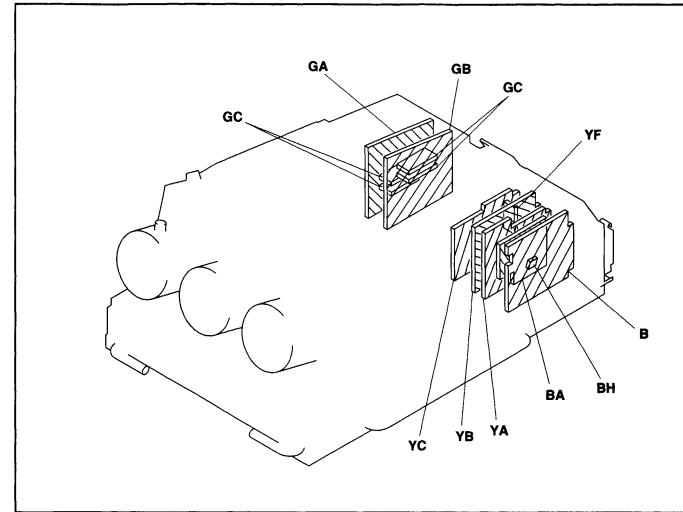


This diagram illustrates the exploded view of the IFB-40 chassis, showing the following components and their assembly points:

- FA**: Front panel assembly
- FAA**: Front panel assembly (top)
- FAB**: Front panel assembly (bottom)
- EC**: Earphone cord
- ECA**: Earphone cord assembly
- IFB-40**: Main chassis
- BM**: Base mount
- QM**: Quarter mount
- C**: Chassis cover
- DM**: Dynamic microphone
- MR**: Microphone receiver
- L**: Loudspeaker
- PA**: Power amplifier
- NB**: Noise blocker
- MF**: Microphone filter
- PB**: Power button
- DB**: Dynamic button
- F**: Front panel
- E**: Earphone
- EA**: Earphone assembly
- EBA**: Earphone assembly (top)
- NA**: Noise assembly
- EB**: Earphone button
- EBB**: Earphone button assembly
- BC (G70Q/G70QM) (IFB-G70QM/G)**: Base component
- DD**: Dynamic driver
- D**: Dynamic driver assembly
- DCR**: Dynamic control receiver
- DC**: Dynamic control
- MT**: Microphone terminal



4-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted.
50WV or less are not indicated except for electrolytics.
pF: μF
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

- Chip resistor are 1/10W unless otherwise noted.
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- Δ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- METAL FILM (: RVN) resistor in 0.5%, 1/4W unless otherwise specified.
- The components identified by in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by and repeat the adjustment until the specified value is achieved. (Refer to RV1, RV2 on page 3-20.)

Part replaced ()	Adjustment ()
IC1, D1, D2, C3, R1, R2, R3, R4, R5, R6, R7, R185, R194 PA board	RV1 (HV HOLD-DOWN)
IC2, IC3, IC4, IC7, IC9, IC10, IC12, IC13, D12, R53, R54, R57, R59, R60, R61, R68, R69, R70, R72, R76, R77, R78, X1 PA board	RV2 (HIGH VOLTAGE REGULATOR)

- When the power supply block has been replaced, check that the +B MAX voltage is within the specification..
- All voltages are in V.
- Voltage variations may be noted due to normal production tolerance.
- Reading are taken with Composite Video and Component (R.G.B. HD, VD) color-bar signal input from color-bar pattern generator.
- Voltage are dc with respect to ground unless otherwise noted.
- no mark : Composite Video signal and comon () : Component (R.G.B. HD, VD) signal
- : B+ line.
- : B- line.
- : signal path.
- Circled numbers are waveforms reference.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

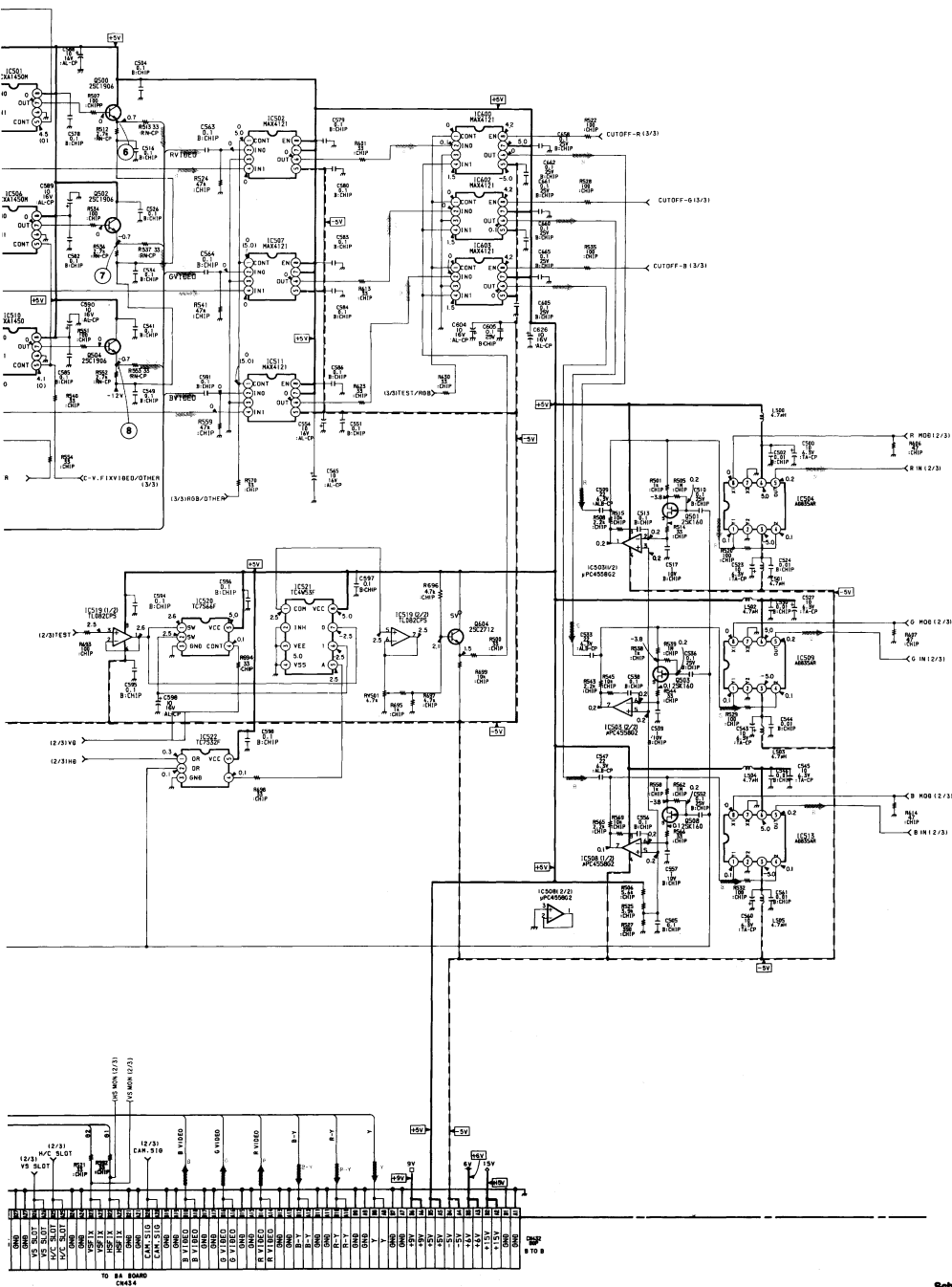
Note:

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

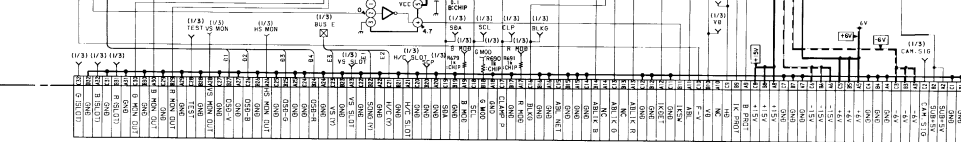
Note:

Les composants identifiés par un tramé et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|----|----|



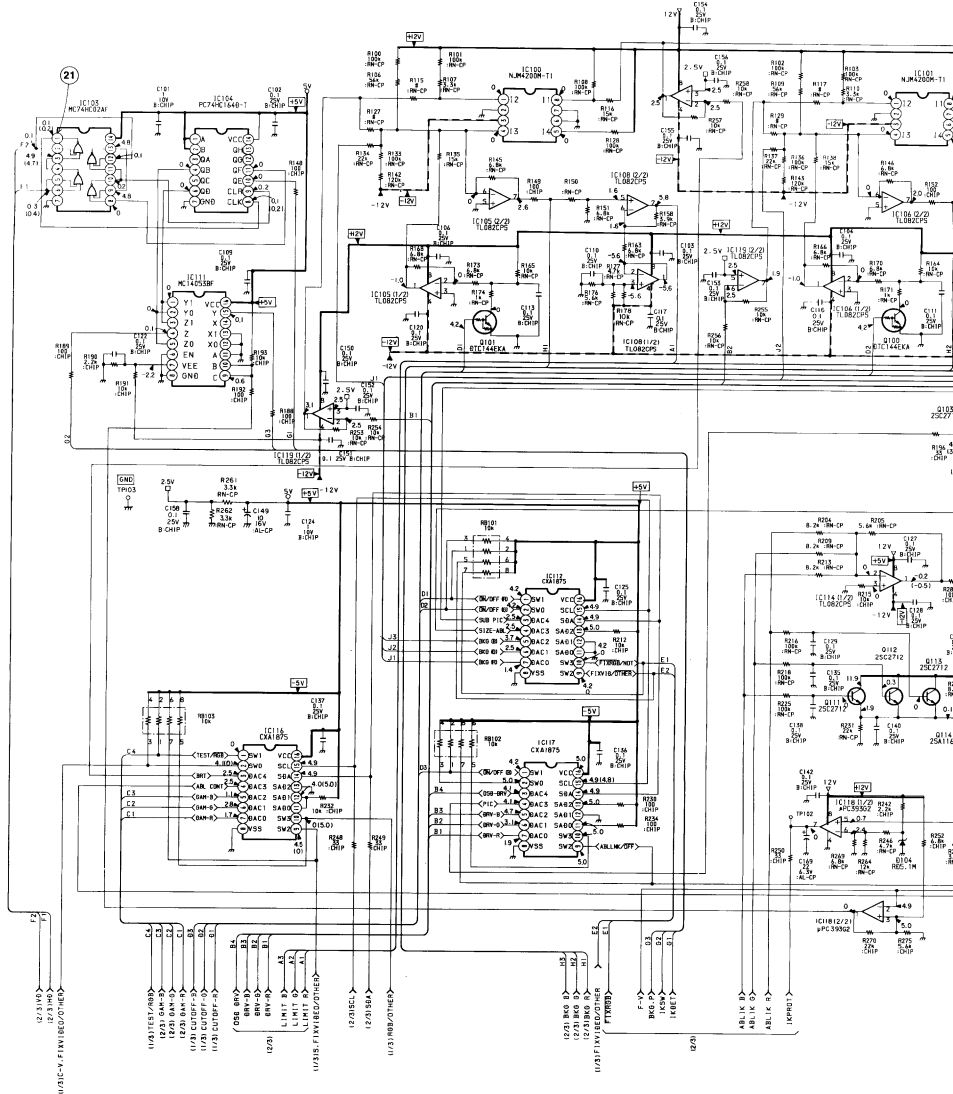
- | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|----|----|

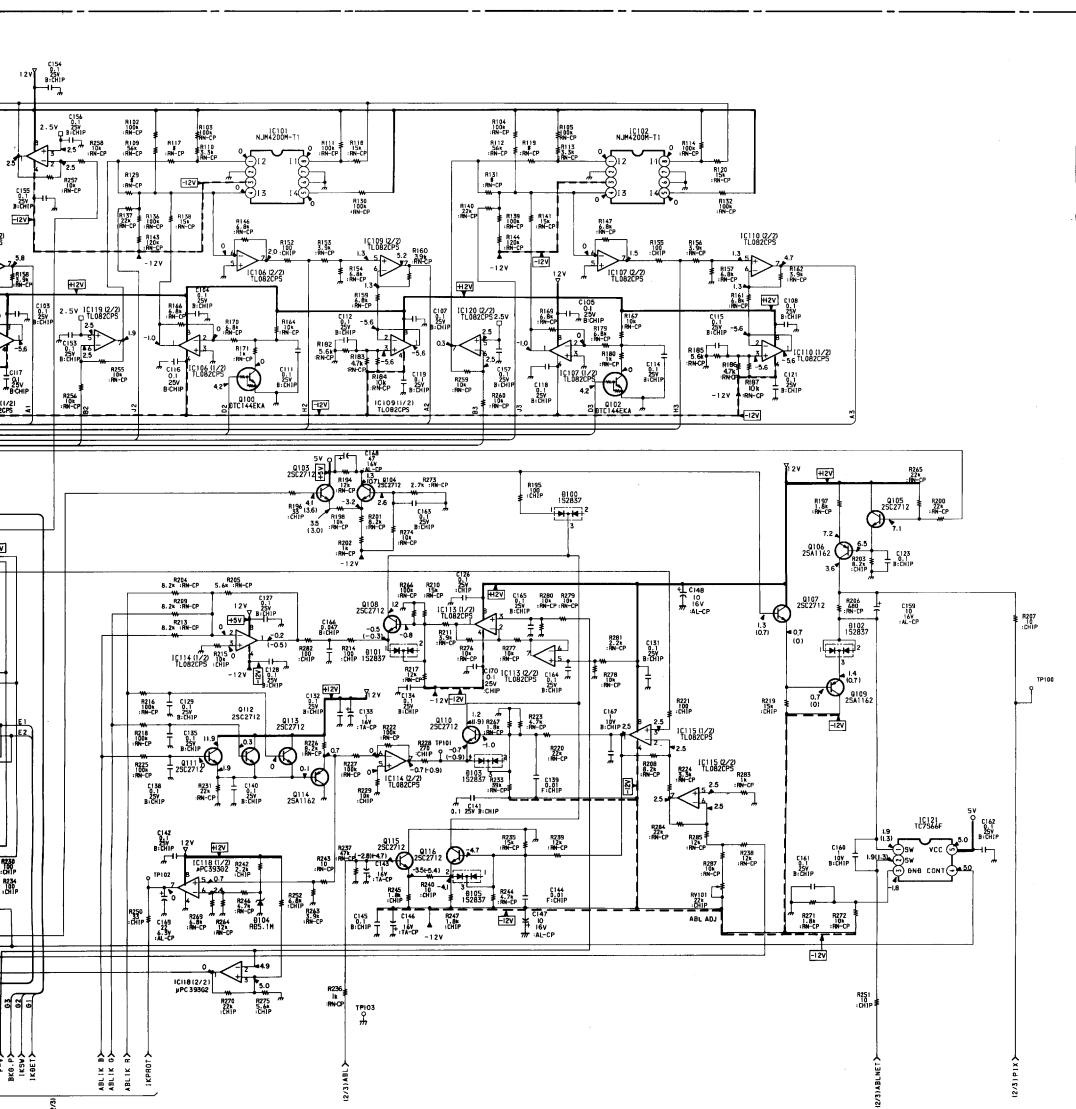


• B (3/3) (DAC, BLK PULSE GEN., ABL CONTROL) DIAGRAM

- Refer to page 4-80 for Printed Wiring Board
- Refer to page 4-83 for Waveforms
- Refer to page 4-84 for Function of Semiconductor
- Refer to page 4-86 for IC Block Diagram

B (3/3) (DAC, BLK PULSE GEN.,
ABL CONTROL



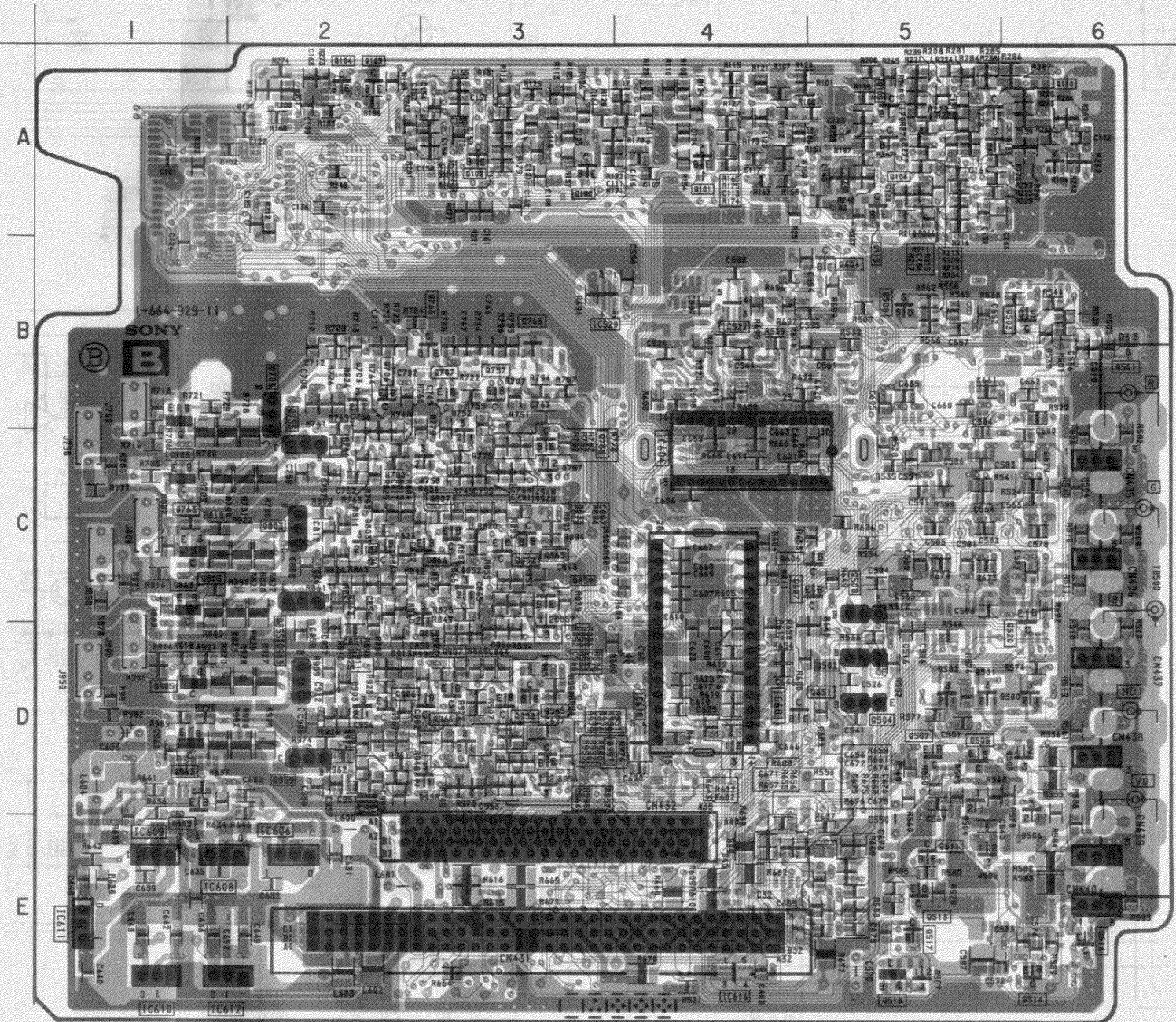


B BOARD

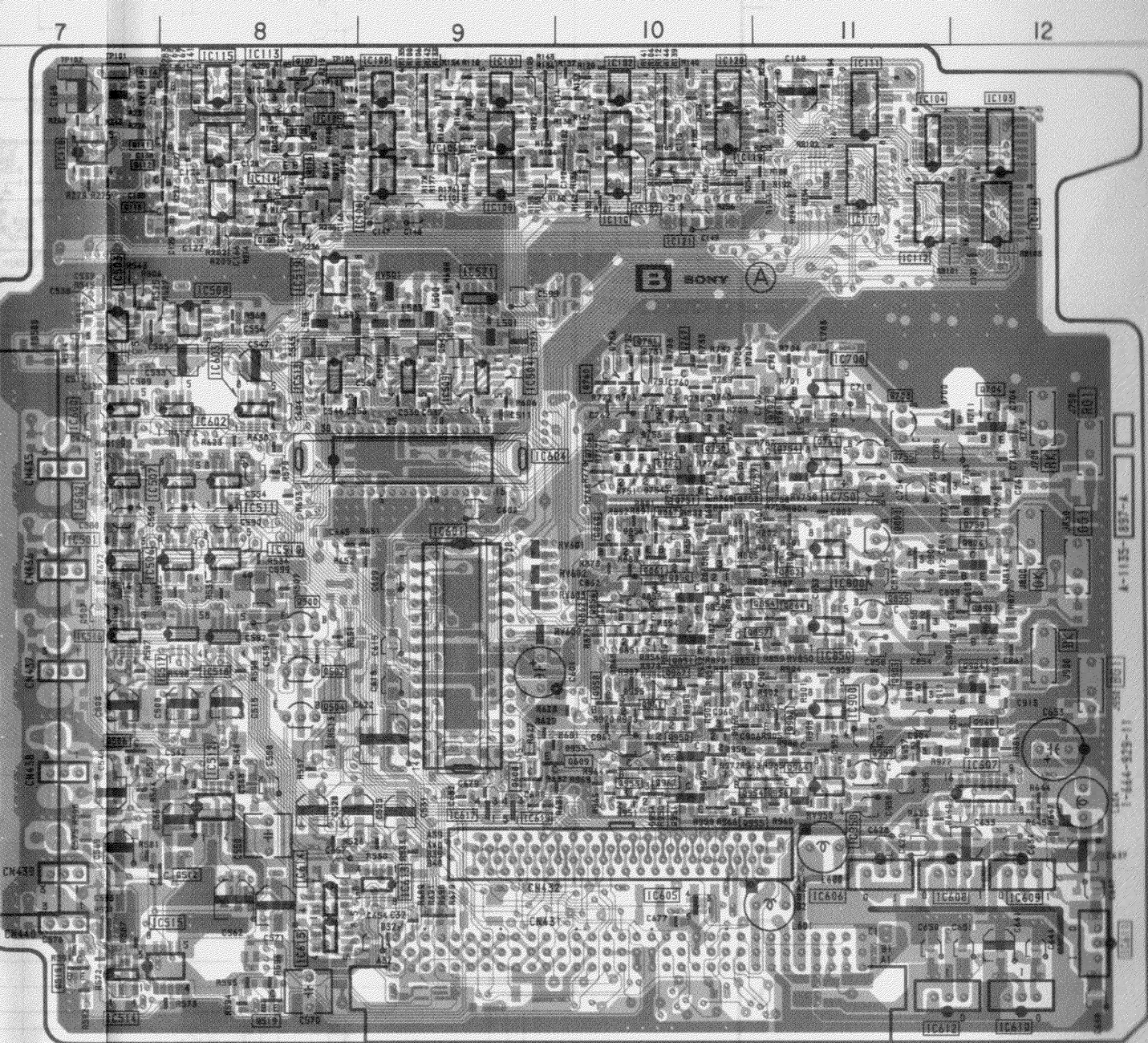
Semiconductors Location

DIODE		D954 D-10	IC520 B-3	Q502 D-5	Q804 C-12	RV501 B-9						
D100 A-8	A-8	D955 D-10	IC521 B-9	Q503 B-6	Q805 C-1	RV600 C-9						
		D956 D-3	IC522 B-4		RV601 C-9							
		D957 D-11	IC600 B-7		RV602 C-9							
			IC601 D-4		RV603 C-9							
			IC602 B-8		RV750 C-11							
			IC603 B-8		RV850 D-11							
			IC604 C-4		RV950 E-11							
			IC605 E-10		TEST POINT							
			IC606 E-2									
			IC607 D-12									
D500 D-6	IC	IC100 A-9		Q512 E-7		Q854 C-10						
D501 D-5				Q513 E-5		Q855 C-2						
D502 D-5				Q514 E-6		Q856 C-10						
D503 D-6				Q515 E-7		Q857 C-10						
D504 D-5						Q858 C-3						
D505 E-5	IC104 A-11	IC611 E-1	Q517 E-5	Q859 C-12	TP100 A-8							
D506 D-6												
D507 E-5												
D602 D-4												
D700 B-11												
D703 B-2												
D750 B-10												
D751 C-10												
D752 C-3												
D753 B-10												
IC112 A-11	IC113 A-8	IC612 E-1	Q518 E-5	Q860 C-10	TP101 A-7							
D754 C-10	IC114 A-8	IC115 A-8	IC613 E-9	Q519 E-8	Q861 C-10	TP102 A-7						
D755 C-11												
D756 B-10												
D757 C-3												
D758 C-2												
D759 B-10												
D760 B-10												
D800 C-11												
D803 C-2												
D850 C-10												
IC120 A-10	IC121 A-10	IC614 E-8	Q520 C-6	Q862 C-10								
D851 D-10	IC122 A-11	IC123 A-8	IC615 E-8	Q521 B-5	Q863 C-1	TP103 A-8						
D852 C-3												
D853 C-10												
D854 D-10												
D855 C-11												
D856 C-10												
D857 C-3												
D858 C-2												
D859 C-10												
D860 C-10												
IC124 A-11	IC125 A-8	IC616 E-4	Q522 C-6	Q864 C-11								
D900 D-11	IC126 A-10	IC127 A-8	IC617 D-9	Q523 B-5	Q865 C-3	TP104 A-8						
D903 D-2												
D950 D-10												
D951 D-10												
D952 D-3												
D953 D-10												
D954 D-10												
D955 D-10												
IC128 A-10	IC129 A-8	IC618 D-4	Q524 B-5	Q866 C-3								
							D956 D-3					
IC130 A-10	IC131 A-8	IC619 D-9	Q525 B-5	Q867 C-3								
							D957 D-11					
IC132 A-11	IC133 A-8	IC620 D-11	Q526 B-5	Q868 C-3								
							D958 D-3					
IC134 A-11	IC135 A-8	IC621 E-1	Q527 B-5	Q869 C-3								
							D959 D-10					
IC136 A-11	IC137 A-8	IC622 E-1	Q528 B-5	Q870 C-3								
							D960 D-10					
IC138 A-11	IC139 A-8	IC623 E-1	Q529 B-5	Q871 C-3								
							D961 D-10					
IC140 A-11	IC141 A-8	IC624 E-1	Q530 B-5	Q872 C-3								

— B BOARD — <Conductor side>

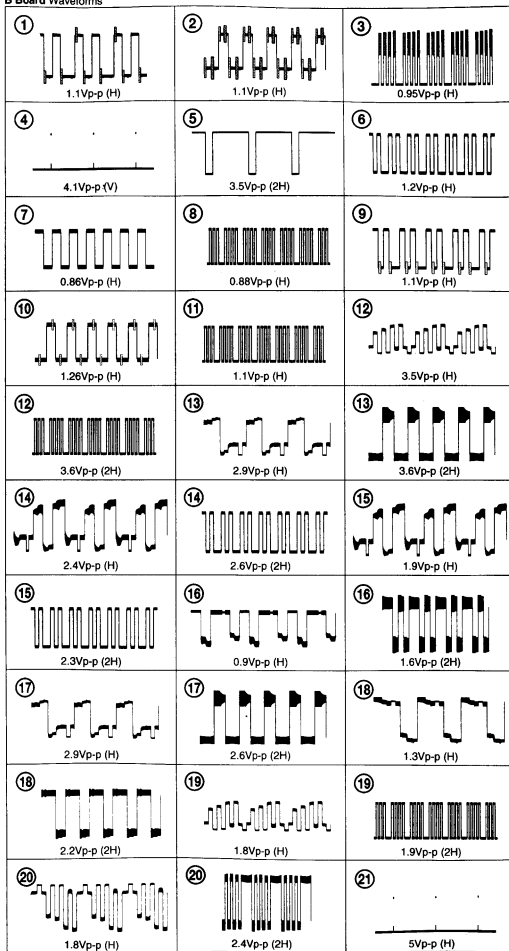


— B BOARD — <Component side>



- Pattern from the side which enables seeing.
- Pattern of the rear side.

B Board Waveforms



B BOARD

Function of Semiconductor (1/2)

D100	152837	ABL	IC104	PC74HC164D-T	PULSE GENERATOR
D101	152837	G108 PROTECTOR	IC105	TL082CPS-E20	R BIAS LEVEL, R BKG CONT
D102	152837	G109 PROTECTOR	IC106	TL082CPS-E20	G BIAS LEVEL, R BKG CONT
D103	152837	G110 PROTECTOR	IC107	TL082CPS-E20	B BIAS LEVEL, B BKG CONT
D104	RDS1M-82	IK PROTECTOR	IC108	TL082CPS-E20	LEVEL SHIFT
D106	152837	G116 PROTECTOR	IC109	TL082CPS-E20	LEVEL SHIFT
D600	15S123	PROTECTOR	IC110	TL082CPS-E20	LEVEL SHIFT
D601	15S123	PROTECTOR	IC111	MC14053BF-T2	SWITCH
D602	15S123	PROTECTOR	IC112	CXA1875AM-T4	DAC AND SW
D603	15S123	PROTECTOR	IC113	TL082CPS-E20	DAC AND SW
D604	152837	PROTECTOR	IC114	TL082CPS-E20	PEAK ABL, SINGLE ABL
D605	15S123	PROTECTOR	IC115	TL082CPS-E20	SIZE ABL, ABL ADJ
D606	152837	PROTECTOR	IC116	CXA1875AM	DAC AND SW
D607	152837	PROTECTOR	IC117	CXA1875AM	DAC AND SW
D602	15S123	OSD ABL	IC118	UPC393G2-T2	IK PROTECTOR
D700	15S123	BIAS	IC119	TL082CPS-E20	R.G DRIVE
D703	152837	PROTECTOR	IC120	TL082CPS-E20	BRIGHT, B DRIVE
D750	152837	PROTECTOR	IC121	TC7566F-T88R	ABL LINK SW
D751	152837	PROTECTOR	IC601	CXA1450M-T4	RGB/OTHER SW
D752	152837	MIX	IC602	MAX4121CSA-TE2	RGB/VIDEO SW
D753	152837	PROTECTOR	IC603	UPC4568G2-T2	INTEGRATOR
D754	152837	PROTECTOR	IC604	AD835AR-REEL	DIRECTION MATRIX
D755	15S123	BIAS	IC606	CXA1450M-T4	RGB/OTHER SW
D756	152837	PROTECTOR	IC607	MAX4121CSA-TE2	RGB/VIDEO SW
D757	152837	BKG MIX	IC608	UPC4568G2-T2	INTEGRATOR
D758	152837	PROTECTOR	IC609	AD835AR-REEL	DEFLECTION MATRIX
D759	15S123	PROTECTOR	IC610	CXA1450M-T4	RGB/OTHER SW
D760	152837	PROTECTOR	IC611	MAX4121CSA-TE2	RGB/VIDEO SW
D800	15S123	BIAS	IC612	TL082CPS-E20	BUFFER
D803	152837	PROTECTOR	IC613	AD835AR-REEL	DIRECTION MATRIX
D850	152837	PROTECTOR	IC614	GS1881-CTA	SYNC SEP
D851	152837	PROTECTOR	IC615	SN75175PS-ELL2000	COMPARATOR
D852	152837	MIX	IC616	MAX4121CSA-TE2	INPUT A/B SW
D853	152837	PROTECTOR	IC617	MAX4121CSA-TE2	INPUT A/B SW
D854	152837	PROTECTOR	IC618	MAX4121CSA-TE2	INPUT A/B SW
D855	15S123	BIAS	IC619	TL082CPS-E20	BUFFER
D856	152837	PROTECTOR	IC620	TC7566F-T88R	PED HOLD SW
D857	152837	BKG MIX	IC621	TC74W59F-TE12R	H PED SW
D858	152837	PROTECTOR	IC622	TC7532F-T88R	CLAMP TIMING
D859	15S123	PROTECTOR	IC600	MAX4121CSA-TE2	RGB/TEST SW
D860	152837	PROTECTOR	IC601	LM1283	RGB MATRIX
D900	15S123	BIAS	IC602	MAX4121CSA-TE2	RGB/TEST SW
D903	152837	PROTECTOR	IC603	MAX4121CSA-TE2	RGB/TEST SW
D950	152837	PROTECTOR	IC604	CXA3066S	GAMMA CORRECTION
D951	152837	PROTECTOR	IC605	TC7504F-T88R	INVERTER
D952	152837	MIX	IC606	LM2904CT-5.0	+5V REG.
D953	152837	PROTECTOR	IC607	MAX8213BCSC-TE2	VOLTAGE COMPARATOR
D954	152837	PROTECTOR	IC608	LM7812CT	+12V REG.
D955	152837	PROTECTOR	IC609	LM7812CT	+12V REG.
D956	152837	BKG MIX	IC610	LM7912CT	-12V REG.
D957	15S123	BIAS	IC611	NJM7900FA	+9V REG.
D958	152837	PROTECTOR	IC612	LM9307S-5.0	+5V REG.
D959	15S123	PROTECTOR	IC613	EL2186CS-TE2	BUFFER
D960	152837	PROTECTOR	IC614	EL2186CS-TE2	BUFFER
			IC615	EL2186CS-TE2	BUFFER
			IC616	TC7508F-T88R	BUFFER
			IC617	TC7504F-T88R	INVERTER
			IC618	TC7504F-T88R	INVERTER
			IC619	TC7532F-T88R	BLKG MIX
IC100	NJM4200M-T1	R BKG CONT.			
IC101	NJM4200M-T1	G BKG CONT.			
IC102	NJM4200M-T1	B BKG CONT.			
IC103	MC74HC02AF-T2	PULSE GENERATOR			

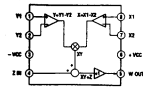
B BOARD

Function of Semiconductor (2/2)

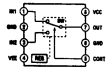
D100	DT144EKA	G CUT OFF SW	G760	25C2712-YG	BLKG SW
G101	DT144EKA	R CUT OFF SW	G761	25C3545-T44	BUFFER
G102	DT144EKA	B CUT OFF SW	G762	25A1462-Y34	BUFFER
G103	25C2712-YG		G763	25A1724-TD	BUFFER
G104	25C2712-YG		G764	25A1462-Y34	BUFFER
G105	25C2712-YG		G765	25A1462-YG	CURRENT SOURCE
G106	25C2712-YG		G766	25A1462-Y34	LIMITTER
G107	25C2712-YG		G802	25A1462-Y34	CURRENT SOURCE
G108	25C2712-YG		G803	25C2498	BUFFER
G109	25A1162-YG	BUFFER	G804	25C4504D-TD	BUFFER
G110	25C2712-YG	SIZE ABL	G805	25A1724-TD	BUFFER
G111	25C2712-YG	BUFFER	G806	25A1462-Y34	LIMITTER
G112	25C2712-YG	BUFFER	G807	25A1462-Y34	BUFFER
G113	25C2712-YG	BUFFER	G850	25C3357-HFE	BUFFER
G114	25A1162-YG	BUFFER	G851	25C3357-HFE	BUFFER
G115	25C2712-YG	TOTAL ABL	G852	25A1462-Y34	BUFFER
G116	25C2712-YG	TOTAL ABL	G853	25C3545-T44	BUFFER
G500	25C1906	BUFFER	G854	25A1462-Y34	BUFFER
G501	25K160-K4	CLAMP SW	G855	25C2498	BUFFER
G502	25C1906	BUFFER	G856	25A1462-Y34	BKG-G SW
G503	25K160-K4	CLAMP SW	G857	25C3356	CURRENT SOURCE
G504	25C1906	BUFFER	G858	25C2712-YG	BKG SW
G505	25C2712-YG	BUFFER	G859	25C4504D-TD	BUFFER
G506	25C2712-YG	BUFFER	G860	25C2712-YG	BLKG SW
G507	25A1162-YG	BUFFER	G861	25C3545-T44	BUFFER
G508	25K160-K4	CLAMP SW	G862	25A1462-Y34	BUFFER
G511	25C2712-YG	BUFFER	G863	25A1724-TD	BUFFER
G512	25C2712-YG	BUFFER	G864	25A1462-Y34	BUFFER
G513	25A1162-YG	BUFFER	G865	25A1162-YG	CURRENT SOURCE
G514	25A1462-Y34	BUFFER	G866	25A1462-Y34	LIMITTER
G515	25C2712-YG	BUFFER	G902	25A1462-Y34	CURRENT SOURCE
G516	25A1162-YG	BUFFER	G903	25C2498	BUFFER
G517	DT144EKA	SWITCH	G904	25C4504D-TD	BUFFER
G518	25B198-BL0K	BUFFER	G905	25A1724-TD	BUFFER
G519	25C2712-YG	BUFFER	G906	25A1462-Y34	LIMITTER
G520	DT144EKA	INVERTER	G907	25A1462-Y34	BUFFER
G604	25C2712-YG	BUFFER	G950	25C3357-HFE	BUFFER
G605	DT144EKA	BUFFER (D.C)	G951	25C3357-HFE	BUFFER
G606	25C3545-T44	AMP	G952	25A1462-Y34	BUFFER
G607	25C3545-T44	AMP	G953	25A1462-Y34	BKG-B SW
G608	25C3545-T44	AMP	G954	25C3356	CURRENT SOURCE
G609	25C3545-T44	AMP	G955	25C3545-T44	BUFFER
G651	25C2712-YG	BUFFER	G956	25A1462-Y34	CURRENT SOURCE
G702	25A1462-Y34	CURRENT SOURCE	G957	25C2712-YG	BUFFER
G703	25C2498	BUFFER	G958	25C2712-YG	BLKG SW
G704	25C4504D-TD	BUFFER	G959	25C2498	BUFFER
G705	25A1724-TD	BUFFER	G960	25C4504D-TD	BUFFER
G706	25A1462-Y34	LIMITTER	G961	25C3545-T44	BUFFER
G707	25A1462-Y34	BUFFER	G962	25A1462-Y34	BUFFER
G750	25C3357-HFE	BUFFER	G963	25A1724-TD	BUFFER
G751	25C3357-HFE	BUFFER	G964	25A1462-Y34	BUFFER
G752	25A1462-Y34	BUFFER	G965	25A1162-YG	CURRENT SOURCE
G753	25C3545-T44	BUFFER	G966	25A1462-Y34	LIMITTER
G754	25A1462-Y34	BUFFER			
G755	25C2498	BUFFER			
G756	25A1462-Y34	BKG-R SW			
G757	25C3356	CURRENT SOURCE			
G758	25C2712-YG	BKG SW			
G759	25C4504D-TD	BUFFER			

B BOARD IC Block Diagrams

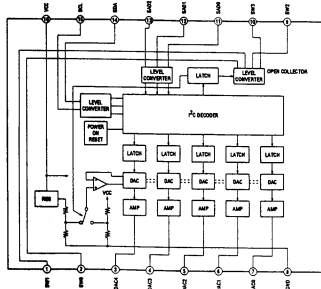
AD835AR (IC504, 509, 513)



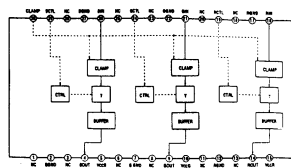
CXA1450M
(IC501, 506, 510)



CXA1875AM (IC116, 117, 112)



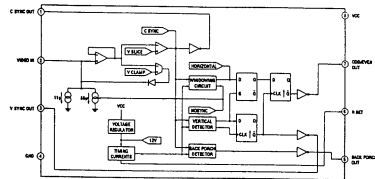
CXA3069S (IC604)



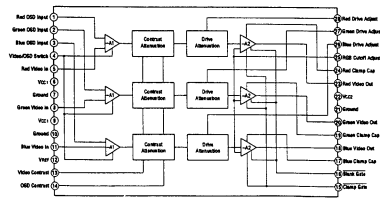
EL2186CS
(IC613—615)



GS1881 (IC514)



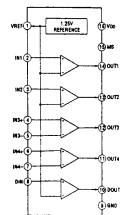
LM1283 (IC601)



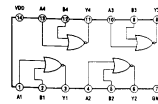
MAX4121CSA
(IC502, 507, 511,
516—518,
600, 602, 603)



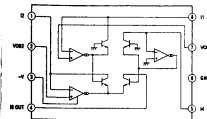
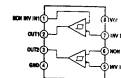
MAX8213 (IC607)



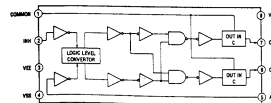
MC74HC02AF (IC103)



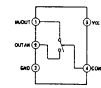
NJM4200M-T1 (IC100, 101, 102)

**SN75157 (IC515)**

TC4W53F (IC521)

TC7S32F
(IC522)

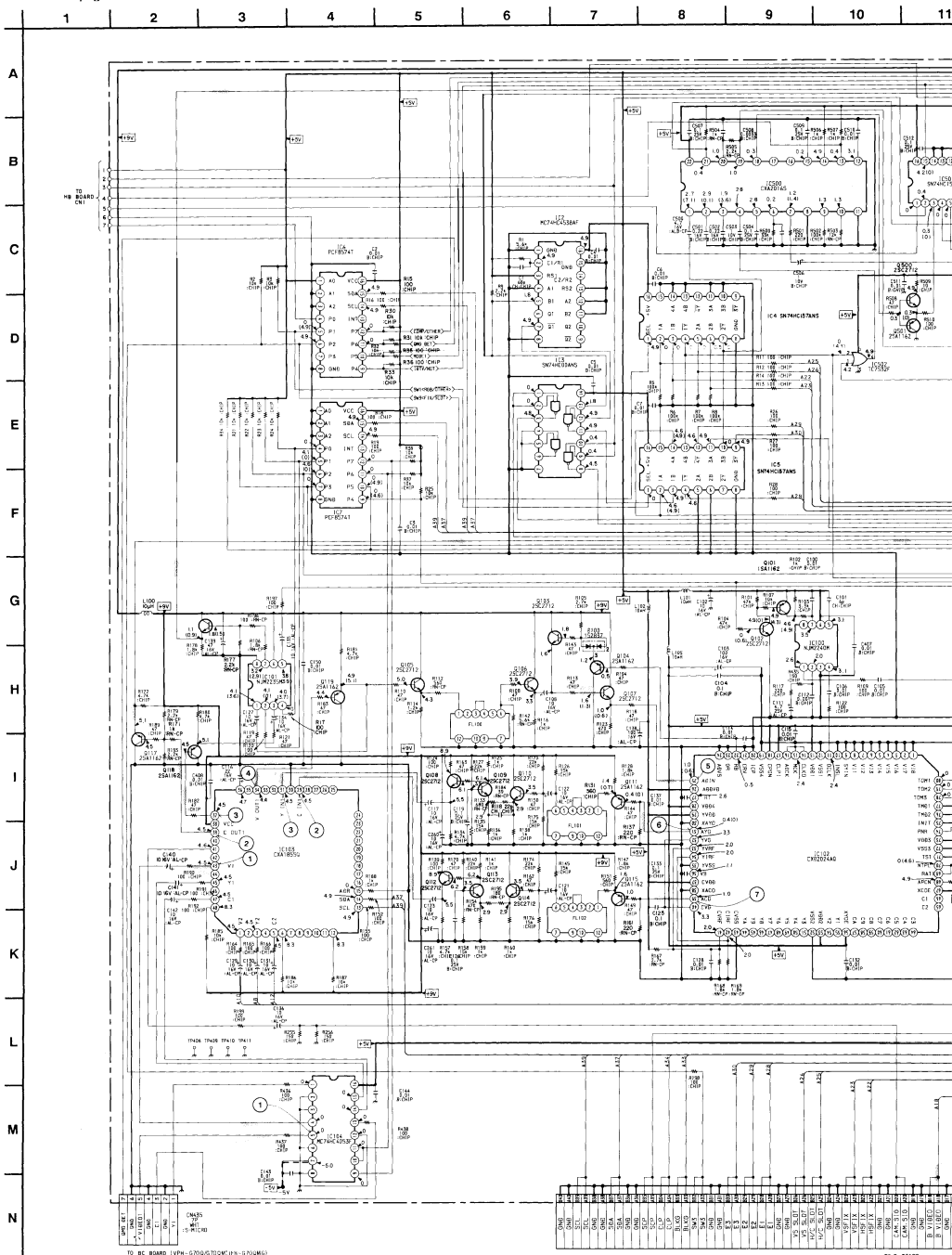
TC7S66F
(IC121, 520)

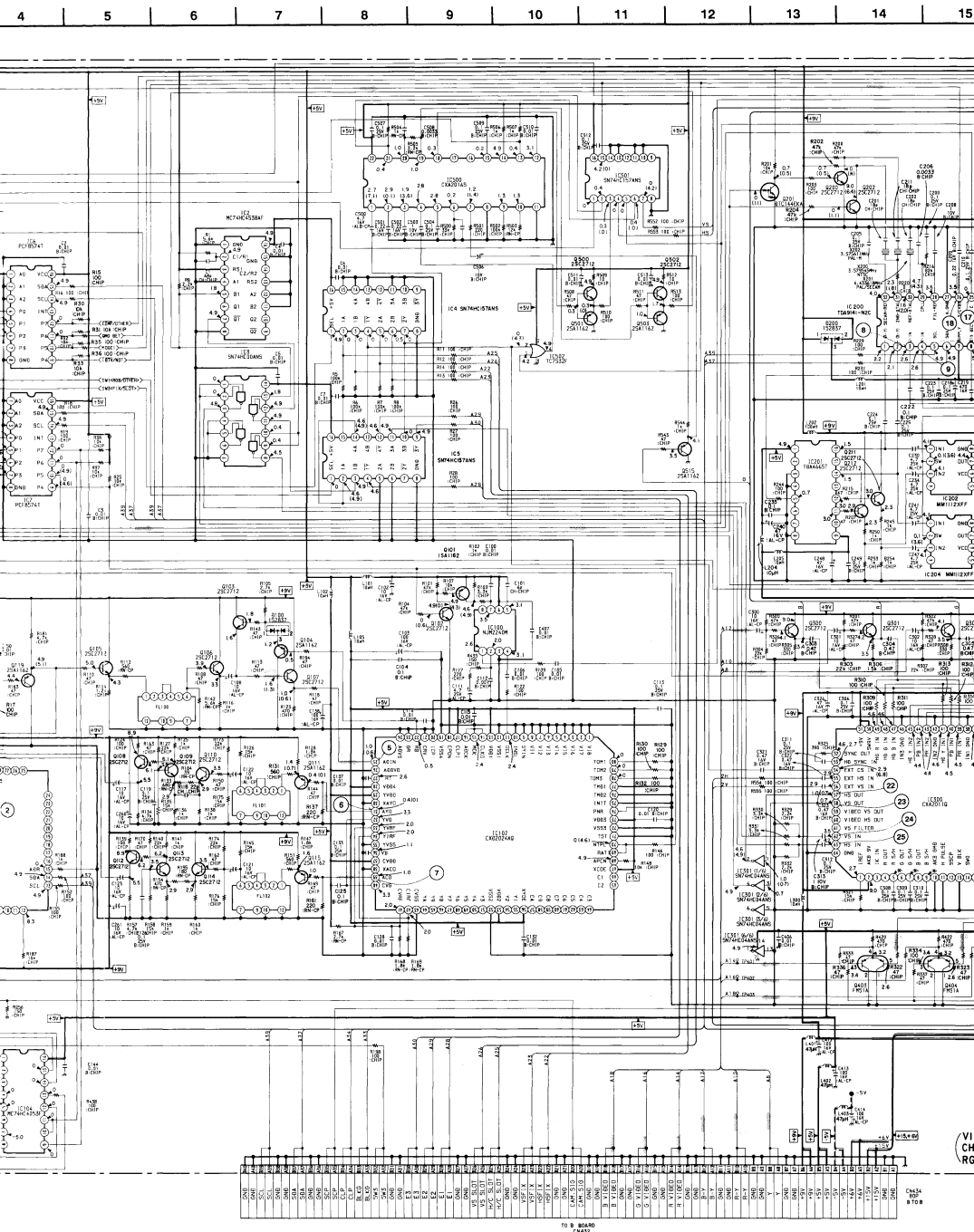


• BA (VIDEO SW, CHROMA DECODER, R.G.B INTERFACE) DIAGRAM

• Refer to page 4-94 for Location of Semiconductor

• Refer to page 4-95 for IC Block Diagram

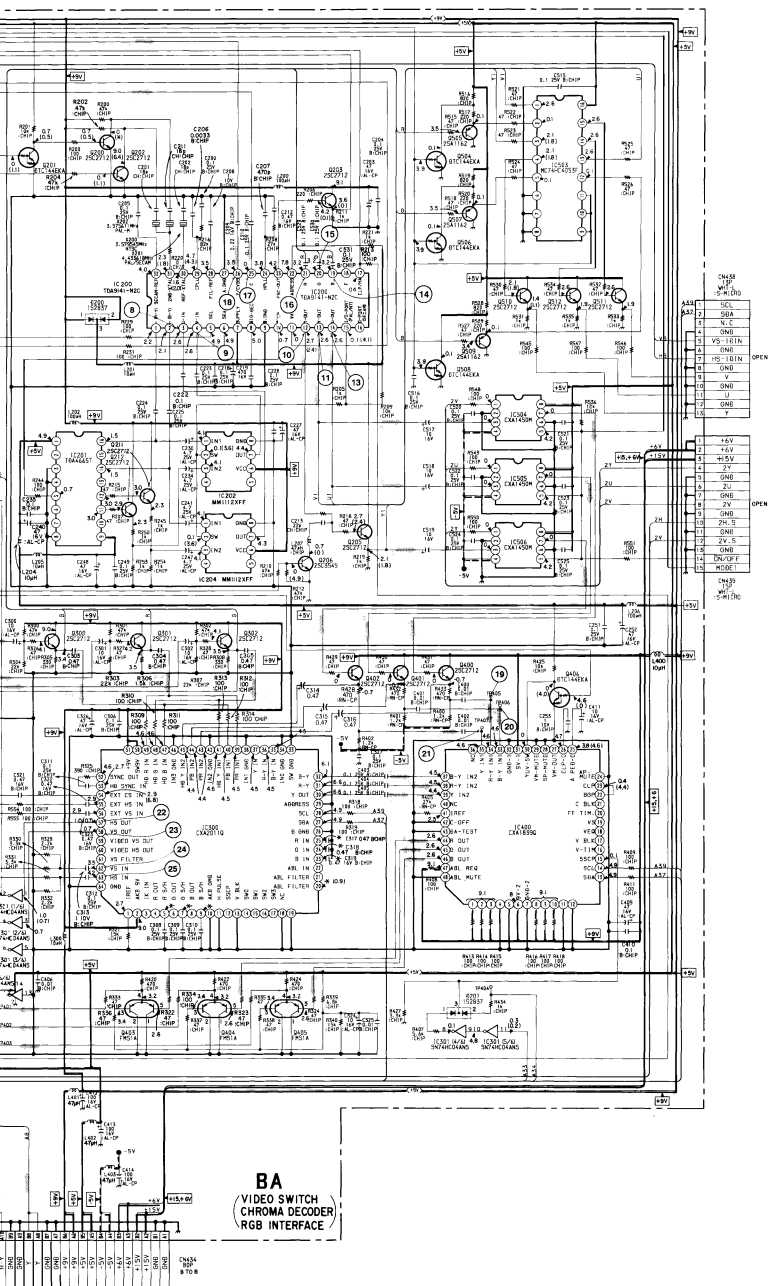




VI
CH
RG

TO B BOARD
CN432

CH
RG

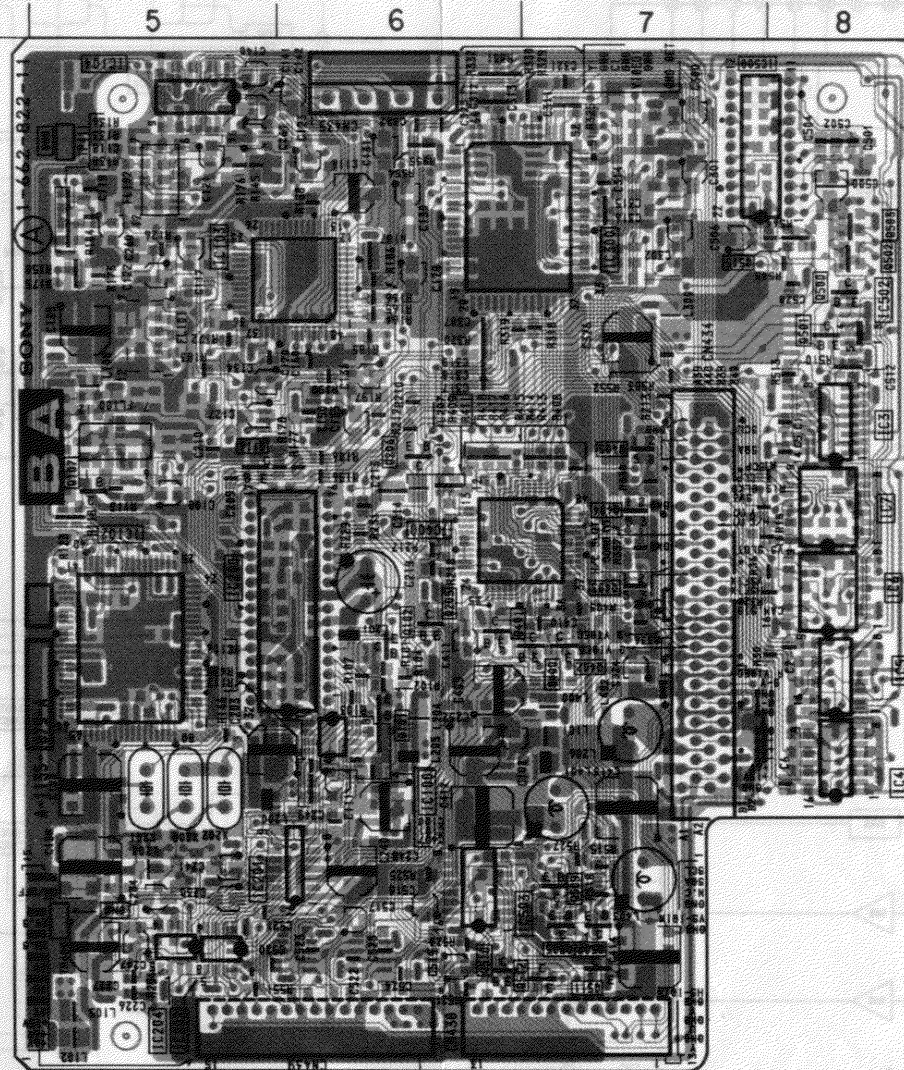
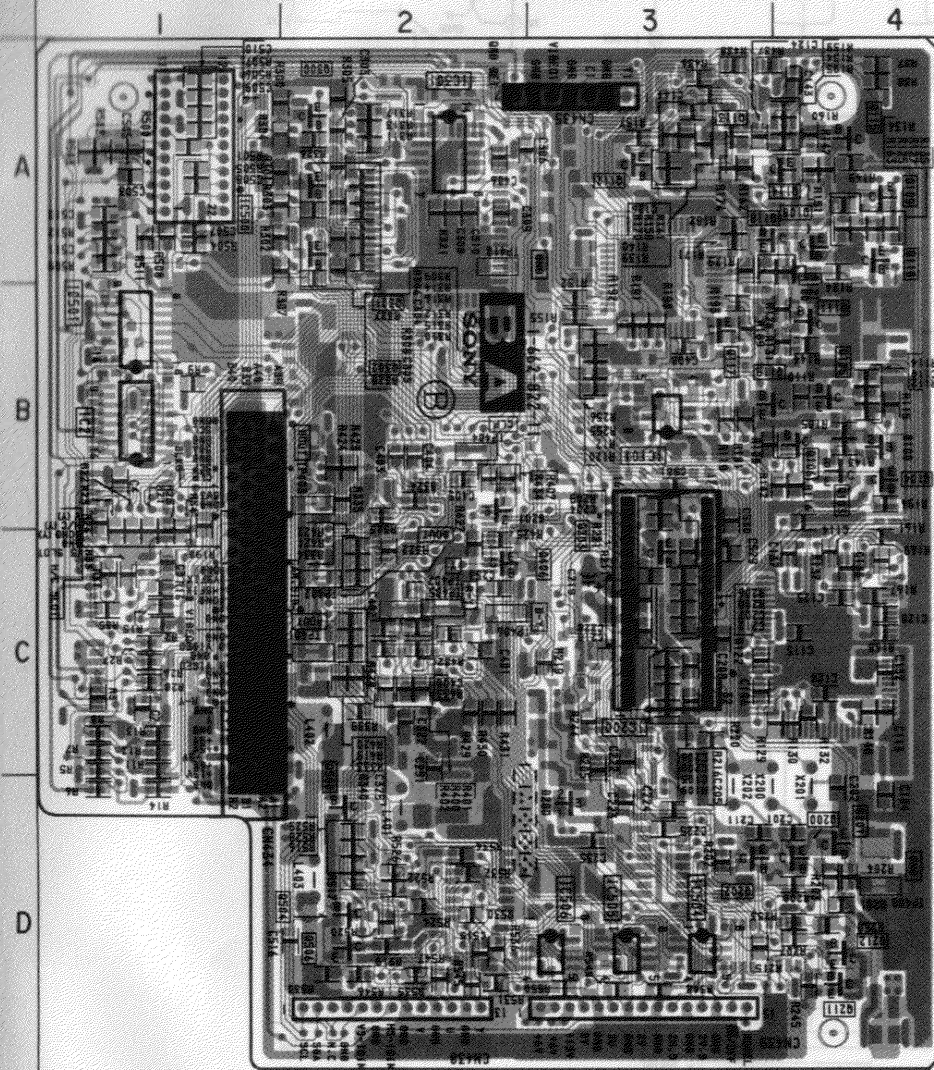


BA

(VIDEO SW, CHROMA DECODER, R.G.B INTERFACE) BOARD

— BA BOARD — <Conductor side>

— BA BOARD — <Component side>



- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

BA BOARD

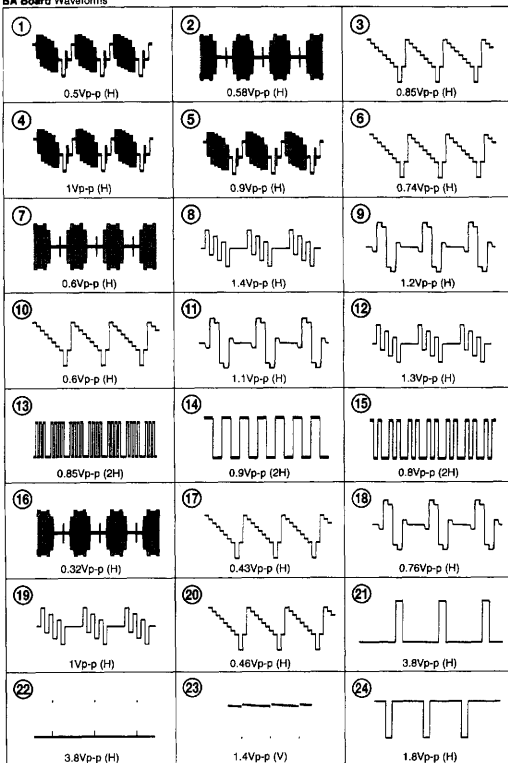
Semiconductors Location

DIODE					
D100 D200 D201	B-4 D-3 B-2	Q102	C-6	Q501	B-8
		Q103	B-4	Q502	A-8
		Q104	B-4		
		Q105	B-4	Q503	A-8
IC		Q106	B-4	Q504	D-2
		Q107	B-5	Q505	D-7
		Q108	A-4	Q506	D-2
		Q109	A-4	Q507	D-7
IC2 IC3 IC4 IC5 IC6 IC7 IC100 IC101 IC102 IC103 IC104 IC200 IC201 IC202 IC204 IC300 IC301 IC400 IC500 IC501 IC502 IC503 IC504 IC505 IC506	B-1 B-8 C-8 C-8 B-8 C-6 B-3 C-5 A-6 A-5 C-3 D-6 D-5 D-5 A-7 A-2 C-6 A-1 B-1 B-8 D-6 D-3 D-3 D-3	Q110	A-4	Q508	D-2
				Q509	D-7
		Q111	B-4	Q510	D-6
		Q112	A-3	Q511	D-7
		Q113	A-3	Q512	D-7
		Q114	A-4		
		Q115	A-5	Q515	A-8
		Q116	B-5		
		Q117	B-3		
		Q118	A-3		
		Q119	B-3		
		Q200	D-4		
		Q201	D-4		
		Q202	D-3		
		Q203	C-3		
		Q205	C-6		
		Q206	B-6		
		Q211	D-4		
		Q212	D-4		
		Q300	A-2		
		Q301	A-2		
		Q302	A-2		
		Q400	C-7		
		Q401	C-6		
		Q402	C-7		
		Q403	C-7		
		Q404	B-7		
		Q405	B-7		
		Q406	C-2		
		Q500	B-8		
TRANSISTOR					
Q101	C-6				

TEST POINT

TP401	C-2
TP402	C-2
TP403	B-2
TP404	B-2
TP405	C-2
TP406	C-2
TP407	C-2
TP408	D-4
TP409	D-5
TP410	A-2
TP411	A-5

BA Board Waveforms



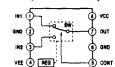
BA BOARD

Function of Semiconductor

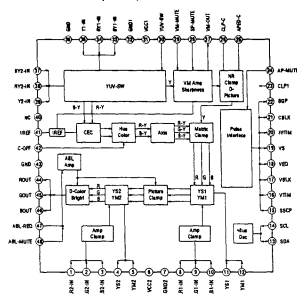
D100	1S2837	LEVEL SHIFT	Q302	2SC2712-YG	VIDEO BUFFER
D200	1S2837	LEVEL SHIFT	Q400	2SC2712-YG	R-Y BUFFER
D201	1S2837	OR	Q401	2SC2712-YG	B-Y BUFFER
			Q402	2SC2712-YG	Y BUFFER
IC2	MC74HC4538AF-T2	SEPARATION CONVERT	Q403	FMS1A	LIMITTER
IC3	SN74HC00ANS-E20	SYNC BUFFER	Q404	FMS1A	LIMITTER
IC4	SN74HC157ANS-E20	SYNC SW	Q405	FMS1A	LIMITTER
IC5	SN74HC157ANS-E20	SYNC SW	Q406	DTC144EKA	Y/U/V
IC6	PCF8574T-T	IIC I/O PROTECTOR	Q500	2SC2712-YG	SYNC BUFFER
IC7	PCF8574T-T	IIC I/O PROTECTOR	Q501	2SA1162-YG	SYNC BUFFER
IC100	NJM2240M-TE2	4FSC OSC	Q502	2SC2712-YG	SYNC BUFFER
IC101	NJM2235M-T2	VIDEO SW	Q503	2SA1162-YG	SYNC BUFFER
IC102	CXD2024AQ	COMB FILTER	Q504	DTC144EKA	COMPARATOR SW
IC103	CXA18550-T6	VIDEO SW	Q505	2SA1162-YG	VIDEO BUFFER
IC104	MC74HC4053F-T2	VIDEO SW	Q506	DTC144EKA	COMPARATOR SW
IC200	TDA9141-N2C	CHROMA DEC./SYNC SEP	Q507	2SA1162-YG	VIDEO BUFFER
IC201	TDA4665T-T	UV-AMP	Q508	DTC144EKA	COMPARATOR SW
IC202	MM1112XFF	UV-SW	Q509	2SA1162-YG	VIDEO BUFFER
IC204	MM1112XFF	UV-SW	Q510	2SC2712-YG	VIDEO BUFFER
IC300	CXA2011Q	HDTV INTERFACE/SYNC SW	Q511	2SC2712-YG	VIDEO BUFFER
IC301	SN74HC04ANS-E20	INVERTER	Q512	2SC2712-YG	VIDEO BUFFER
IC400	CXA1839Q-T6	RGB INTERFACE	Q515	2SA1162-YG	S ON G BUFFER
IC500	CXA2016S	SYNC SEPARATOR			
IC501	SN74HC157ANS-E20	SYNC SW			
IC502	TC7S32F-TE85R	IDTV SYNC SW			
IC503	MC74HC4053F-T2	VIDEO SW			
IC504	CXA1450M-T4	IDTV VIDEO SW			
IC505	CXA1450M-T4	IDTV VIDEO SW			
IC506	CXA1450M-T4	IDTV VIDEO SW			
Q101	2SA1162-YG	NT/PAL SW			
Q102	2SC2712-YG	NT/PAL SW			
Q103	2SC2712-YG	CLAMP			
Q104	2SA1162-YG	CLAMP			
Q105	2SC2712-YG	VIDEO BUFFER			
Q106	2SC2712-YG	VIDEO BUFFER			
Q107	2SC2712-YG	VIDEO BUFFER			
Q108	2SC2712-YG	Y BUFFER			
Q109	2SC2712-YG	Y AMP			
Q110	2SC2712-YG	Y BUFFER			
Q111	2SA1162-YG	Y BUFFER			
Q112	2SC2712-YG	Y BUFFER			
Q113	2SC2712-YG	C AMP			
Q114	2SC2712-YG	C BUFFER			
Q115	2SA1162-YG	C BUFFER			
Q116	2SC2712-YG	VIDEO BUFFER			
Q117	2SA1162-YG	C BUFFER			
Q118	2SA1162-YG	VIDEO BUFFER			
Q119	2SA1162-YG	VIDEO BUFFER			
Q200	2SC2712-YG	PAL-M SW			
Q201	DTC144EKA	PAL-M SW			
Q202	2SC2712-YG	PAL-M SW			
Q203	2SC2712-YG	FSC BUFFER			
Q205	2SC2712-YG	Y BUFFER			
Q206	2SC3545-T44	SECAM SW			
Q211	2SC2712-YG	U BUFFER			
Q212	2SC2712-YG	V BUFFER			
Q300	2SC2712-YG	VIDEO BUFFER			
Q301	2SC2712-YG	VIDEO BUFFER			

BA BOARD IC Block Diagrams

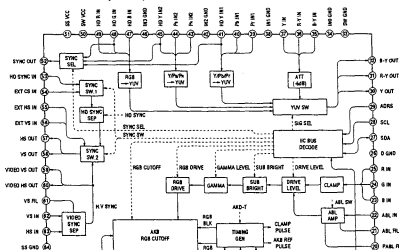
CXA1450M (IC504—506)



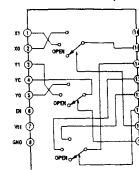
CXA1839Q (IC400)



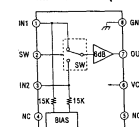
CXA2011Q (IC300)



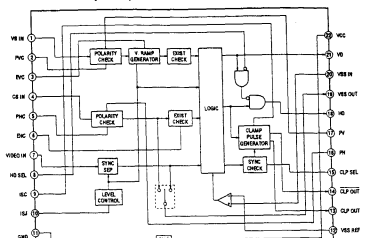
MC74HC4053F (IC104, 503)



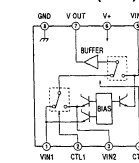
MM112XFF (IC202, 204)



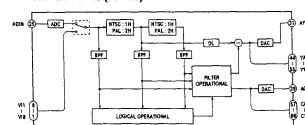
CXA2016S (IC500)



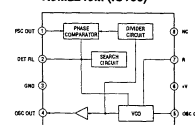
NJM2235M (IC101)



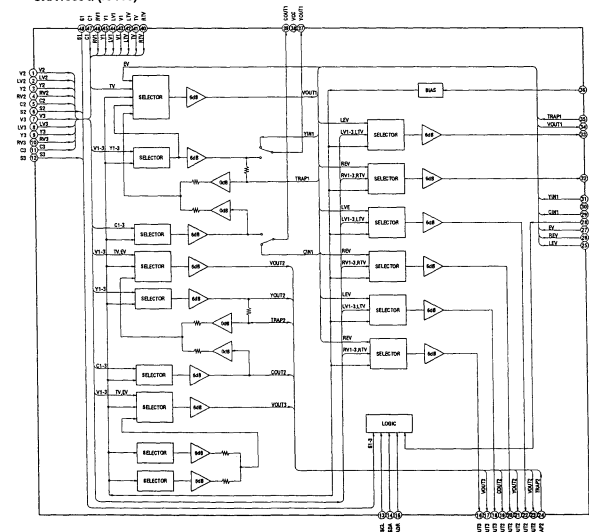
CXD2024AQ (IC102)



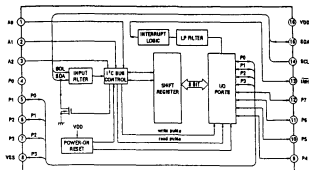
NJM2240M (IC100)



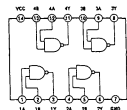
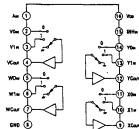
CXA1855Q (IC103)



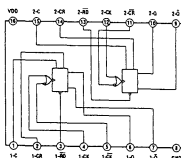
PCF8574T (IC7, 6)



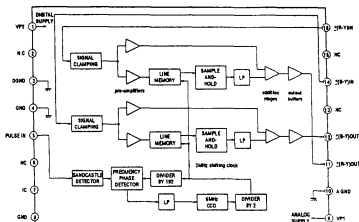
SN74HC00ANS (IC3)


SN74HC157ANS
(IC5, 4, 501)


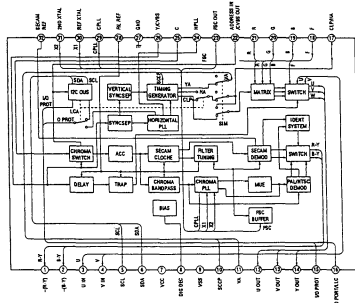
SN74HC4538AF (IC2)



TDA4665T (IC201)



TDA9141-N2C (IC200)



BH

(SWITCH) BOARD

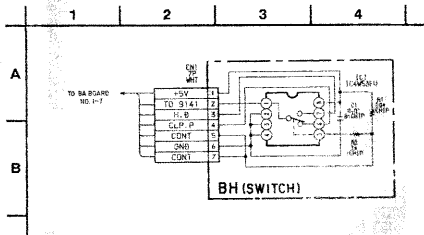
— BH BOARD — <Component side>



Pattern from the side which enables seeing.

Pattern of the rear side.

• BH (SWITCH) DIAGRAM



BH BOARD

Function of Semiconductor



IC1	TC4W53FU	SWITCH
-----	----------	--------

BC

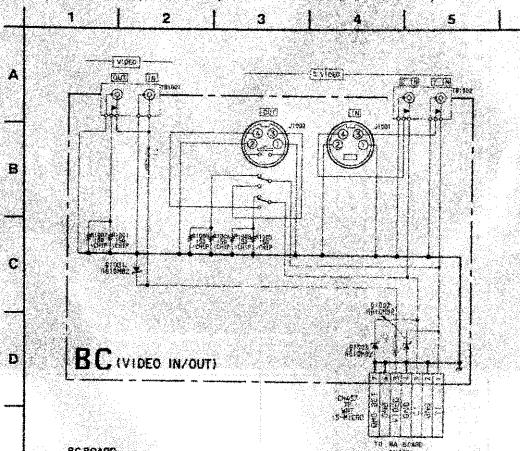
(VIDEO IN/OUT) BOARD (VPH-G70Q/G70QM, IFB-G70QMG)

— BC BOARD — <Conductor side>



- : Pattern from the side which enables setting.
- : Pattern of the rear side.

• BH (VIDEO IN/OUT) DIAGRAM (VPH-G70Q/G70QM, IFB-G70QMG)

**BC BOARD**

Function of Semiconductor

D1001	RD10M-T162	PROTECTOR
D1002	RD10M-T162	PROTECTOR
D1003	RD10M-T162	PROTECTOR

Schematic Diagram

← **BH** board

YA BOARD

Semiconductors Location

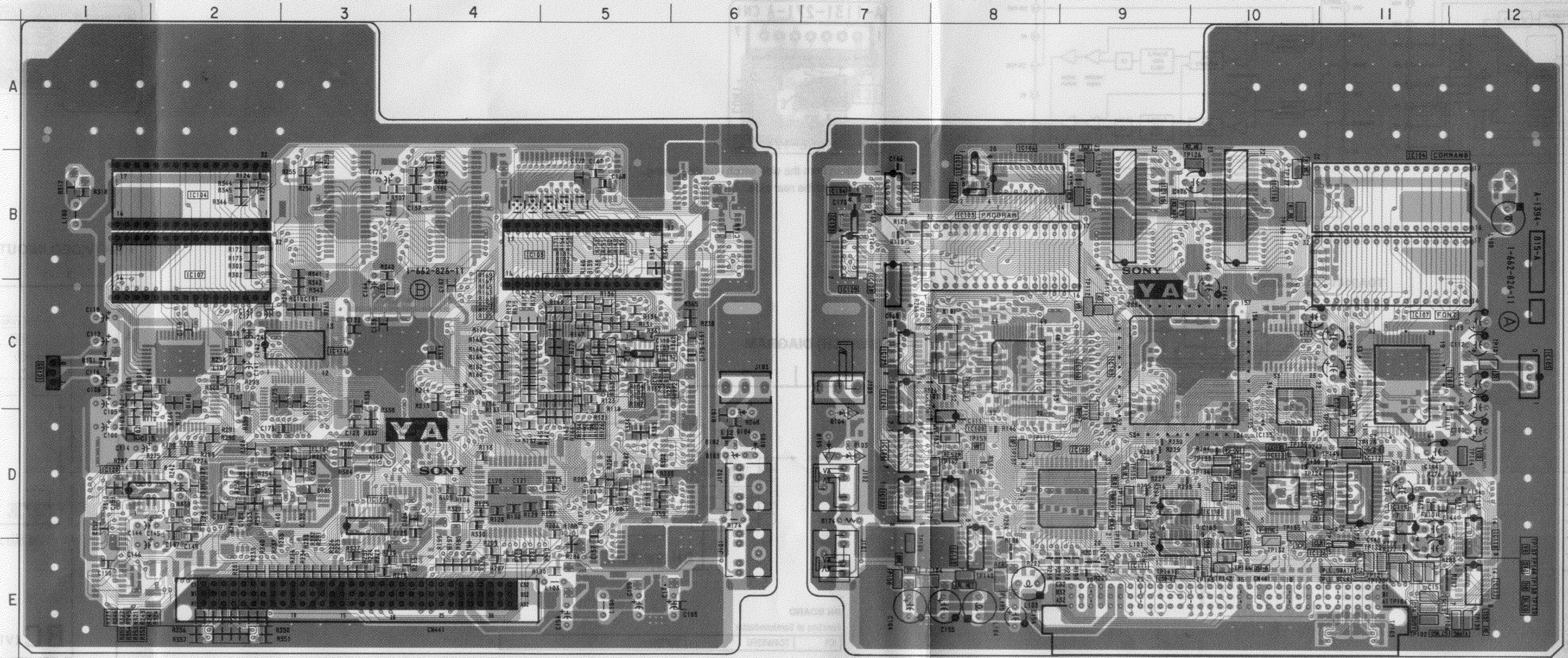
DIODE		TEST POINT			
D101	C-1	TP100	E-7	TP144	E-10
D102	D-6	TP101	C-12	TP145	C-11
D103	D-6	TP102	E-11	TP146	D-11
D104	D-6	TP103	E-11	TP147	D-8
D105	D-6	TP104	E-11	TP148	E-12
IC		TP105	D-7	TP149	D-11
		TP106	E-11	TP150	D-10
		TP107	D-8	TP152	C-8
IC100	D-8	TP108	B-9	TP153	D-8
IC101	C-11	TP109	B-9		
IC102	C-8				
IC103	B-5	TP110	C-9		
IC104	B-2	TP111	D-8		
IC105	C-1	TP112	C-9		
IC106	B-8	TP113	C-9		
IC107	B-2	TP114	D-12		
IC108	D-9	TP115	D-9		
IC109	C-9	TP116	D-9		
		TP117	D-9		
IC110	D-9	TP118	D-9		
IC111	E-9	TP119	D-11		
IC112	D-11				
IC113	D-10	TP120	E-11		
IC114	C-3	TP121	E-11		
IC115	B-9	TP122	E-11		
IC116	B-10	TP123	D-11		
IC117	E-12	TP124	D-10		
IC118	D-12	TP125	D-10		
IC120	D-1	TP126	B-10		
		TP127	B-10		
IC121	D-8	TP128	B-10		
IC122	D-7	TP129	B-9		
IC123	E-8				
IC124	C-7	TP130	E-12		
IC125	C-7	TP131	D-10		
IC126	D-7	TP132	D-10		
IC127	D-3	TP133	D-10		
IC128	B-7	TP134	D-10		
IC129	B-7	TP135	D-10		
IC130	B-7	TP136	D-10		
		TP137	E-12		
IC131	B-8	TP138	E-12		
IC132	B-8	TP139	E-12		
IC133	B-7				
IC134	B-7	TP140	E-8		
IC135	C-10	TP141	E-9		
IC136	D-11	TP142	E-10		
IC137	C-5	TP143	E-10		



YA

(MAIN CPU, OSD CPU, MEMORY CONTROL, SIRCS RECEIVER) BOARD

— YA BOARD — <Conductor side>

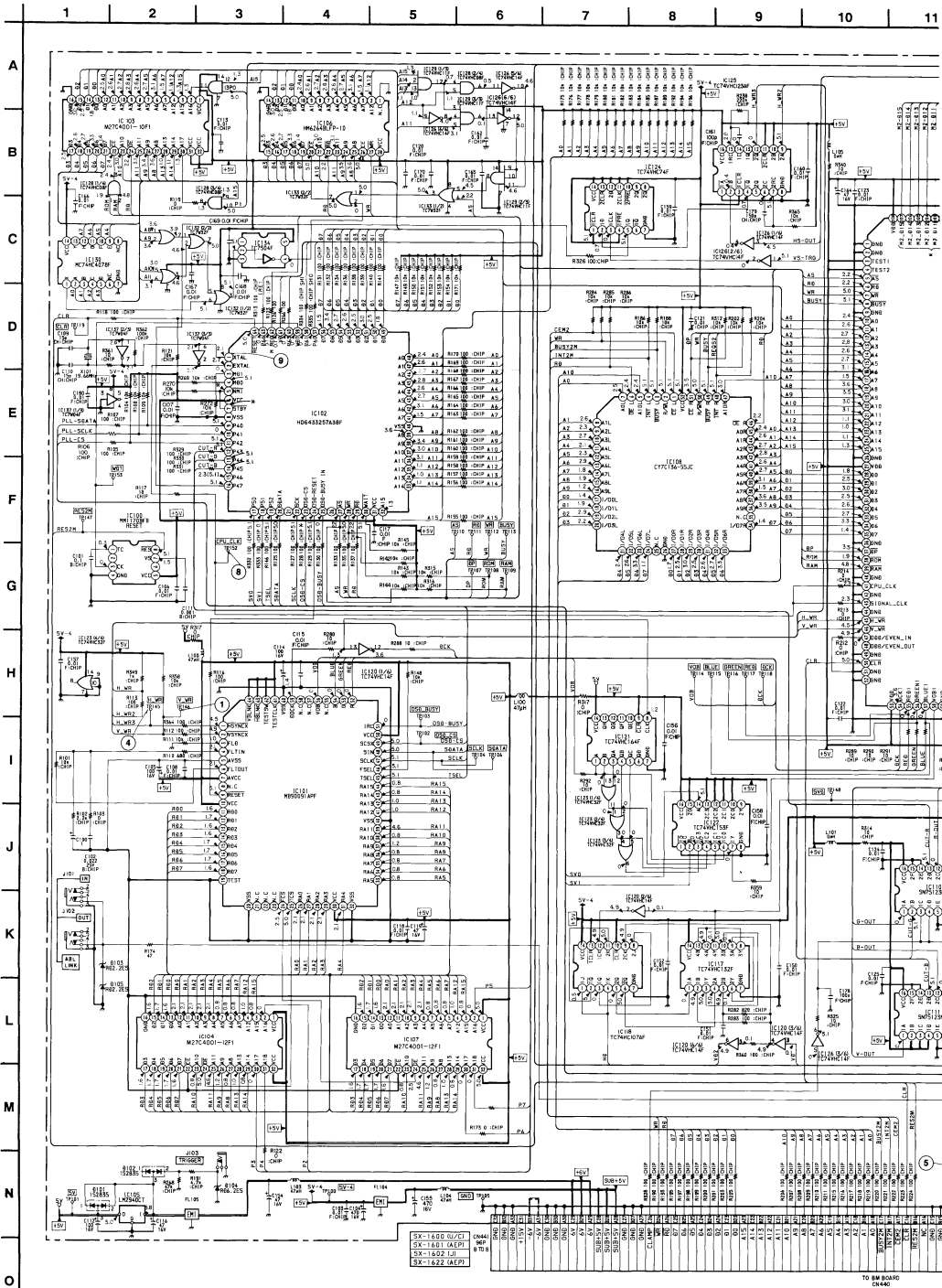
— YA BOARD — <Component side>

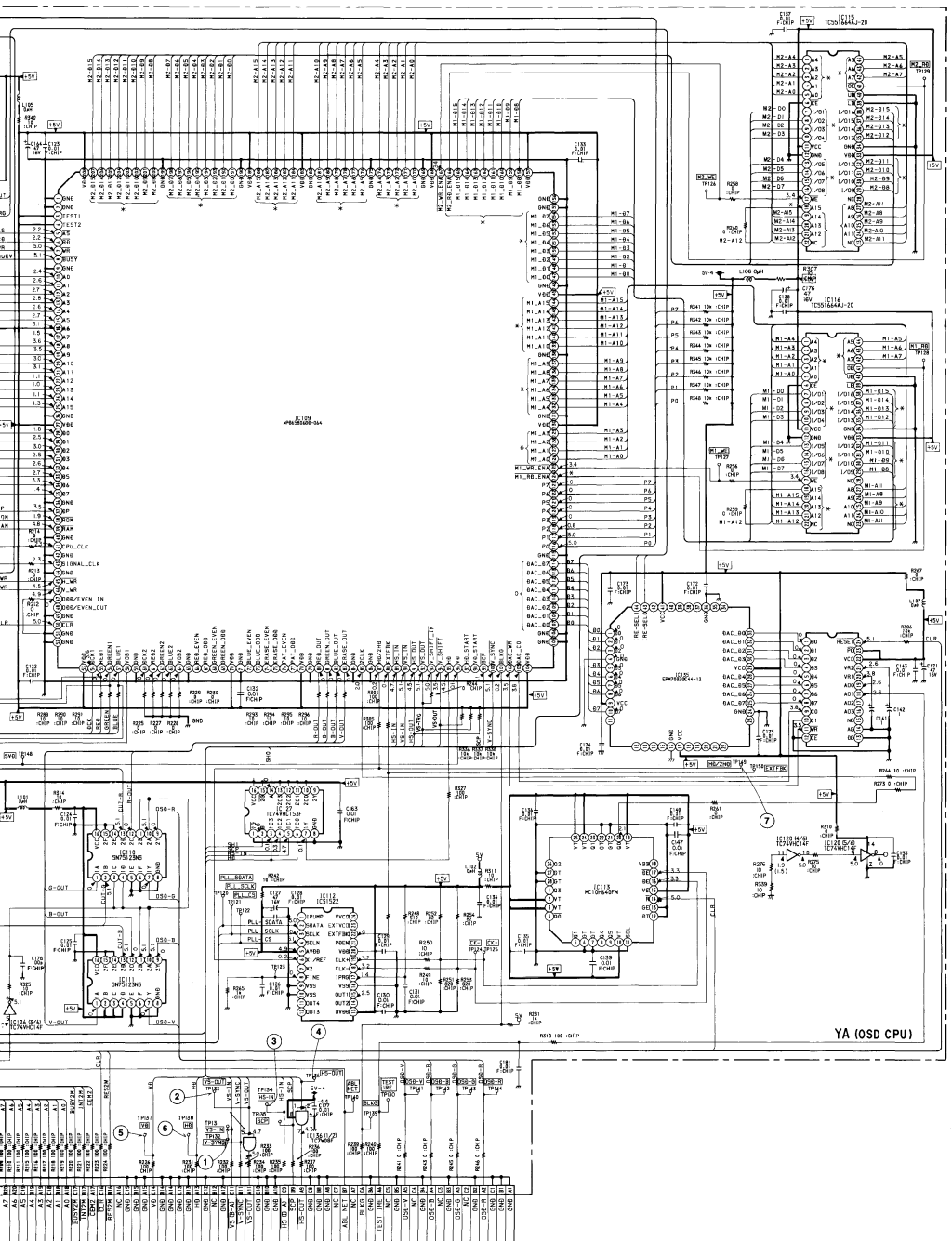


- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

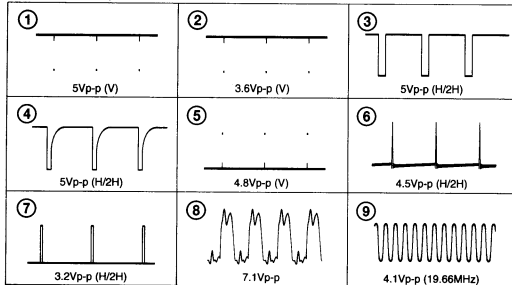
• YA (OSD CPU) DIAGRAM

- Refer to page 4-106 for Waveforms
- Refer to page 4-106 for Function of Semiconductor
- Refer to page 4-107 for IC Block Diagram





YA Board Waveforms



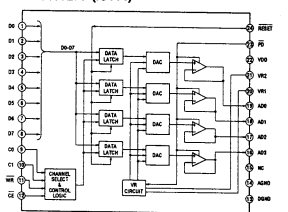
YA BOARD

Function of Semiconductor

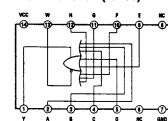
D101	152835	DC LEVEL SHIFT
D102	152835	PROTECT
D103	RD2 2ES-B2	PROTECT
D104	RD6 2ES-B5	PROTECT
D105	RD2 2ES-B2	PROTECT
IC100	MM11708FB	RESET SW
IC101	MB90091APF-114	OSDC
IC102	HD643325A38F	SUB MPU 2
IC103	M27C4001-10F1	PROGRAM ROM
IC104	M27C4001-12F1	PROGRAM ROM
IC105	LM2940CT-5.0	+5V REGULATOR
IC106	HM6284BLP-10LTZ	RAM
IC107	M27C4001-12F1	PROGRAM ROM
IC108	CY7C136-50JC-TEL	DUAL PORT RAM
IC109	uPD65806GD-064-LML	CHARACTER & TEST PATTERN GENERATOR
IC110	SN75123NS-E05	LINE DRIVER
IC111	SN75123NS-E05	LINE DRIVER
IC112	IC51522MT	VCO
IC113	MC10H640FNR2	PCSEL/TTL CLOCK DRIVER
IC114	MB86022PF-ER	IRE GEN
IC115	TC55166AAJ-20	S RAM
IC116	TC55166AAJ-20	S RAM
IC117	TC74VHC132F	VD SYNCHRONIZER
IC118	TC74HC107AF	VD SYNCHRONIZER
IC119	TC74VHC14F	VD SYNCHRONIZER
IC121	TC74VHC164F	SHADE ADDER
IC122	TC74VHC153F	SHADE ADDER
IC123	TC74VHC132F	SHADE ADDER
IC124	TC74VHC74F	ODD/EVEN DETECTOR
IC125	TC74VHC123F	ODD/EVEN DETECTOR
IC126	TC74VHC14F	ODD/EVEN DETECTOR
IC127	TC74VHC153F	HD SYNC SELECTOR
IC128	TC74VHC08F	ADDRESS DECODER
IC129	TC74VHC11F	ADDRESS DECODER
IC130	MC74HC4078FEL	ADDRESS DECODER
IC131	TC7W32F	ADDRESS DECODER
IC132	TC7W32F	ADDRESS DECODER
IC133	TC7W32F	ADDRESS DECODER
IC134	TC7S04F	ADDRESS DECODER
IC135	EPM70320C44-12-IRE	IRE DECODER
IC136	TC7W08F	BUFFER
IC137	TC7W04F	BUFFER

YA BOARD IC Block Diagrams

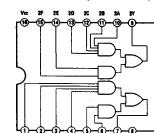
MB86022PF (IC114)



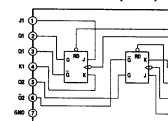
MC74HC4078F (IC130)



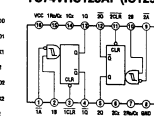
SN75123NS (IC110, 111)



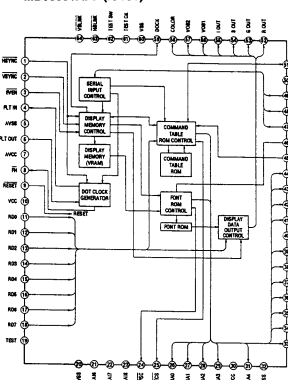
TC74HC107AF (IC118)



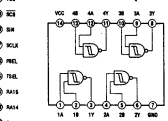
TC74VHC123AF (IC125)



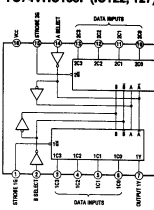
MB90091APF (IC101)



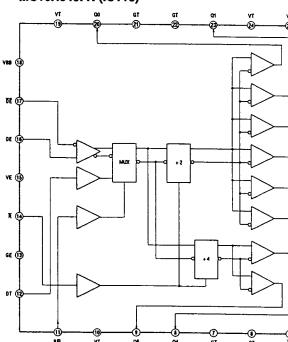
TC74VHC132F (IC117)



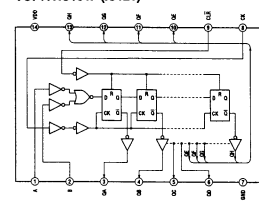
TC74VHC153F (IC122, 127)



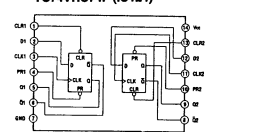
MC10H640FN (IC113)



TC74VHC164F (IC121)



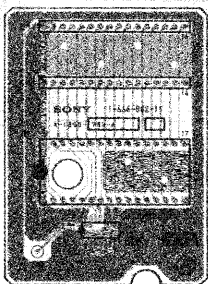
TC74VHC74F (IC124)



YO

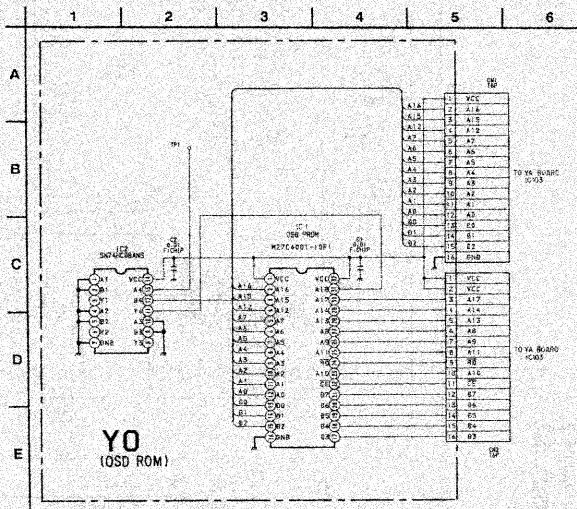
(OSD ROM) BOARD

— YO BOARD — <Component side>



- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

• YO (OSD ROM) DIAGRAM



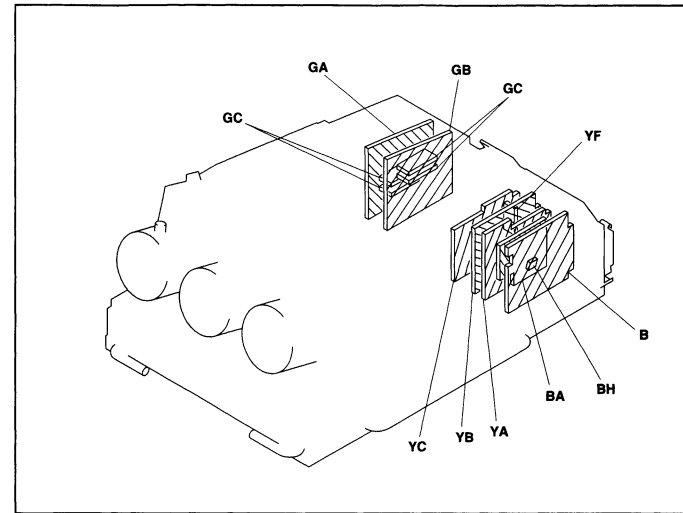
YO BOARD

Function of Semiconductor

IC1	M27C4001-10F1	OSD PROM
IC2	SN74HC28ANS	SWITCH

This diagram illustrates the exploded view of the IFB-40 chassis, showing the following components and their assembly points:

- FA**: Front panel assembly
- FAA**: Front panel assembly (top)
- FAB**: Front panel assembly (bottom)
- EC**: Earphone connector
- ECA**: Earphone connector assembly
- IFB-40**: Main chassis
- BM**: Base mount
- QM**: Quarter mount
- C**: Chassis cover
- DM**: Dynamic microphone
- MR**: Microphone receiver
- L**: Loudspeaker
- PA**: Power amplifier
- NB**: Noise blocker
- MF**: Microphone filter
- PB**: Power button
- DB**: Dynamic button
- F**: Front panel
- EA**: Earphone assembly
- EBA**: Earphone assembly (top)
- NA**: Noise assembly
- EB**: Earphone button
- EBB**: Earphone button assembly
- BC (G70Q/G70QM) (IFB-G70QM)**: Base component
- D**: Dynamic component
- DD**: Dynamic component (top)
- DCR**: Dynamic component receiver
- DC**: Dynamic component
- MT**: Microphone terminal
- E**: Earphone













4-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS




Note:

- All capacitors are in μF unless otherwise noted.
50WV or less are not indicated except for electrolytics.
pF: μF
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

- Chip resistor are 1/10W unless otherwise noted.
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- Δ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- METAL FILM (: RVN) resistor in 0.5%, 1/4W unless otherwise specified.
- The components identified by  in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by  and repeat the adjustment until the specified value is achieved. (Refer to  RV1,  RV2 on page 3-20.)

Part replaced ()	Adjustment ()
IC1, D1, D2, C3, R1, R2, R3, R4, R5, R6, R7, R185, R194 PA board	RV1 (HV HOLD-DOWN)
IC2, IC3, IC4, IC7, IC9, IC10, IC12, IC13, D12, R53, R54, R57, R59, R60, R61, R68, R69, R70, R72, R76, R77, R78, X1 PA board	RV2 (HIGH VOLTAGE REGULATOR)

- When the power supply block has been replaced, check that the +B MAX voltage is within the specification..
- All voltages are in V.
- Voltage variations may be noted due to normal production tolerance.
- Reading are taken with Composite Video and Component (R.G.B. HD, VD) color-bar signal input from color-bar pattern generator.
- Voltage are dc with respect to ground unless otherwise noted.
- no mark : Composite Video signal and comon () : Component (R.G.B. HD, VD) signal
- : B+ line.
- : B- line.
- : signal path.
- Circled numbers are waveforms reference.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

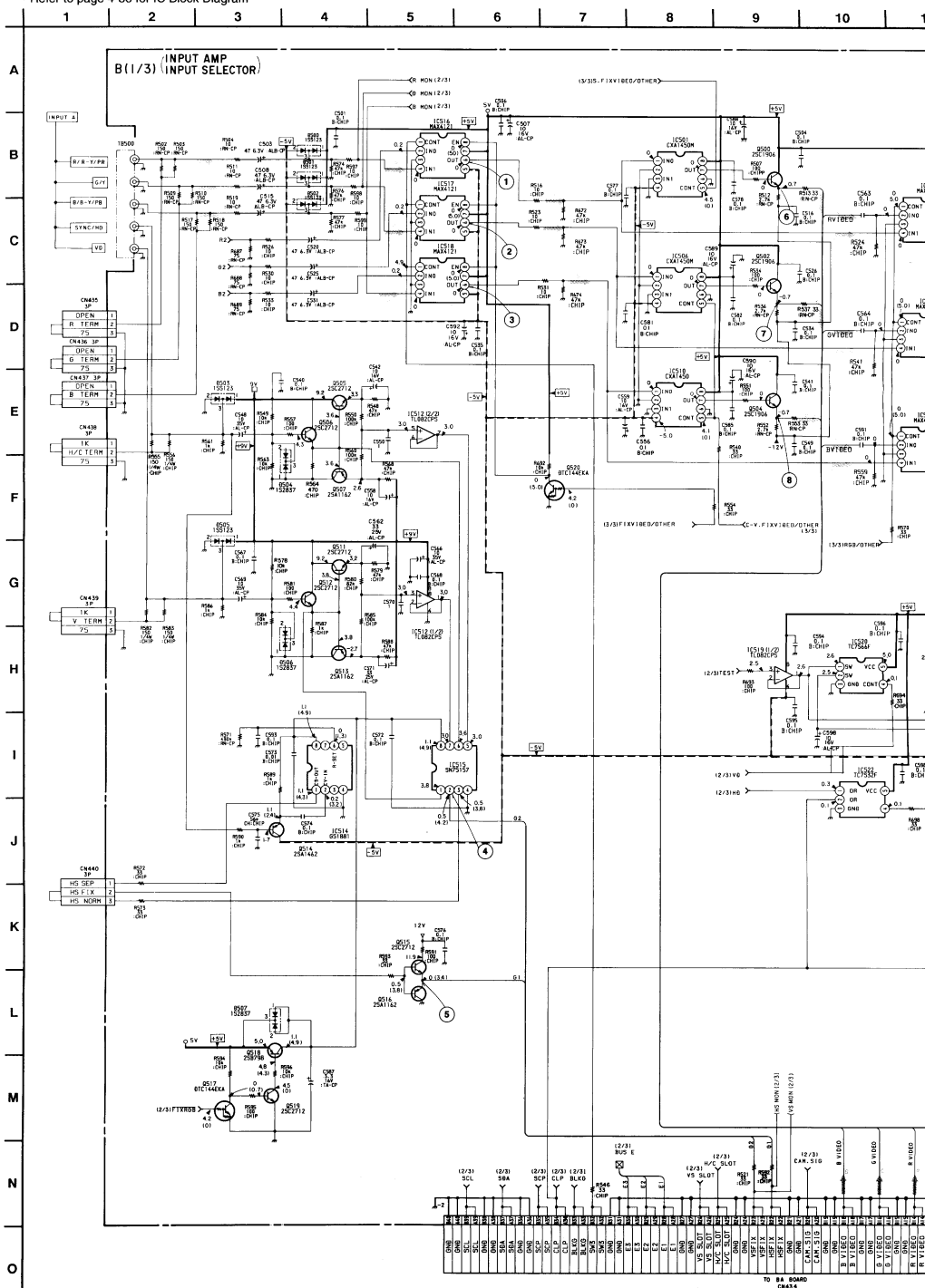
Note:

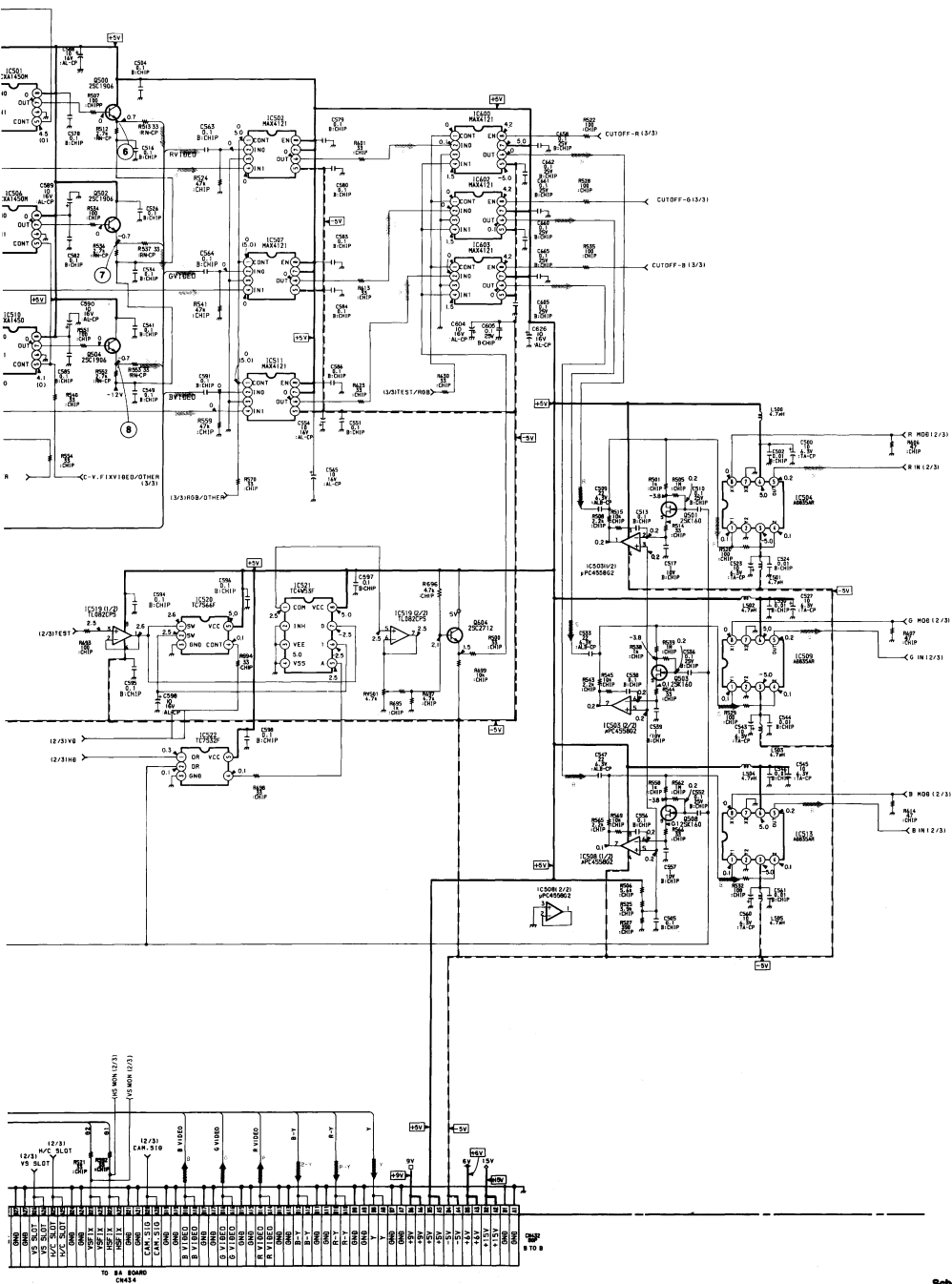
The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par un tramé et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B (1/3) (INPUT AMP, INPUT SELECT) DIAGRAM
- Refer to page 4-80 for Printed Wiring Board
- Refer to page 4-83 for Waveforms
- Refer to page 4-84 for Function of Semiconductor
- Refer to page 4-86 for IC Block Diagram

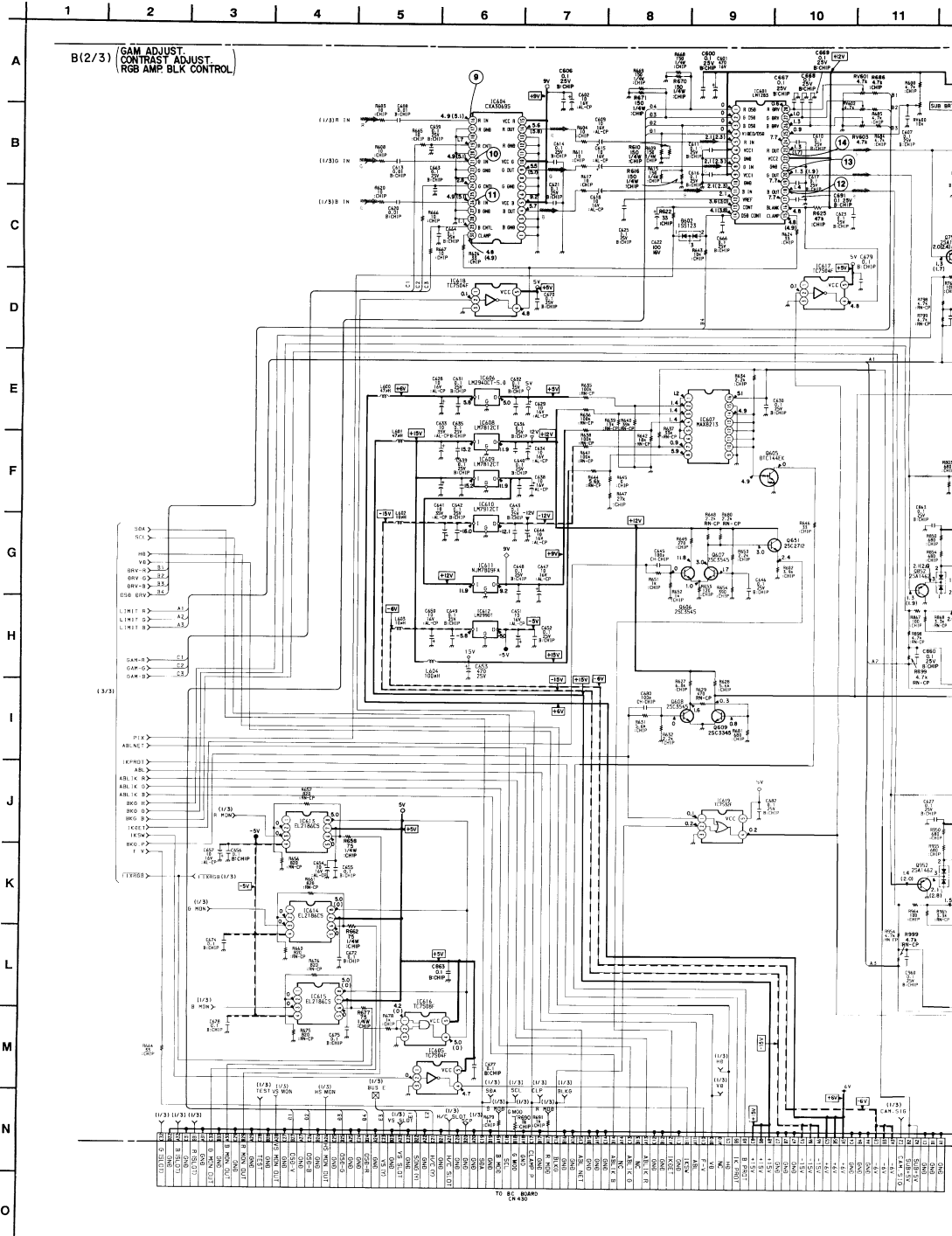




Schematic Diagram

B (2/3) board →

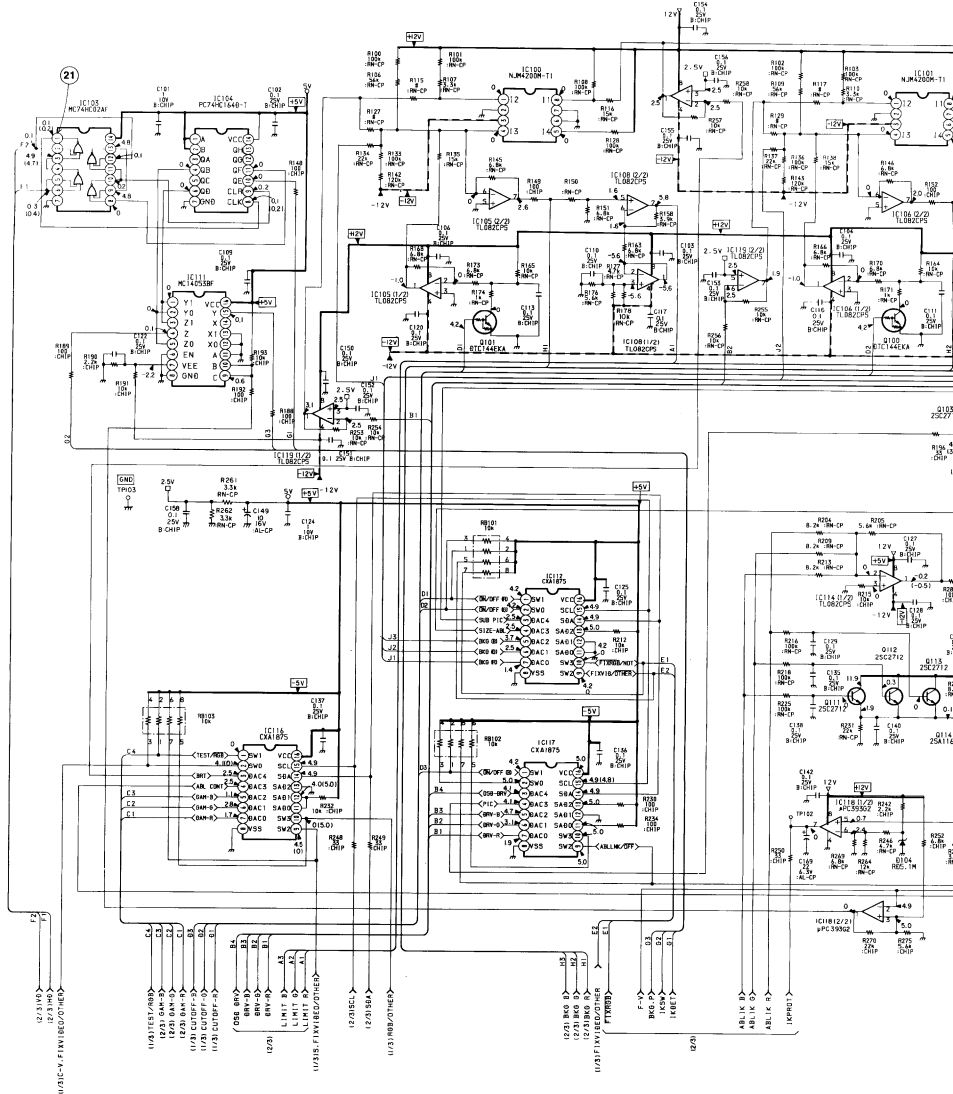
- B (2/3) (GAM ADJ., CONTRAST ADJ., RGB AMP, BLK CONTROL) DIAGRAM
- Refer to page 4-80 for Printed Wiring Board
- Refer to page 4-83 for Waveforms
- Refer to page 4-84 for Function of Semiconductor
- Refer to page 4-86 for IC Block Diagram

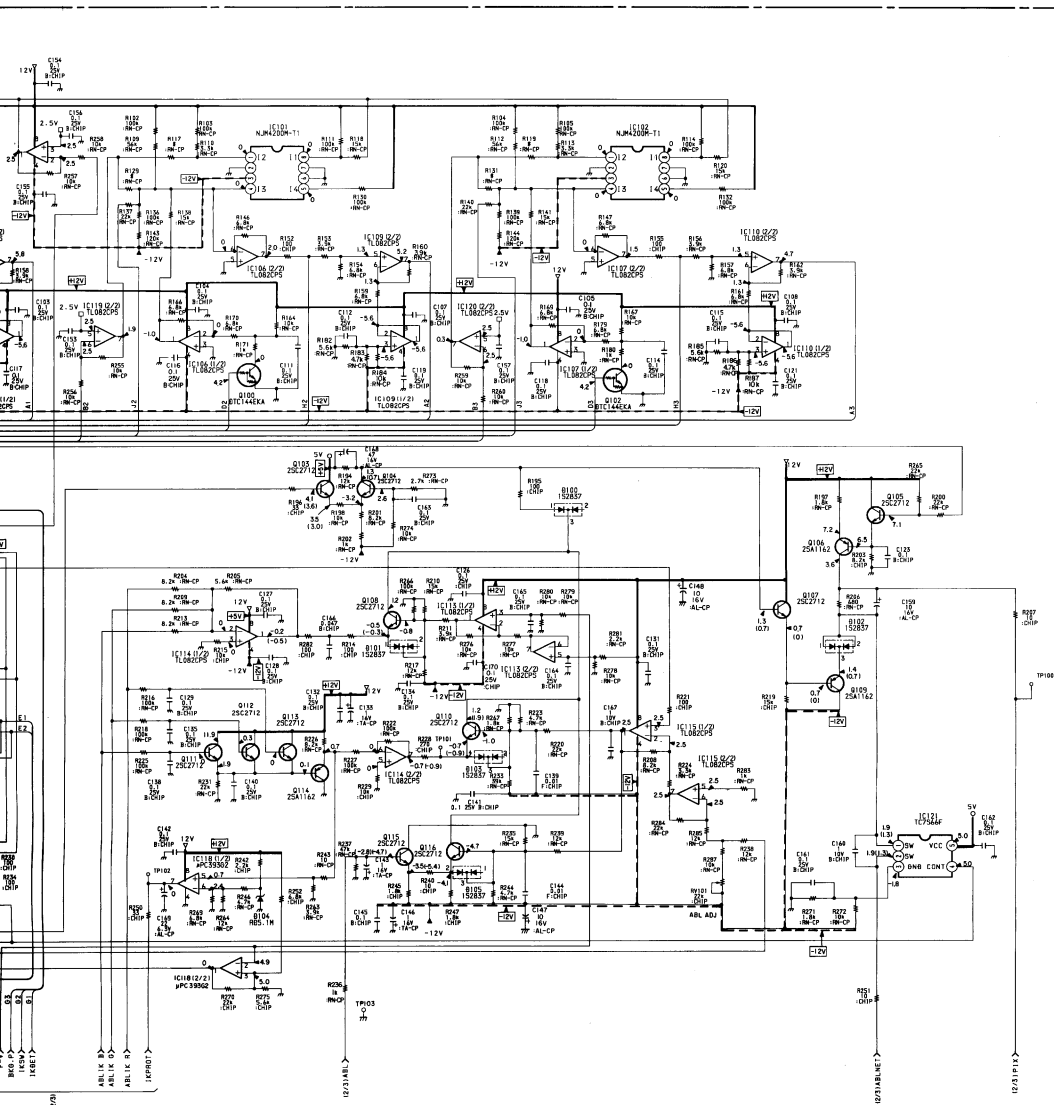


• B (3/3) (DAC, BLK PULSE GEN., ABL CONTROL) DIAGRAM

- Refer to page 4-80 for Printed Wiring Board
- Refer to page 4-83 for Waveforms
- Refer to page 4-84 for Function of Semiconductor
- Refer to page 4-86 for IC Block Diagram

B (3/3) (DAC, BLK PULSE GEN.,
ABL CONTROL

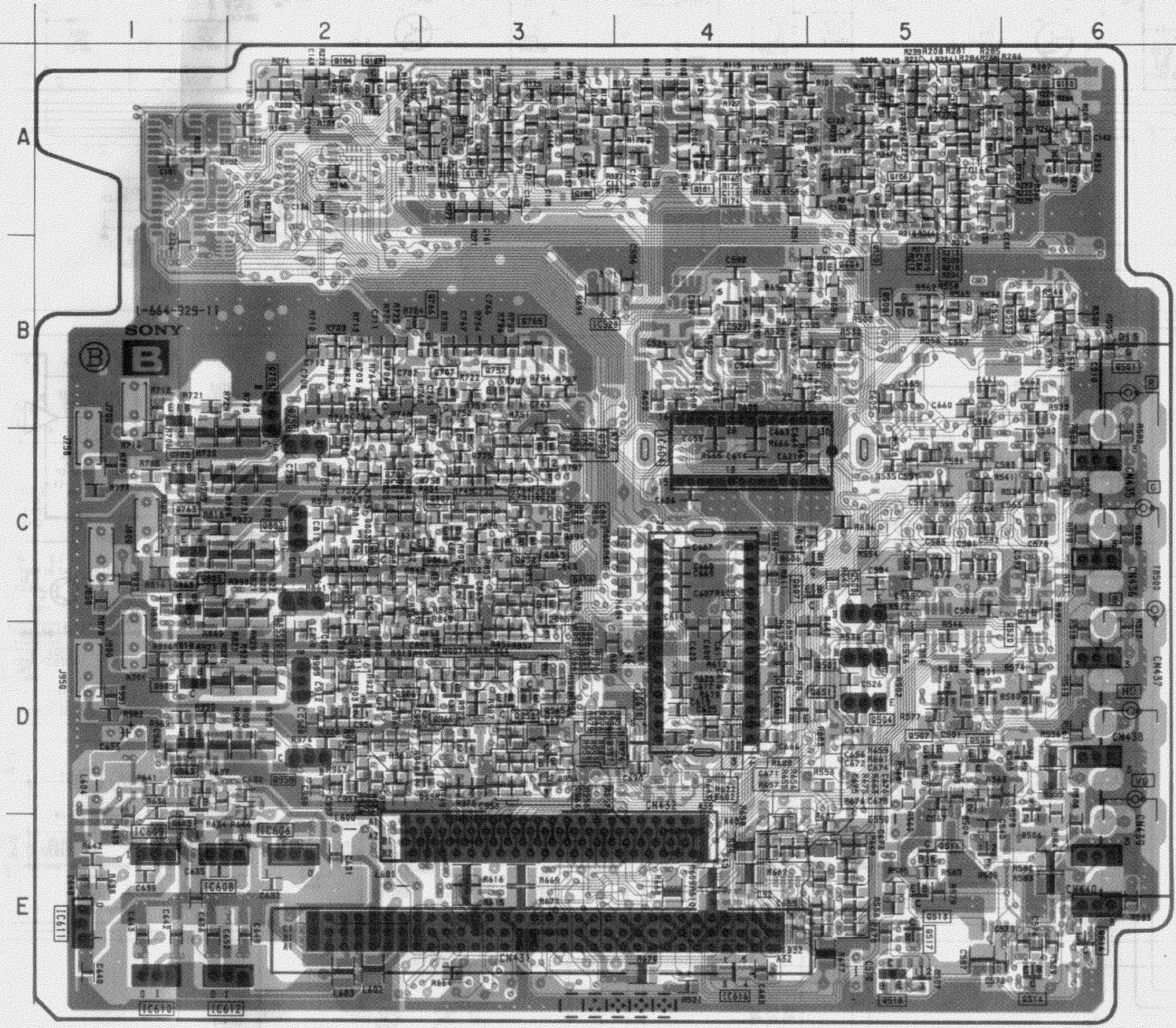




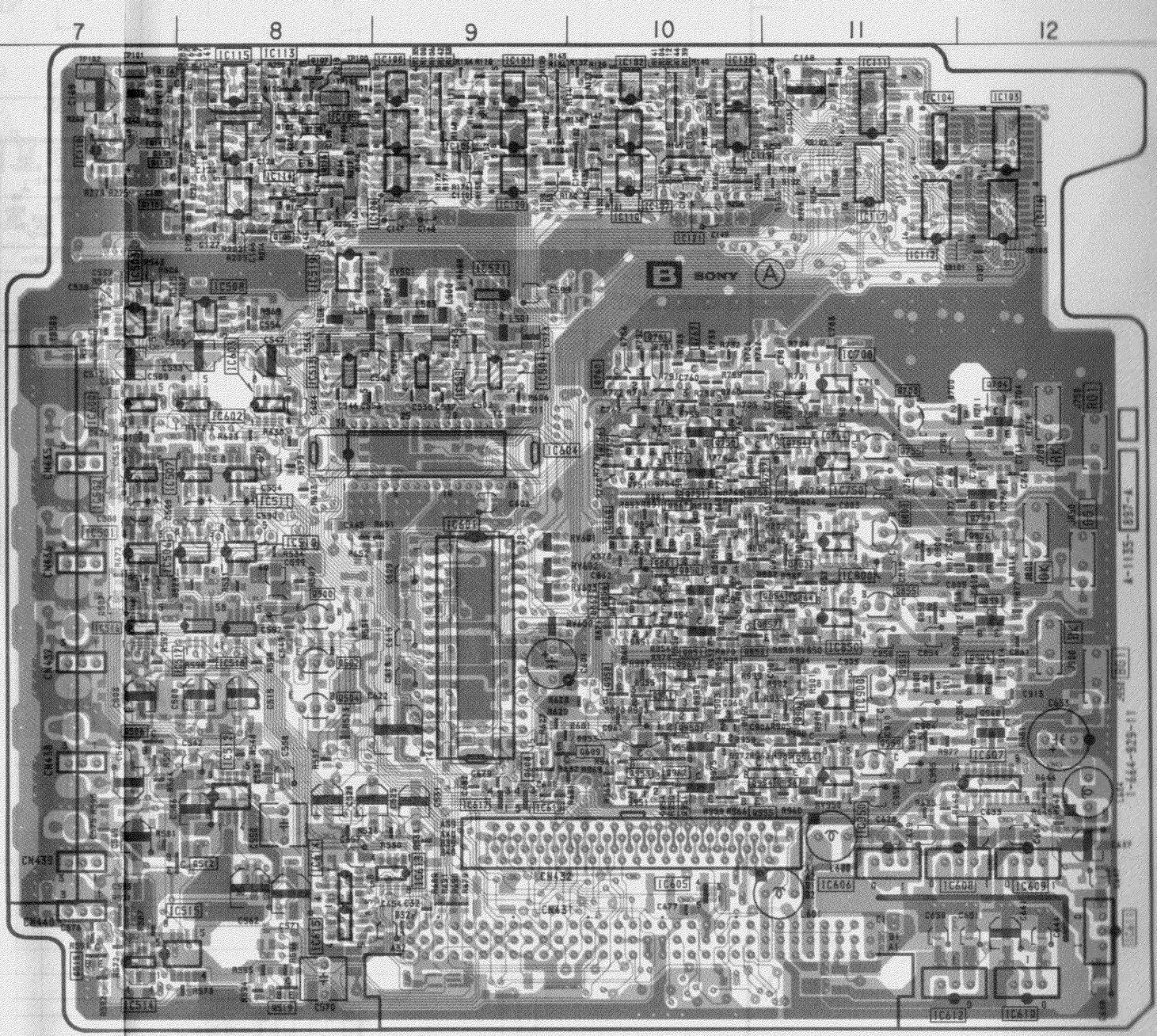
Semiconductors Location

4-80

— B BOARD — <Conductor side>

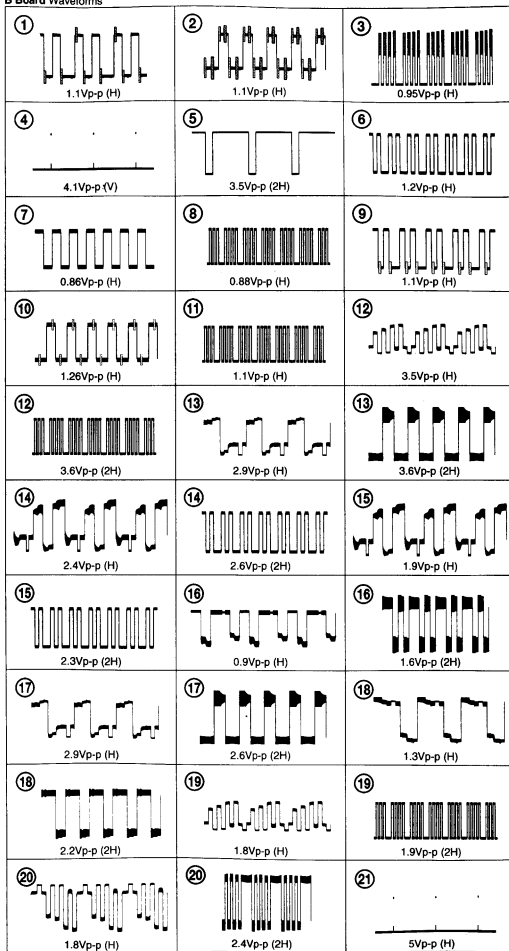


— B BOARD — <Component side>



- Pattern from the side which enables seeing.
- Pattern of the rear side.

B Board Waveforms



B BOARD

Function of Semiconductor (1/2)

D100	1S2837	ABL	IC104	PC74HC164D-7	PULSE GENERATOR
D101	1S2837	Q108 PROTECTOR	IC105	TL082CPS-E20	R BIAS LEVEL, R BKG CONT.
D102	1S2837	Q109 PROTECTOR	IC106	TL082CPS-E20	G BIAS LEVEL, G BKG CONT.
D103	1S2837	Q110 PROTECTOR	IC107	TL082CPS-E20	B BIAS LEVEL, B BKG CONT.
D104	RO5-1M-B2	IK PROTECTOR	IC108	TL082CPS-E20	LEVEL SHIFT
D105	1S2837	Q116 PROTECTOR	IC109	TL082CPS-E20	LEVEL SHIFT
D500	1SS123	PROTECTOR	IC110	TL082CPS-E20	LEVEL SHIFT
D501	1SS123	PROTECTOR	IC111	MC14538P-72	SWITCH
D502	1SS123	PROTECTOR	IC112	CXA1875AM-14	DAC AND SW
D503	1SS123	PROTECTOR	IC113	TL082CPS-E20	
D504	1S2837	PROTECTOR	IC114	TL082CPS-E20	PEAK ABL, SINGLE ABL
D505	1SS123	PROTECTOR	IC115	TL082CPS-E20	SIZE ABL, ABL ADJ.
D506	1S2837	PROTECTOR	IC116	CXA1875AM	DAC AND SW
D507	1S2837	PROTECTOR	IC117	CXA1875AM	DAC AND SW
D602	1SS123	OSO ABL	IC118	uPC393Q2-12	IK PROTECTOR
D700	1SS123	BIAS	IC119	TL082CPS-E20	R.G DRIVE
D703	1S2837	PROTECTOR	IC120	TL082CPS-E20	BRIGHT, B DRIVE
D750	1S2837	PROTECTOR	IC121	TC7566F-TE85R	ABL LINK SW
D751	1S2837	PROTECTOR	IC501	CXA1450M-14	RGB/OTHER SW
D752	1S2837	MIX	IC502	MAX4121CSA-TE2	RGB/VIDEO SW
D753	1S2837	PROTECTOR	IC503	uPC4586Q2-12	INTEGRATER
D754	1S2837	PROTECTOR	IC504	AD835AR-REEL	DIRECTION MATRIX
D755	1SS123	BIAS	IC506	CXA1450M-14	RGB/OTHER SW
D756	1S2837	PROTECTOR	IC507	MAX4121CSA-TE2	RGB/VIDEO SW
D757	1S2837	BKG MIX	IC508	uPC4586Q2-12	INTEGRATER
D758	1S2837	PROTECTOR	IC509	AD835AR-REEL	DEFLECTION MATRIX
D759	1SS123	PROTECTOR	IC510	CXA1450M-14	RGB/OTHER SW
D760	1S2837	PROTECTOR	IC511	MAX4121CSA-TE2	RGB/VIDEO SW
D800	1SS123	BIAS	IC512	TL082CPS-E20	BUFFER
D803	1S2837	PROTECTOR	IC513	AD835AR-REEL	DIRECTION MATRIX
D850	1S2837	PROTECTOR	IC514	GS1881-CTA	SYNC SEP
D851	1S2837	PROTECTOR	IC515	SN75157PS-ELL2000	COMPARATOR
D852	1S2837	MIX	IC516	MAX4121CSA-TE2	INPUT A/B SW
D853	1S2837	PROTECTOR	IC517	MAX4121CSA-TE2	INPUT A/B SW
D854	1S2837	PROTECTOR	IC518	MAX4121CSA-TE2	INPUT A/B SW
D855	1SS123	BIAS	IC519	TL082CPS-E20	BUFFER
D856	1S2837	PROTECTOR	IC520	TC7566F-TE85R	PED HOLD SW
D857	1S2837	BKG MIX	IC521	TC4W53F-TE12R	H PED SW
D858	1S2837	PROTECTOR	IC522	TC7532F-TE85R	CLAMP TIMING
D859	1SS123	PROTECTOR	IC600	MAX4121CSA-TE2	RGB/TEST SW
D860	1S2837	PROTECTOR	IC601	LM1283	RGB MATRIX
D861	1SS123	BIAS	IC602	MAX4121CSA-TE2	RGB/TEST SW
D862	1S2837	PROTECTOR	IC603	MAX4121CSA-TE2	RGB/TEST SW
D900	1S2837	PROTECTOR	IC604	CXA30696	GAMMA CORRECTION
D901	1S2837	PROTECTOR	IC605	TC7504F-TE85R	INVERTER
D902	1S2837	MIX	IC606	LM2940CT-5.0	+5V REG.
D953	1S2837	PROTECTOR	IC607	MAX8213BCSE-TE2	VOLTAGE COMPARATOR
D954	1S2837	PROTECTOR	IC608	LM7812CT	+12V REG.
D955	1S2837	PROTECTOR	IC609	LM7812CT	+12V REG.
D956	1S2837	BKG MIX	IC610	LM7912CT	+12V REG.
D957	1SS123	BIAS	IC611	NJM7809FA	+9V REG.
D958	1S2837	PROTECTOR	IC612	LM2990T-5.0	+5V REG.
D959	1SS123	PROTECTOR	IC613	EL2186CS-TE2	BUFFER
D960	1S2837	PROTECTOR	IC614	EL2186CS-TE2	BUFFER
			IC615	EL2186CS-TE2	BUFFER
			IC616	TC7506F-TE85R	BUFFER
			IC617	TC7504F-TE85R	INVERTER
			IC618	TC7504F-TE85R	INVERTER
			IC619	TC7532F-TE85R	BLKS MIX

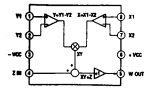
B BOARD

Function of Semiconductor (2/2)

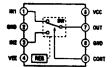
Q100	DTC144EKA	G CUT OFF SW	Q760	25C2712-YG	BLKG SW
Q101	DTC144EKA	R CUT OFF SW	Q761	25C3545-144	BUFFER
Q102	DTC144EKA	B CUT OFF SW	Q762	25A1462-Y34	BUFFER
Q103	25C2712-YG		Q763	25A1724-TD	BUFFER
Q104	25C2712-YG		Q764	25A1462-Y34	BUFFER
Q105	25C2712-YG		Q765	25A1162-YG	CURRENT SOURCE
Q106	25C2712-YG		Q766	25A1462-Y34	LIMITTER
Q107	25C2712-YG		Q802	25A1462-Y34	CURRENT SOURCE
Q108	25C2712-YG		Q803	25C2498	BUFFER
Q109	25A1162-YG	BUFFER	Q804	25C4504D-TD	BUFFER
Q110	25C2712-YG	SIZE ABL	Q805	25A1724-TD	BUFFER
Q111	25C2712-YG	BUFFER	Q806	25A1462-Y34	LIMITTER
Q112	25C2712-YG	BUFFER	Q807	25A1462-Y34	BUFFER
Q113	25C2712-YG	BUFFER	Q850	25C3357-HFE	BUFFER
Q114	25A1162-YG	BUFFER	Q851	25C3357-HFE	BUFFER
Q115	25C2712-YG	TOTAL ABL	Q852	25A1462-Y34	BUFFER
Q116	25C2712-YG	TOTAL ABL	Q853	25C3545-144	BUFFER
Q500	25C1906	BUFFER	Q854	25A1462-Y34	BUFFER
Q501	25K160-K4	CLAMP SW	Q855	25C2498	BUFFER
Q502	25C1906	BUFFER	Q856	25A1462-Y34	BKG-G SW
Q503	25K160-K4	CLAMP SW	Q857	25C3356	CURRENT SOURCE
Q504	25C1906	BUFFER	Q858	25C2712-YG	BKG SW
Q505	25C2712-YG	BUFFER	Q859	25C4504D-TD	BUFFER
Q506	25C2712-YG	BUFFER	Q860	25C2712-YG	BLKG SW
Q507	25A1162-YG	BUFFER	Q861	25C3545-144	BUFFER
Q508	25K160-K4	CLAMP SW	Q862	25A1462-Y34	BUFFER
Q511	25C2712-YG	BUFFER	Q863	25A1724-TD	BUFFER
Q512	25C2712-YG	BUFFER	Q864	25A1462-Y34	BUFFER
Q513	25A1162-YG	BUFFER	Q865	25A1162-YG	CURRENT SOURCE
Q514	25A1462-Y34	BUFFER	Q866	25A1462-Y34	LIMITTER
Q515	25C2712-YG	BUFFER	Q902	25A1462-Y34	CURRENT SOURCE
Q516	25A1162-YG	BUFFER	Q903	25C2498	BUFFER
Q517	DTC144EKA	SWITCH	Q904	25C4504D-TD	BUFFER
Q518	25B798-DLKD	BUFFER	Q905	25A1724-TD	BUFFER
Q519	25C2712-YG	BUFFER	Q906	25A1462-Y34	LIMITTER
Q520	DTC144EKA	INVERTER	Q907	25A1462-Y34	BUFFER
Q604	25C2712-YG	BUFFER	Q950	25C3357-HFE	BUFFER
Q605	DTC144EKA	BUFFER (O.C)	Q951	25C3357-HFE	BUFFER
Q606	25C3545-144	AMP	Q952	25A1462-Y34	BUFFER
Q607	25C3545-144	AMP	Q953	25A1462-Y34	BKG-B SW
Q608	25C3545-144	AMP	Q954	25C3356	CURRENT SOURCE
Q609	25C3545-144	AMP	Q955	25C3545-144	BUFFER
Q651	25C2712-YG	BUFFER	Q956	25A1462-Y34	CURRENT SOURCE
Q702	25A1462-Y34	CURRENT SOURCE	Q957	25C2712-YG	BUFFER
Q703	25C2498	BUFFER	Q958	25C2712-YG	BLKG SW
Q704	25C4504D-TD	BUFFER	Q959	25C2498	BUFFER
Q705	25A1724-TD	BUFFER	Q960	25C4504D-TD	BUFFER
Q706	25A1462-Y34	LIMITTER	Q961	25C3545-144	BUFFER
Q707	25A1462-Y34	BUFFER	Q962	25A1462-Y34	BUFFER
Q750	25C3357-HFE	BUFFER	Q963	25A1724-TD	BUFFER
Q751	25C3357-HFE	BUFFER	Q964	25A1462-Y34	BUFFER
Q752	25A1462-Y34	BUFFER	Q965	25A1162-YG	CURRENT SOURCE
Q753	25C3545-144	BUFFER	Q966	25A1462-Y34	LIMITTER
Q754	25A1462-Y34	BUFFER			
Q755	25C2498	BUFFER			
Q756	25A1462-Y34	BKG-B SW			
Q757	25C3356	CURRENT SOURCE			
Q758	25C2712-YG	BKG SW			
Q759	25C4504D-TD	BUFFER			

B BOARD IC Block Diagrams

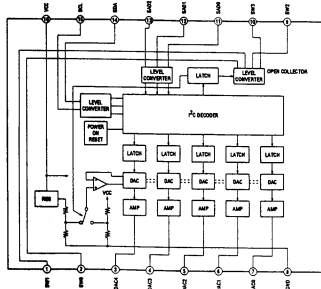
AD835AR (IC504, 509, 513)



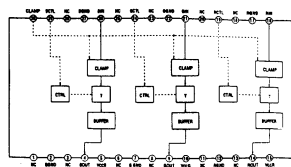
CXA1450M
(IC501, 506, 510)



CXA1875AM (IC116, 117, 112)



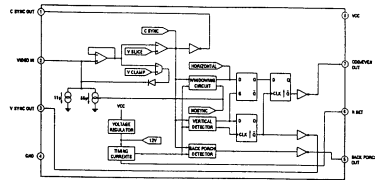
CXA3069S (IC604)



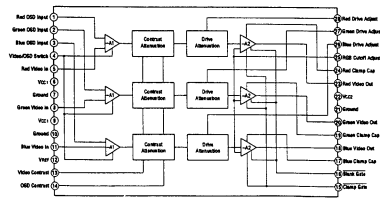
EL2186CS
(IC613—615)



GS1881 (IC514)



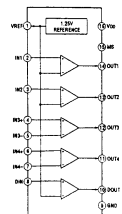
LM1283 (IC601)



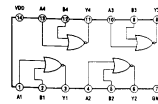
MAX4121CSA
(IC502, 507, 511,
516—518,
600, 602, 603)



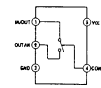
MAX8213 (IC607)



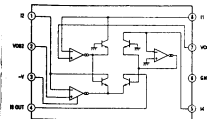
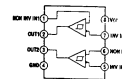
MC74HC02AF (IC103)



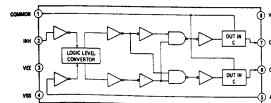
TC7S66F
(IC121, 520)



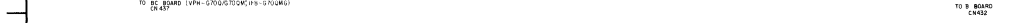
NJM4200M-T1 (IC100, 101, 102)

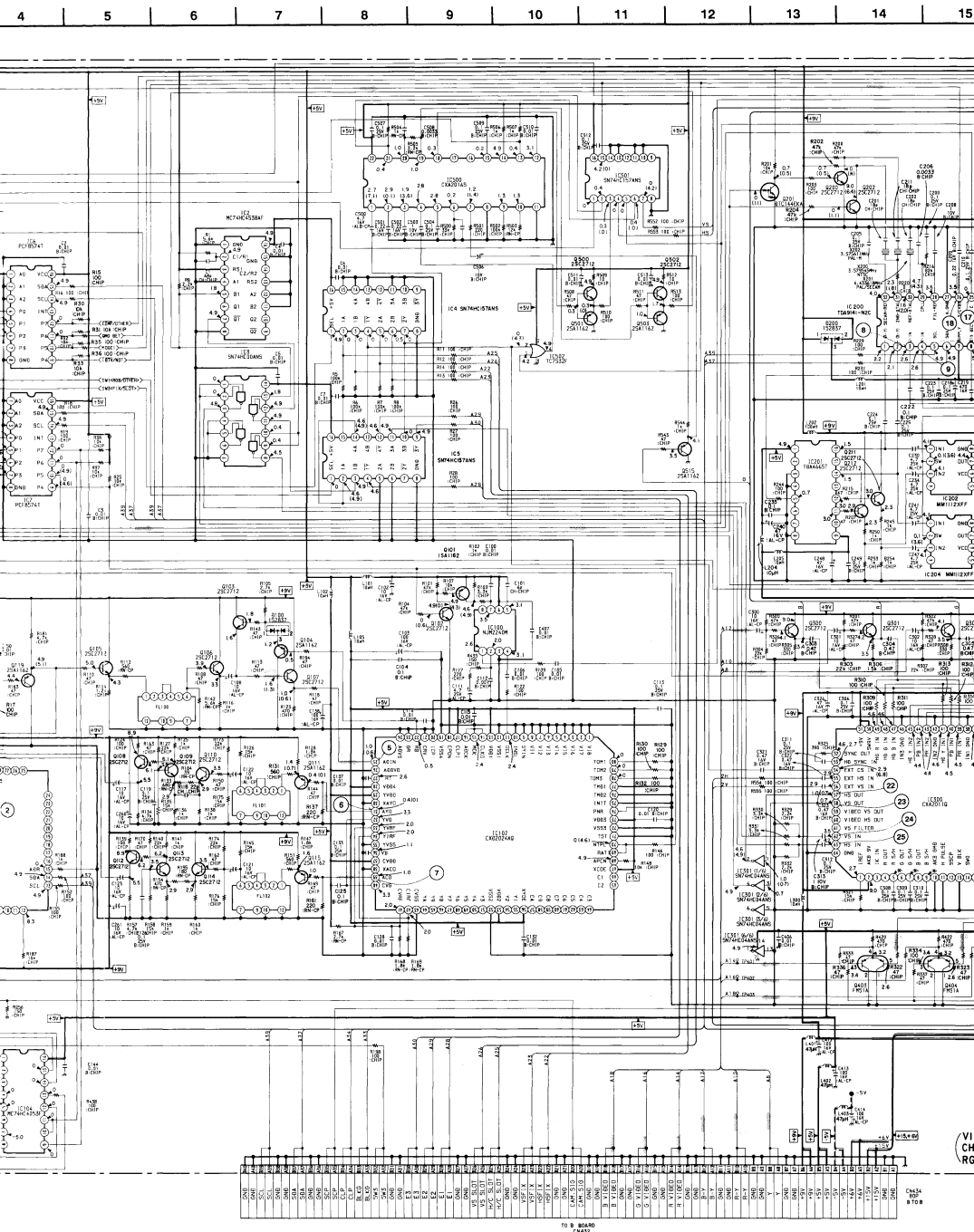
**SN75157 (IC515)**

TC4W53F (IC521)

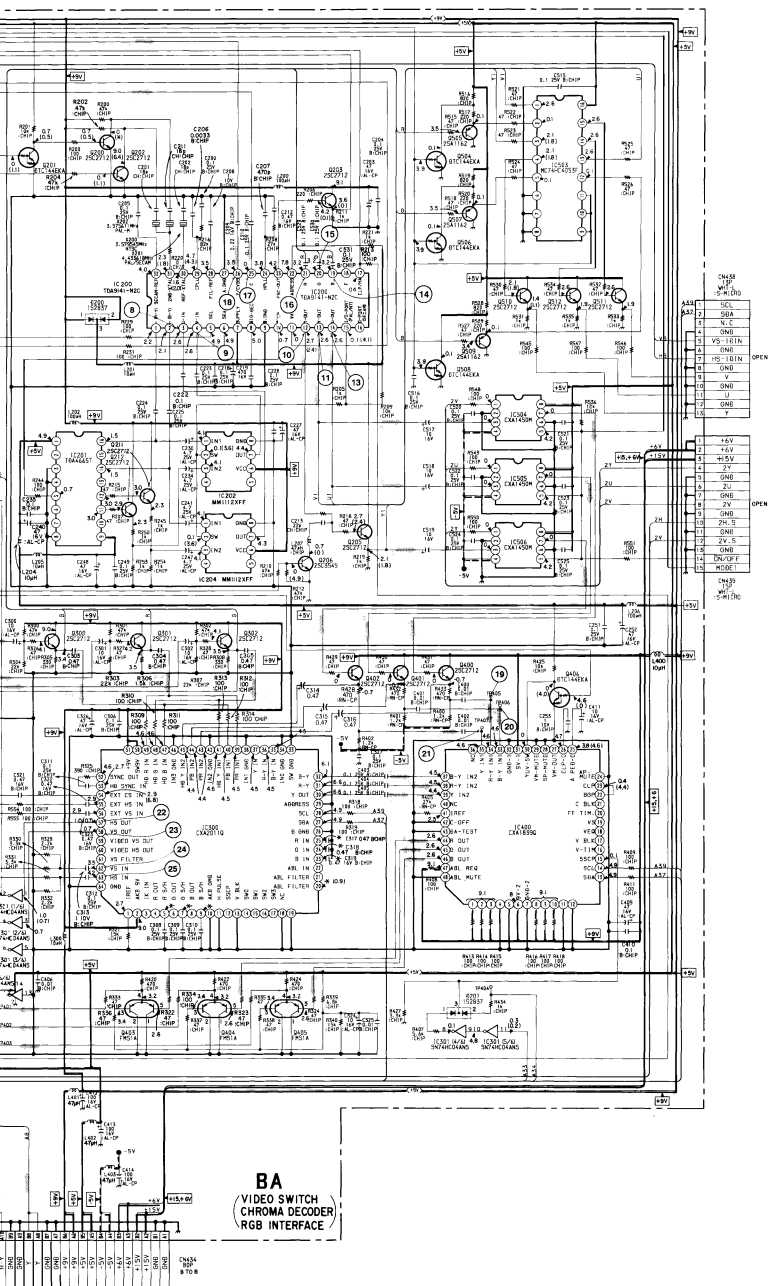
TC7S32F
(IC522)

- | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|----|----|





(VI)
CH
RG

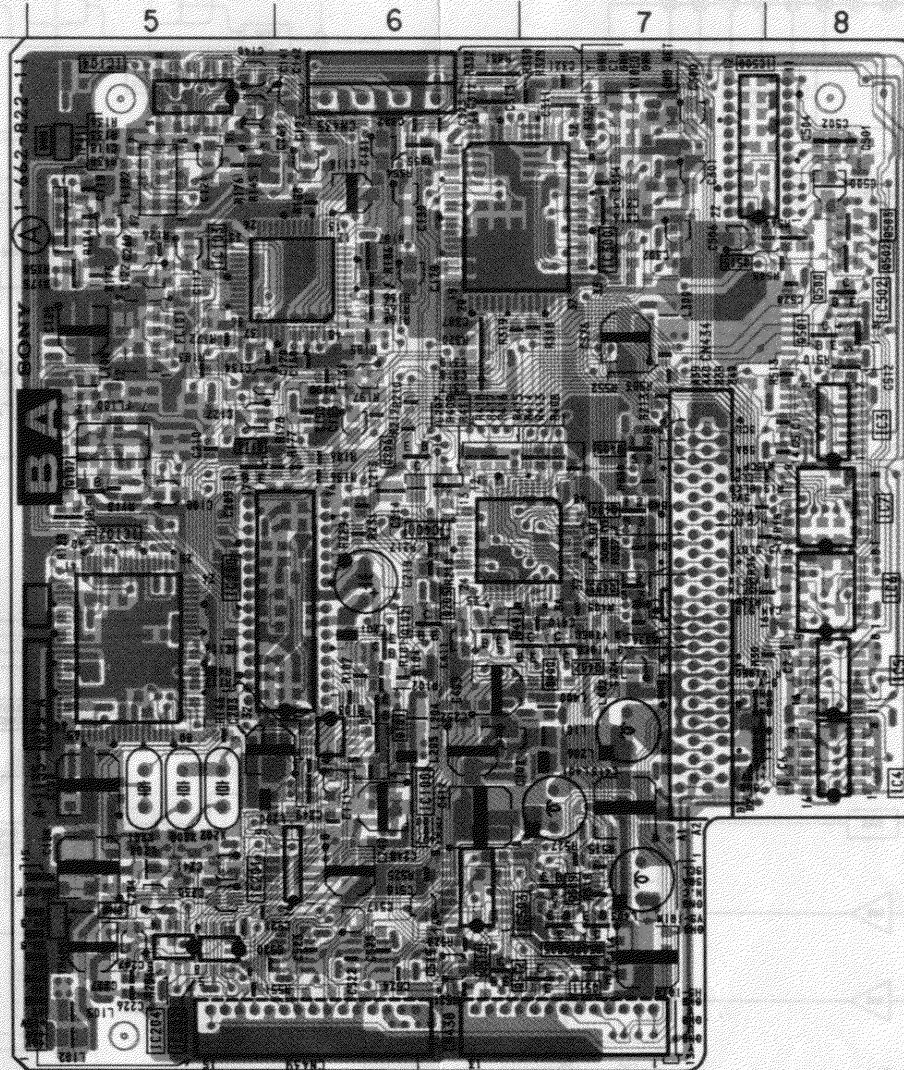
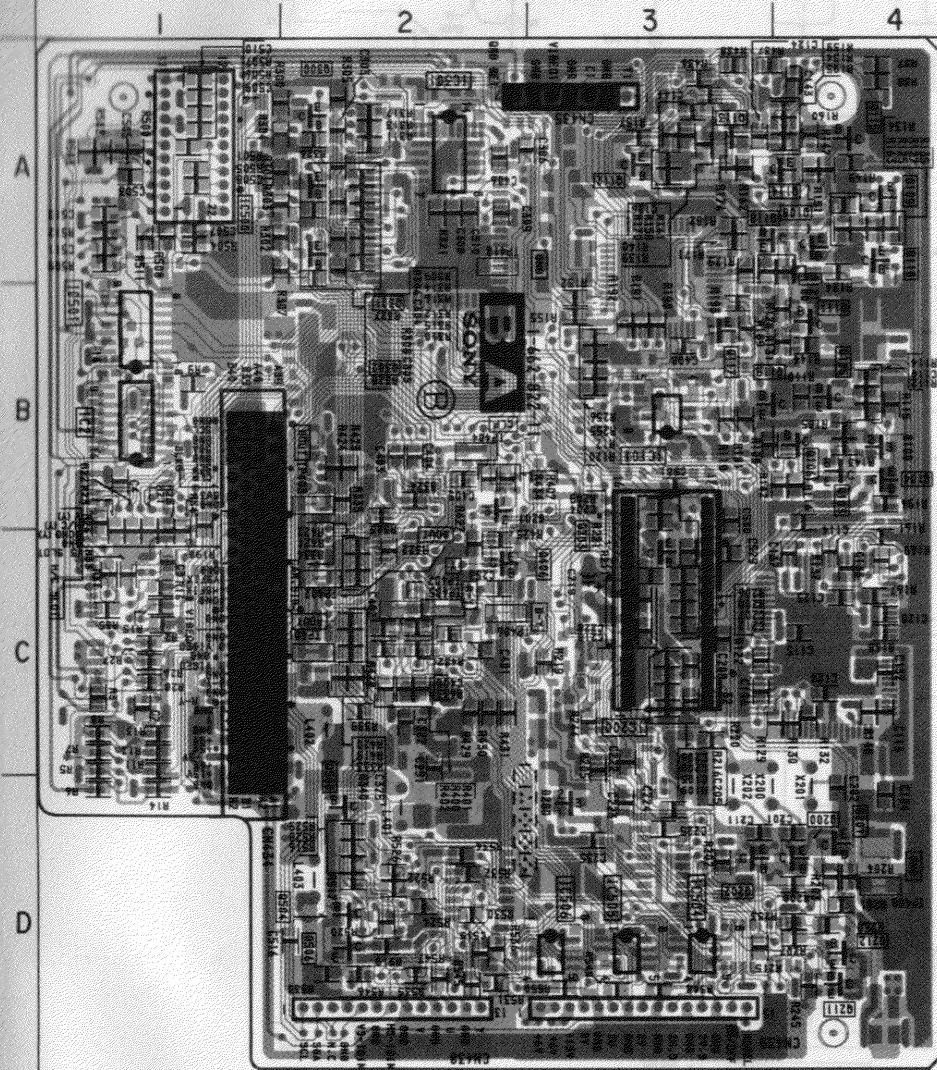


BA

(VIDEO SW, CHROMA DECODER, R.G.B INTERFACE) BOARD

— BA BOARD — <Conductor side>

— BA BOARD — <Component side>



- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

BA BOARD

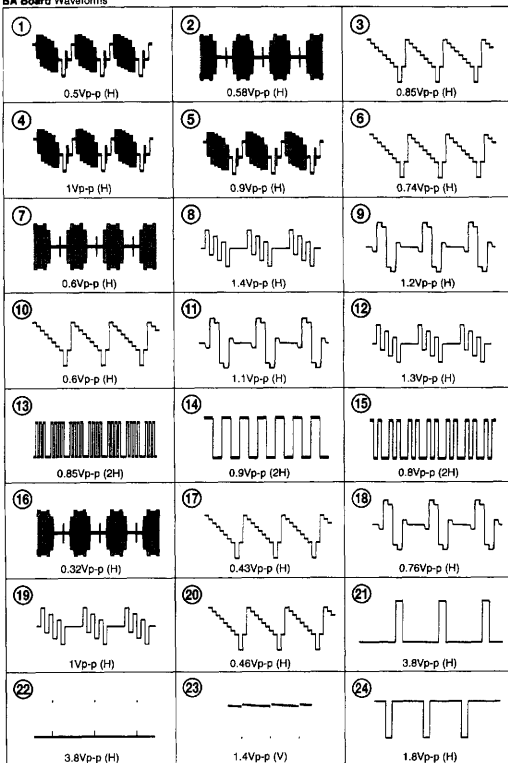
Semiconductors Location

DIODE					
D100 D200 D201	B-4 D-3 B-2	Q102	C-6	Q501	B-8
		Q103	B-4	Q502	A-8
		Q104	B-4		
		Q105	B-4	Q503	A-8
IC		Q106	B-4	Q504	D-2
		Q107	B-5	Q505	D-7
		Q108	A-4	Q506	D-2
		Q109	A-4	Q507	D-7
		Q110	A-4	Q508	D-2
				Q509	D-7
				Q510	D-6
				Q511	D-7
IC2 IC3 IC4 IC5 IC6 IC7 IC100 IC101 IC102 IC103	B-1 B-8 C-8 C-8 B-8 C-6 B-3 C-5 A-6	Q111	B-4	Q512	D-7
		Q112	A-3		
		Q113	A-3		
		Q114	A-4		
		Q115	A-5	Q515	A-8
		Q116	B-5		
		Q117	B-3		
		Q118	A-3		
		Q119	B-3		
		Q200	D-4		
IC104 IC200 IC201 IC202 IC204 IC300 IC301 IC400 IC500 IC501	A-5 C-3 D-6 D-5 D-5 A-7 A-2 C-6 A-1 B-1	Q201	D-4		
		Q202	D-3		
		Q203	C-3		
		Q205	C-6		
		Q206	B-6		
		Q211	D-4		
		Q212	D-4		
		Q300	A-2		
		Q301	A-2		
		Q302	A-2		
IC502 IC503 IC504 IC505 IC506	B-8 D-6 D-3 D-3 D-3	Q400	C-7		
		Q401	C-6		
		Q402	C-7		
		Q403	C-7		
TRANSISTOR		Q404	B-7		
		Q405	B-7		
		Q406	C-2		
Q101	C-6	Q500	B-8		

TEST POINT

TP401	C-2
TP402	C-2
TP403	B-2
TP404	B-2
TP405	C-2
TP406	C-2
TP407	C-2
TP408	D-4
TP409	D-5
TP410	A-2
TP411	A-5

BA Board Waveforms



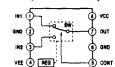
BA BOARD

Function of Semiconductor

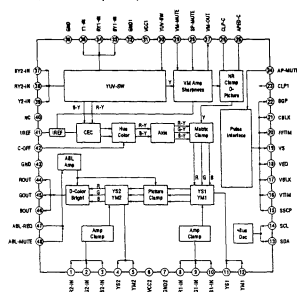
D100	1S2837	LEVEL SHIFT	Q302	2SC2712-YG	VIDEO BUFFER
D200	1S2837	LEVEL SHIFT	Q400	2SC2712-YG	R-Y BUFFER
D201	1S2837	OR	Q401	2SC2712-YG	B-Y BUFFER
			Q402	2SC2712-YG	Y BUFFER
IC2	MC74HC4538AF-T2	SEPARATION CONVERT	Q403	FMS1A	LIMITTER
IC3	SN74HC00ANS-E20	SYNC BUFFER	Q404	FMS1A	LIMITTER
IC4	SN74HC157ANS-E20	SYNC SW	Q405	FMS1A	LIMITTER
IC5	SN74HC157ANS-E20	SYNC SW	Q406	DT144EKA	Y/U/V
IC6	PCF8574T-T	IIC I/O PROTECTOR	Q500	2SC2712-YG	SYNC BUFFER
IC7	PCF8574T-T	IIC I/O PROTECTOR	Q501	2SA1162-YG	SYNC BUFFER
IC100	NJM2240M-TE2	4FSC OSC	Q502	2SC2712-YG	SYNC BUFFER
IC101	NJM2235M-T2	VIDEO SW	Q503	2SA1162-YG	SYNC BUFFER
IC102	CXD2024AQ	COMB FILTER	Q504	DT144EKA	COMPARATOR SW
IC103	CXA18550-T6	VIDEO SW	Q505	2SA1162-YG	VIDEO BUFFER
IC104	MC74HC4053F-T2	VIDEO SW	Q506	DT144EKA	COMPARATOR SW
IC200	TDA9141-N2C	CHROMA DEC./SYNC SEP	Q507	2SA1162-YG	VIDEO BUFFER
IC201	TDA4665T-T	UV-AMP	Q508	DT144EKA	COMPARATOR SW
IC202	MM1112XFF	UV-SW	Q509	2SA1162-YG	VIDEO BUFFER
IC204	MM1112XFF	UV-SW	Q510	2SC2712-YG	VIDEO BUFFER
IC300	CXA2011Q	HDTV INTERFACE/SYNC SW	Q511	2SC2712-YG	VIDEO BUFFER
IC301	SN74HC04ANS-E20	INVERTER	Q512	2SC2712-YG	VIDEO BUFFER
IC400	CXA1839Q-T6	RGB INTERFACE	Q515	2SA1162-YG	S ON G BUFFER
IC500	CXA2016S	SYNC SEPARATOR			
IC501	SN74HC157ANS-E20	SYNC SW			
IC502	TC7S32F-TE85R	IDTV SYNC SW			
IC503	MC74HC4053F-T2	VIDEO SW			
IC504	CXA1450M-T4	IDTV VIDEO SW			
IC505	CXA1450M-T4	IDTV VIDEO SW			
IC506	CXA1450M-T4	IDTV VIDEO SW			
Q101	2SA1162-YG	NT/PAL SW			
Q102	2SC2712-YG	NT/PAL SW			
Q103	2SC2712-YG	CLAMP			
Q104	2SA1162-YG	CLAMP			
Q105	2SC2712-YG	VIDEO BUFFER			
Q106	2SC2712-YG	VIDEO BUFFER			
Q107	2SC2712-YG	VIDEO BUFFER			
Q108	2SC2712-YG	Y BUFFER			
Q109	2SC2712-YG	Y AMP			
Q110	2SC2712-YG	Y BUFFER			
Q111	2SA1162-YG	Y BUFFER			
Q112	2SC2712-YG	Y BUFFER			
Q113	2SC2712-YG	C AMP			
Q114	2SC2712-YG	C BUFFER			
Q115	2SA1162-YG	C BUFFER			
Q116	2SC2712-YG	VIDEO BUFFER			
Q117	2SA1162-YG	C BUFFER			
Q118	2SA1162-YG	VIDEO BUFFER			
Q119	2SA1162-YG	VIDEO BUFFER			
Q200	2SC2712-YG	PAL-M SW			
Q201	DT144EKA	PAL-M SW			
Q202	2SC2712-YG	PAL-M SW			
Q203	2SC2712-YG	FSC BUFFER			
Q205	2SC2712-YG	Y BUFFER			
Q206	2SC3545-T44	SECAM SW			
Q211	2SC2712-YG	U BUFFER			
Q212	2SC2712-YG	V BUFFER			
Q300	2SC2712-YG	VIDEO BUFFER			
Q301	2SC2712-YG	VIDEO BUFFER			

BA BOARD IC Block Diagrams

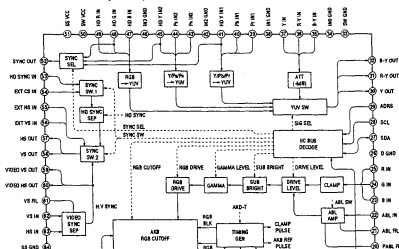
CXA1450M
(IC504—506)



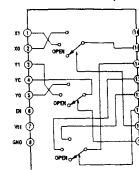
CXA1839Q (IC400)



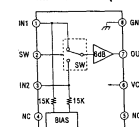
CXA2011Q (IC300)



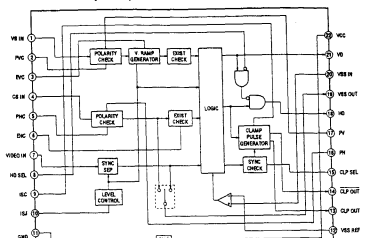
MC74HC4053F (IC104, 503)



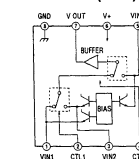
MM112XFF (IC202, 204)



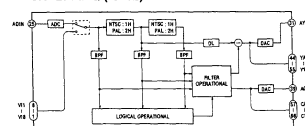
CXA2016S (IC500)



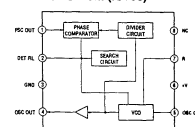
NJM2235M (IC101)



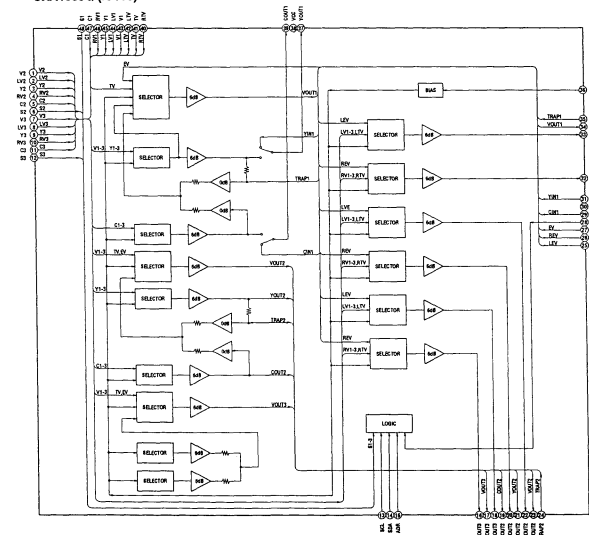
CXD2024AQ (IC102)



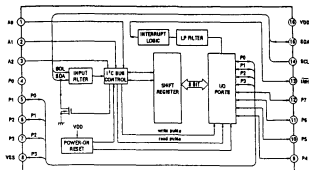
NJM2240M (IC100)



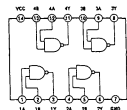
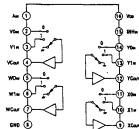
CXA1855Q (IC103)



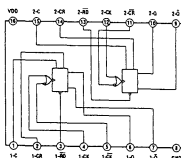
PCF8574T (IC7, 6)



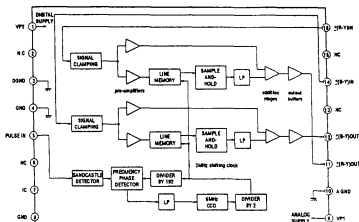
SN74HC00ANS (IC3)


SN74HC157ANS
(IC5, 4, 501)


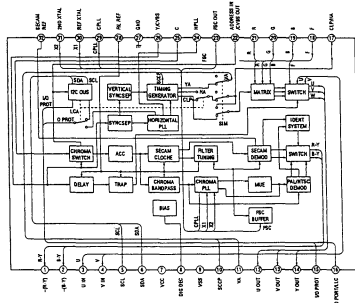
SN74HC4538AF (IC2)



TDA4665T (IC201)



TDA9141-N2C (IC200)



BH

(SWITCH) BOARD

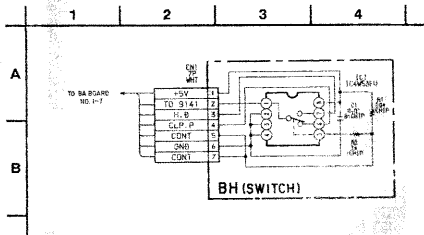
— BH BOARD — <Component side>



Pattern from the side which enables seeing.

Pattern of the rear side.

• BH (SWITCH) DIAGRAM



BH BOARD

Function of Semiconductor

IC1	TC4W53FU	SWITCH
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BC

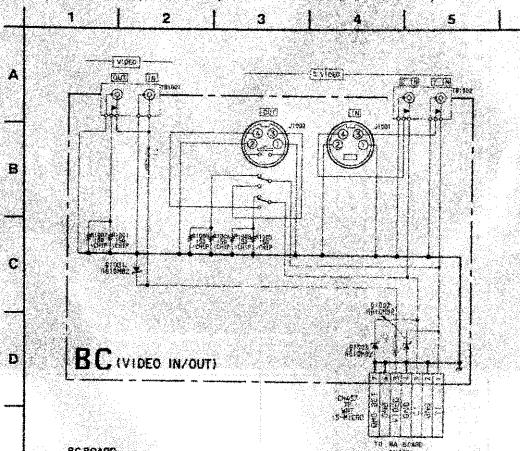
(VIDEO IN/OUT) BOARD (VPH-G70Q/G70QM, IFB-G70QMG)

— BC BOARD — <Conductor side>



- **32001**: Pattern from the side which enables setting.
- **32002**: Pattern of the rear side.

• BH (VIDEO IN/OUT) DIAGRAM (VPH-G70Q/G70QM, IFB-G70QMG)



BC BOARD

Function of Semiconductor

D1001	RD10M-T182	PROTECTOR
D1002	RD10M-T182	PROTECTOR
D1003	RD10M-T182	PROTECTOR

Schematic Diagram

YA BOARD

Semiconductors Location

DIODE		TEST POINT		TP144	E-10
D101	C-1	TP100	E-7	TP145	C-11
D102	D-6	TP101	C-12	TP146	D-11
D103	D-6	TP102	E-11	TP147	D-8
D104	D-6	TP103	E-11	TP148	E-12
D105	D-6	TP104	E-11	TP149	D-11
IC		TP105	D-7	TP150	D-10
		TP106	E-11	TP152	C-8
		TP107	D-8	TP153	D-8
IC100	D-8	TP108	B-9		
IC101	C-11	TP109	B-9		
IC102	C-8				
IC103	B-5	TP110	C-9		
IC104	B-2	TP111	D-8		
IC105	C-1	TP112	C-9		
IC106	B-8	TP113	C-9		
IC107	B-2	TP114	D-12		
IC108	D-9	TP115	D-9		
IC109	C-9	TP116	D-9		
		TP117	D-9		
IC110	D-9	TP118	D-9		
IC111	E-9	TP119	D-11		
IC112	D-11				
IC113	D-10	TP120	E-11		
IC114	C-3	TP121	E-11		
IC115	B-9	TP122	E-11		
IC116	B-10	TP123	D-11		
IC117	E-12	TP124	D-10		
IC118	D-12	TP125	D-10		
IC120	D-1	TP126	B-10		
		TP127	B-10		
IC121	D-8	TP128	B-10		
IC122	D-7	TP129	B-9		
IC123	E-8				
IC124	C-7	TP130	E-12		
IC125	C-7	TP131	D-10		
IC126	D-7	TP132	D-10		
IC127	D-3	TP133	D-10		
IC128	B-7	TP134	D-10		
IC129	B-7	TP135	D-10		
IC130	B-7	TP136	D-10		
		TP137	E-12		
IC131	B-8	TP138	E-12		
IC132	B-8	TP139	E-12		
IC133	B-7				
IC134	B-7	TP140	E-8		
IC135	C-10	TP141	E-9		
IC136	D-11	TP142	E-10		
IC137	C-5	TP143	E-10		