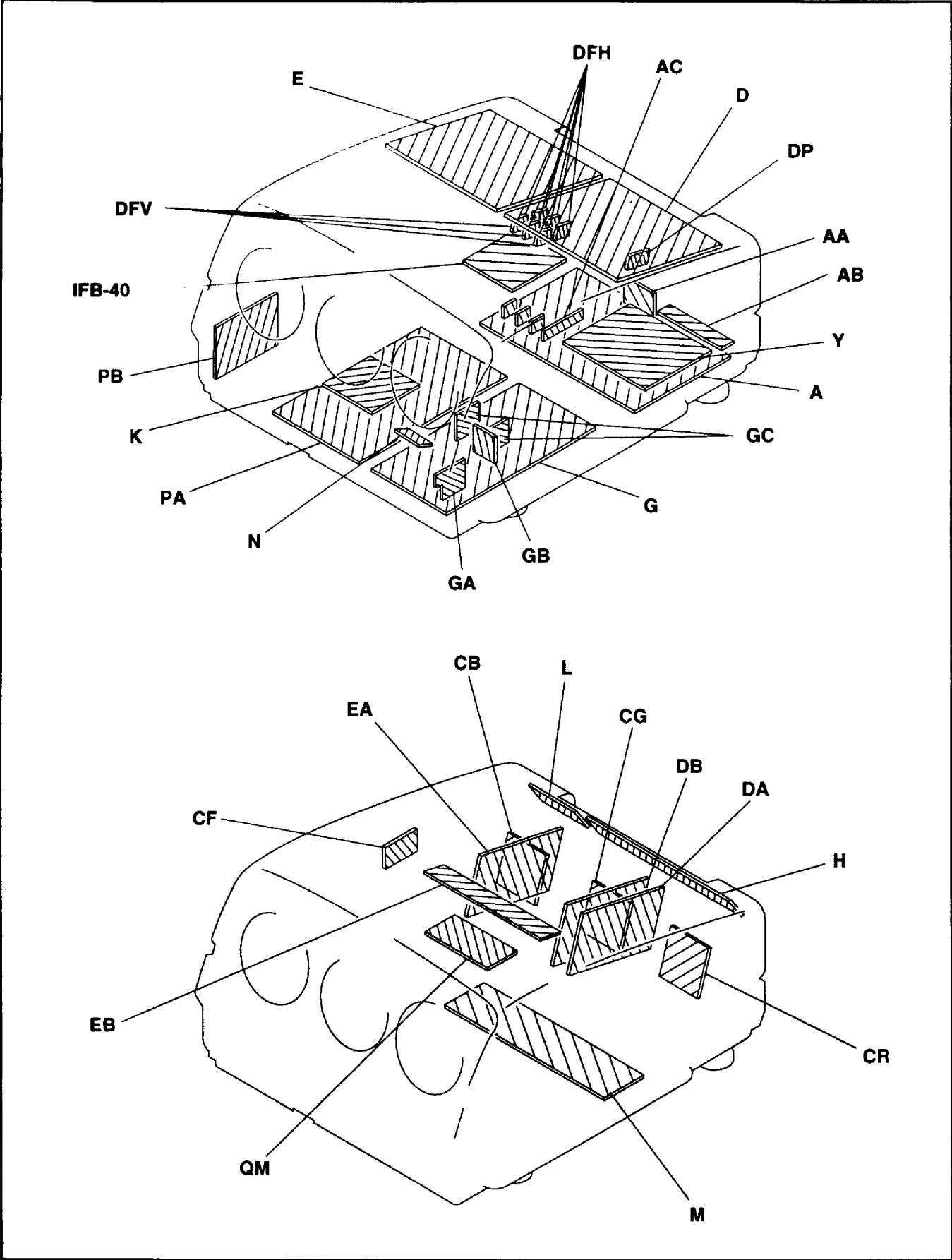


4-3. CIRCUIT BOARDS LOCATION



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: $\mu\mu\text{F}$
 - Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm
Rating electrical power 1/4W

- All resistors are in ohms.
- Chip resistor are 1/10W unless otherwise noted.
- : 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 (: RN) 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 3-13.)

Part replaced ()	Adjustment ()
IC101, D5, D101, D102, C101, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R112, R113 K board	RV1 (HOLD-DOWN)
IC1, IC2, IC4, IC6, IC7, IC8, IC9, IC11, R54, R55, R56, R57, R63, R64, R65, R72, R73, R74, X1 K board	RV2 (HIGH VOLTAGE)

- 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) 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.

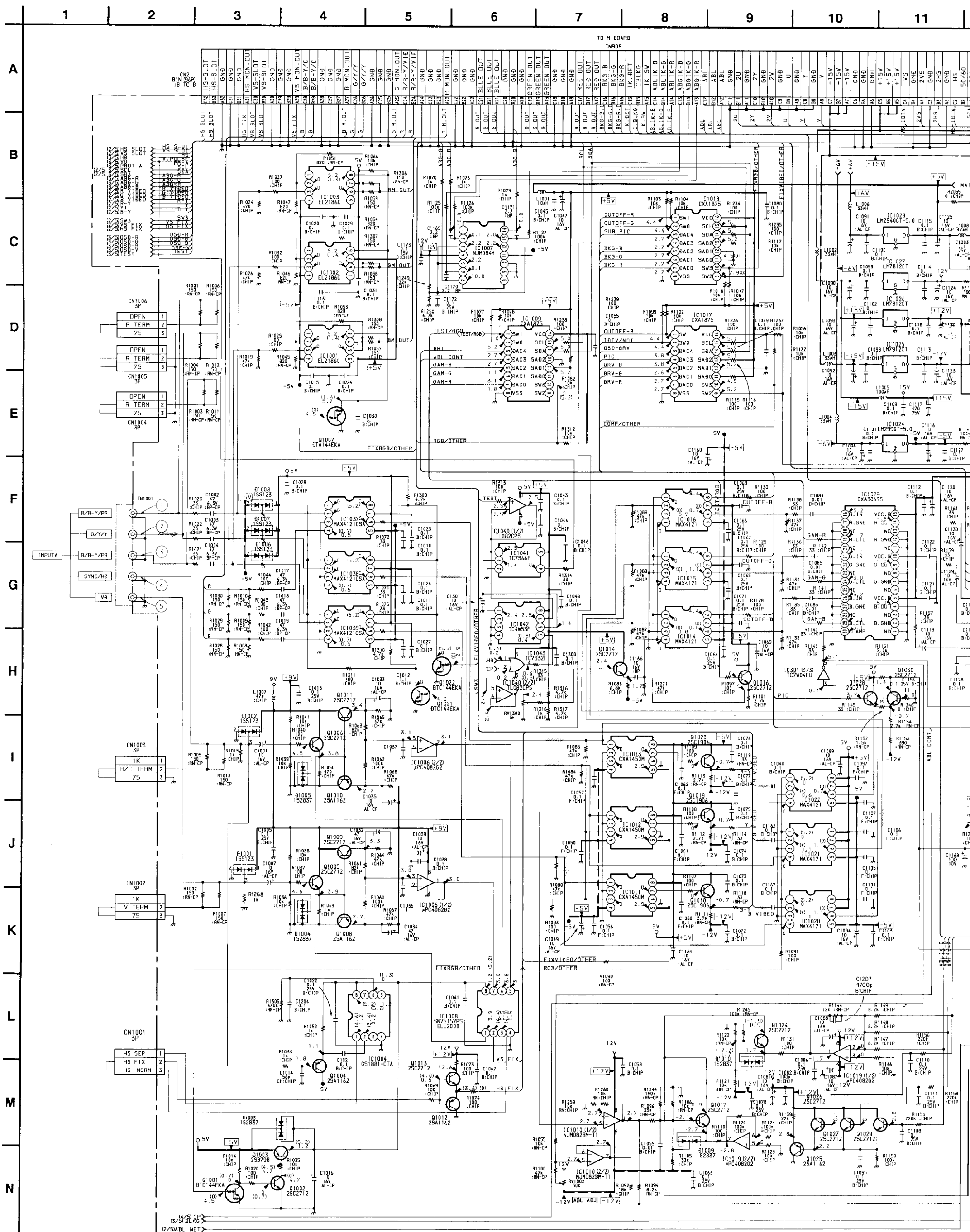
Reference information

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

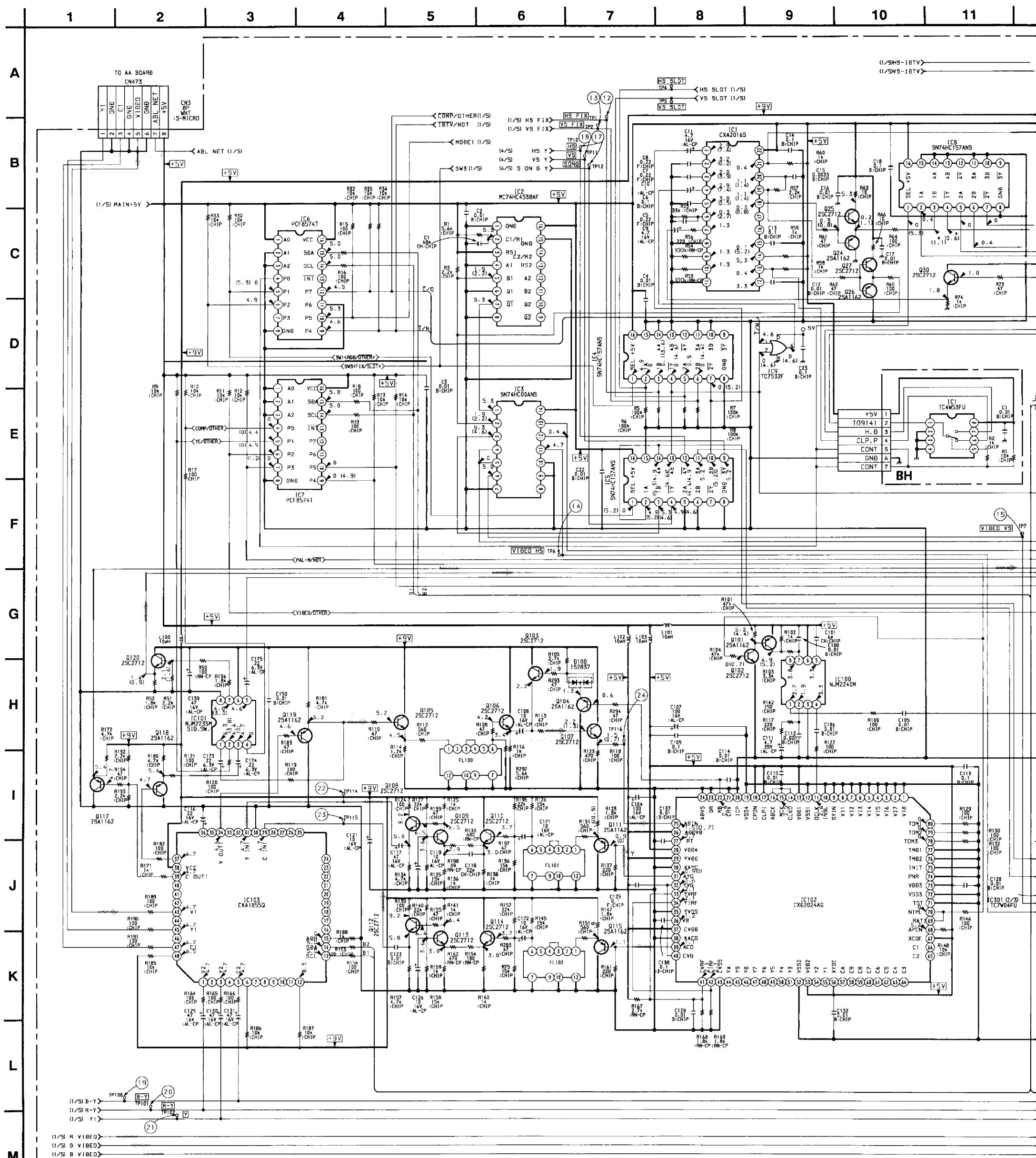
Note:
The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

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.

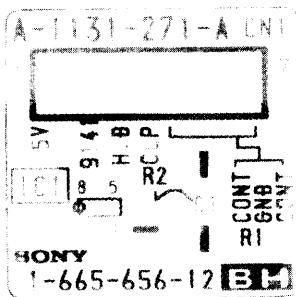
- **A (1/5) (PRE AMP, DAC & SW, RGB-VIDEO SW, VOLTAGE DET) DIAGRAM**
- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams.



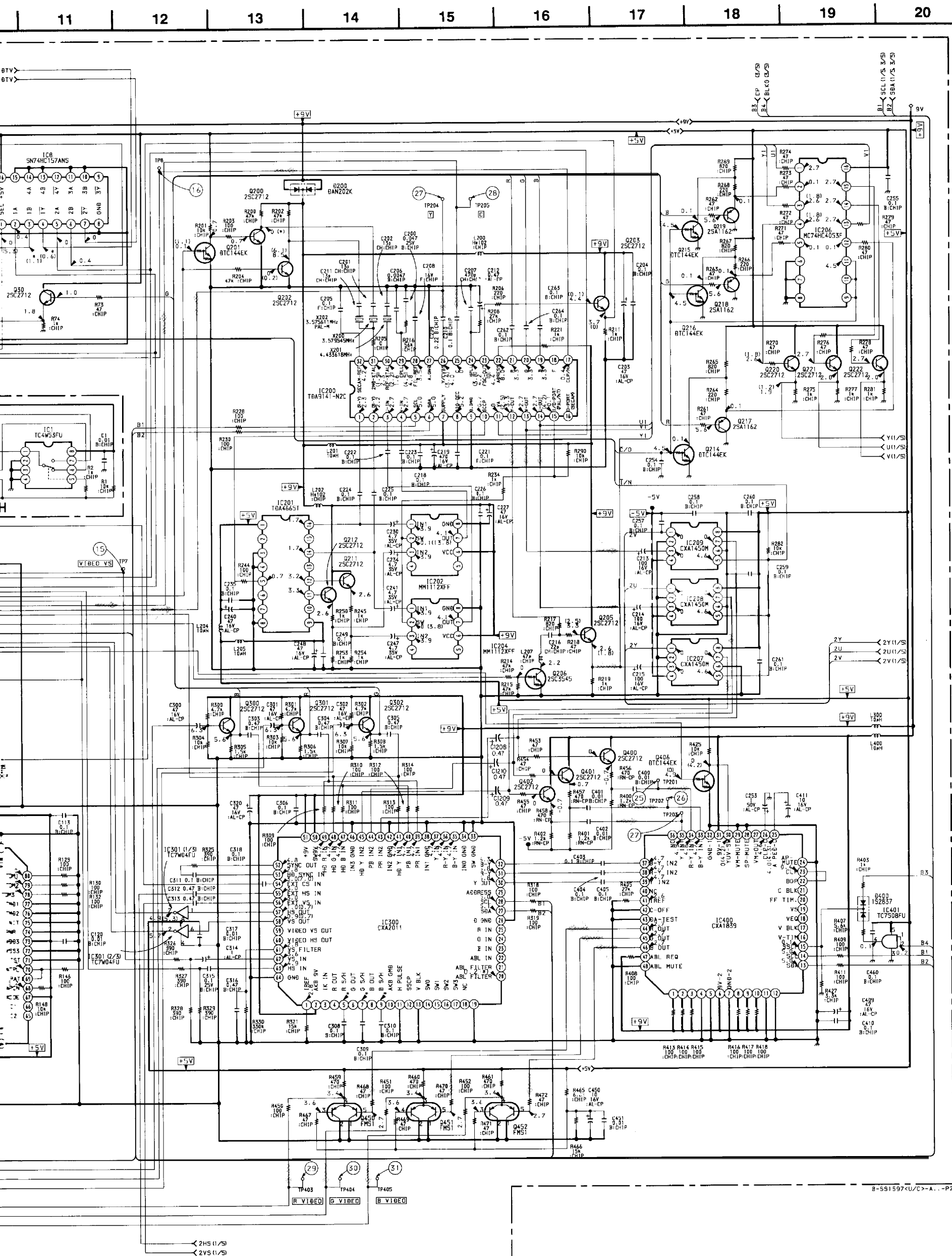
- **A (2/5) (VIDEO SW, COMB FILTER, RGB IF 1.2, SYNC GEN, CHROMA DECODER), BH (SWITCH) DIAGRAM**
- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams



A_(2/5) (VIDEO SW, COMBFILTER, RGB IF 1, 2)
(SYNC GEN, CHROMA DECODER)

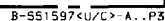


- : Pattern from the side which enables seeing the front of the object.
- : Pattern of the rear side.



- A (3/5) (ADDRESS DECODER, EEP ROM, REGI CPU, PROG RAM, DUAL PORT RAM, S RAM) DIAGRAM



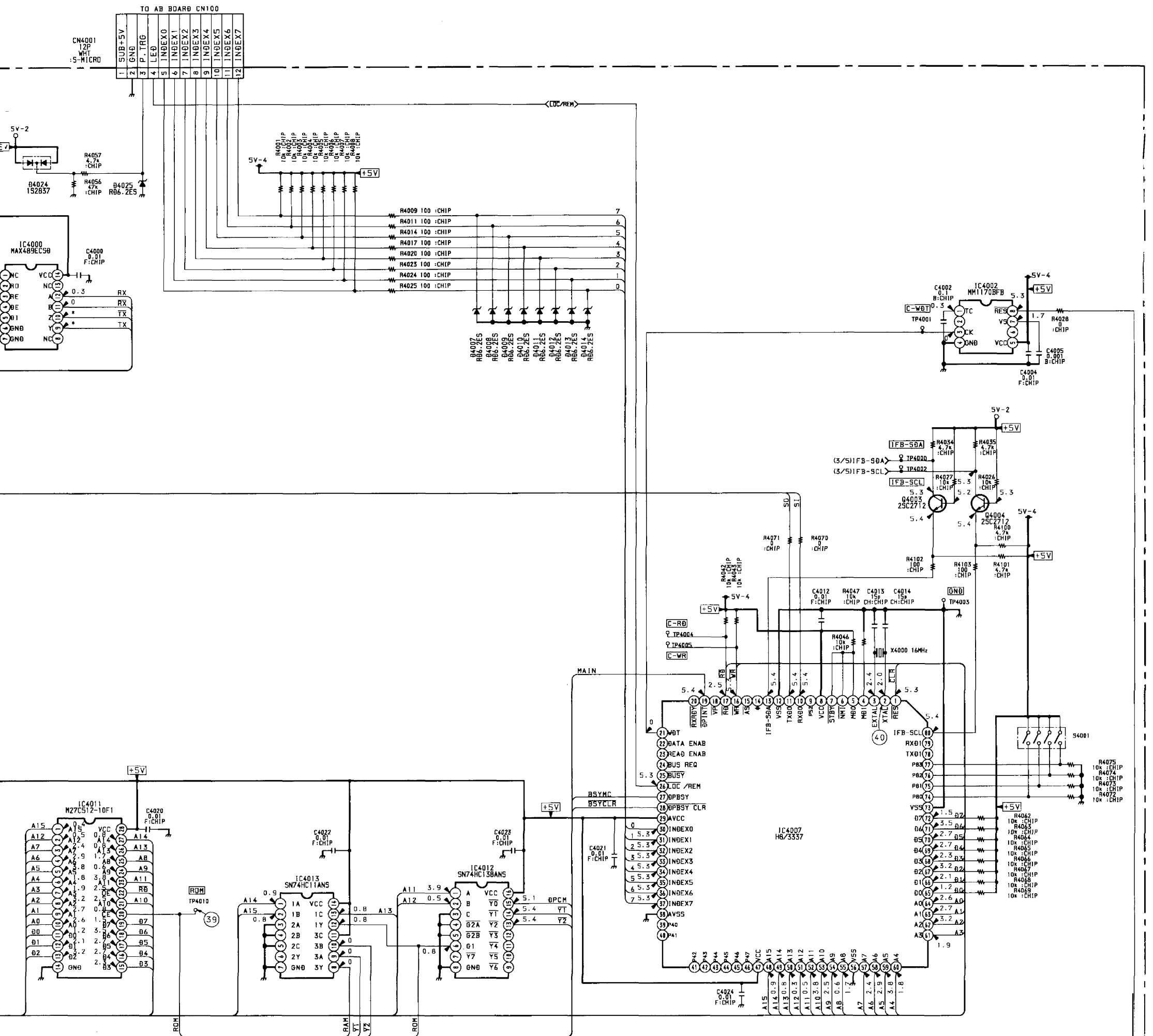


- | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|---|---|---|---|---|---|---|---|---|----|----|

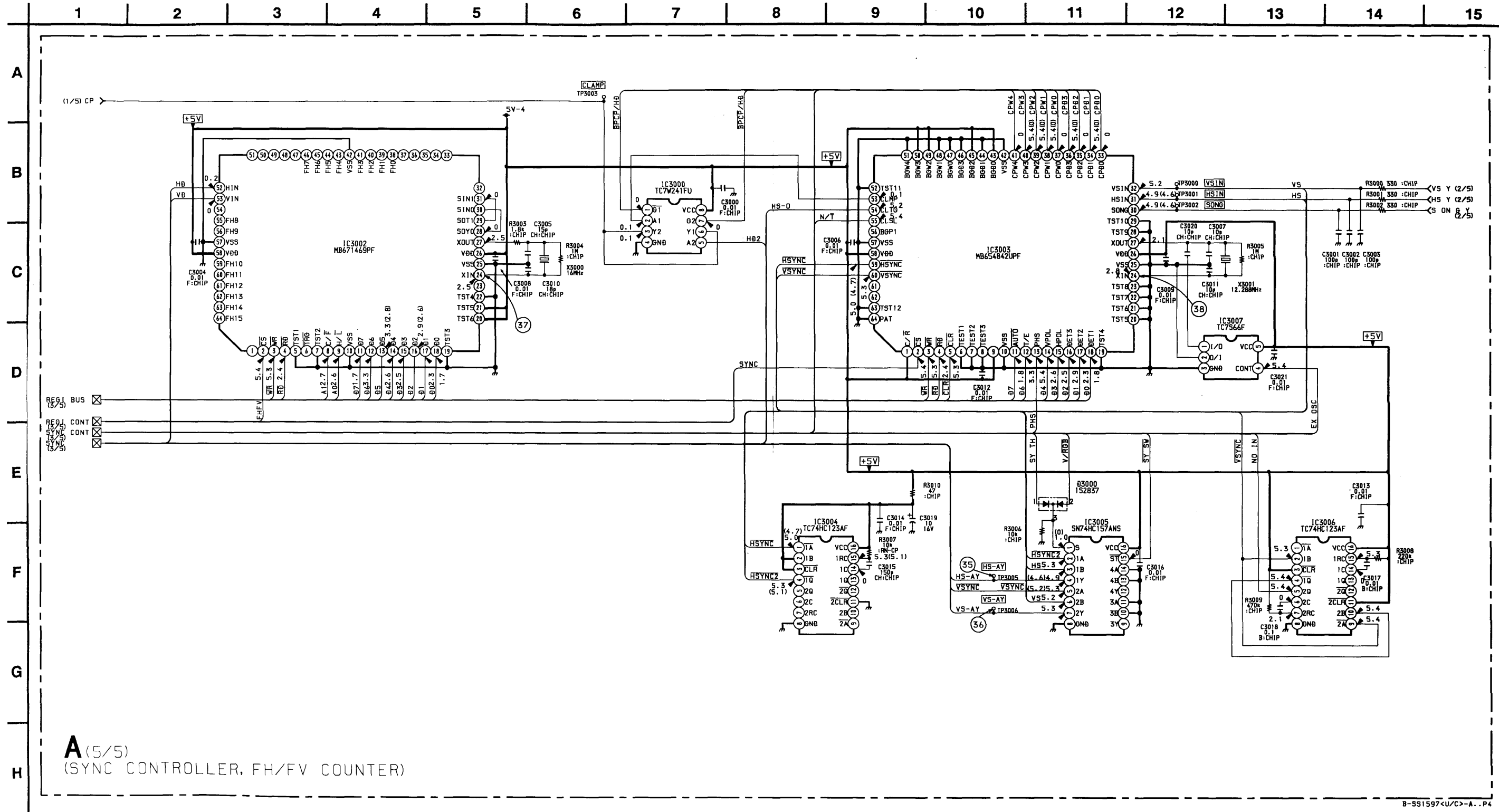


F
G
H
I
J
K
L





- **A (5/5) (FH/FV COUNTER, SYNC CONTROLLER) DIAGRAM**
- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams



A

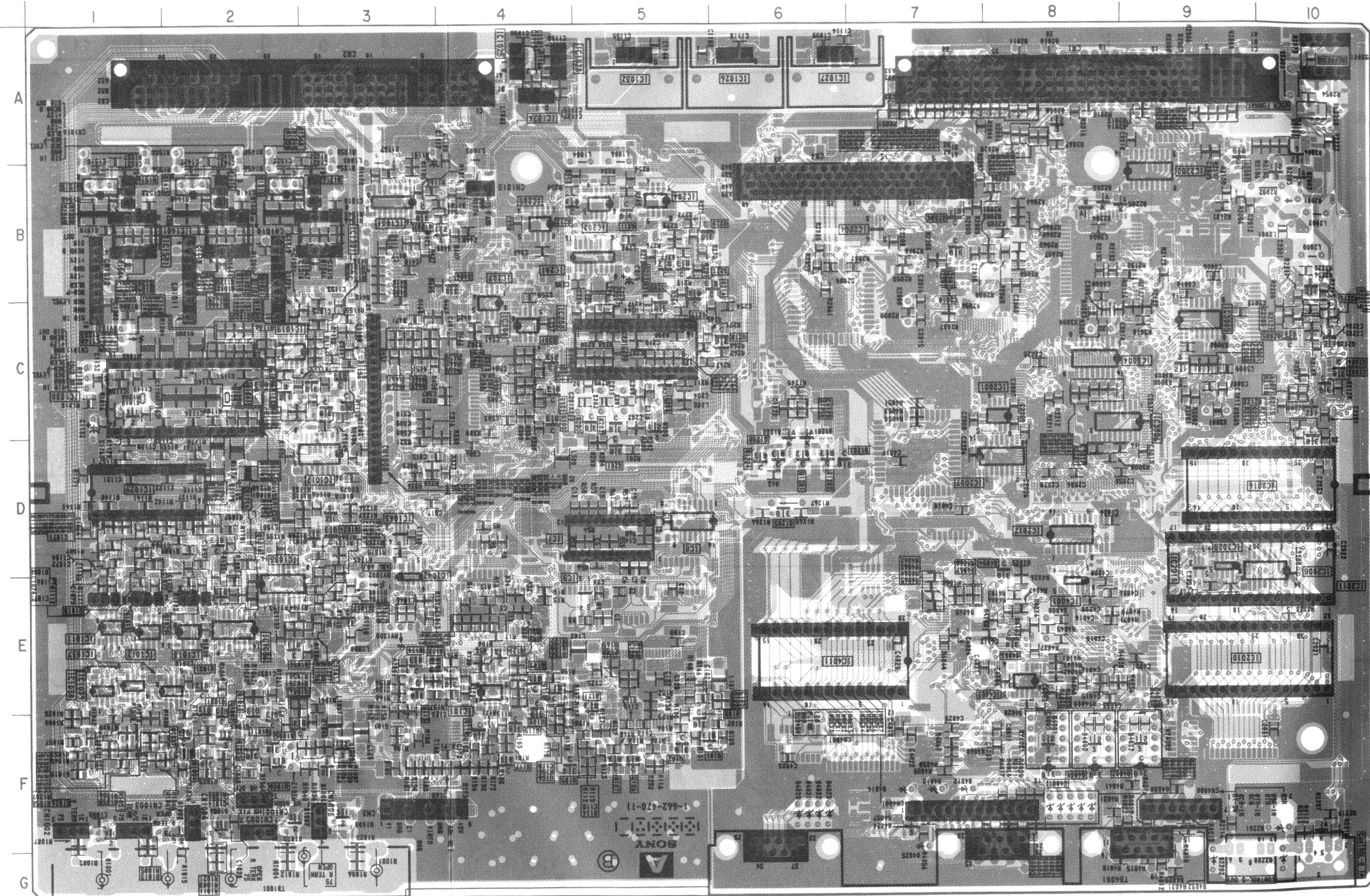
PRE AMP, DAC&SW, RGB-VIDEO SW, VOLTAGE DET, VIDEO SW, COMB FILTER, SYNC GEN,
CHROMA DECODER, RGB IF1.2, ADDRESS DECODER, EEP ROM, S RAM, PROG RAM, REGI
CPU, DUAL PORT RAM, COMM MCU, S RAM, FV/FH COUNTER, SYNC CONTROLLER

BOARD

— A BOARD — <Conductor side>
A BOARD (Conductor side)

Semiconductor Location

DIODE	IC	IC3004 C-8	Q1009 F-2
D200 C-5	IC1 D-4	IC3005 C-9	Q1010 E-2
D400 B-4	IC8 D-5	IC3006 C-8	Q1011 F-2
D1001 F-1	IC9 E-5	IC4001 E-8	Q1014 E-2
D1002 F-2	IC101 E-4	IC4002 E-8	Q1016 D-2
D1003 F-2	IC200 C-5	IC4011 E-6	Q1017 E-3
D1004 F-3	IC201 B-5	TRANSISTOR	Q1018 E-1
D1005 F-3	IC202 B-5		Q1019 E-1
D1006 F-2	IC204 B-5	Q101 F-5	Q1020 E-2
D1007 F-2	IC207 C-4	Q102 F-5	Q1021 E-2
D1008 F-3	IC208 C-4	Q105 F-4	Q1024 D-3
D1009 E-3	IC209 B-4	Q106 F-5	Q1028 C-3
D1010 D-3	IC1011 E-1	Q107 F-5	Q1030 C-3
D1011 D-3	IC1012 E-1	Q108 F-4	Q1031 C-3
D1012 C-2	IC1013 E-2	Q109 E-4	Q1033 C-3
D1013 C-1	IC1017 D-3	Q110 E-4	Q1036 E-2
D1200 C-6	IC1019 C-2	Q111 E-5	Q1037 B-3
D1201 C-6	IC1024 A-4	Q112 E-4	Q1041 C-2
D2000 A-8	IC1025 A-4	Q113 E-3	Q1200 D-6
D2001 B-10	IC1026 A-6	Q114 E-3	Q1201 D-6
D2002 B-10	IC1027 A-6	Q117 F-4	Q1202 D-6
D2003 B-10	IC1028 A-4	Q118 F-4	Q1203 D-6
D2004 A-10	IC1029 D-1	Q119 F-4	Q1204 D-6
D2008 C-10	IC1030 C-1	Q120 E-4	Q1205 D-6
D2009 C-10	IC1031 B-3	Q200 C-5	Q1315 B-2
D2010 A-8	IC1032 A-5	Q201 D-5	Q1316 B-3
D2011 A-8	IC1033 E-2	Q202 C-5	Q1415 B-2
D2200 G-10	IC1036 E-2	Q203 C-5	Q1416 B-2
D2201 F-9	IC1037 E-2	Q205 C-5	Q1515 B-1
D2202 G-9	IC1038 E-1	Q211 B-5	Q1516 B-1
D2203 B-8	IC1039 E-1	Q212 B-4	Q2000 B-7
D2204 B-8	IC1041 B-2	Q214 B-5	Q2001 B-7
D2205 B-8	IC1042 D-3	Q217 B-5	Q2002 A-9
D2206 B-10	IC1043 D-3	Q218 C-6	Q2003 C-10
D2207 G-10	IC1301 B-3	Q220 B-5	Q2004 C-10
D3000 C-9	IC1401 B-2	Q221 B-5	Q2005 C-10
D4007 F-8	IC1501 B-1	Q222 B-5	Q2006 D-10
D4008 F-8	IC2001 C-8	Q300 C-4	Q4003 E-8
D4009 F-8	IC2004 B-7	Q301 C-4	Q4004 D-8
D4010 F-8	IC2007 D-8	Q302 C-4	VARIABLE RESISTOR
D4011 F-8	IC2008 E-10	Q406 B-4	
D4012 F-7	IC2010 E-9	Q1001 E-2	RV1001 C-1
D4013 F-7	IC2011 D-9	Q1002 E-2	RV1002 E-3
D4014 F-7	IC2016 D-9	Q1004 F-2	RV1300 E-3
D4024 F-7	IC2017 D-8	Q1005 F-2	RV1301 C-1
D4025 F-7	IC2018 D-9	Q1006 F-2	
	IC2020 D-9	Q1007 F-2	
	IC2202 B-9	Q1008 F-2	



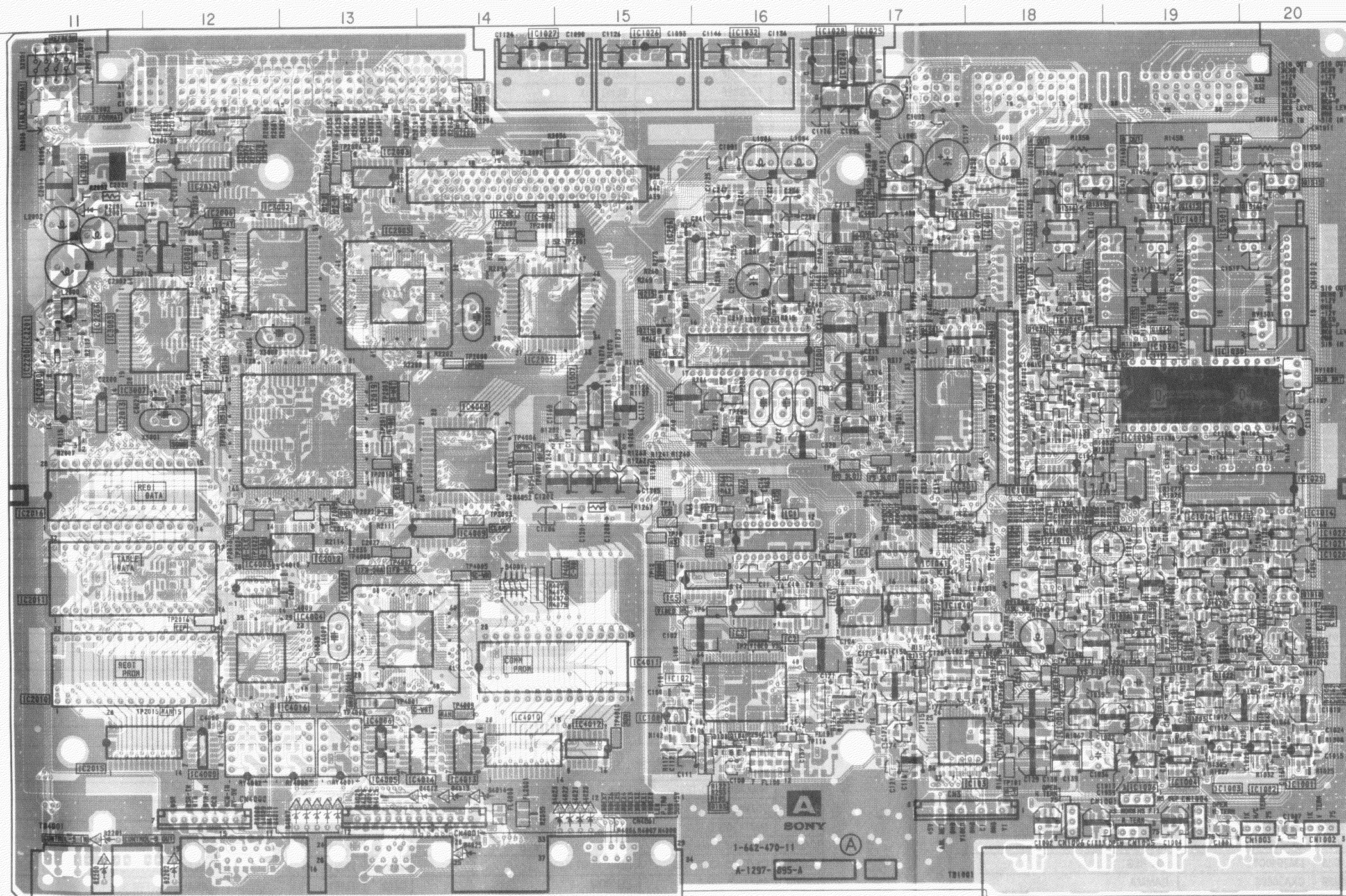
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

Schematic Diagram


A (5/5)

board

— A BOARD — <Component side>



- **Side pattern** : Pattern from the side which enables seeing.
- **Rear pattern** : Pattern of the rear side.

A BOARD (Component side)

Semiconductor Location

DIODE		IC2009 A-11		Q1035 C-18		TP2016 E-12	
		IC2012 D-13		Q1038 E-19		TP2022 D-13	
		IC2013 C-11				TP2023 D-12	
D100	F-16	IC2014 A-12		Q1039 E-19		TP2024 D-12	
D1202	C-14	IC2015 F-11		Q1040 E-19		TP3000 C-12	
D1203	C-15	IC2019 C-13		Q2200 A-14		TP3001 C-12	
D2005	A-11	IC2200 C-11		TEST POINT		TP3002 C-12	
D2007	D-11	IC2201 C-11				TP3003 D-14	
IC		IC2203 C-11				TP3005 B-12	
		IC3000 B-12		TP1 E-18			
IC2	E-16	IC3002 B-12		TP2 E-18		TP3006 B-12	
IC3	E-16	IC3003 C-11		TP4 D-17		TP4000 D-13	
IC4	D-17	IC3007 C-12		TP5 D-17		TP4001 E-13	
IC5	E-15	IC4000 F-12		TP6 E-16		TP4002 D-13	
IC6	E-17	IC4007 E-13		TP7 E-16		TP4003 E-13	
IC7	E-17	IC4008 D-14		TP8 C-16		TP4004 D-14	
IC100	E-15	IC4009 D-14		TP10 D-15		TP4005 D-14	
IC102	E-16	IC4010 F-14		TP11 D-15		TP4006 D-14	
IC103	F-17	IC4012 F-15		TP12 D-15		TP4007 D-14	
IC206	B-15	IC4013 F-14				TP4009 E-14	
IC300		TRANSISTOR		TP100 E-18			
				TP101 F-18		TP4010 F-15	
IC301	D-17			TP102 F-18			
IC400	B-17	Q24 D-16		TP114 E-17			
IC401	B-17	Q25 D-16		TP115 E-17			
IC1001	F-20	Q26 D-16		TP116 F-16			
IC1002	F-20	Q27 D-16		TP201 B-17			
IC1003	F-19	Q27 D-16		TP202 B-17			
IC1004	F-19	Q30 D-16		TP203 B-17			
IC1006	F-19	Q103 F-16		TP204 C-16			
IC1007	C-15	Q104 F-16					
IC1008		Q115 E-17		TP205 C-16			
		Q206 C-16		TP403 E-18			
IC1009	D-19	Q215 B-15		TP404 E-18			
IC1010	D-18			TP405 E-18			
IC1014	D-20	Q216 C-15		TP1301 A-18			
IC1015	D-19	Q219 C-15		TP1401 A-19			
IC1016	D-19	Q400 B-17		TP1501 A-19			
IC1018	D-18	Q401 B-17		TP2000 C-14			
IC1020	D-20	Q402 B-17		TP2001 B-14			
IC1021	D-19	Q450 C-17		TP2002 D-13			
IC1022	D-19	Q451 C-17					
IC1023		Q452 C-18		TP2003 C-13			
		Q1003 F-19		TP2004 B-13			
		Q1012 E-19		TP2005 B-13			
IC1034	C-18			TP2006 A-13			
IC1040	E-17	Q1013 E-19		TP2007 B-14			
IC1044	C-18	Q1022 E-19		TP2008 B-14			
IC1045	C-18	Q1025 C-19		TP2009 D-13			
IC2000	C-11	Q1026 C-18		TP2010 D-13			
IC2002	C-14	Q1027 C-18		TP2011 C-13			
IC2003	B-13	Q1029 C-18		TP2013 D-12			
IC2005	B-13	Q1032 E-18					
IC2006	B-12	Q1034 C-18		TP2015 E-12			

A BOARD

Function of Semiconductor (1/3)

D100	1S2837	VIDEO CLAMP	IC6	PCF8574T-T	D/A CONVERTER
D200	DAN202K	DC LEVEL SHIFT	IC7	PCF8574T-T	D/A CONVERTER
D400	1S2837	OR	IC8	SN74HC157ANS	SYNC SW-3
D1001	1SS123	PROTECTOR	IC9	TC7S32F	SYNC GEN-2
D1002	1SS123	PROTECTOR	IC100	NJM2240M	CLK-GEN
D1003	1S2837	PROTECTOR	IC101	NJM2235M	SIGNAL SW-7
D1004	1S2837	PROTECTOR	IC102	CXD2024AQ	COMB-FILTER
D1005	1S2837	PROTECTOR	IC103	CXA1855Q	VIDEO SW
D1006	1SS123	PROTECTOR	IC200	TDA9141-N2C	CHROMA. DEC
D1007	1SS123	PROTECTOR	IC201	TDA4665T-T	UV-AMP
D1008	1SS123	PROTECTOR	IC202	MM1112XFF	SIGNAL SW-2
D1009	1S2837	Q1017 PROT	IC204	MM1112XFF	SIGNAL SW-3
D1010	1S2837	Q1024 PROT	IC206	MC74HC4053F	SIGNAL SW-1
D1011	1S2837	ABL PROT	IC207	CXA1450M	SIGNAL SW-6
D1012	1S2837	Q1033 PROT	IC208	CXA1450M	SIGNALSW-5
D1013	1SS123	ABL PROT	IC209	CXA1450M	SIGNALSW-4
D1200	1SS123	FUN PROTECT	IC300	CXA2011Q	RGB IF-1
D1201	1SS123	FUN PROTECT	IC301	TC7W04FU	INVERTER
D1202	1SS123	FUN PROTECT	IC400	CXA1839Q-T6	RGB IF-2
D1203	1S2837	FUN PROTECT	IC401	TC7S08FU (TE85R)	AMP
D2000	RD6.2M-B2	PROTECT	IC1001	EL2186CS-TE2	SIGNAL AMP
D2001	D1NS4-TR2	STEP UP	IC1002	EL2186CS-TE2	SIGNAL AMP
D2002	RD6.8M-B2	PROTECT	IC1003	EL2186CS-TE2	SIGNAL AMP
D2003	1S2837	PROTECT	IC1004	GS1881-CTA	SYNC SEPARATOR
D2004	1S2837	PROTECT	IC1006	UPC4082G2	H/V AMP
D2005	SB20-03P	PROTECT	IC1007	NJM084M-TE2	ABG DET
D2007	1S2837	OR (SIRCS)	IC1008	SN75157PS-ELL2000	SYNC RECEIVER
D2008	1S2837	OR (SIRCS)	IC1009	CXA1875AM-T4	DAC AND SW
D2009	1S2837	SIRCS OUT ENABLE SW	IC1010	NJM082BM-T1	ABL COMPARATOR
D2010	RD6.2M-B2	PROTECT	IC1011	CXA1450M	FIX VIDEO SW
D2011	RD6.2M-B2	PROTECT	IC1012	CXA1450M	FIX VIDEO SW
D2200	RD6.2ESB2	PROTECT	IC1013	CXA1450M	FIX VIDEO SW
D2201	RD6.2ESB2	PROTECT	IC1014	MAX4121CSA-TE2	TEST RGB SW
D2202	RD6.2ESB2	PROTECT	IC1015	MAX4121CSA-TE2	TEST RGB SW
D2203	RD6.2M-B2	PROTECT	IC1016	MAX4121CSA-TE2	TEST RGB SW
D2204	RD6.2M-B2	PROTECT	IC1017	CXA1875AM-T4	DAC AND SW
D2205	RD6.2M-B2	PROTECT	IC1018	CXA1875AM-T4	DAC AND SW
D2206	1S2837	OR	IC1019	UPC4082G2	COMPARATOR
D2207	RD6.8M-B2	PROTECT	IC1020	MAX4121CSA-TE2	VIDEO RGB SW
D3000	1S2837	OR	IC1021	MAX4121CSA-TE2	VIDEO RGB SW
D4007	RD6.2ESB2	PROTECT	IC1022	MAX4121CSA-TE2	VIDEO RGB SW
D4008	RD6.2ESB2	PROTECT	IC1023	TC7S04FU (TE85R)	INVERTER
D4009	RD6.2ESB2	PROTECT	IC1024	LM2990T-5.0	-5V REG
D4010	RD6.2ESB2	PROTECT	IC1025	LM7912CT	-12V REG
D4011	RD6.2ESB2	PROTECT	IC1026	TA7812CT	+12V REG
D4012	RD6.2ESB2	PROTECT	IC1027	TA7812CT	+12V REG
D4013	RD6.2ESB2	PROTECT	IC1028	LM2940CT	+5V REG
D4014	RD6.2ESB2	PROTECT	IC1029	CXA3069S	GAMMA
D4024	1S2834	PROTECT	IC1030	LM1282N	PRE AMP
D4025	RD6.2ESB2	PROTECT	IC1031	MAX8213BCSE-TE2	VOLTAGE PROT
			IC1032	NJM7809FA	+9V REG
IC1	CXA2016S	SYNC SEPARATOR	IC1033	MC74HC02AF-T2	PULSE GEN
IC2	MC74HC4538AF	SYNC GENERATOR	IC1034	TC7S66F	ABL LINK SW
IC3	SN74HC00ANS	SYNC BUFFER	IC1036	SN74HC164ANS	PULSE GEN
IC4	SN74HC157ANS	SYNC SW-1	IC1037	MAX4121CSA-TE2	RGB SW
IC5	SN74HC157ANS	SYNC SW-2	IC1038	MAX4121CSA-TE2	RGB SW

A BOARD

Function of Semiconductor (2/3)

IC1039	MAX4121CSA-TE2	RGB SW	Q27	2SC2712-YG	SYNC BUFF-4
IC1040	TL082CPS	TEST SIGNAL SW CONT	Q30	2SC2712-YG	S ON G AMP-3
IC1041	TC7S66F	TEST SIGNAL SW	Q101	2SA1162-YG	CLK AMP
IC1042	TC4W53F	TEST SIGNAL SW	Q102	2SC2712-YG	CLK BUFF-1
IC1043	TC7S32F	HD CP MIX	Q103	2SC2712-YG	VIDEO CLAMP-1
IC1044	TC7S32F	BLKG MIX	Q104	2SA1162-YG	VIDEO CLAMP-2
IC1045	TC7S32F	BLKG MIX	Q105	2SC2712-YG	VIDEO BUFF-3
IC1301	EL2160CN	AMP	Q106	2SC2712-YG	VIDEO BUFF-4
IC1401	EL2160CN	AMP	Q107	2SC2712-YG	VIDEO BUFF-2
IC1501	EL2160CN	AMP	Q108	2SC2712-YG	Y AMP-1
IC2000	TC74HC14AF (EL)	INVERTER	Q109	2SC2712-YG	Y AMP-2
IC2001	MM1170BFB	RESET (WD. TIMER)	Q110	2SC2712-YG	Y AMP-3
IC2002	CY7C136-55JC-TEL	DUAL PORT RAM	Q111	2SA1162-YG	Y BUFF-2
IC2003	CXA1875AM-T4	DAC (FOR G2 CONTROL)	Q112	2SC2712-YG	C AMP-1
IC2004	TC7S32F	BUFFER	Q113	2SC2712-YG	C AMP-2
IC2005	HD6433337WA08F	REGI MCU	Q114	2SC2712-YG	C AMP-3
IC2006	MAX762CSA-TE2	VOLTAGE STEP UP	Q115	2SA1162-YG	C BUFF-2
IC2007	TC74HC14AF (EL)	INVERTER	Q117	2SA1162-YG	CHROMA BUFFER
IC2008	SN74HC32ANS	OR	Q118	2SA1162-YG	Y BUFF
IC2009	PQ20VZ5U	5V REGULATOR	Q119	2SA1162-YG	VIDEO BUFF-2
IC2010	M27C1001-10F1	REGI ROM	Q120	2SC2712-YG	VIDEO BUFF-1
IC2011	HN58C1001P-15	EEPROM (FOR BUCK UP DATA)	Q200	2SC2712-YG	PAL-M SW-2
IC2012	SN74HC74ANS	MEMORY GUARD	Q201	DTC144EKA-T146	PAL-M SW-1
IC2013	PC74HCT08D-T	AND	Q202	2SC2712-YG	PAL-M SW-3
IC2014	TC74HC573AF (EL)	8-LATCH	Q203	2SC2712-YG	CLK BUFF-2
IC2015	HM6264BLFP-10LTZ	S-RAM	Q205	2SC2712-YG	Y BUFF-2
IC2016	M48Z30Y-100PM1	BATTERY S-RAM	Q206	2SC3545-T1T44	SECAM FILTER SW
IC2017	SN74HC139ANS	EEPROM SELECT	Q211	2SC2712-YG	B-Y BUFFER
IC2018	TC7S32F	OR	Q212	2SC2712-YG	R-Y BUFFER
IC2019	CXD108-146Q	ADDRESS DECODER ETC.	Q214	DTC144EKA-T146	SIG. SW-3
IC2020	TC7W08F	AND	Q215	DTC144EKA-T146	SIG. SW-1
IC2200	TC4W66FU	ANALOG SWITCH (SIRCS)	Q216	DTC144EKA-T146	SIG. SW-2
IC2201	TC7W241FU-TE12R	3-ST BUFFER (SIRCS)	Q217	2SA1162-G	R BUFF-1
IC2202	MC74HC4053AF	ANALOG SW (FOR G2 SELECT)	Q218	2SA1162-G	G BUFF-1
IC2203	UPC393G2	COMPARATOR (VOLTAGE DETECTOR)	Q219	2SA1162-G	B BUFF-1
IC3000	TC7W241FU-TE12R	CLAMP SELECT	Q220	2SC2712-YG	Y BUFF-1
IC3002	MB671469PF	FH/FV COUNTER	Q221	2SC2712-YG	U BUFF
IC3003	MB654842UPF	SYNC CONTROLLER	Q222	2SC2712-YG	V BUFF
IC3004	TC74HC123AF	H SYNC REFORM	Q300	2SC2712-YG	B BUFF-2
IC3005	SN74HC157ANS	SYNC SELECT	Q301	2SC2712-YG	R BUFF-2
IC3006	TC74HC123AF	V SYNC DETECT	Q302	2SC2712-YG	G BUFF-2
IC3007	TC7S66F	ANALOG SW	Q400	2SC2712-YG	R-Y BUFF
IC4000	MAX489ECSD-TE2	RS-422A TRANSCEIVER	Q401	2SC2712-YG	B-Y BUFF
IC4001	TC7W14F	INVERTER	Q402	2SC2712-YG	Y BUFF-3
IC4002	MM1170BFB	RESET (WD.TIMER)	Q406	DTC144EKA-T146	Y/U/V SW
IC4007	HD6433337WA08F	COMMUNICATION MCU	Q450	FMS1	SIGNAL LIMITTER 1
IC4008	CY7C136-55JC-TEL	DUAL PORT RAM	Q451	FMS1	SIGNAL LIMITTER 2
IC4009	SN74HC74ANS	EEPROM	Q452	FMS1	SIGNAL LIMITTER 3
IC4010	HM6264BLFP-10LTZ	S-RAM	Q1001	DTC144EKA-T146	SYNC 5V SW
IC4011	M27C512-10F1	COMM ROM	Q1002	2SC2712-YG	SYNC 5V SW
IC4012	SN74HC138ANS	ADDRESS DECODER	Q1003	2SB798-DLTK	SYNC 5V SW
IC4013	SN74HC11ANS-E05	ADDRESS DECODER	Q1004	2SA1162-YG	BUFFER
			Q1005	2SC2712-YG	BUFFER
Q24	2SA1162-YG	SYNC BUFF-2	Q1006	2SC2712-YG	BUFFER
Q25	2SC2712-YG	SYNC BUFF-1	Q1007	DTA144EKA-T146	MONITOR OUT SW
Q26	2SA1162-YG	SYNC BUFF-3	Q1008	2SA1162-YG	PEAK HOLD

A BOARD

Function of Semiconductor (3/3)

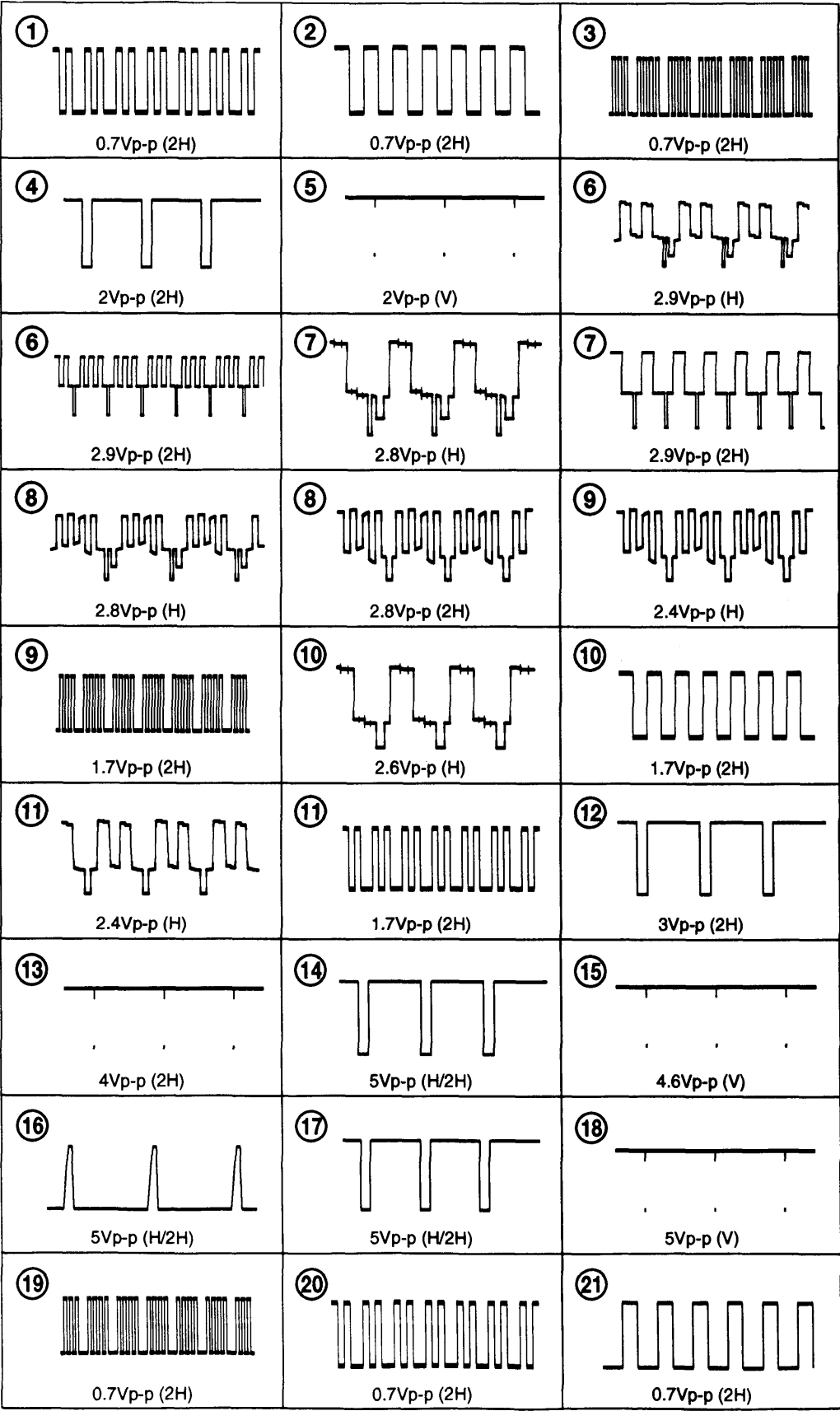
Q1009	2SC2712-YG	PEAK HOLD
Q1010	2SA1162-YG	PEAK HOLD
Q1011	2SC2712-YG	PEAK HOLD
Q1012	2SA1162-YG	BUFFER
Q1013	2SC2712-YG	BUFFER
Q1014	2SC2712-YG	BUFFER
Q1016	2SC2712-YG	TEST RGB SW
Q1017	2SC2712-YG	SINGLE ABL
Q1018	2SC1906	BUFFER
Q1019	2SC1906	BUFFER
Q1020	2SC1906	BUFFER
Q1021	DTC144EKA-T146	RGB SW
Q1022	DTC144EKA-T146	RGB EN SW
Q1024	2SC2712-YG	PEAK ABL
Q1025	2SA1162-YG	BUFFER
Q1026	2SC2712-YG	BUFFER
Q1027	2SC2712-YG	BUFFER
Q1028	2SC2712-YG	CONTRAST
Q1029	2SC2712-YG	BUFFER
Q1030	2SC2712-YG	CONTRAST
Q1031	2SC2712-YG	BUFFER
Q1032	2SC2712-YG	TOTAL ABL
Q1033	2SA1162-YG	BUFFER
Q1034	2SA1162-YG	SUB CONTRAST
Q1035	2SC2712-YG	SUB CONTRAST
Q1036	2SC2712-YG	TOTAL ABL
Q1037	TC144EKA-T146	VOLTAGE PROT
Q1038	2SC3545-T1T44	IK DET AMP
Q1039	2SC3545-T1T44	IK DET AMP
Q1040	2SC3545-T1T44	BUFFER
Q1041	2SC2712-YG	SUB CONTRAST
Q1200	DTC114EK	FUN PROT
Q1201	DTC114EK	FUN PROT
Q1202	DTC114EK	FUN PROT
Q1203	DTC144EKA-T146	FUN PROT
Q1204	2SC2712-YG	FUN DRIVE
Q1205	2SC2712-YG	FUN DRIVE
Q1315	2SC3950-E	BUFFER
Q1316	2SC1906	CURRENT SOURCE
Q1415	2SC3950-E	BUFFER
Q1416	2SC1906	CURRENT SOURCE
Q1515	2SC3950-E	BUFFER
Q1516	2SC1906	CURRENT SOURCE
Q2000	2SC2712-YG	BUS SWITCH
Q2001	2SC2712-YG	BUS SWITCH
Q2002	DTC144EKA-T146	REG. ENABLE SWITCH
Q2003	DTC144EKA-T146	BUFFER (INV.)
Q2004	DTC144EKA-T146	BUFFER (INV.)
Q2005	DTC144EKA-T146	BUFFER (INV.)
Q2006	2SC2712-YG	BUFFER
Q2200	2SC2712-YG	INVERTER
Q4003	2SC2712-YG	BUS SWITCH
Q4004	2SC2712-YG	BUS SWITCH

BH BOARD

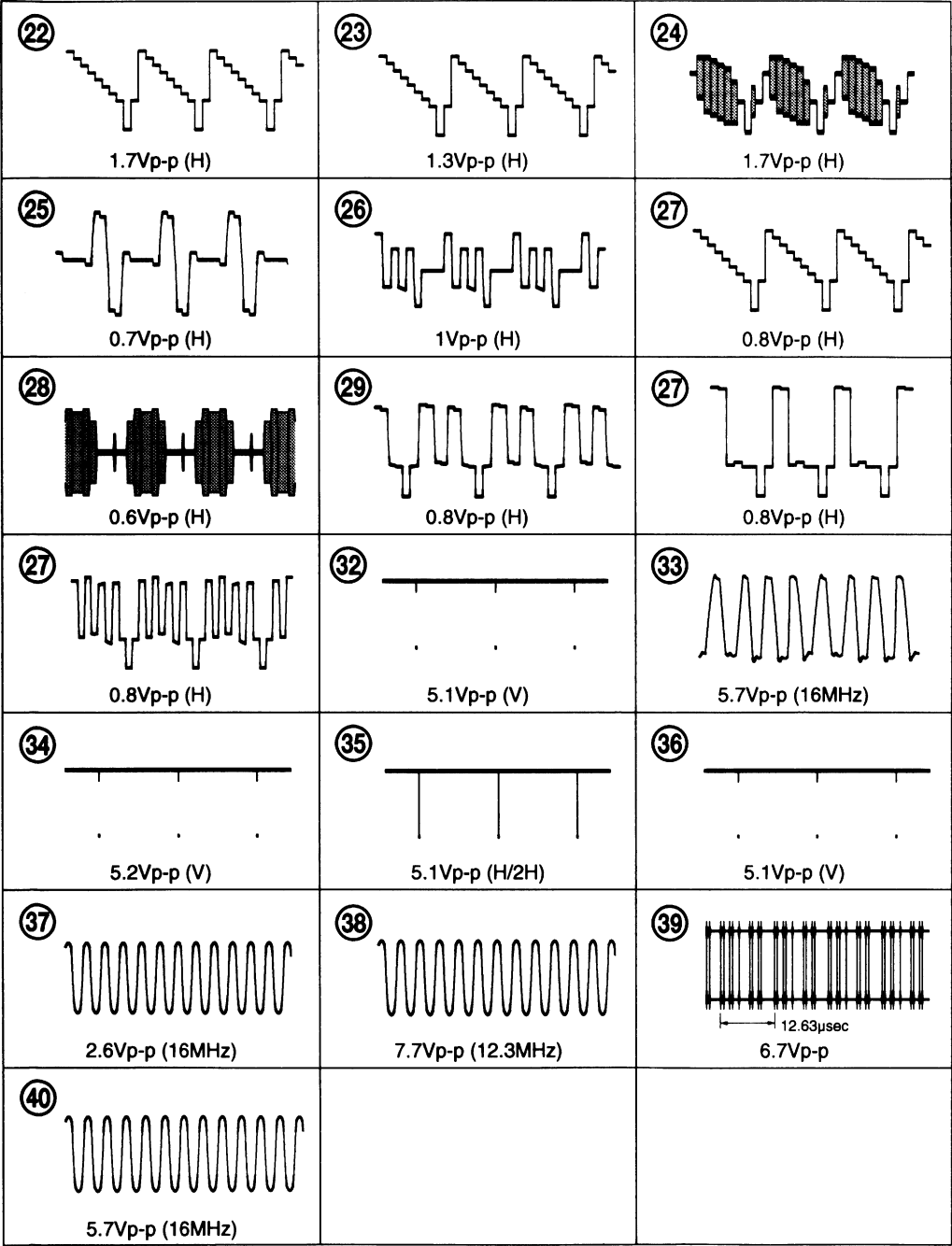
Function of Semiconductor

IC1	TC4W53FU	SWITCH
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A Board Waveforms (1/2)

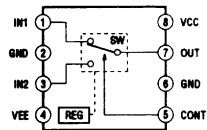


A Board Waveforms (2/2)

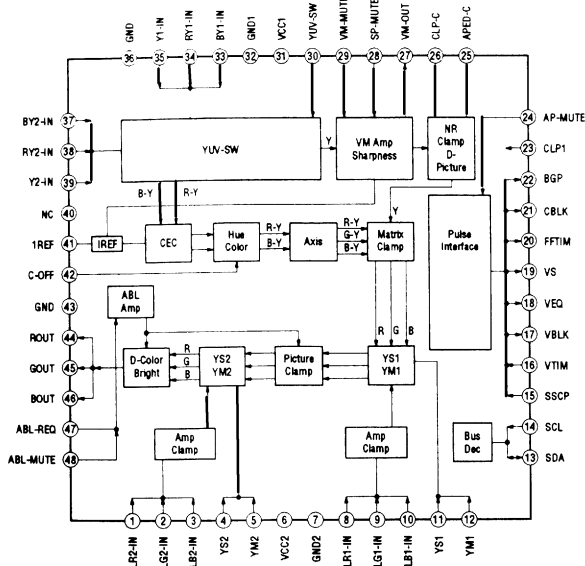


A Board IC Block Diagrams

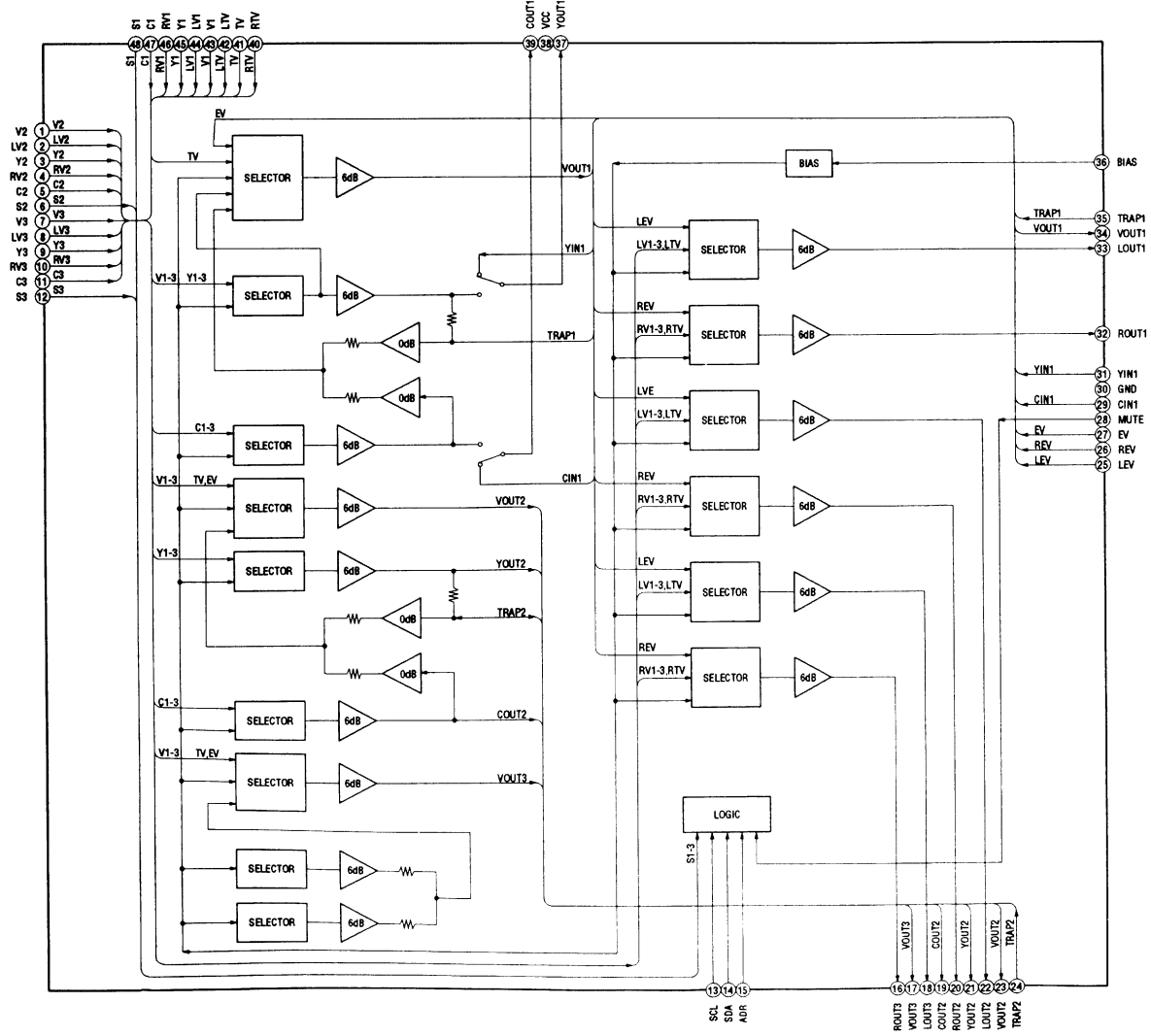
CXA1450M
(IC1011-1013, 207-209)

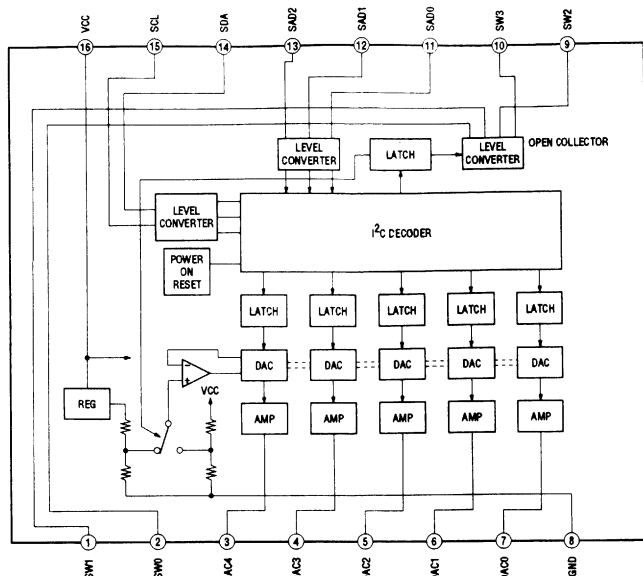
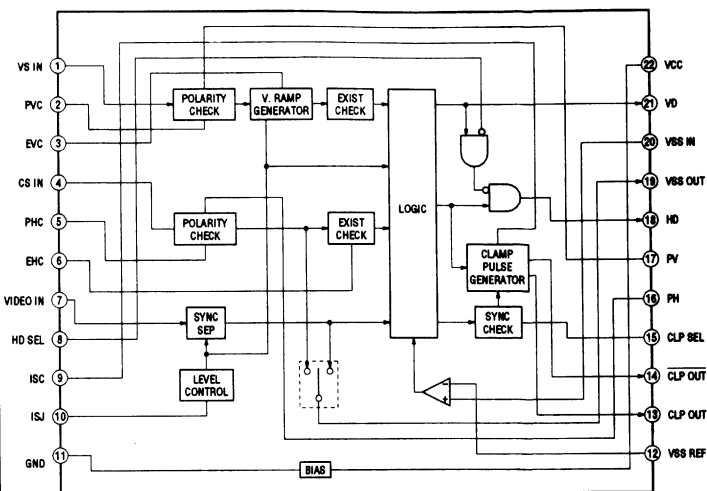
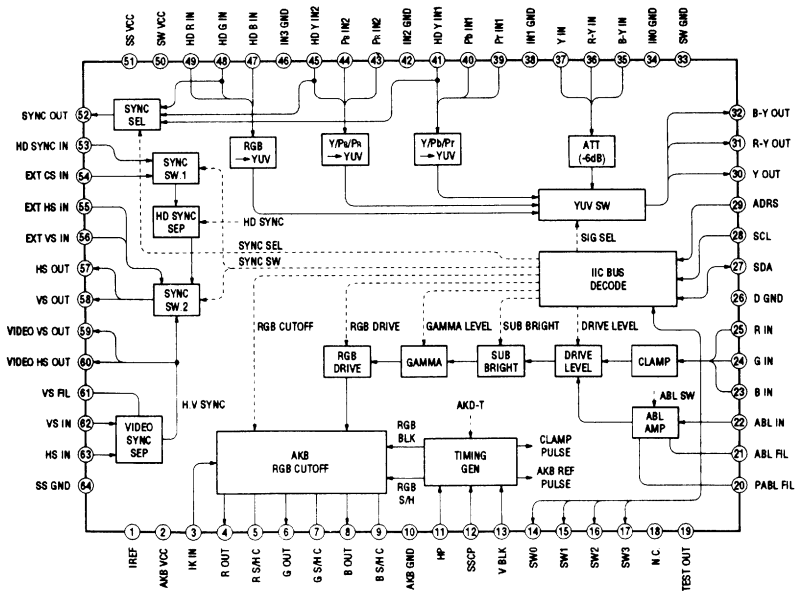


CXA1839Q (IC400)

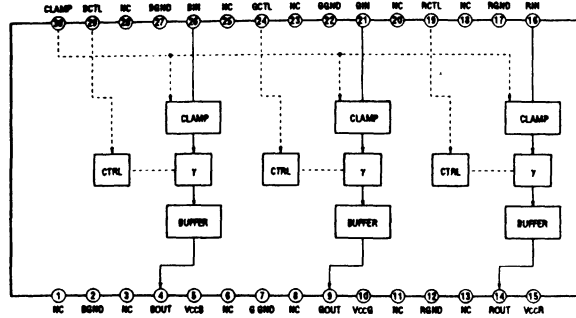


CXA1855Q (IC103)

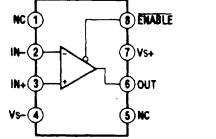


CXA1875AM (IC1009, 7017, 1018)

CXA2016S (IC1)

CXA2011Q (IC300)


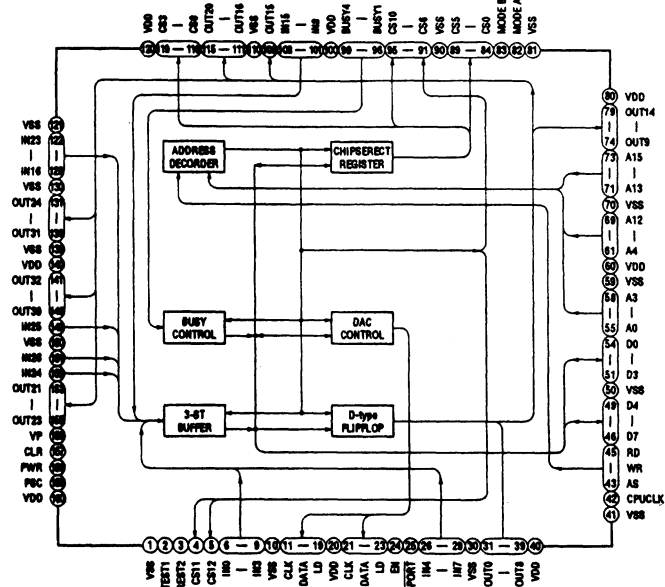
CXA3069S (IC1029)



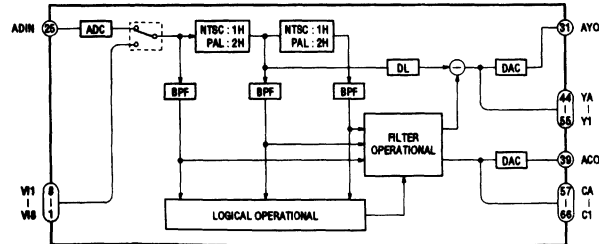
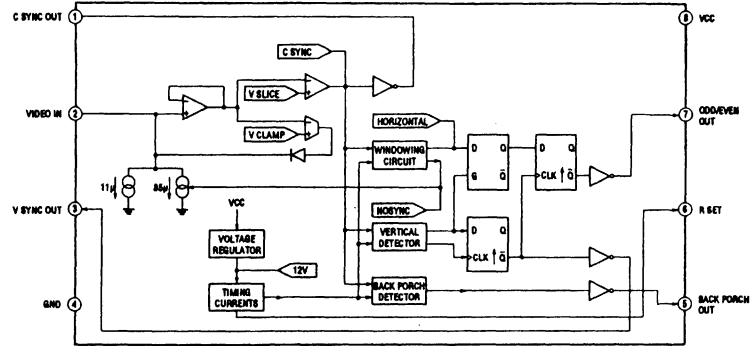
EL2186C
(IC1001-1003)



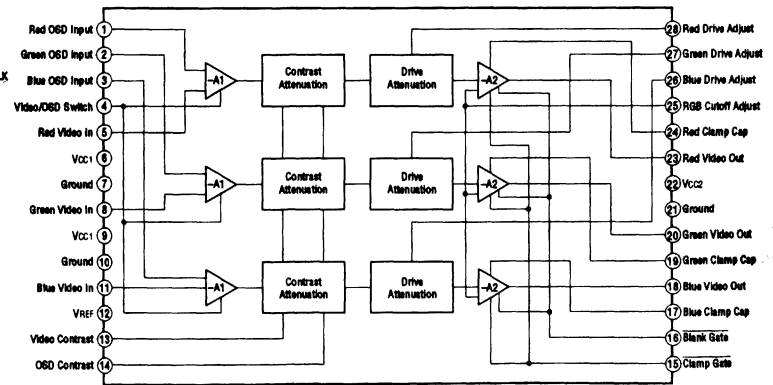
CXD108-146Q (IC2019)



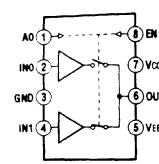
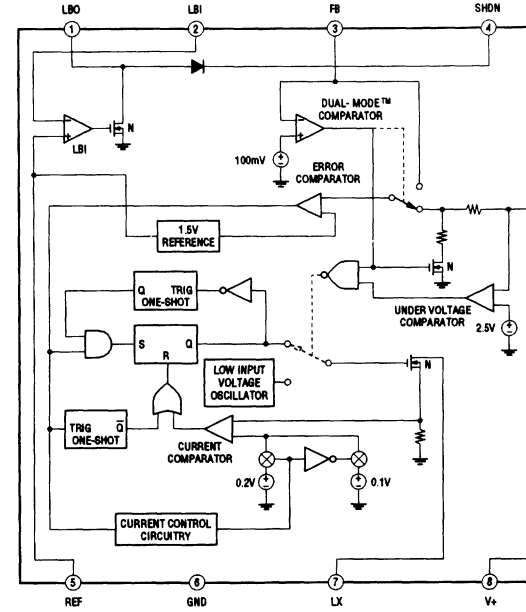
CXD2024AQ (IC102)

**GS1881-CTA (IC1004)**

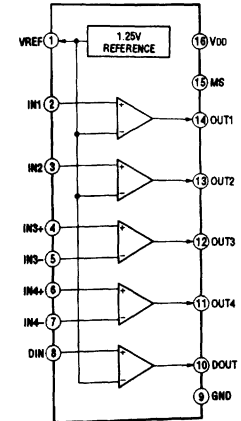
LM1282N (IC1030)



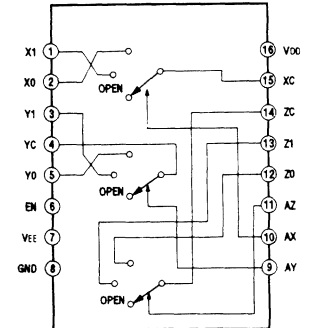
MAX4121CSA
(IC1014-1016, 1020-1022, 1037-1039)

**MAX762CSA (IC2006)**

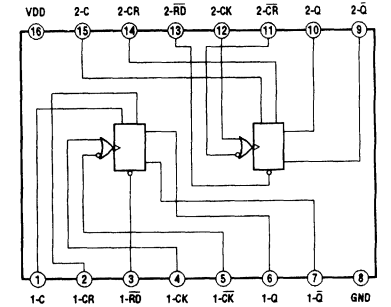
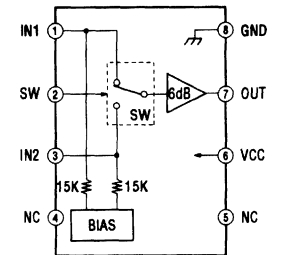
MAX8213 (IC1031)



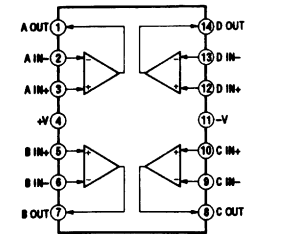
MC74HC4053F (IC206)
TC74HC4053AF (IC2202)



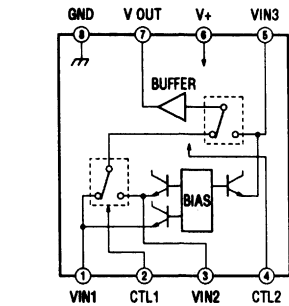
MC74HC4538AF (IC2)

**MM1112XFF (IC202, 204)**

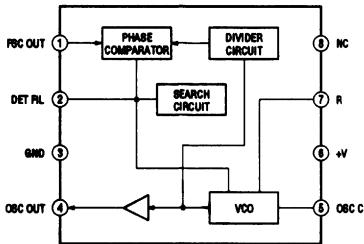
NJM084M (IC1007)



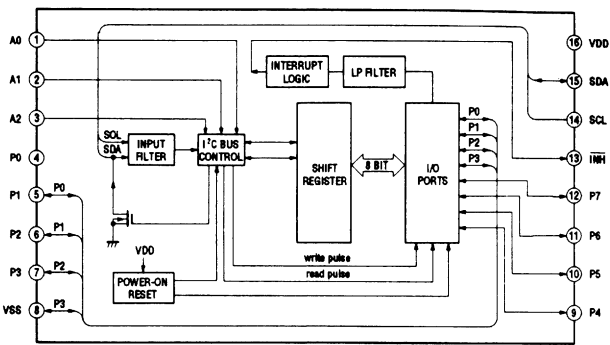
NJM2235M (IC101)



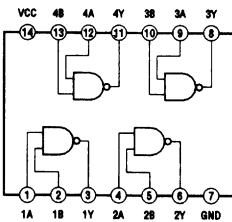
NJM2240M (IC100)



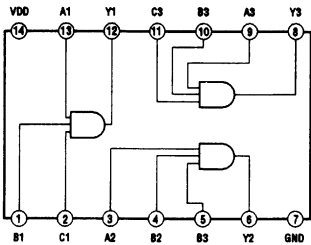
PCF8574T (IC6, 7)



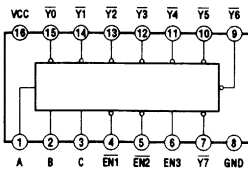
SN74HC00ANS (IC3)



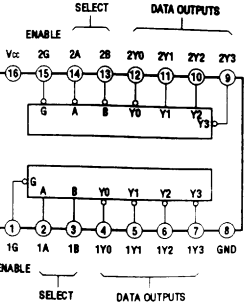
SN74HC11ANS (IC4013)



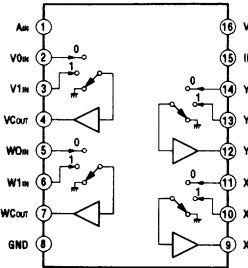
SN74HC138ANS (IC4012)



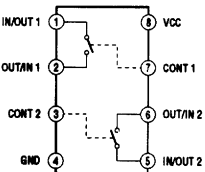
SN74HC139ANS (IC2017)



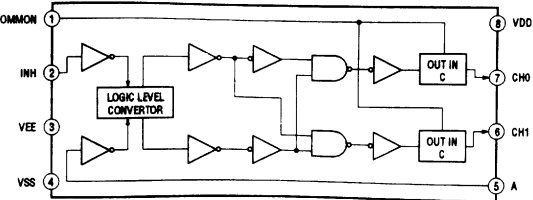
SN74HC157ANS
(IC4, 5, 8, 3005)



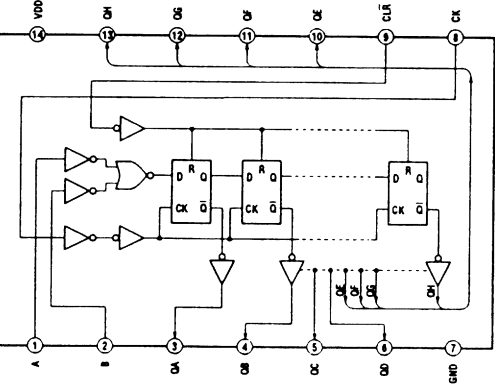
TC4W66FU
(IC2200)



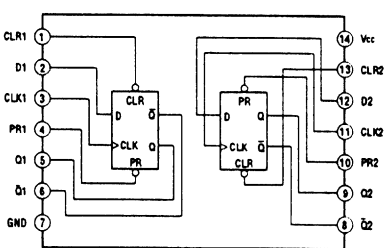
TC4W53F (IC1042)



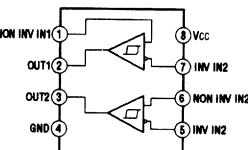
SN74HC164ANS (IC1036)



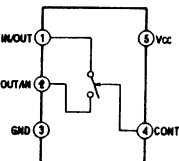
SN74HC74ANS (IC2012, 4009)



SN75157 (IC1008)



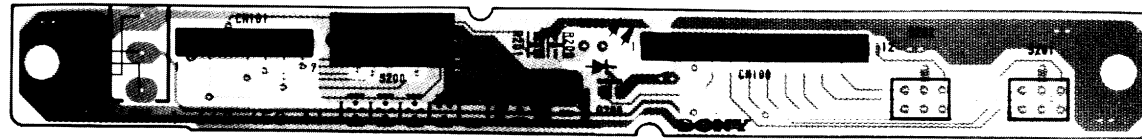
TC7S66F
(IC1034, 1041, 3007)



AB

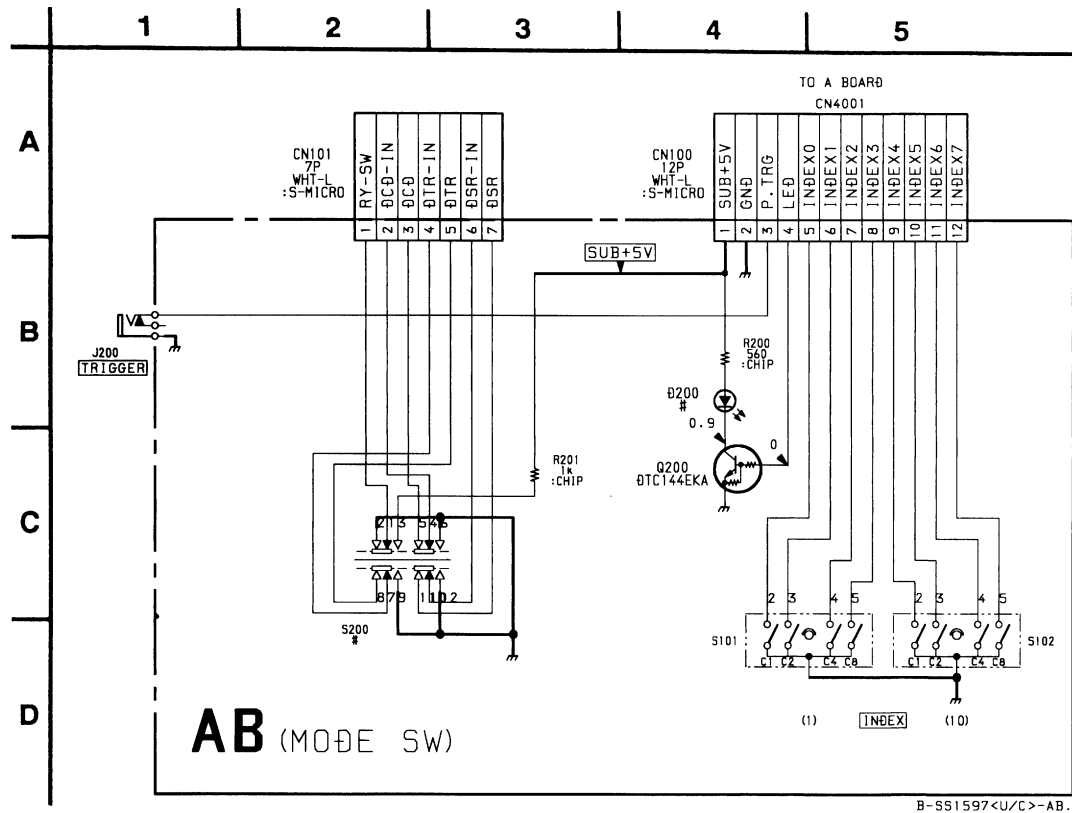
(MODE SWITCH) BOARD

— AB BOARD — <Conductor side>



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

• AB (MODE SWITCH) DIAGRAM



AB BOARD

Function of Semiconductor

Q200	DTC144EKA-T146	LED DRIVE
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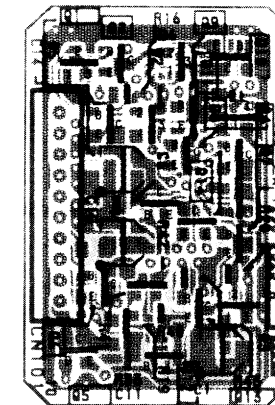
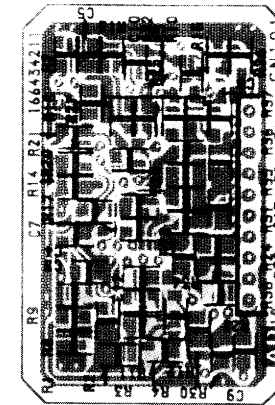
Schematic Diagram

← **AA** board

AD

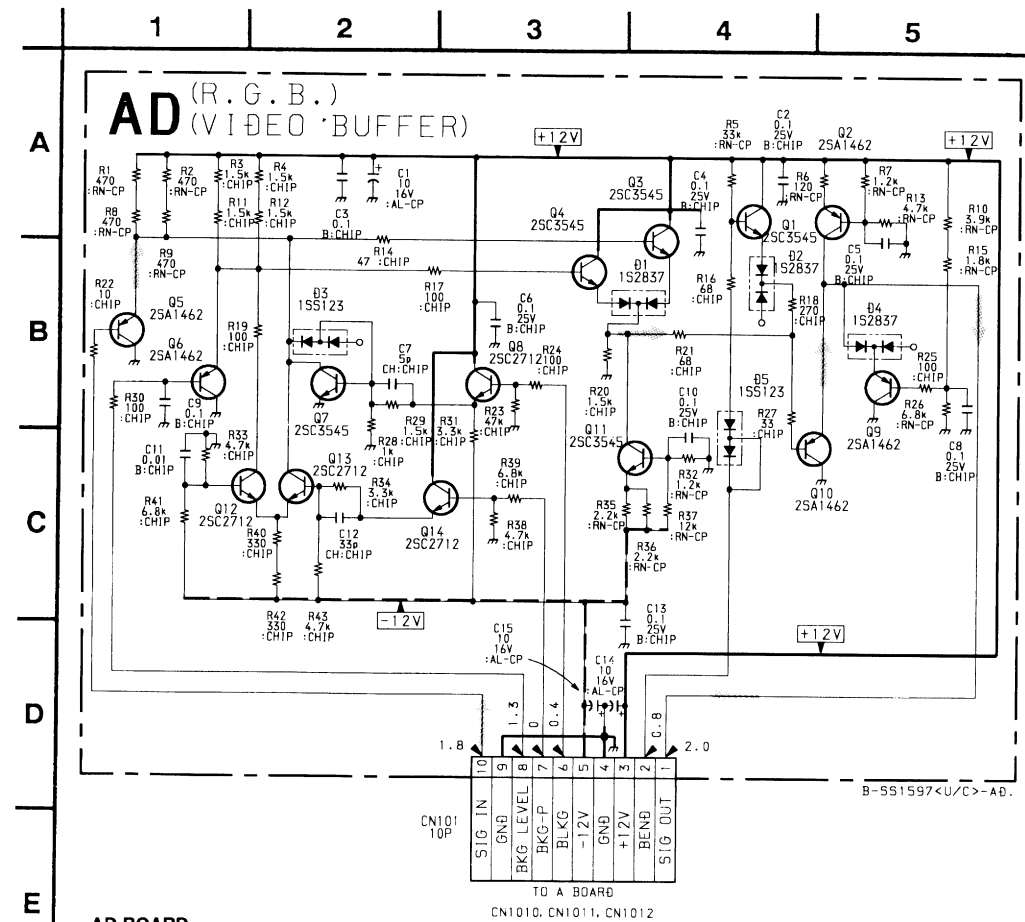
(VIDEO BUFFER)BOARD

— AD BOARD —
<Conductor side>

— AD BOARD —
<Component side>


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

• AD (VIDEO BUFFER) DIAGRAM



AD BOARD

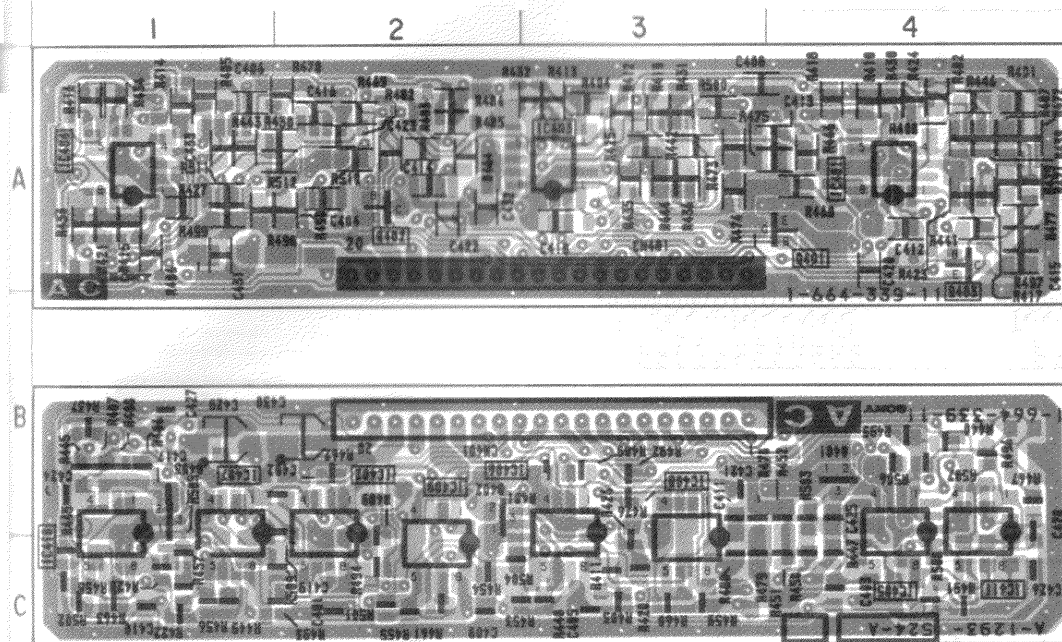
Function of Semiconductor

D1	1S1837	PROTECTOR	Q5	2SA1462-Y34	SIGNAL AMP
D2	1S1837	PROTECTOR	Q6	2SA1462-Y34	BKG LEVEL AMP
D3	1SS123	PROTECTOR	Q7	2SC3545-T1T44	BLANK CONTROL
D4	1S1837	PROTECTOR	Q8	2SC2712-YG	BLANK CONTROL
D5	1SS123	PROTECTOR	Q9	2SA1462-Y34	SIGNAL OUT
			Q10	2SA1462-Y34	SIGNAL OUT
Q1	2SC3545-T1T44	SWITCH	Q11	2SC3545-T1T44	SIGNAL OUT
Q2	2SA1462-Y34	SIGNAL OUT	Q12	2SC2712-YG	BLANK CONTROL
Q3	2SC3545-T1T44	MIX	Q13	2SC2712-YG	BLANK CONTROL
Q4	2SC3545-T1T44	MIX	Q14	2SC2712-YG	BLANK CONTROL

Schematic Diagram

AD board →

AC BOARD — <Conductor side>



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

AC BOARD

Semiconductor Location

DIODE	
D401	B-4
D402	B-2
D403	B-1
IC	
IC401	A-4
IC402	B-2
IC403	A-3
IC404	A-1
IC405	B-4
IC406	B-3
IC407	B-1
IC408	B-3
IC409	B-2
IC410	B-1
IC411	B-4
TRANSISTOR	
Q401	A-4
Q402	A-2
Q403	A-4

AC BOARD

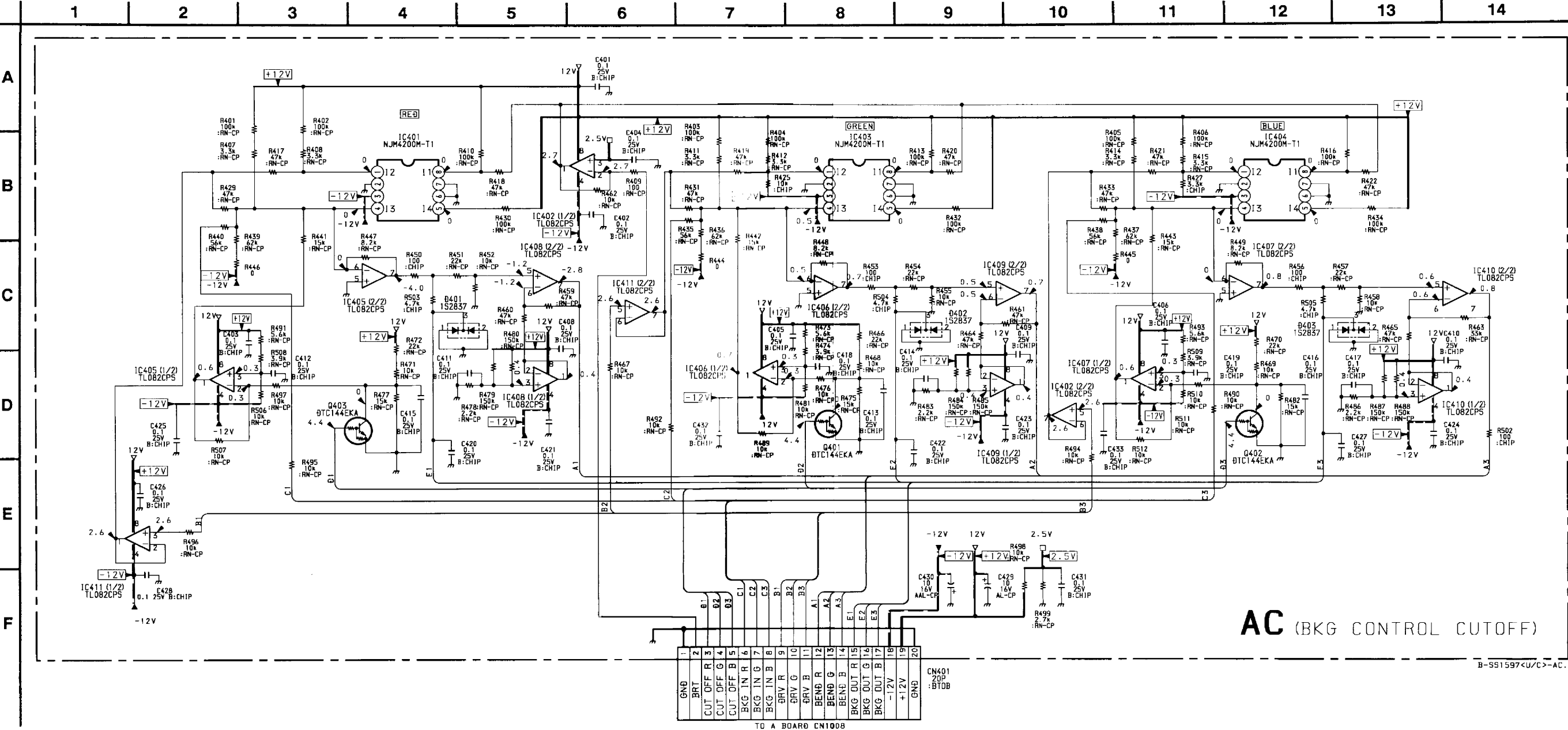
Function of Semiconductor

D401	1S2837	PROTECTOR
D402	1S2837	PROTECTOR
D403	1S2837	PROTECTOR
IC401	NJM4200M	R BKG CONTROLLER
IC402	TL082CPS	INVERTER
IC403	NJM4200M	G BKG CONTROLLER
IC404	NJM4200M	B BKG CONTROLLER
IC405	TL082CPS	R MIX AMP, DC BIAS
IC406	TL082CPS	G MIX AMP, DC BIAS
IC407	TL082CPS	B MIX AMP, DC BIAS
IC408	TL082CPS	BEND R
IC409	TL082CPS	BEND G
IC410	TL082CPS	BEND B
IC411	TL082CPS	BUFFER
Q401	DTC144EKA-T146	G CUT OFF SW
Q402	DTC144EKA-T146	B CUT OFF SW
Q403	DTC144EKA-T146	R CUT OFF SW

• AC (BKG CONTROL, CUT OFF) DIAGRAM

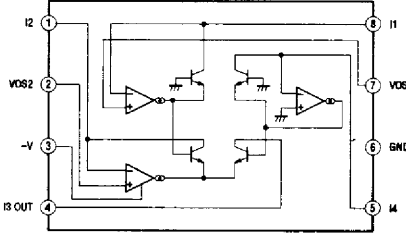
AC BOARD
Semiconductor Location

DIODE	
D401	B-4
D402	B-2
D403	B-1
IC	
IC401	A-4
IC402	B-2
IC403	A-3
IC404	A-1
IC405	B-4
IC406	B-3
IC407	B-1
IC408	B-3
IC409	B-2
IC410	B-1
IC411	B-4
TRANSISTOR	
Q401	A-4
Q402	A-2
Q403	A-4



B-SS1597<U/C>-AC

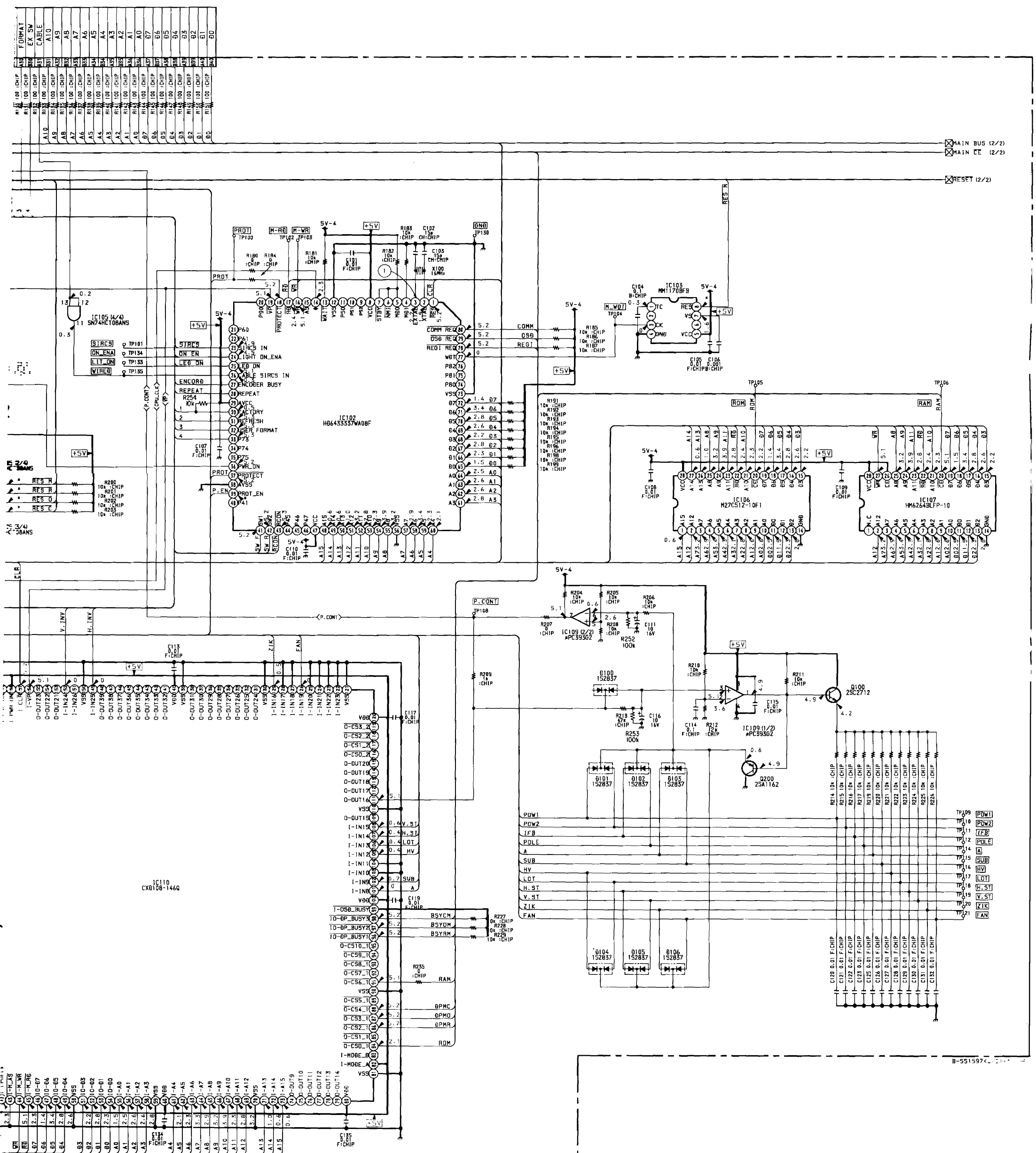
AC Board IC Block Diagram
NJM4200M-T1 (IC401, 403, 404)



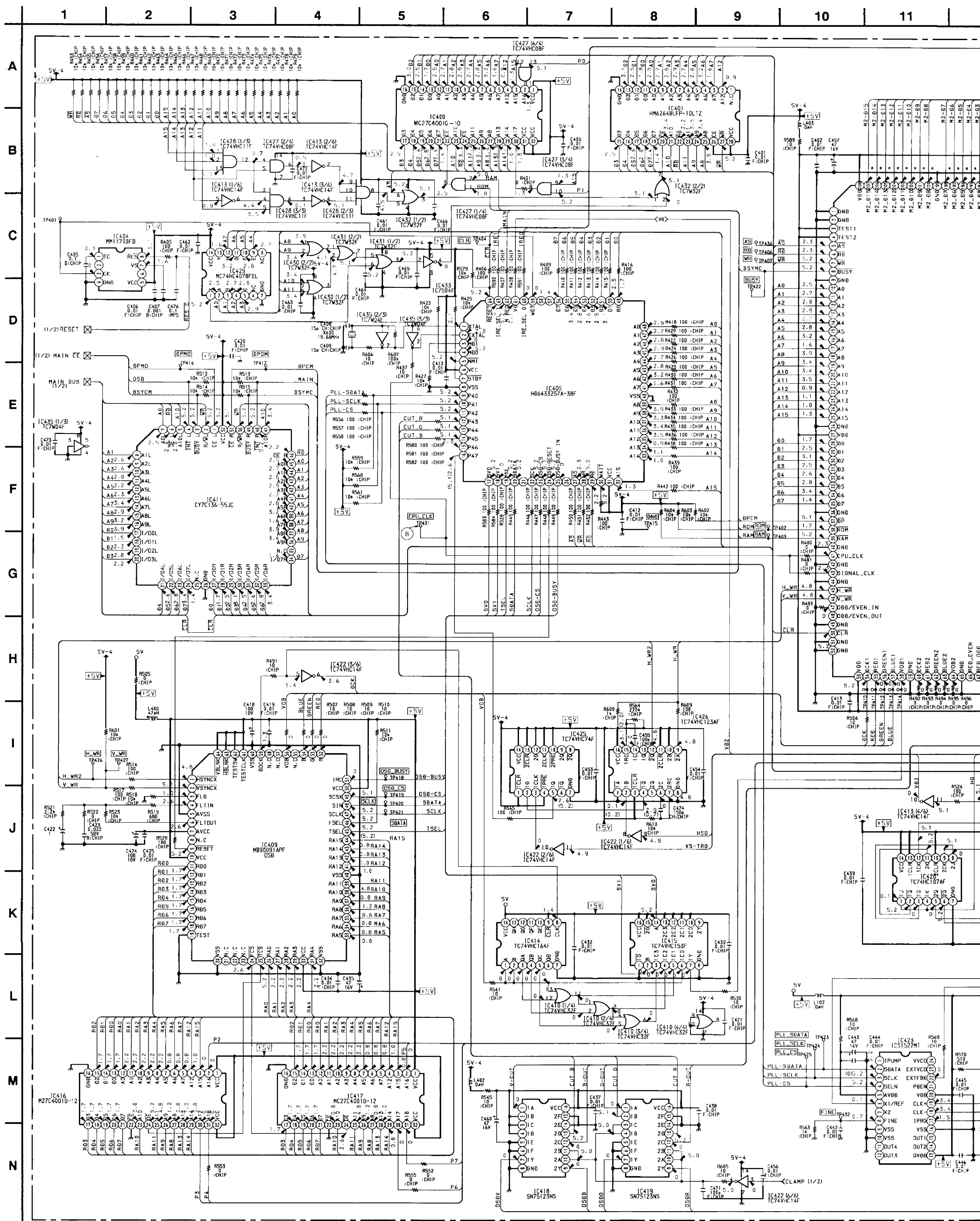
Schematic Diagram

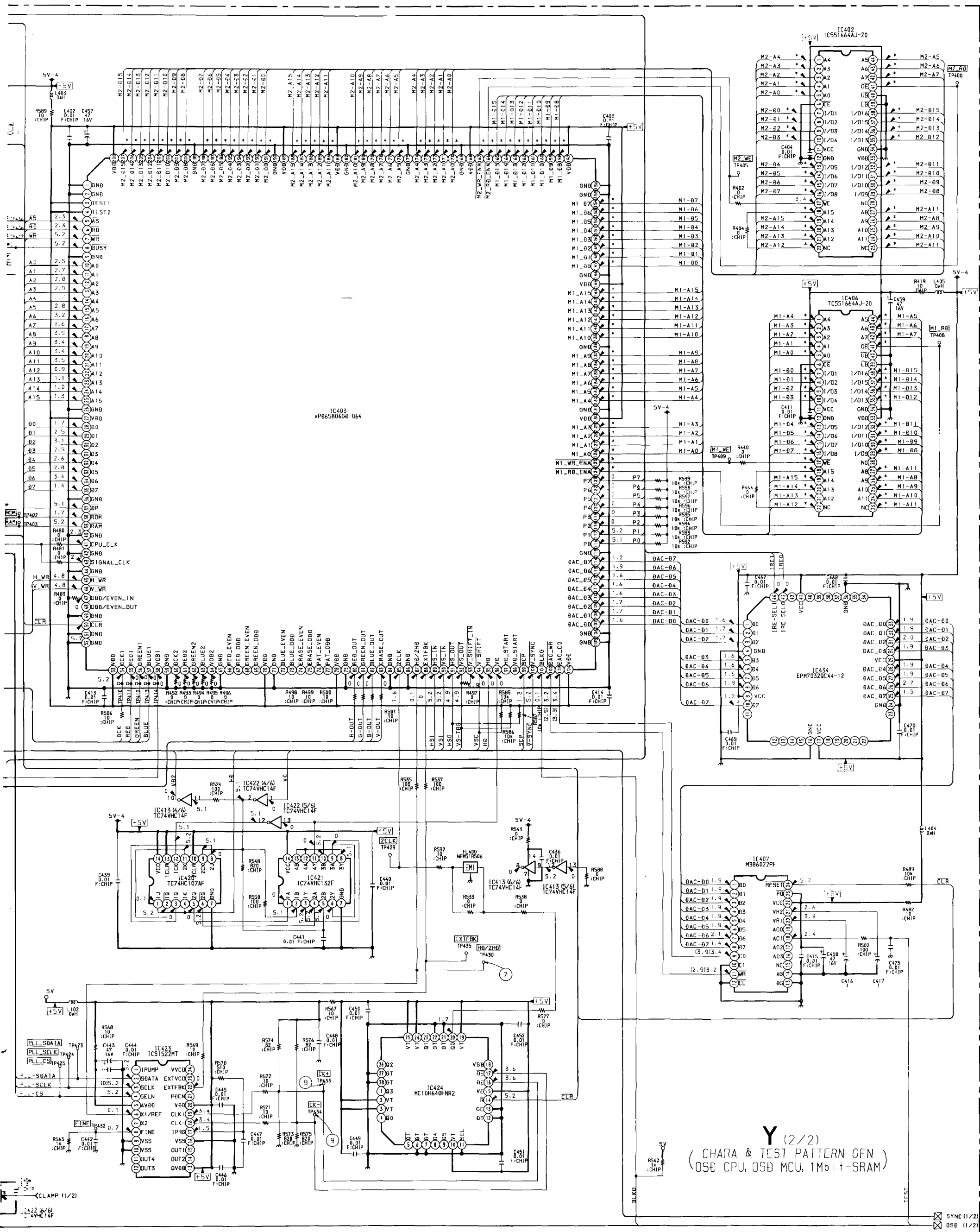
Y (1/2) board →

-
- Y (1/2) (MAIN ADDRESS DECODER, MAIN CPU)
Y (1/2) (MAIN ROM, RAM)



- **Y (2/2) (OSD MCU, S RAM, CHAR & TEST PATTERN GEN., OSD CPU) DIAGRAM**
- Refer to page 4-98 for Waveforms
- Refer to page 4-99 for Function of Semiconductor
- Refer to page 4-100 for IC Block Diagrams
- Refer to page 4-94 for Printed Wiring Board







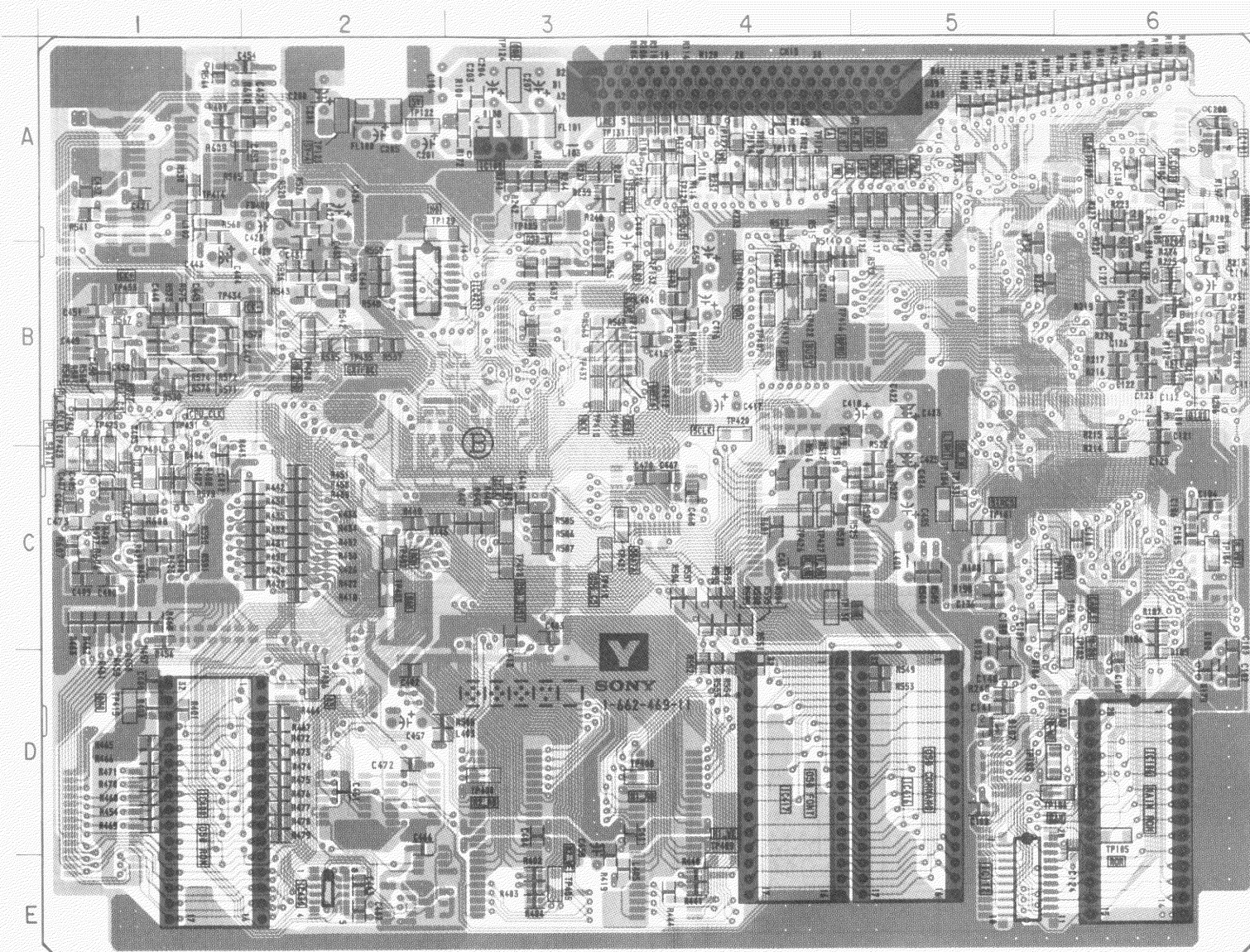
(MAIN CPU, MAIN ADDRESS DECODER, RAM, MAIN
ROM, OSD CPU CHAR & TEST PATTERN GEN) BOARD

Y BOARD

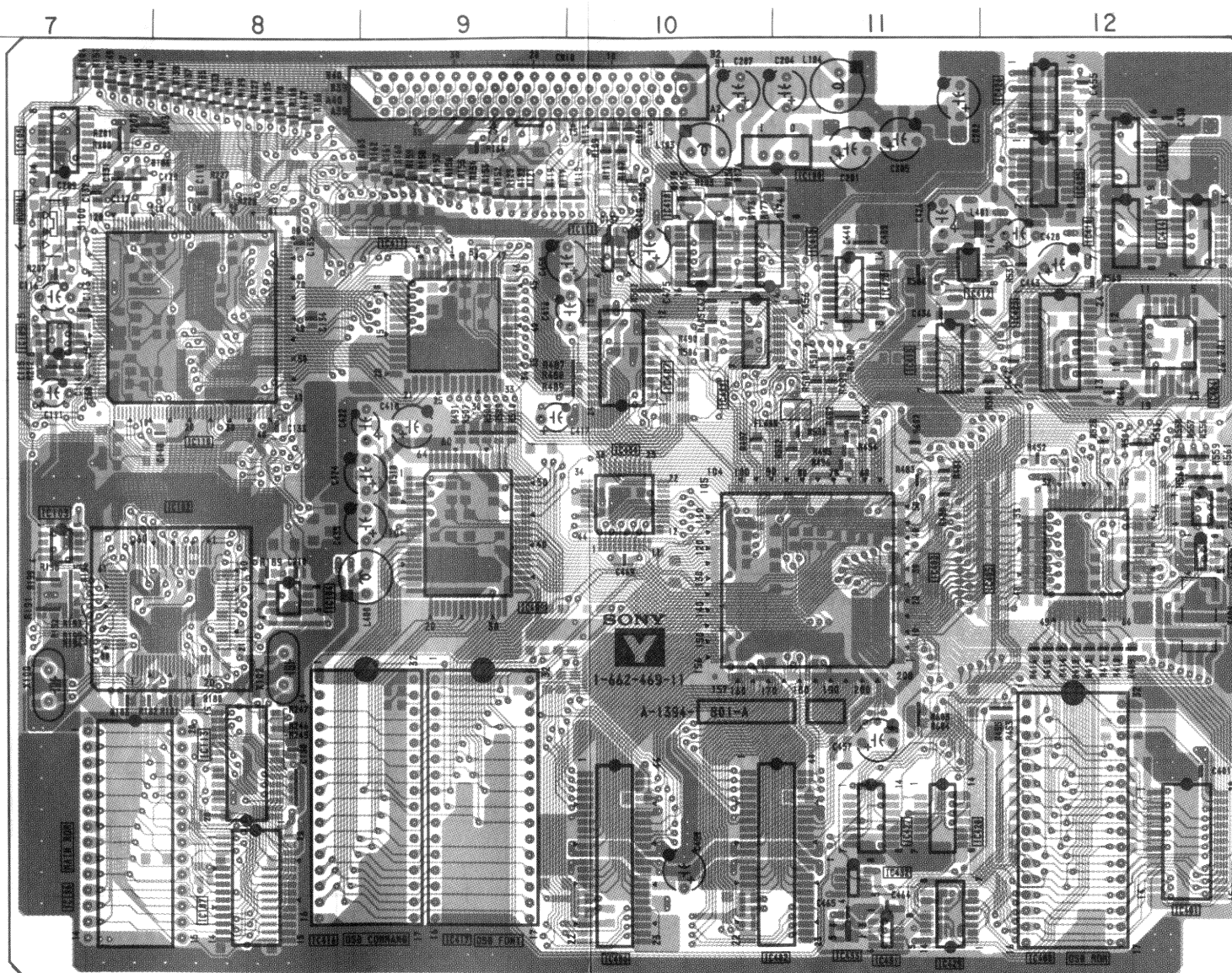
Semiconductor Location



DIODE		IC432	E-11	TP411	B-3
		IC433	E-11	TP412	B-3
D100	B-6	IC434	C-10	TP413	B-3
	B-6	IC435	C-12	TP414	A-1
D101	B-6	TRANSISTOR		TP415	D-1
	B-6			TP416	B-4
D102	B-6			TP417	B-4
D103	B-6			TP418	C-3
D104	B-6			TP419	C-3
D105	A-6			TP420	B-4
D106	A-7			TP421	C-3
D107	D-5			TP422	B-4
D108	A-3			TP423	B-1
IC		TEST POINT		TP424	B-1
				TP425	B-1
IC101	A-6	TP100	C-5	TP426	C-4
	B-8	TP101	C-5	TP427	C-4
IC102	B-8	TP102	D-6	TP429	C-3
IC103	B-7	TP103	D-5	TP430	B-2
IC104	B-8	TP104	C-6	TP431	B-1
IC105	A-7	TP105	D-6	TP432	B-3
IC106	D-6	TP106	D-5	TP433	B-1
IC107	E-8	TP107	A-6	TP434	B-1
IC108	A-3	TP108	A-6	TP435	B-2
IC109	B-7	TP109	A-5	TP436	D-2
IC110	B-8	TP110	A-5		
IC111	A-10	TP111	A-5		
	E-5	TP112	A-5		
IC112	E-5	TP113	A-4		
IC113	D-8	TP114	A-4		
IC400	D-1	TP115	A-4		
IC401	D-12	TP116	A-4		
IC402	D-10	TP117	A-5		
IC403	C-10	TP118	A-4		
IC404	C-12	TP119	A-4		
IC405	C-12	TP120	A-5		
IC406	D-10	TP121	A-4		
IC407	B-10	TP122	A-2		
	C-9	TP123	A-2		
IC409	A-12	TP124	A-3		
IC410	A-12	TP125	A-3		
IC411	B-9	TP126	A-4		
IC413	B-11	TP127	A-4		
IC414	A-12	TP128	A-4		
IC415	A-12	TP129	A-2		
IC416	D-5	TP130	C-4		
IC417	D-4	TP131	A-3		
IC418	A-10	TP132	B-4		
IC419	A-10	TP133	C-5		
	B-11	TP134	C-5		
IC420	B-11	TP135	C-5		
IC421	B-2	TP400	D-3		
IC422	B-10	TP401	C-1		
IC423	B-12	TP402	C-2		
IC424	B-12	TP403	C-2		
IC425	A-12	TP404	B-4		
IC426	A-12				
IC427	D-11	TP405	E-3		
IC428	D-11	TP406	B-4		
IC429	E-11	TP407	B-4		
	E-2	TP408	D-3		
IC430	E-2	TP409	E-4		
IC431	E-11	TP410	B-3		

— Y BOARD — <Conductor side>



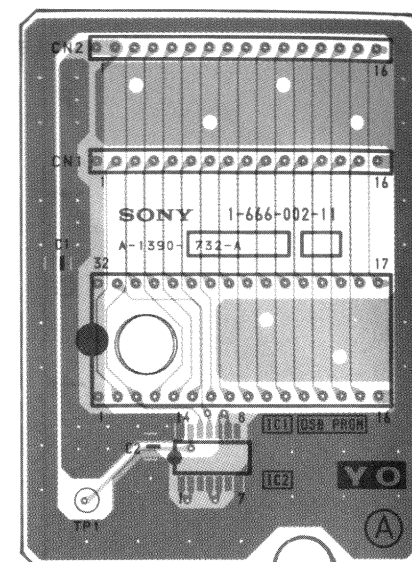
— Y BOARD — <Component side>



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

YO (OSD ROM) BOARD

— YO BOARD — <Component side>



• YO (OSD ROM) DIAGRAM

side>

A

B

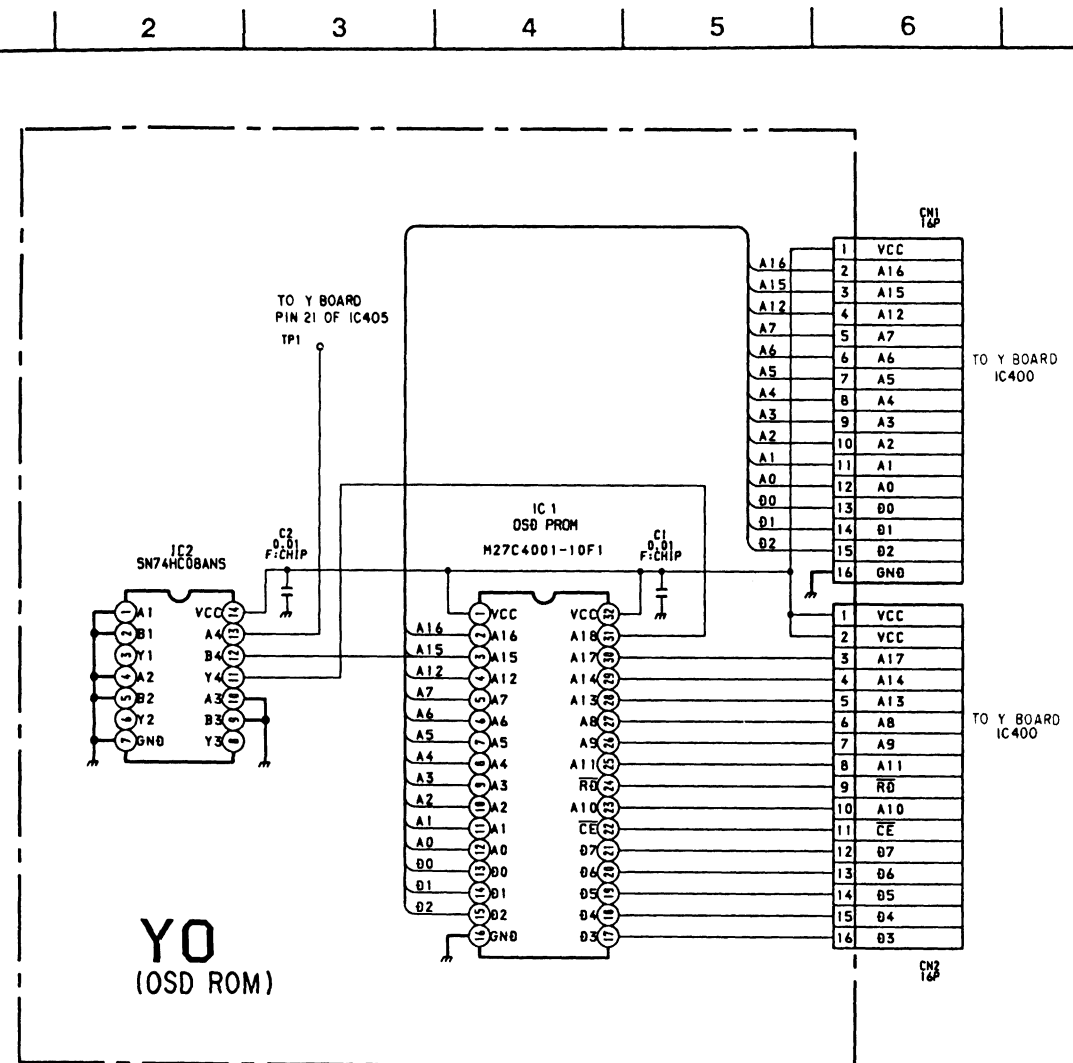
C

D

E

F

G

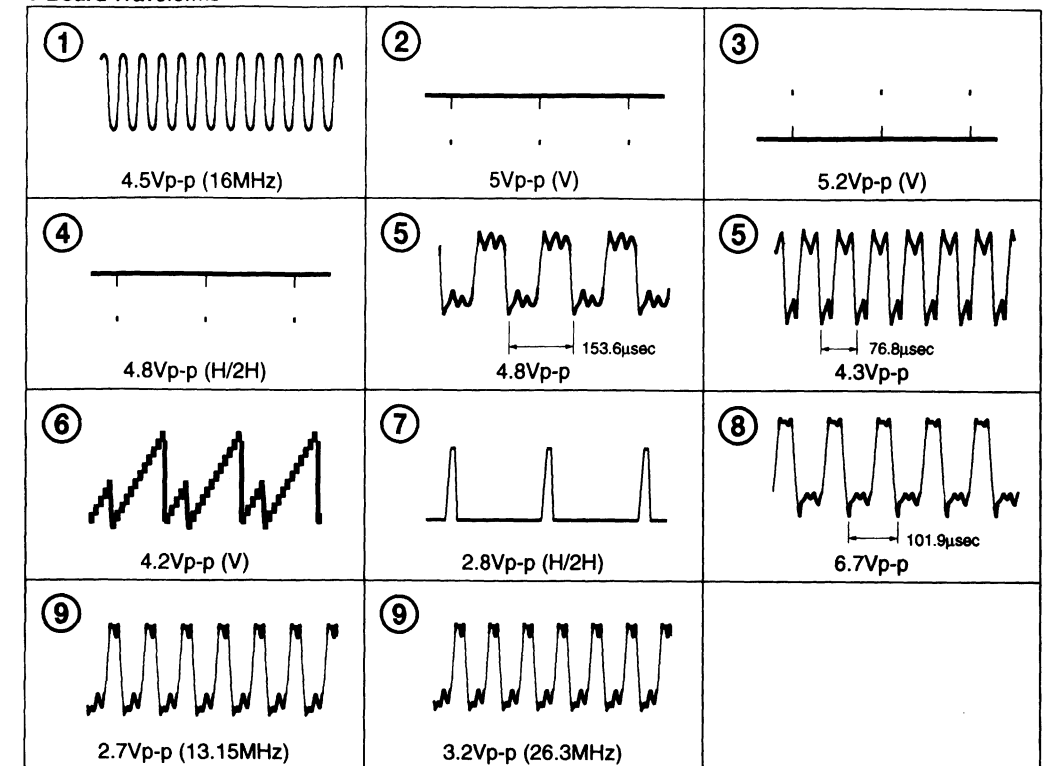


YO BOARD

Function of Semiconductor

IC1	M27C4001-10F1	OSD PROM
IC2	SN74HC08ANS	SWITCH

Y Board Waveforms



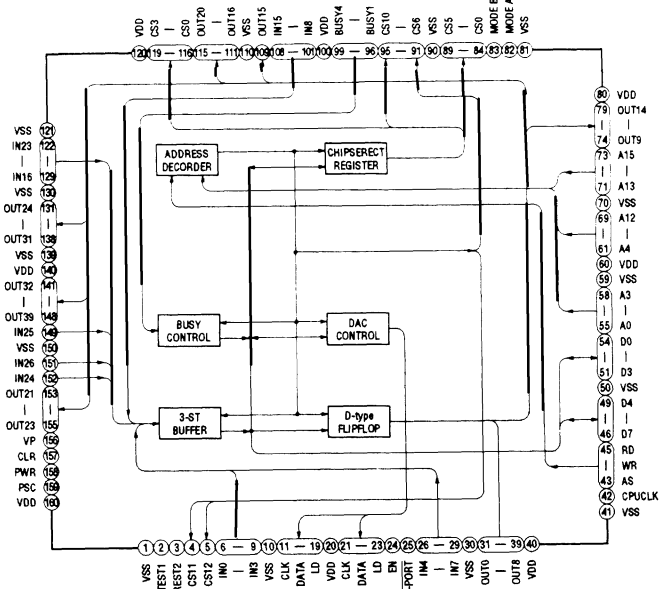
Y BOARD

Function of Semiconductor

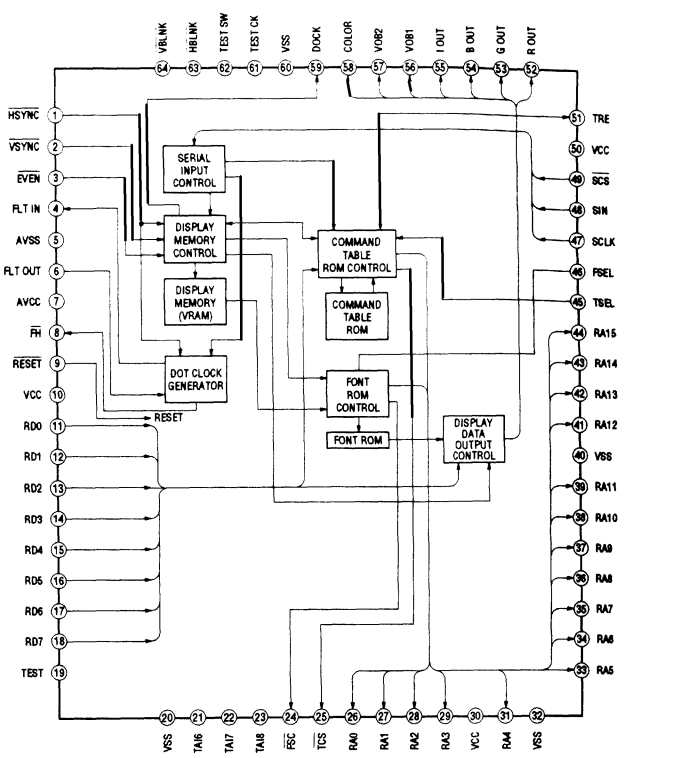
D100	1S2837	DISCHARGE	Q100	2SC2712-YG	PROTECT ENABLE SWITCH
D101	1S2837	OR (PROTECTOR)	Q200	2SA1162-YG	PROTECT ENABLE SWITCH
D102	1S2837	OR (PROTECTOR)			
D103	1S2837	OR (PROTECTOR)			
D104	1S2837	OR (PROTECTOR)			
D105	1S2837	OR (PROTECTOR)			
D106	1S2837	OR (PROTECTOR)			
D107	1S2837	OR (PROTECTOR)			
D108	1S2837	DISCHARGE			
IC101	TC7S14F-TE85L	INVERTER			
IC102	HD643337WA08F	MAIN MCU			
IC103	MM1170BFB	RESET (WD.TIMER)			
IC104	UPC393G2-T2	COMPARATOR (VOLTAGE DETECT)			
IC105	SN74HCT08ANS	AND (SIRCS MIX)			
IC106	M27C512-10F1	MAIN ROM			
IC107	HM6264BLFP-10LTZ	S-RAM			
IC108	LM2940CT-5.0	5V REGULATOR			
IC109	UPC393G2-T2	COMPARATOR (PROTECTOR)			
IC110	CXD108-146Q	ADDRESS DECODER			
IC111	TC7W08F	BUFFER			
IC112	TC74HC273AF (EL)	DATA LATCH			
IC113	uPD17215	SERCS ENCODER			
IC400	M27C4001G-10	PROGRAM ROM (for OSD MCU)			
IC401	HM6264BLFP-10LTZ	S-RAM			
IC402	TC551664AJ-20	1M BIT S-RAM			
IC403	UPD65806GD-064-LML	CHARA. & TEST PATTERN GEN.			
IC404	MM1170BFB	RESET (WD.TIMER)			
IC405	HD6433257A38F	OSD MCU			
IC406	TC551664AJ-20	1M BIT S-RAM			
IC407	MB86022PF-ER	IRE GEN.			
IC409	MB90091APF-114	OSD CONTROLLER			
IC410	TC74VHC32F	SHDE ADDER			
IC411	CY7C136-55JC-TEL	DUAL PROT RAM			
IC413	TC74VHC14F	INVERTER			
IC414	TC74VHC164F	SHDE ADDER			
IC415	TC74VHC153F (EL)	SHDE ADDER			
IC416	M27C2001-15F1	TABLE ROM (for OSDC)			
IC417	HN27C4001G-12	FONT ROM (for OSDC)			
IC418	SN75123NS-E05	LINE DRIVER			
IC419	SN75123NS-E05	LINE DRIVER			
IC420	TC74HC107AF	VD SYNCHRONIZER			
IC421	TC74VHC132F (EL)	VD SYNCHRONIZER			
IC422	TC74VHC14F	INVERTER			
IC423	ICS1522MT	PLL			
IC424	MC10H640FNR2	PECL/TTL CLOCK DRIVE			
IC425	TC74VHC74F	ODD/EVEN DETECTOR			
IC426	TC74VHC123AF	ODD/EVEN DETECTOR			
IC427	TC74VHC08F	ADDRESS DECODER			
IC428	TC74VHC11F	ADDRESS DECODER			
IC429	MC74HC4078FEL	ADDRESS DECODER			
IC430	TC7W32F	ADDRESS DECODER			
IC431	TC7W32F	ADDRESS DECODER			
IC432	TC7W32F	ADDRESS DECODER			
IC433	TC7S04F	INVERTER			
IC434	EPM7032QC44-12-IRE	IRE SELECT			
IC435	TC7W04F	CLOCK OSC			

Y Board IC Block Diagrams

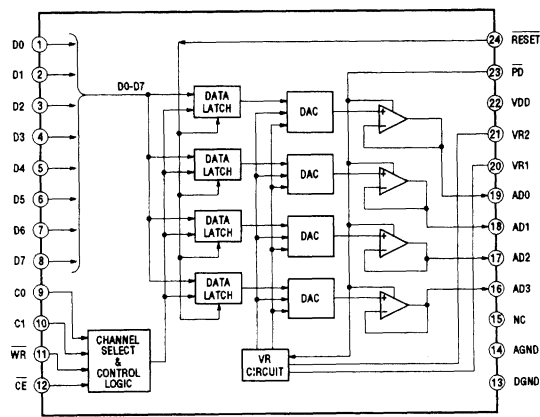
CXD108-146Q (IC110)



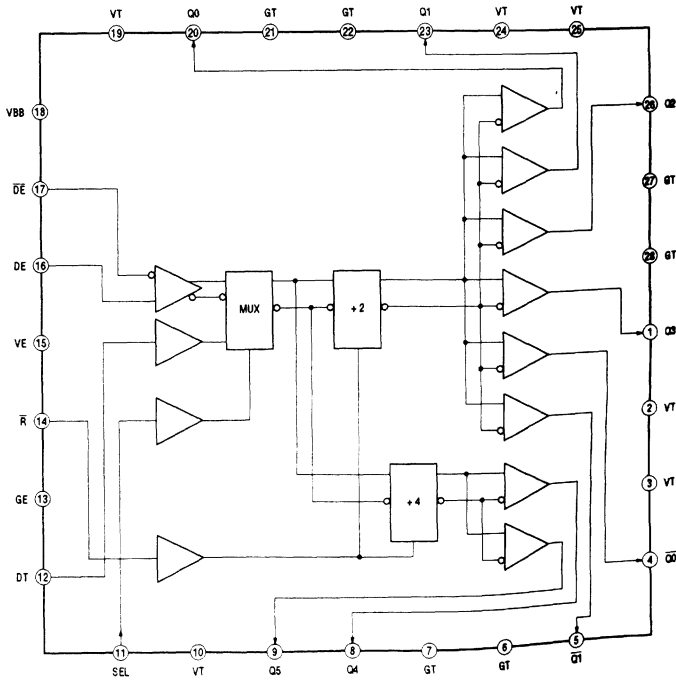
MB90091APF (IC409)

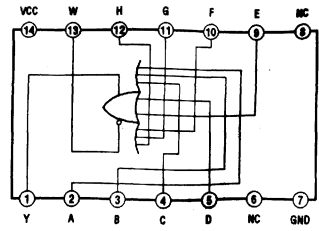
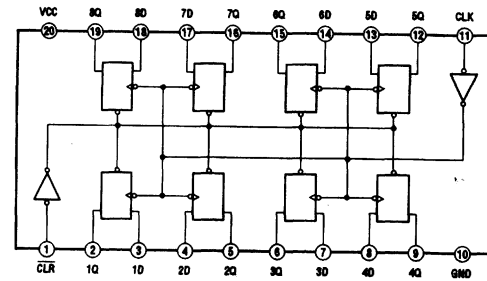
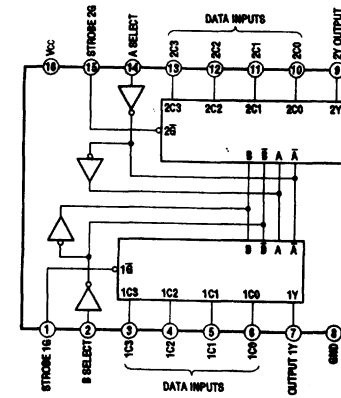
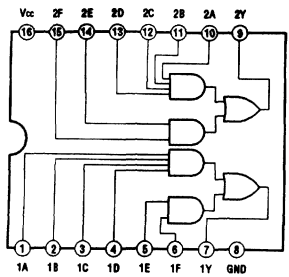
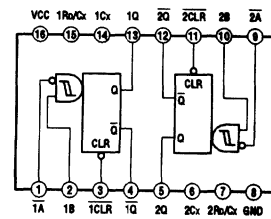
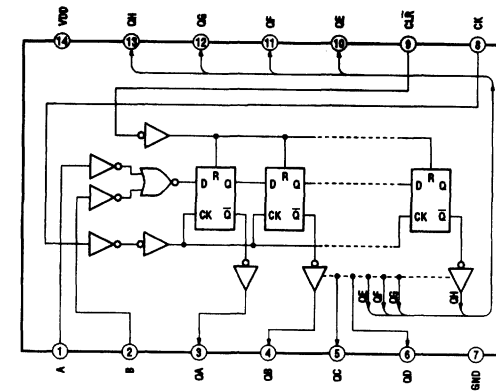
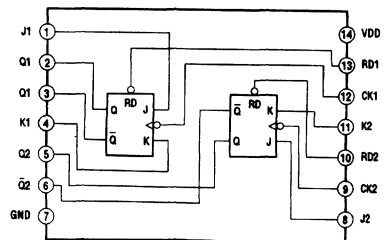
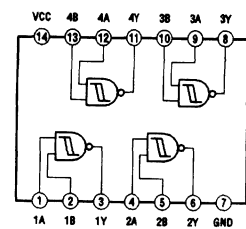


MB86022PF (IC407)



MC10H640FN (IC424)



MC74HC4078F (IC429)**TC74HC273AF (IC112)****TC74VHC153F (IC415)****SN75123NS (IC418, 419)****TC74VHC123F (IC426)****TC74VHC164F (IC414)****TC74HC107AF (IC420)****TC74VHC132F (IC421)****TC74VHC74F (IC425)**