=circuit breakers to check overload)



## TECHNICAL DESCRIPTION " CONVERGENCE OUT" (76 2525)

### Introduction

The purpose of the power amplifiers is to bring the adjusted signals to a sufficient high level that the convergence coils can be fully driven. Important hereby is that the drift must be kept as low as possible and that the signals must be carried to the coils without using coupling capacitors.

It is obvious that the coils react differently on signals at a high (line) frequency than on low frequency signals. The power supply + / - CONV for these power amplifiers is boosted up during the horizontal flyback time. This boost-up is different when the board is used in a "retro" projector.

### Output

Six identical amplifiers feed the six convergence coils, two for each picture tube. We'll discuss only the amplifier served with "RHin" (Red Horizontal).

*Note that "Horizontal " here relates to the moving direction (of lines of a crosshatch pattern) and not to the "horizontal" frequency. The " RHin " signal contains waveforms at line and vertical frequency.*

*That's also the reason why the amplifier stages are identical.*

The signal is first passed onto a differential amplifier BCY87. The purpose of this stage is to stabilise the overall gain (DC and AC) of the amplifier.

One of the transistors is a voltage follower and its base is supplied with a feedback voltage developed across the 4E7 resistor.

The output of the differential amplifier drives the amplifier Q42.

Q44 is a  $V_{BE}$ -multiplier to install the required minimum B-E voltages for the output transistors. The collector-emitter voltage is adjusted with P40.

An unbalance in the + / - CONV at starting up can cause a heavy current in the 'bottom' transistor and therefore the  $I_{START}$  clamps the base at ground level via D43.

The output transistors are supplied from the dynamic +/-COND supply lines.

These dynamic voltages are the + / - 17V boosted up during the "pulse 2" time. By this increased supply voltage the slew rate during the horizontal retrace time is considerably improved. The end result is a better behaviour of the convergence coils just after the retrace time, thus, in the beginning of the scan.

Note that the boosted up voltage is adapted in the retro projector (-VDYN is at ground level, see J102 link) .

The current of the +17V' and -17V' is permanently monitored with Q100 and Q101. If either one of these transistors is forward biased the ILIM inhibits the horizontal sawtooth generator. (see schematic "Horizontal Axis Convergence", sheet 1)

The electronic circuit that generates the *Ilim* is represented on sheet 2 of the "CONV OUT" schematic.

Note also that for a retro - projector the red horizontal convergence coils are inverted with J107 and J108.

For service purposes the power supply for the end stages can be removed with J100 and J101.

# Convergence module (OUTPUT)

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## Parts listing Convergence module (Output) R762525

SIT.	ITEM NO.	DESCRIPTION	QUANTITY	SIT.	ITEM NO.	DESCRIPTION	QUANTITY
1011	R1330291	Q ACC ISO MICA TO220	18	D 21	R131637	D R BA158 600400 DO7	
1012	R1330292	Q ACC ISO BSHG TO220	18	D 22	R131637	D R BA158 600400 DO7	
10	R133039	SPR L 8 D 4 D 1.2 C	28	D 23	R131627	D S BAV21 200250 DO35	
20	R3133921	J MD JMP P 1 E1SN	9	D 31	R131637	D R BA158 600400 DO7	
3000	R3481031	WU JUMP 0,51 10 ISO	10	D 32	R131637	D R BA158 600400 DO7	
3010	R3481042	WU JUMP 0,51 12,5 ISO	2	D 33	R131627	D S BAV21 200250 DO35	
1001	R3631059	SCR D933 M 3 X 8 XIC	5	D 41	R131637	D R BA158 600400 DO7	
1040	R3631059	SCR D933 M 3 X 8 XIC	2	D 42	R131637	D R BA158 600400 DO7	
1010	R3631069	SCR D933 M 3 X 10 XIC	18	D 43	R131627	D S BAV21 200250 DO35	
1020	R3631069	SCR D933 M 3 X 10 XIC	18	D 51	R131637	D R BA158 600400 DO7	
1050	R3661026	NUT D934 M 3 I	2	D 52	R131637	D R BA158 600400 DO7	
1030	R804619	FRM PJ49 CNV G801 FIX PLT	1	D 53	R131627	D S BAV21 200250 DO35	
1000	R805605	FRM PJ49 G801S CNV HTSNK	1	D 61	R131637	D R BA158 600400 DO7	
C 11	R112364	C N750MI 150P J 63E2	1	D 62	R131637	D R BA158 600400 DO7	
C 12	R1115915	C EL5 RA 4M7M 35E2 85		D 63	R131627	D S BAV21 200250 DO35	
C 13	R111486	C EL RA 47M M 40E2 85		D 70	R1319481	D R BYD33J 6001A3 SOD81	1
C 14	R1127741	C Z5U MU 100N Z 50E2 85		D100	R131621	D S 1N4148 075150 DO35	
C 21	R112364	C N750MI 150P J 63E2	1	D102	R131954	D R BYW29 20008A TO220	1
C 22	R1115915	C EL5 RA 4M7M 35E2 85		D103	R3481042	WU JUMP 0,51 12,5 ISO	1
C 23	R111486	C EL RA 47M M 40E2 85		D104	R131954	D R BYW29 20008A TO220	1
C 24	R1127741	C Z5U MU 100N Z 50E2 85		D105	R131637	D R BA158 600400 DO7	
C 31	R112364	C N750MI 150P J 63E2	1	D106	R131621	D S 1N4148 075150 DO35	
C 32	R1115915	C EL5 RA 4M7M 35E2 85		J 1	R313525	J EUR2C MBS P64 E1C2S 1,6	1
C 33	R111486	C EL RA 47M M 40E2 85		J 2	R313525	J EUR2C MBS P64 E1C2S 1,6	1
C 34	R1127741	C Z5U MU 100N Z 50E2 85		J 3	R313929	J CT H MBT P 9 M2SN	1
C 42	R1115915	C EL5 RA 4M7M 35E2 85		J 4	R313928	J CT H MBT P 8 M2SN	1
C 43	R111486	C EL RA 47M M 40E2 85		J 5	R313925	J CT H MBT P 5 M2SN	1
C 44	R1127741	C Z5U MU 100N Z 50E2 85		J 6	R3485022	CD CT FTMT P 2 60	1
C 52	R1115915	C EL5 RA 4M7M 35E2 85		J 7	R313923	J CT H MBT P 3 M2SN	1
C 53	R111486	C EL RA 47M M 40E2 85		J 8	R34840611	CD CD FTMT P 6 65	1
C 54	R1127741	C Z5U MU 100N Z 50E2 85		J 9	R34840611	CD CD FTMT P 6 65	1
C 62	R1115915	C EL5 RA 4M7M 35E2 85		J 10	R315302	J PIN PR D1.3L 5.5+3	1
C 63	R111486	C EL RA 47M M 40E2 85		J 11	R315302	J PIN PR D1.3L 5.5+3	1
C 64	R1127741	C Z5U MU 100N Z 50E2 85		J 12	R315302	J PIN PR D1.3L 5.5+3	1
C 70	R111487	C EL RA 100M Z 40E2 85	1	J 13	R315302	J PIN PR D1.3L 5.5+3	1
C100	R111193	C EL AX1000M T 40E18 85	1	J100	R3132862	J MD1 MBT P 2 E1SN	1
C101	R111193	C EL AX1000M T 40E18 85	1	J101	R3132862	J MD1 MBT P 2 E1SN	1
C102	R111164	C EL AX1000M T 25E14 85	1	J102	R313286	J MO1 C MBT P 3 R1SN 7,5	1
C103	R111164	C EL AX1000M T 25E14 85	1	J103	R3132862	J MD1 MBT P 2 E1SN	1
C104	R111500	C EL RA 47M M 10E2 85		J104	R3132862	J MD1 MBT P 2 E1SN	1
C105	R111500	C EL RA 47M M 10E2 85		J105	R3132862	J MD1 MBT P 2 E1SN	1
C106	R113724	C POMERA 100N K 63E2		J106	R3132862	J MD1 MBT P 2 E1SN	1
C107	R112733	C CE MI 330P K100E2	1	J107	R313286	J MO1 C MBT P 3 R1SN 7,5	1
C108	R112237	C NPO MI 39P G 63E2		J108	R313286	J MO1 C MBT P 3 R1SN 7,5	1
C109	R111488	C EL RA 220M Z 40E2 85	1	L100	R775164	COIL CH HOR DEF	1
C111	R111488	C EL RA 220M Z 40E2 85	1	L101	R775164	COIL CH HOR DEF	1
C112	R111488	C EL RA 220M Z 40E2 85	1	L102	R775164	COIL CH HOR DEF	1
C113	R112681	C N750MI 15P G500E2		L103	R775164	COIL CH HOR DEF	1
C114	R113724	C POMERA 100N K 63E2		P 10	V107008	R TCE H 5K M 0W5 S7 TS	1
C115	R112760	C CE MI 3N3K103E2		P 20	V107008	R TCE H 5K M 0W5 S7 TS	1
C116	R111531	C EL RA 10M M 35E2 85		P 30	V107008	R TCE H 5K M 0W5 S7 TS	1
C117	R1137121	C POMERA 10N K100E2		P 40	V107008	R TCE H 5K M 0W5 S7 TS	1
C118	R111487	C EL RA 100M Z 40E2 85	1	P 50	V107008	R TCE H 5K M 0W5 S7 TS	1
C119	R113730	C POMERA 330N K 63E2		P 60	V107008	R TCE H 5K M 0W5 S7 TS	1
C120	R113724	C POMERA 100N K 63E2		PC	R780336	PCD PJ49 G 801 CNV OUT	1
C121	R112739	C CE MI 1N K100E2	1	Q 11	R132944	Q BCY87 2N SS TO71	1
D 11	R131637	D R BA158 600400 DO7		Q 12	R132552	Q BF423 P SS TO92	
D 12	R131637	D R BA158 600400 DO7		Q 13	R132976	Q 2SD1196 DN P TO220	1
D 13	R131627	D S BAV21 200250 DO35		Q 14	R132909	Q BD652 DP P TO220	1
				Q 15	R131411	Q BC549C N SS TO92	

# Convergence module (OUTPUT)


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Q 21	R132944	Q BCY87	2N SS TO71	1	R 43	R101138	R CF H 1K5 J 0W25	
Q 22	R132552	Q BF423	P SS TO92		R 44	R101149	R CF H 12K J 0W25	
Q 23	R132976	Q 2SD1196	DN P TO220	1	R 45	R101126	R CF H150E J 0W25	
Q 24	R132909	Q BD652	DP P TO220	1	R 46	R101243	R MF H 3K92F 0W6 E4	1
Q 25	R131411	Q BC549C	N SS TO92		R 47	R101136	R CF H 1K J 0W25	
Q 31	R132944	Q BCY87	2N SS TO71	1	R 48	R101146	R CF H 6K8 J 0W25	
Q 32	R132552	Q BF423	P SS TO92		R 49	R103226	R MO H150E J 1W5	1
Q 33	R132976	Q 2SD1196	DN P TO220	1	R 50	R103620	R WW H 4E7 K 4W	1
Q 34	R132909	Q BD652	DP P TO220	1	R 51	R101142	R CF H 3K3 J 0W25	
Q 35	R131411	Q BC549C	N SS TO92		R 52	R101142	R CF H 3K3 J 0W25	
Q 41	R132944	Q BCY87	2N SS TO71	1	R 53	R101138	R CF H 1K5 J 0W25	
Q 42	R132552	Q BF423	P SS TO92		R 54	R101149	R CF H 12K J 0W25	
Q 43	R132976	Q 2SD1196	DN P TO220	1	R 55	R101126	R CF H150E J 0W25	
Q 44	R132909	Q BD652	DP P TO220	1	R 56	R101243	R MF H 3K92F 0W6 E4	1
Q 45	R131411	Q BC549C	N SS TO92		R 57	R101136	R CF H 1K J 0W25	
Q 51	R132944	Q BCY87	2N SS TO71	1	R 58	R101146	R CF H 6K8 J 0W25	
Q 52	R132552	Q BF423	P SS TO92		R 59	R103226	R MO H150E J 1W5	1
Q 53	R132976	Q 2SD1196	DN P TO220	1	R 60	R103620	R WW H 4E7 K 4W	1
Q 54	R132909	Q BD652	DP P TO220	1	R 61	R101142	R CF H 3K3 J 0W25	
Q 55	R131411	Q BC549C	N SS TO92		R 62	R101142	R CF H 3K3 J 0W25	
Q 61	R132944	Q BCY87	2N SS TO71	1	R 63	R101138	R CF H 1K5 J 0W25	
Q 62	R132552	Q BF423	P SS TO92		R 64	R101149	R CF H 12K J 0W25	
Q 63	R132976	Q 2SD1196	DN P TO220	1	R 65	R101126	R CF H150E J 0W25	
Q 64	R132909	Q BD652	DP P TO220	1	R 66	R101243	R MF H 3K92F 0W6 E4	1
Q 65	R131411	Q BC549C	N SS TO92		R 67	R101136	R CF H 1K J 0W25	
Q 70	R132968	Q BC640	P SS TO92	1	R 68	R101146	R CF H 6K8 J 0W25	
Q100	R132923	Q BC556	P SS TO92		R 69	R103226	R MO H150E J 1W5	1
Q101	R131411	Q BC549C	N SS TO92	1	R 70	R103620	R WW H 4E7 K 4W	1
Q102	R131411	Q BC549C	N SS TO92	1	R 80	R101138	R CF H 1K5 J 0W25	
Q103	R1314182	Q BC559C	P SS TO92		R 81	R101138	R CF H 1K5 J 0W25	
Q104	R132941	Q IRF632	FN P TO220	1	R 82	R101138	R CF H 1K5 J 0W25	
Q105	R132942	Q IRF9630	FP P TO220	1	R 83	R101138	R CF H 1K5 J 0W25	
Q106	R132941	Q IRF632	FN P TO220	1	R 84	R101138	R CF H 1K5 J 0W25	
Q107	R132942	Q IRF9630	FP P TO220	1	R 85	R101138	R CF H 1K5 J 0W25	
Q108	R131411	Q BC549C	N SS TO92	1	R 90	R101148	R CF H 10K J 0W25	
R 11	R101142	R CF H 3K3 J 0W25			R 91	R101148	R CF H 10K J 0W25	
R 12	R101142	R CF H 3K3 J 0W25			R 92	R101148	R CF H 10K J 0W25	
R 13	R101138	R CF H 1K5 J 0W25			R100	R101146	R CF H 6K8 J 0W25	
R 14	R101148	R CF H 10K J 0W25			R101	R101172	R CF H 1M J 0W25	1
R 15	R101126	R CF H150E J 0W25			R102	R101148	R CF H 10K J 0W25	
R 16	R101243	R MF H 3K92F 0W6 E4	1		R103	R101148	R CF H 10K J 0W25	
R 17	R101136	R CF H 1K J 0W25			R104	R101168	R CF H470K J 0W25	
R 18	R101146	R CF H 6K8 J 0W25			R105	R101148	R CF H 10K J 0W25	
R 19	R103226	R MO H150E J 1W5	1		R106	R101168	R CF H470K J 0W25	
R 20	R103620	R WW H 4E7 K 4W	1		R107	R101136	R CF H 1K J 0W25	
R 21	R101142	R CF H 3K3 J 0W25			R108	R101160	R CF H100K J 0W25	
R 22	R101142	R CF H 3K3 J 0W25			R109	R101140	R CF H 2K2 J 0W25	
R 23	R101138	R CF H 1K5 J 0W25			R110	R101136	R CF H 1K J 0W25	
R 24	R101148	R CF H 10K J 0W25			R111	R101230	R MF H332E F 0W6 E4	
R 25	R101126	R CF H150E J 0W25			R112	R101152	R CF H 22K J 0W25	
R 26	R101243	R MF H 3K92F 0W6 E4	1		R113	R101148	R CF H 10K J 0W25	
R 27	R101136	R CF H 1K J 0W25			R114	R101230	R MF H332E F 0W6 E4	
R 28	R101146	R CF H 6K8 J 0W25			R115	R101155	R CF H 39K J 0W25	
R 29	R103226	R MO H150E J 1W5	1		R116	R101142	R CF H 3K3 J 0W25	
R 30	R103620	R WW H 4E7 K 4W	1		R117	R101148	R CF H 10K J 0W25	
R 31	R101142	R CF H 3K3 J 0W25			R118	R101136	R CF H 1K J 0W25	
R 32	R101142	R CF H 3K3 J 0W25			R119	R101112	R CF H 10E J 0W25	
R 33	R101138	R CF H 1K5 J 0W25			R122	R101152	R CF H 22K J 0W25	
R 34	R101148	R CF H 10K J 0W25						
R 35	R101126	R CF H150E J 0W25			SR10	R1012997	R CFFH E1 K 0W7	1
R 36	R101243	R MF H 3K92F 0W6 E4	1		SR11	R1012997	R CFFH E1 K 0W7	1
R 37	R101136	R CF H 1K J 0W25						
R 38	R101146	R CF H 6K8 J 0W25						
R 39	R103226	R MO H150E J 1W5	1					
R 40	R103620	R WW H 4E7 K 4W	1					
R 41	R101142	R CF H 3K3 J 0W25						
R 42	R101142	R CF H 3K3 J 0W25						

# Convergence module (OUTPUT)

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## PRODUCT SAFETY NOTICE

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

R805605

