

KPR-46XBR15 / 53XBR15

RM-Y114

SERVICE MANUAL

US Model

KPR-46XBR15

Chassis No. SCC-F19B-A

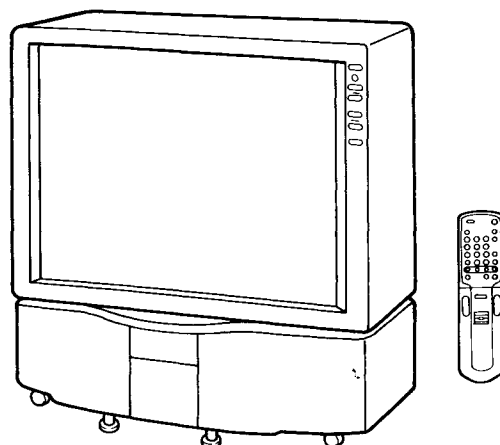
KPR-53XBR15

Chassis No. SCC-F19C-A

Canadian Model

KPR-53XBR15

Chassis No. SCC-F23B-A



AP CHASSIS

MODELS OF THE SAME SERIES	
KPR-41EXR95	
KPR-46XBR15/53XBR15	

SPECIFICATIONS

Structure	Screen and projector, rear projection type	Input jacks	VIDEO IN 1, 2 and 3				
Projection system	3 picture tubes, 3 lenses, horizontal in-line system		S VIDEO IN (4-pin mini DIN)				
Picture tube	5.5 inch high-brightness monochrome tubes, with optical coupling and cooling system		Y: 1 Vp-p, 75-ohms unbalanced, sync negative				
Projection lenses	High performance, large-diameter hybrid lens F 1.0		C: 0.286 Vp-p (Burst signal) 75-ohms				
Screen material	Acrylic plastic lenticular, Polycarbonate plastic Fresnel		Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative				
Resolution	<table border="1"> <tr> <td>KPR-46XBR15</td> <td>850 lines</td> </tr> <tr> <td>KPR-53XBR15</td> <td>900 lines</td> </tr> </table>	KPR-46XBR15	850 lines	KPR-53XBR15	900 lines		Audio (phono jacks): 500 mVrms (100% modulation) Impedance: 47 kilohms
KPR-46XBR15	850 lines						
KPR-53XBR15	900 lines						
Optimal viewing area	Within approx. 75 degrees from center						
Projected picture size (in inches, measured diagonally)	<table border="1"> <tr> <td>KPR-46XBR15</td> <td>46</td> <td>KPR-53XBR15</td> <td>53</td> </tr> </table>	KPR-46XBR15	46	KPR-53XBR15	53		
KPR-46XBR15	46	KPR-53XBR15	53				
Screen brightness (cd/m ²)	<table border="1"> <tr> <td>KPR-46XBR15</td> <td>1600</td> <td>KPR-53XBR15</td> <td>1250</td> </tr> </table>	KPR-46XBR15	1600	KPR-53XBR15	1250		
KPR-46XBR15	1600	KPR-53XBR15	1250				
Television system	American TV standards						
Channel coverage	VHF: 2 - 13 UHF: 14 - 69 Cable TV: 1 - 125						
Antenna	75 ohm external antenna terminal for VHF/UHF						



COLOR REAR VIDEO PROJECTOR

SONY®



996487801

SECTION 5 CIRCUIT ADJUSTMENTS

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

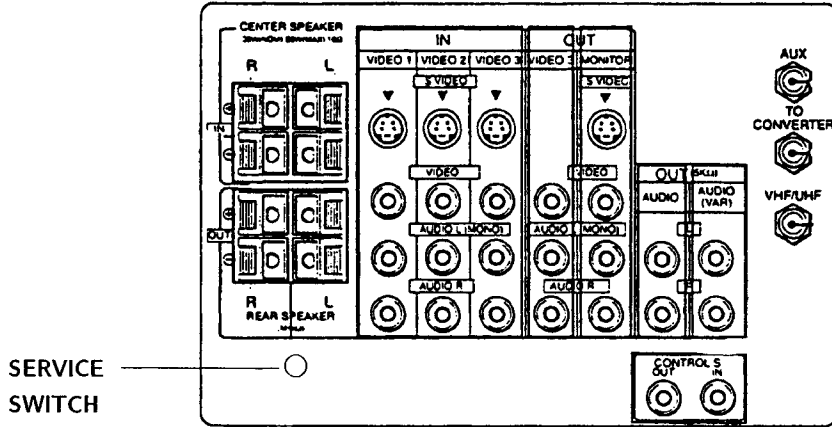
Use of Remote Commander (RM-Y114) can be performed circuit adjustments about this model.

1. METHOD OF SETTING THE SERVICE MODE

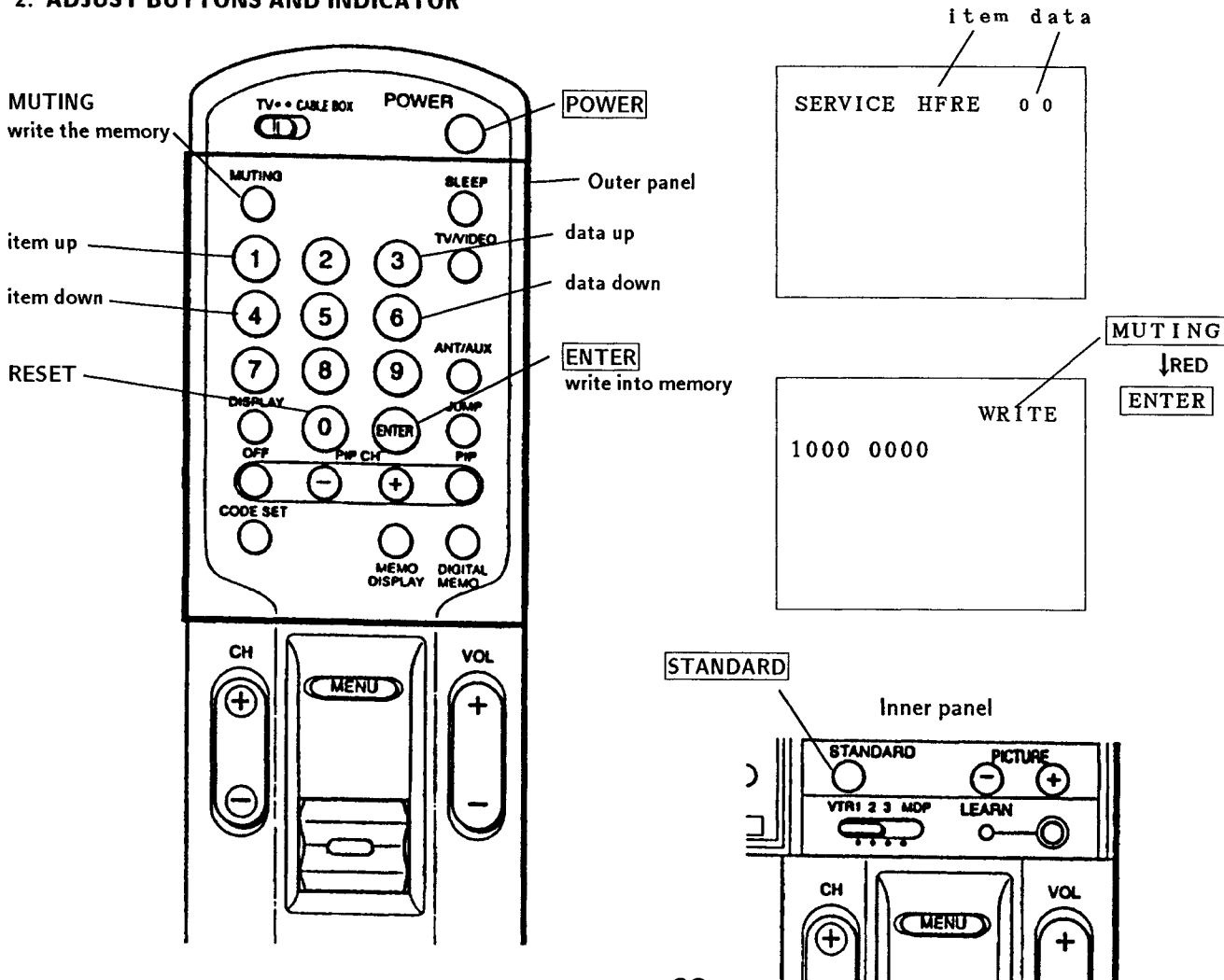
- 1) Press **POWER** button on the Remote Commander while pressing switch on the rear of the set.

NOTE : Test Equipment Required.

1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC



2. ADJUST BUTTONS AND INDICATOR



3. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME REGIST	
AFC	0	VP	AFC 1.0
HFRE	74	VP	H. FREQUENCE
VFRE	16	VP	V. FREQUENCE
HPOS	5	VP	H. PHASE
GAMP	25	VP	GREEN AMP.
BAMP	26	VP	BLUE AMP.
GCUT	9	VP	GREEN CUT OFF.
BCUT	6	VP	BLUE CUT OFF
SPIX	40	VP	PICTURE
SHUE	29	VP	HUE
SCOL	28	VP	COLOR
SBRT	11	VP	BRIGHT
RGBP	28	VP	RGB PICTURE
SHAR	13		SHARPNESS
DISP	21		OUTPUT
VSMO	0	VP	VSMO
REF	1	VP	REF 1.0
ROFF	1	VP	OFF NR
GOFF	1	VP	OFF NG
BOFF	1	VP	OFF NB
ABLM	1	VP	ABLM
DRGB	0	VP	D RGB
TEST	0	AP	T
MPX	7	AP	ATT
FILO	31	AP	I1
DEEM	7	AP	I2
STEV	31	AP	OSC 1
SAPV	31	AP	OSC 2
PILO	7	AP	PILOT
SEP	31	AP	WIDE BAND
VD	7	AP	SPECTRAL
LVOL	0	AP	VOLUME-L
RVOL	0	AP	VOLUME-R
BASS	10	AP	BASS
TRE	8	AP	TREBLE
PHPO	32	PI	READ DELAY H
PVPO	8	PI	READ DELAY V
PLEV	6	PI	PICTURE LEVEL
PFCO	7	PI	FRAME COLOR
NRLE	31		NR LEVEL
DSPP	43		
SHAD	1	PJ	SHADON
VMSW	1	PJ	RS HAD
SCUT	16	PJ	SHAD CUT OFF

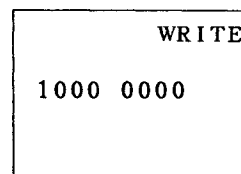
4. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press **POWER** button on the commander) in the next place, press **POWER** button again, hereupon it becomes TV mode.

5. METHOD OF WRITE FOR MEMORY

- 1) Set to Service Mode.
- 2) Press **1** (UP) and **4** (DOWN), select an item of adjustments.
- 3) Press **MUTING** button indicate WRITE (RED) on screen.
- 4) Press **ENTER** button to write for memory.

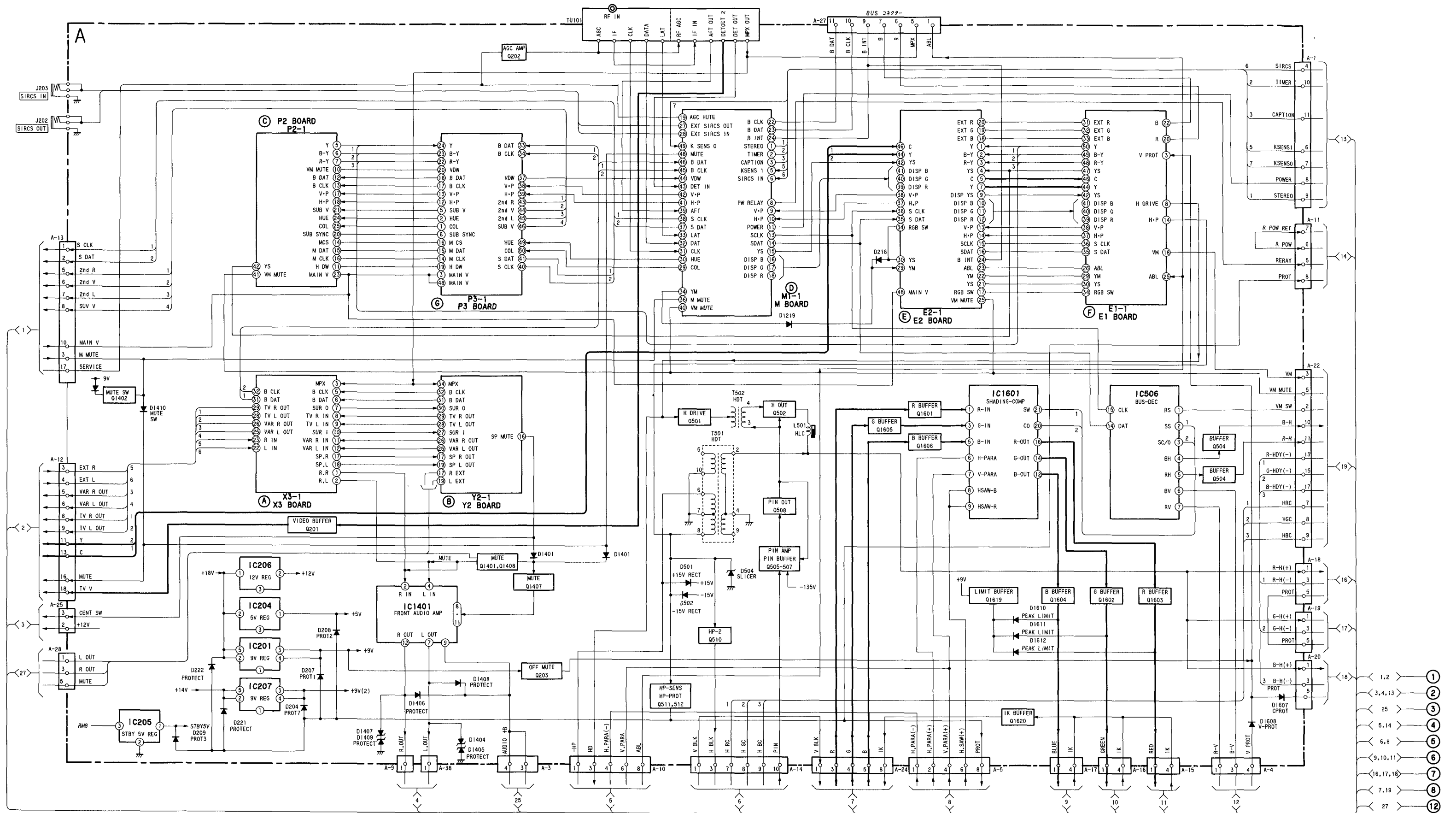
6. MEMORY WRITE CONFIRMATION METHOD

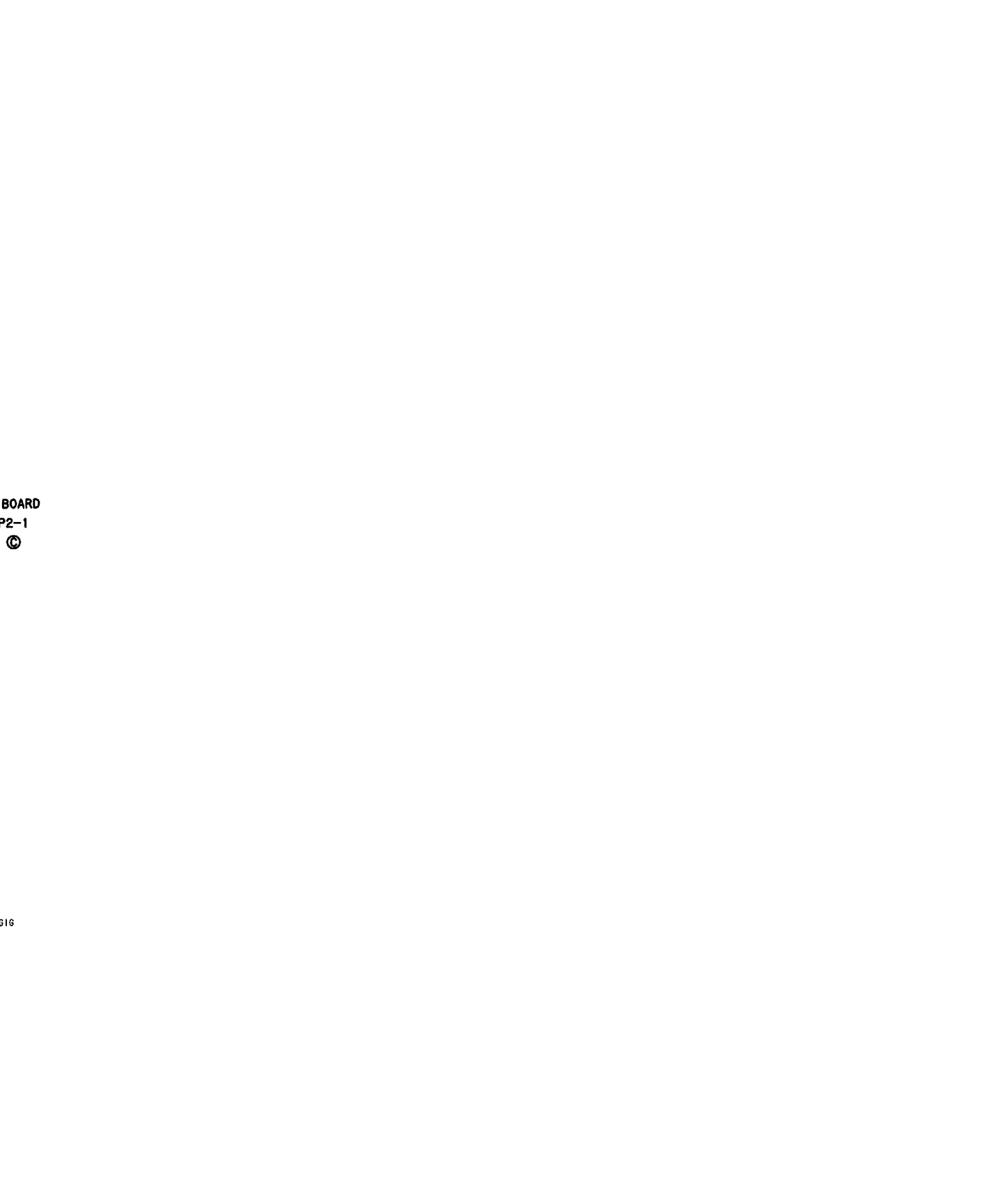
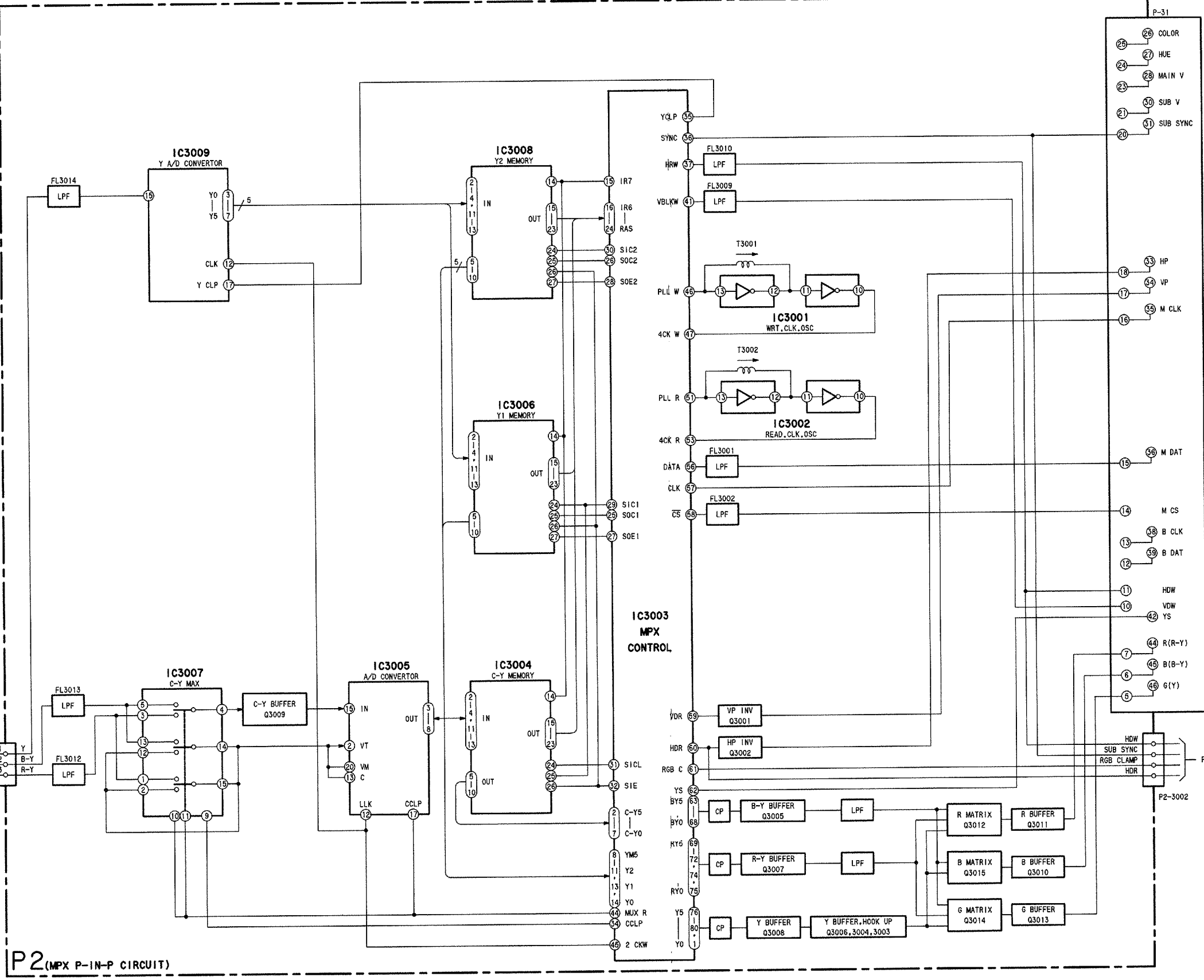
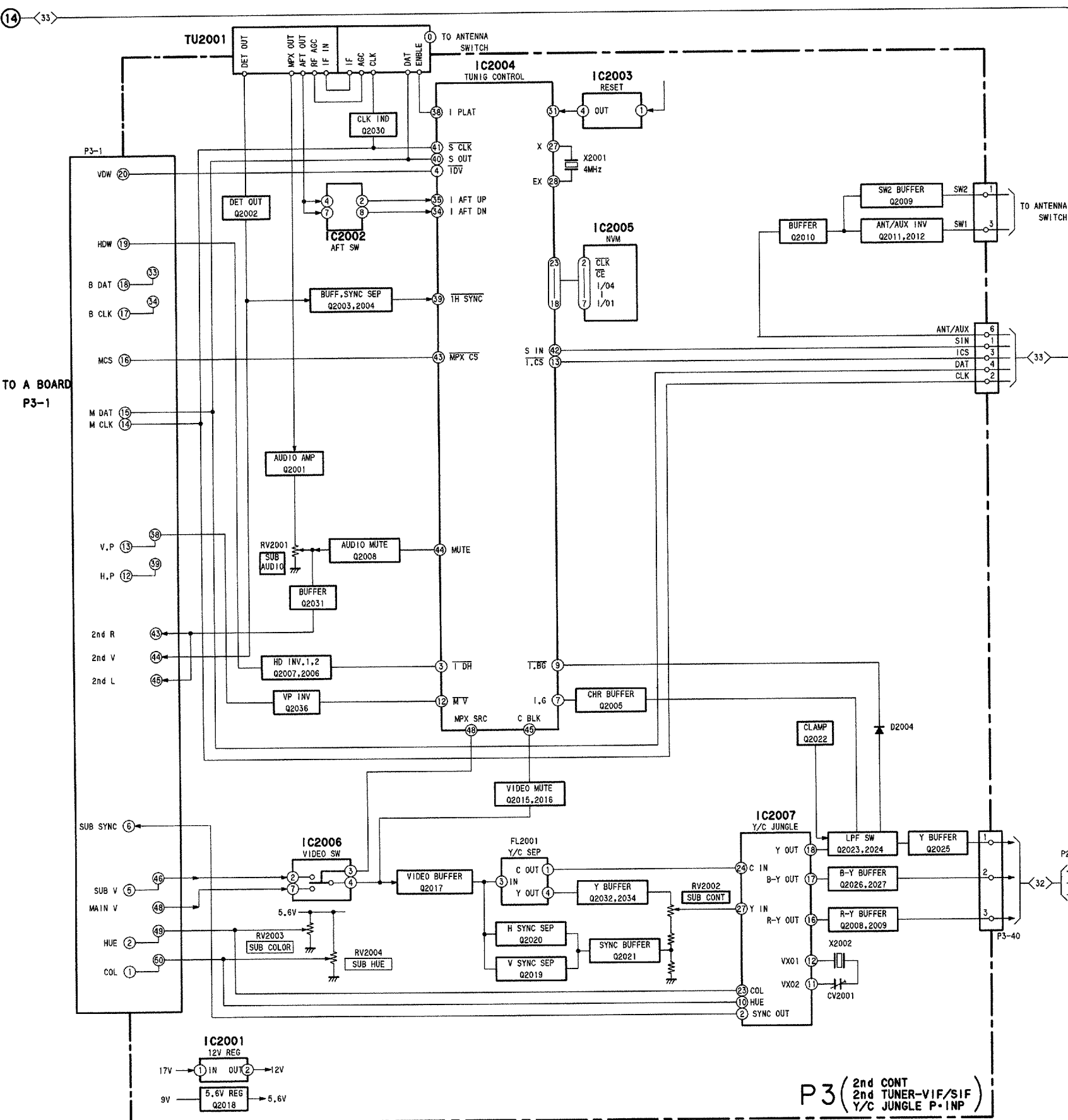


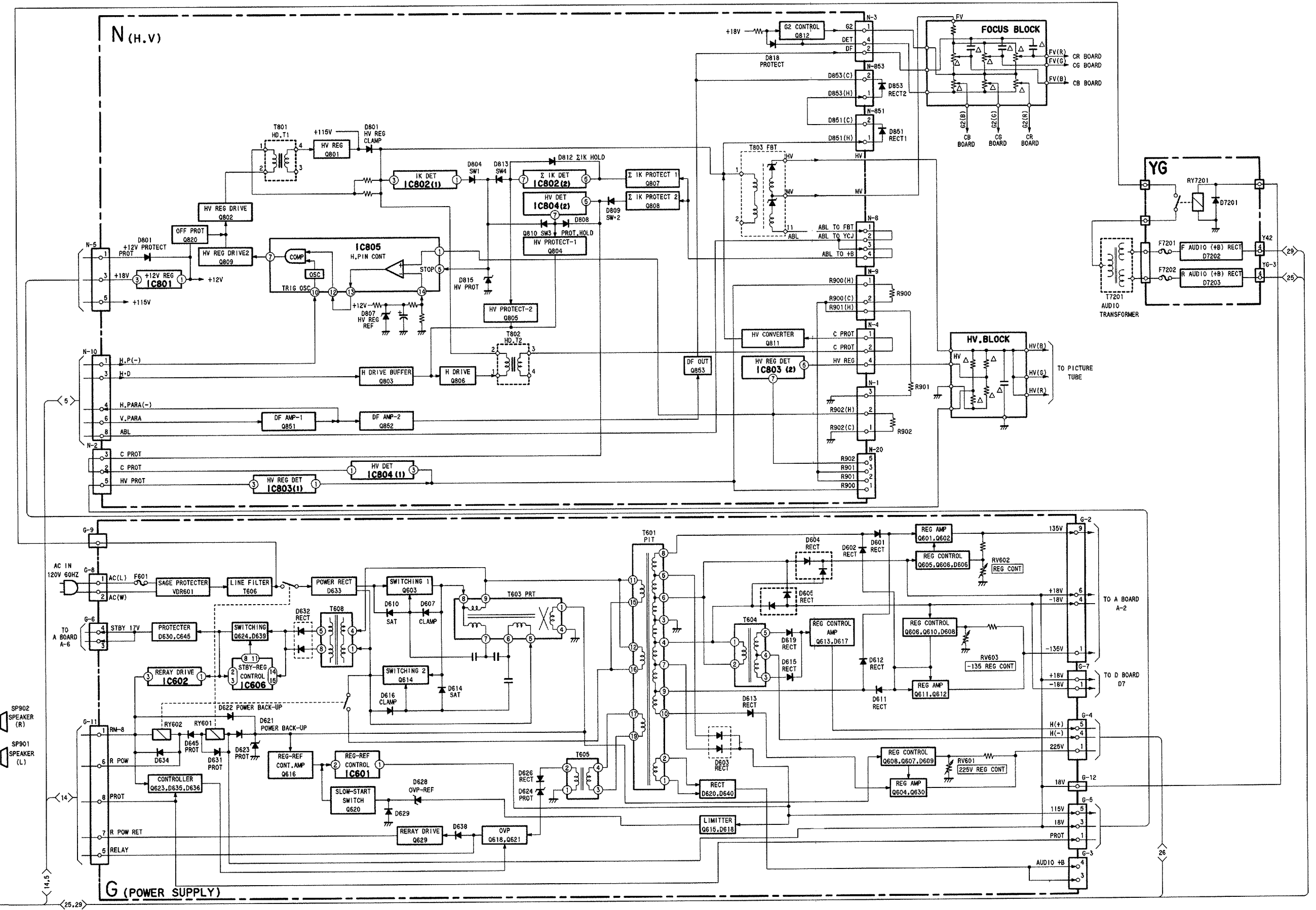
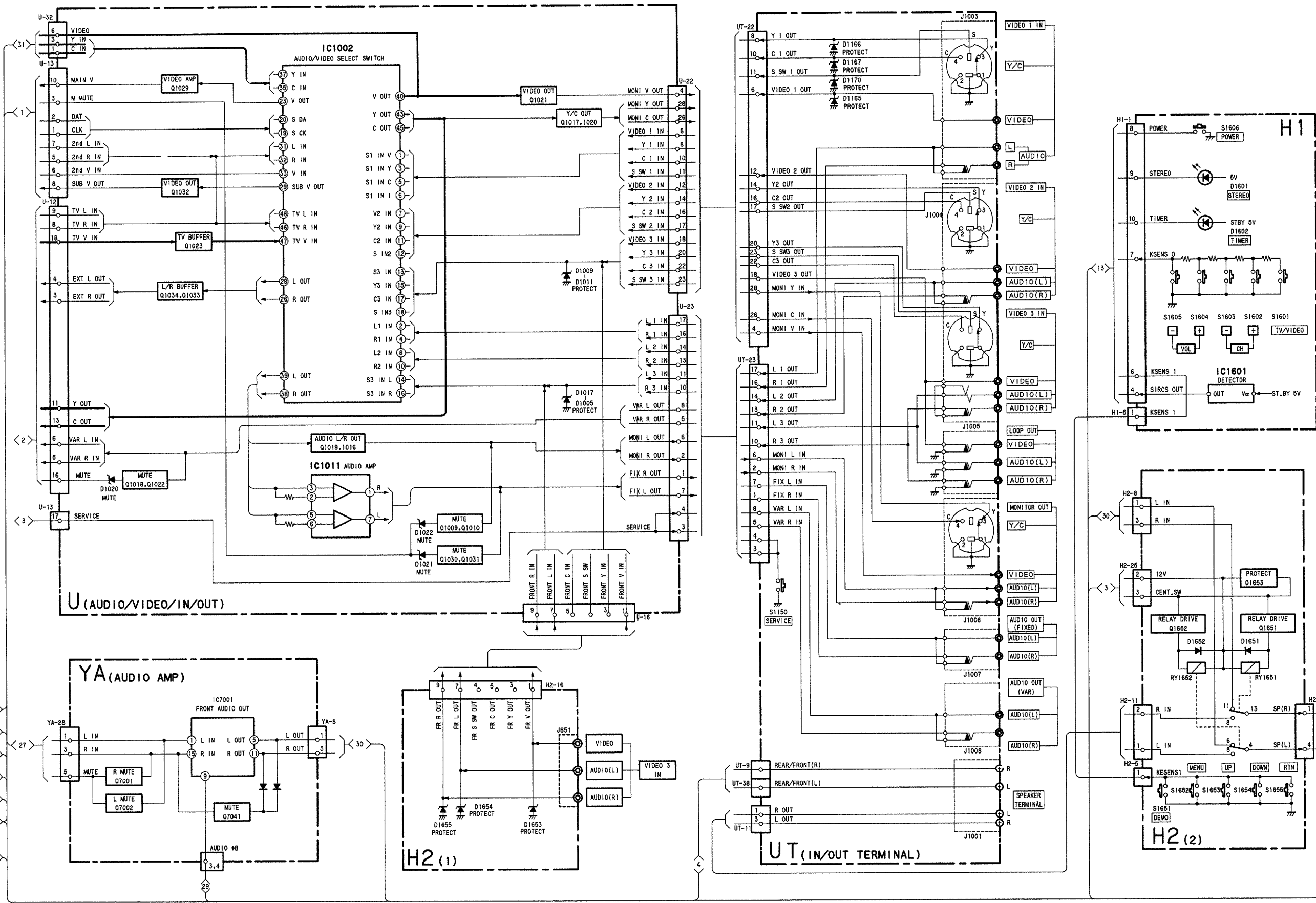
- 1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
- 2) Turn the power switch ON and set to Service Mode.
- 3) Call the adjusted items again, confirm they were adjusted.

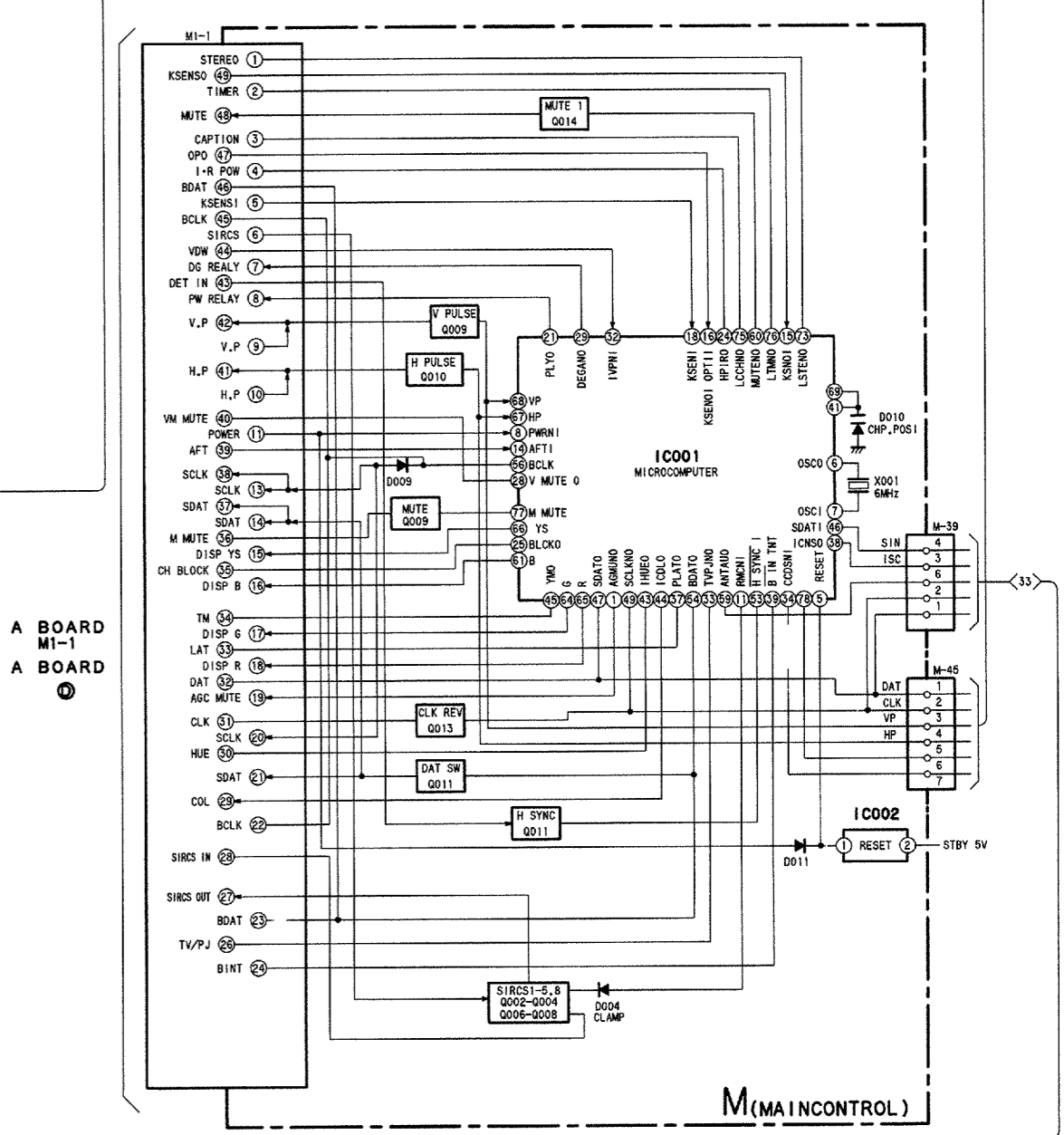
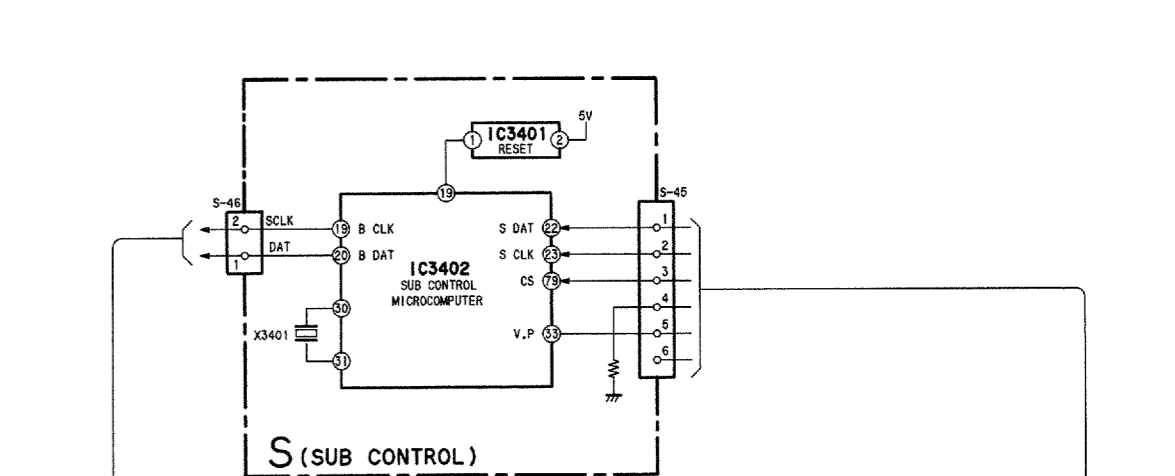
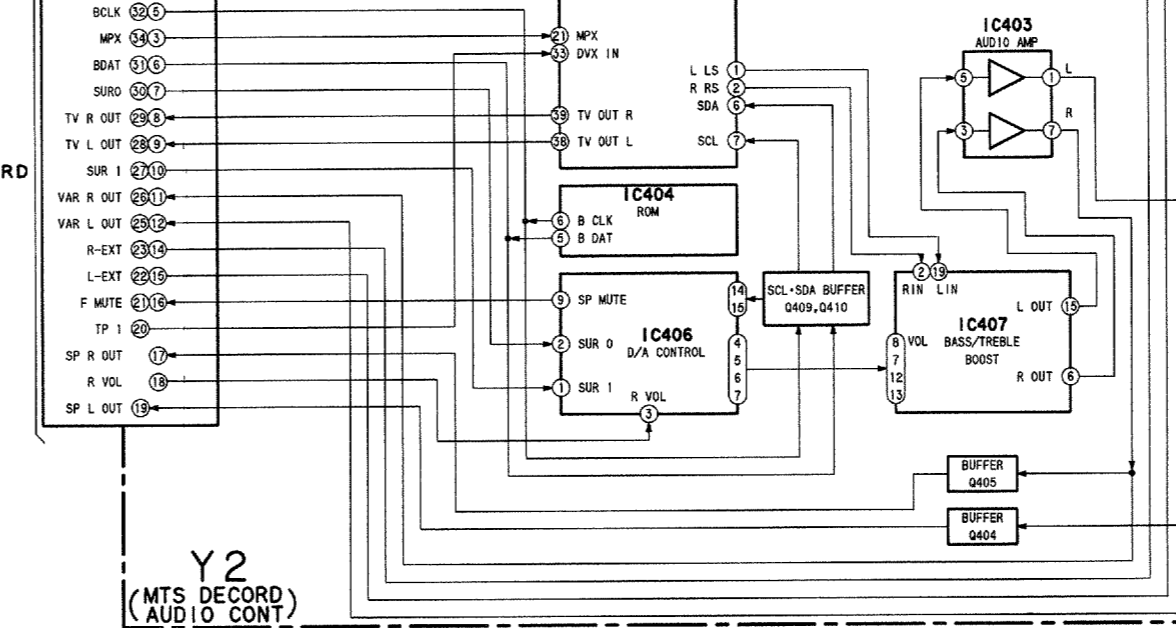
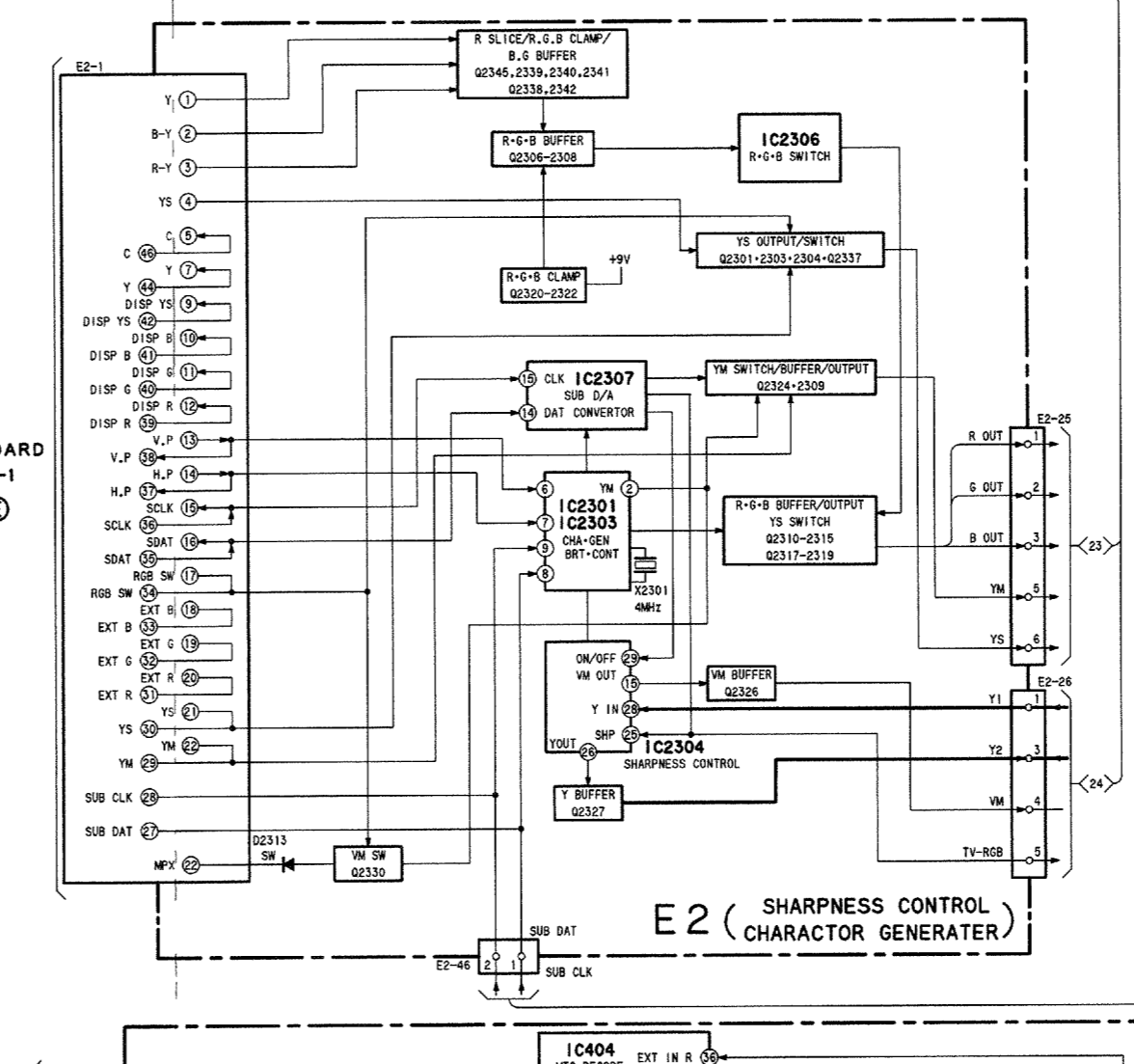
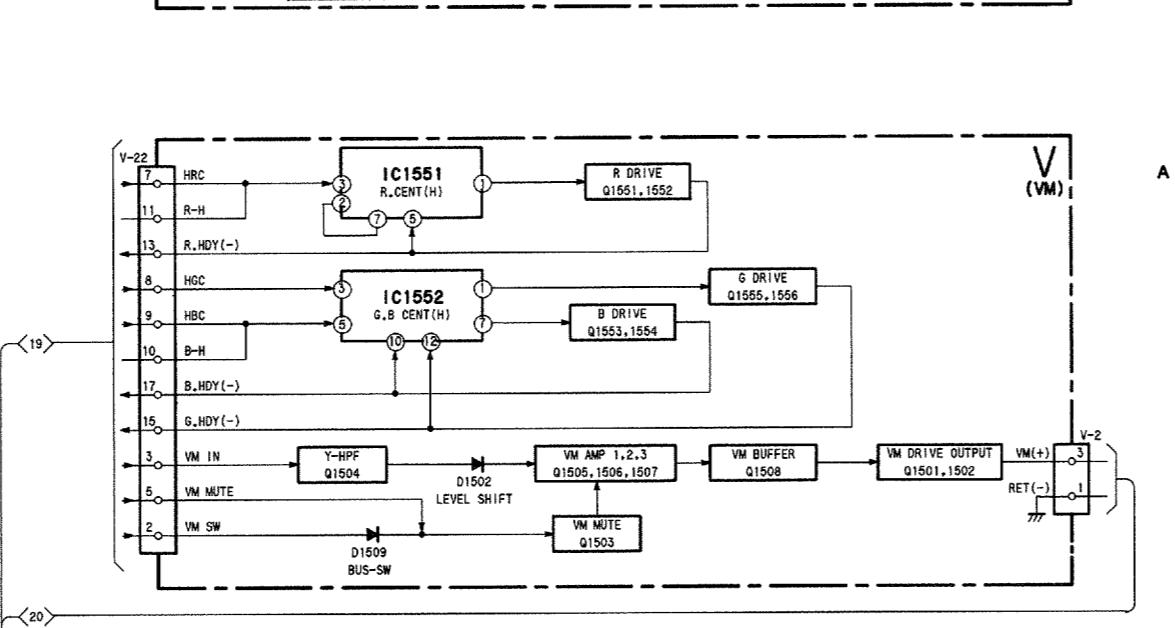
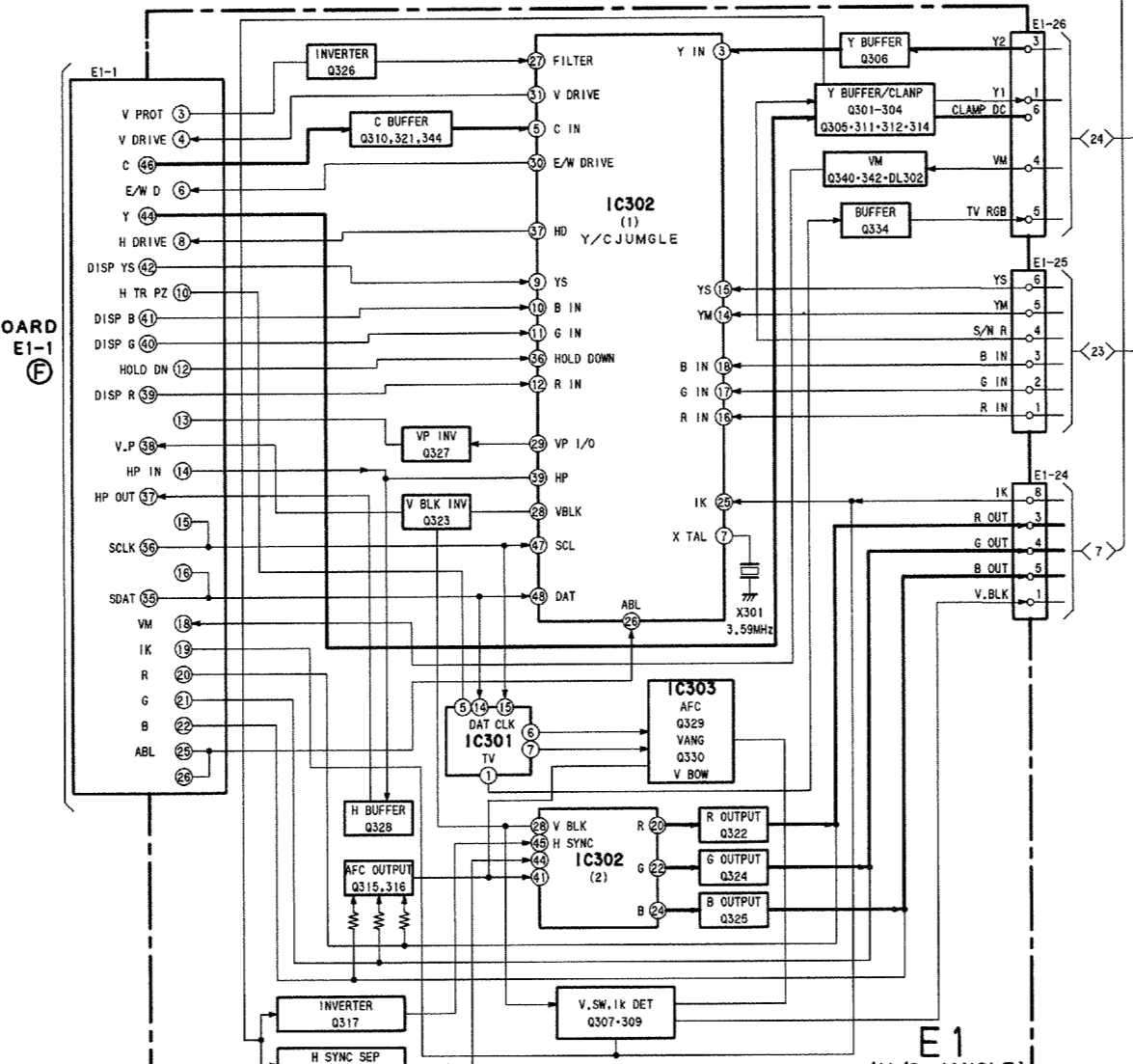
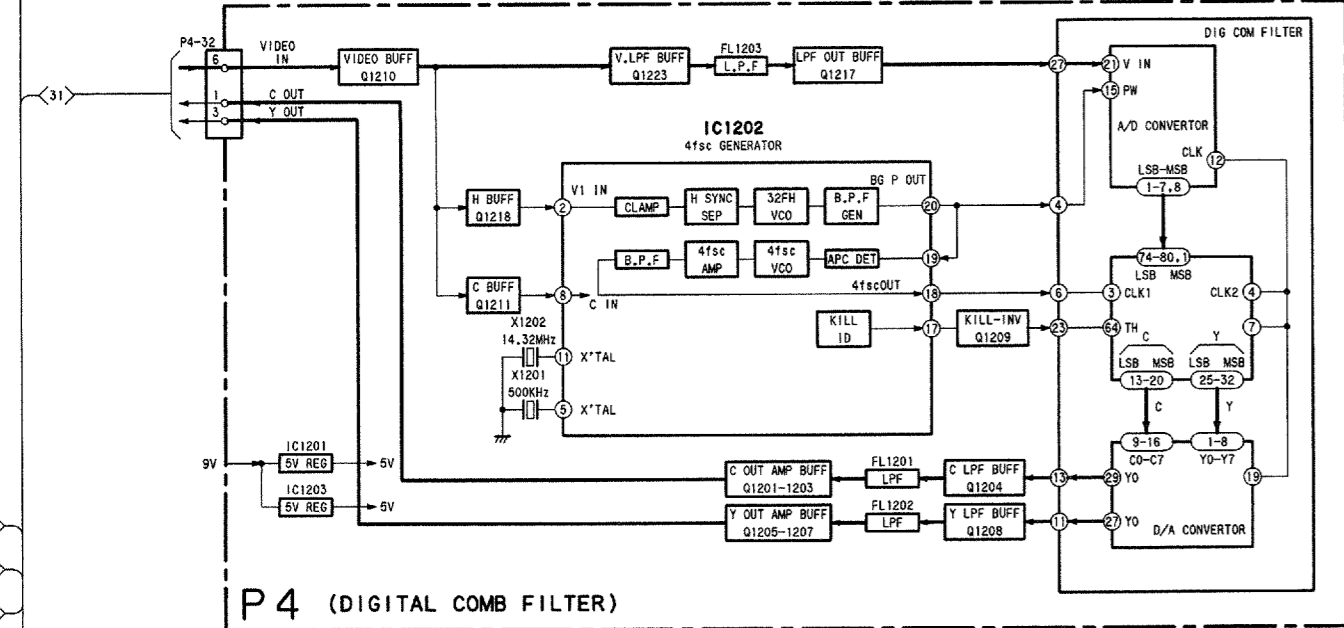
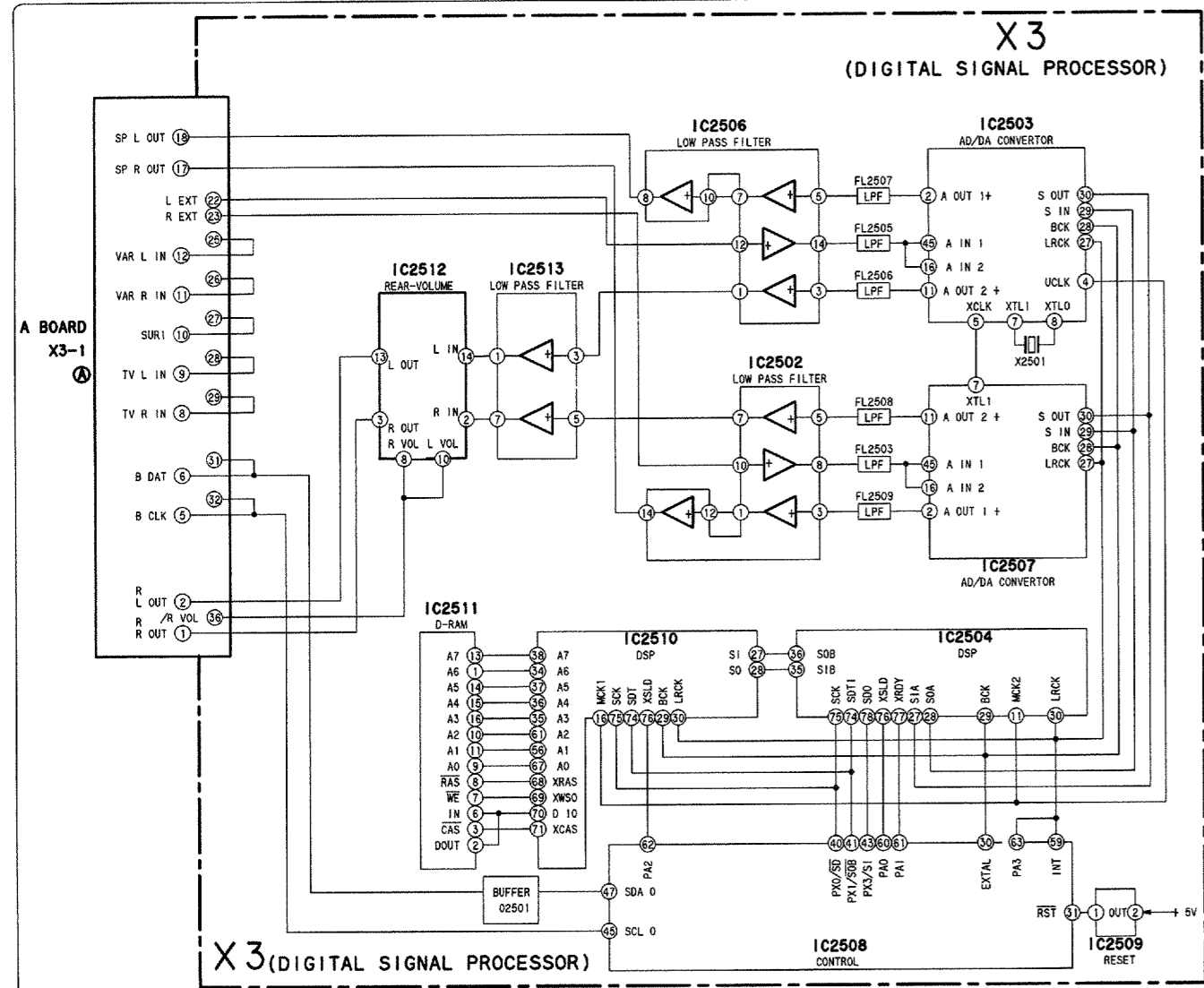
SECTION 6
DIAGRAMS

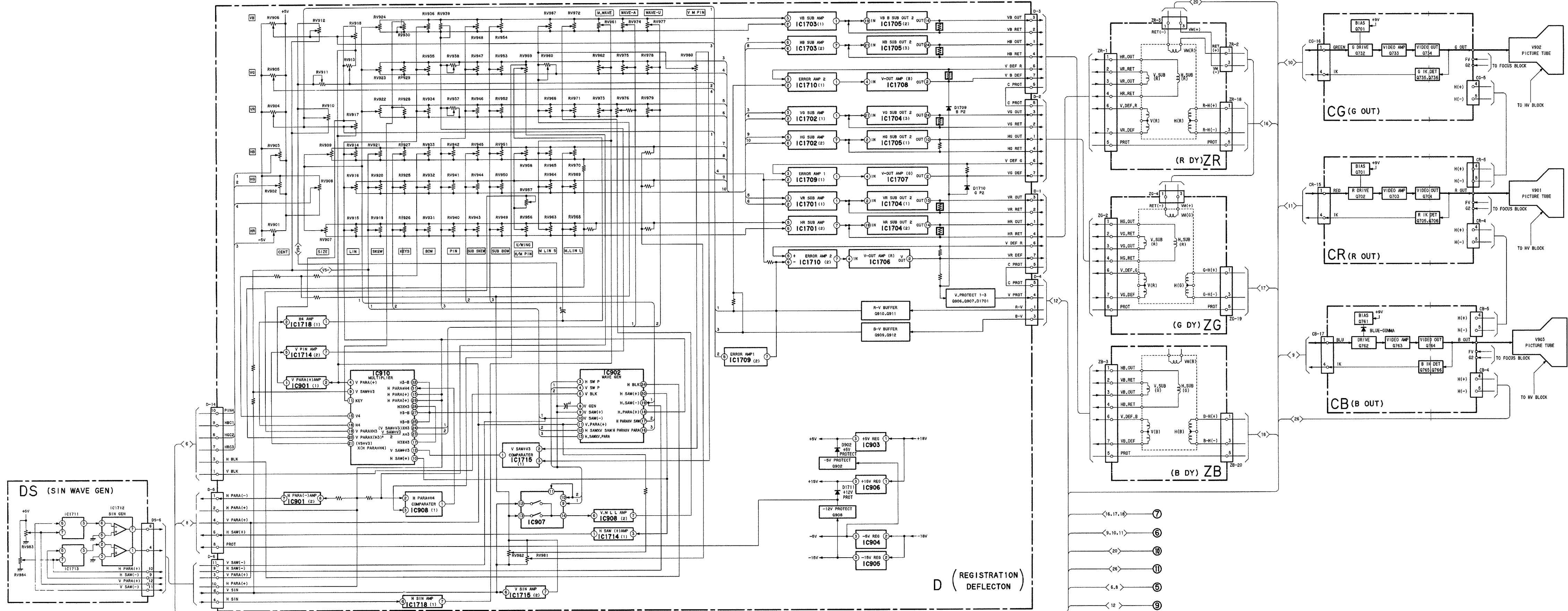
6-1. BLOCK DIAGRAMS

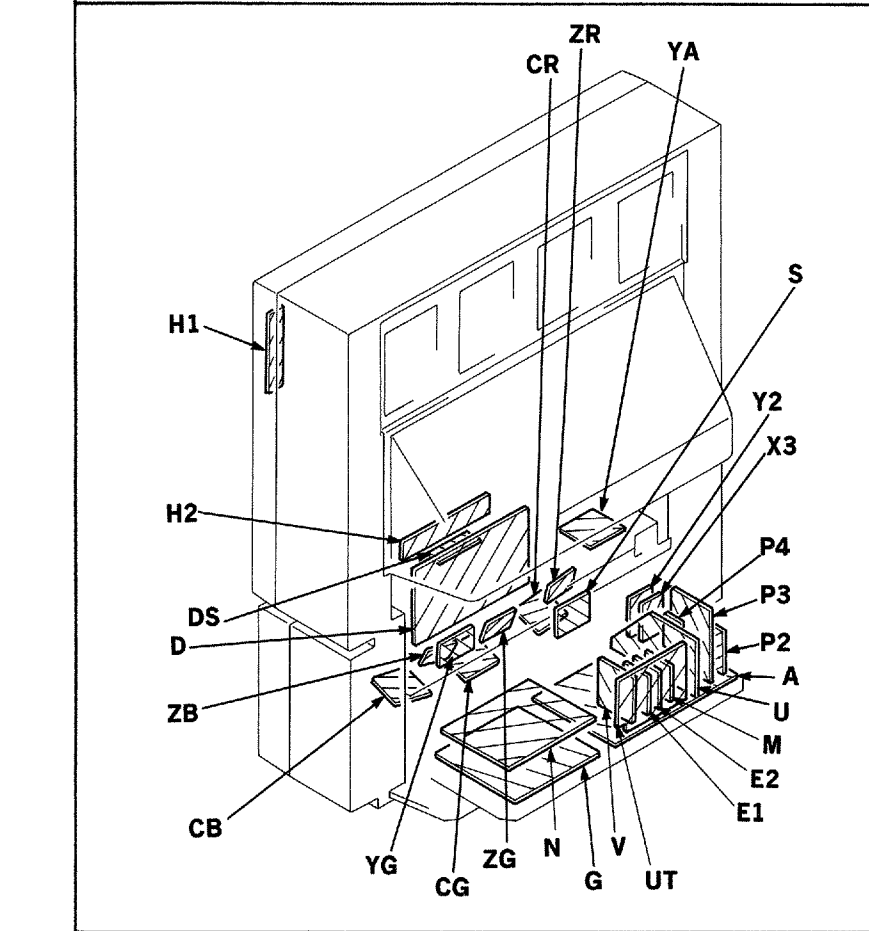
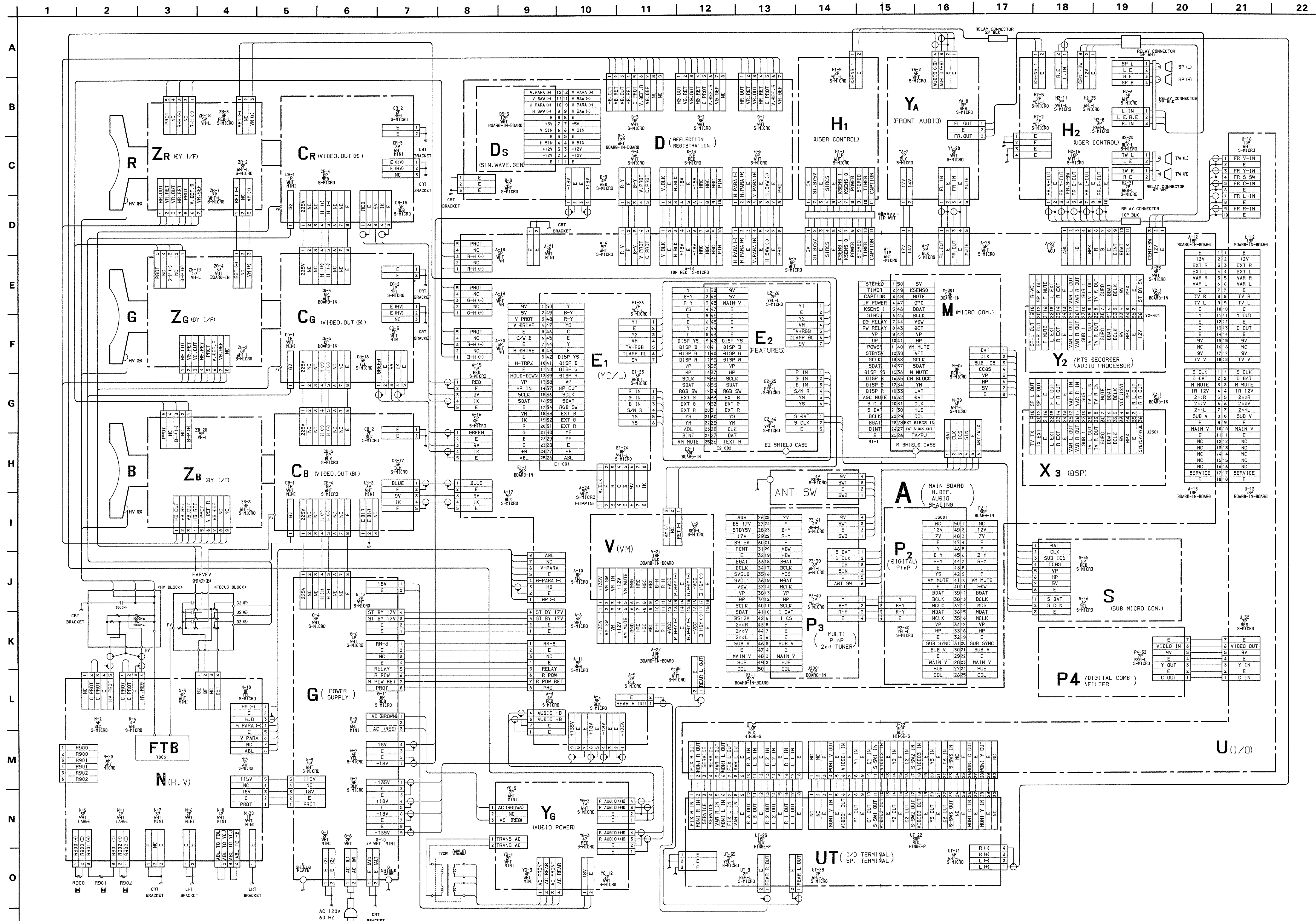












6-4. SCHEMATIC DIAGRAMS AND WIRING BOARDS

- All capacitors are in uF unless otherwise noted. pF: pF
- 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
- kΩ=1000Ω, MΩ=1000kΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.
 - Pitch: 5 mm
 - Rating electrical power 1/4W
- Chips resistors are 1/10W.
- ▭: 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.
- ⊥: earth-ground.
- ⊥: earth-chassis.
- The components identified by ▭ in this manual 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 ▭ mark 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 R652, R852, R900, R901, and R902 adjustment on page 59-62)
- When replacing the part in below table, be sure to perform the related adjustment.

Reference information

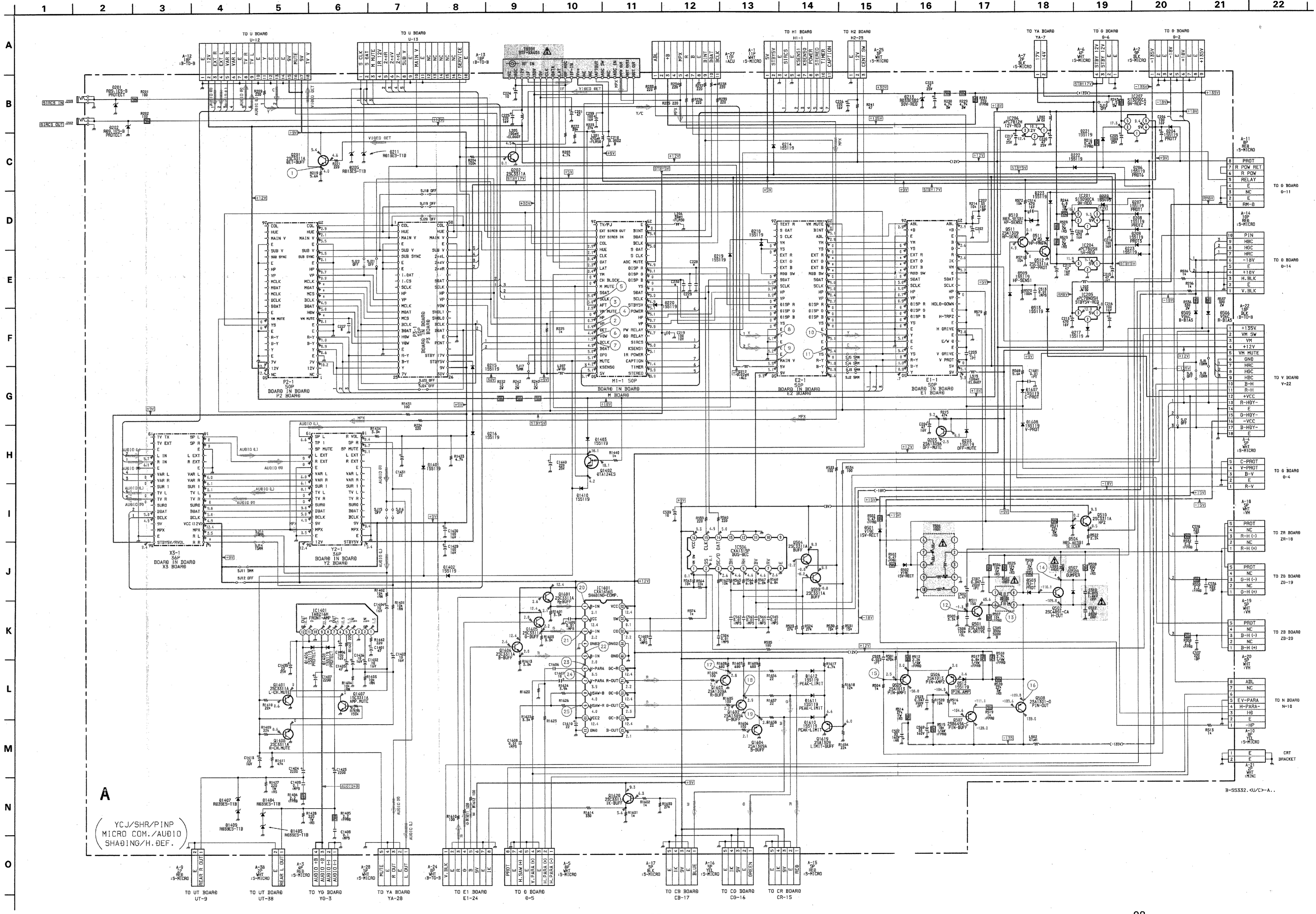
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FRPD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ♂	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	SOYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR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

- Readings are taken with a color-bar signal input
- Reading are taken with a 10 MΩ digital multimeter
- Voltage are dc with respect to ground unless otherwise noted
- Voltage variations may be noted due to normal production tolerances
- All voltages are in V
- Circled numbers are waveform references
- ⊥: B+ bus
- ⊥: B- bus
- ⊥: signal path

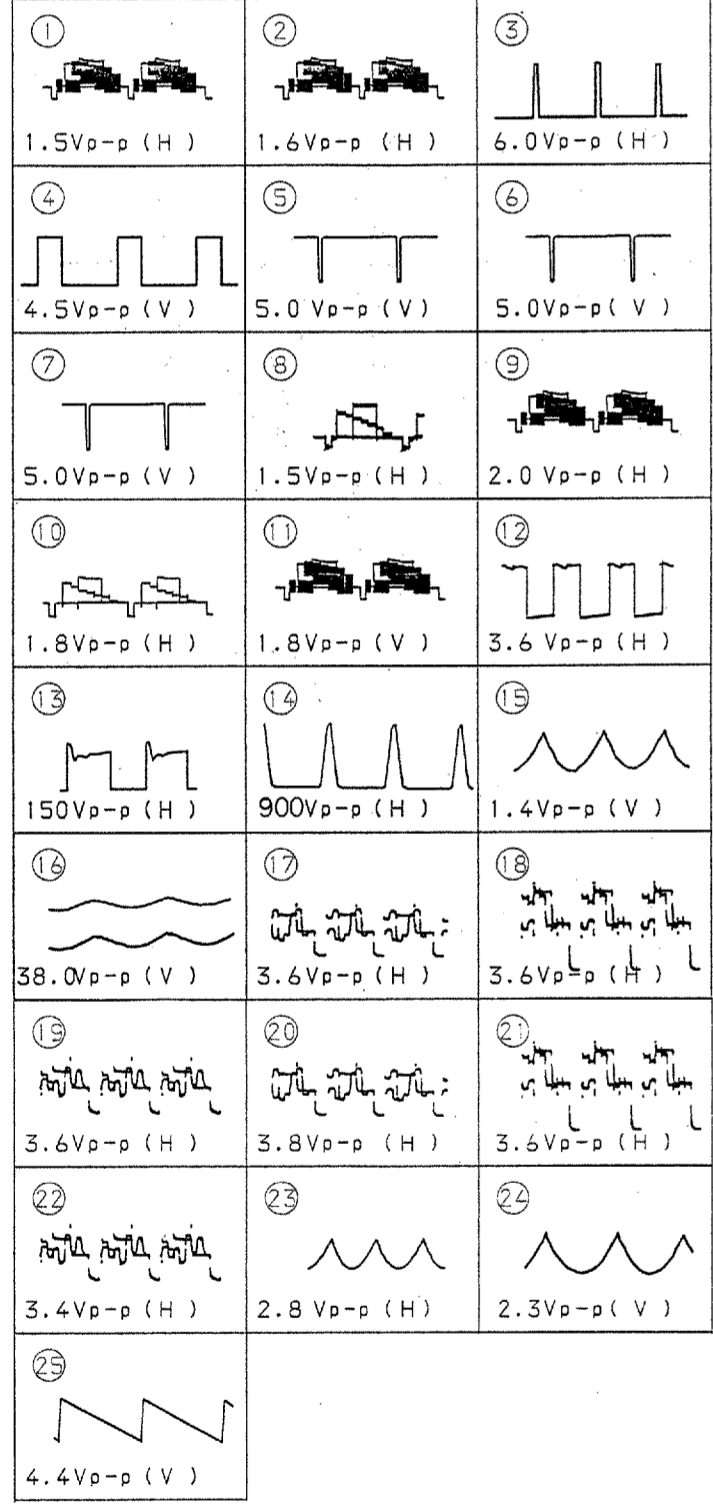
Part replaced (▭)	Adjustment (▭)
HV Block IC803, IC805, D805, D807, C817, C818, C821, C836, C837, R835, R825, R827, R828, R834, R835, R836, R864, R865, R866, R902	HV Regulator (R902)
HV Block IC803, IC804, Q804, D806, D808, C809, C819, C820, C822, C823, C850, R807, R829, R826, R832, R833, R837, R838, R839, R840, R841, R892, R893, R900, R901	HV Hold down (R900, R901)
Q618, Q621, D628, C634, R639, R649, R652, R655, R656	OVP (R652)
IC802, Q805, Q807, D811, D812, C810, C824, C825, C826, C827, C831, R810, R843, R844, R847, R848, R849, R850, R851, R852, R853, R854, R881	Berne current protector ① R852 ② R852
IC804, Q804, Q808, D808, D809, C809, C828, C829, C830, C831, R807, R839, R840, R841, R847, R848, R849, R850, R851, R852, R855, R856, R857, R881	

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

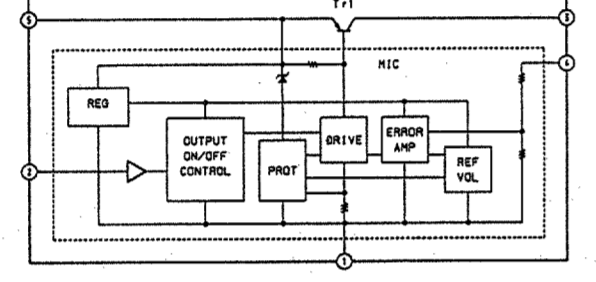
Note: Les composants identifiés par une trame et par une marque ▭ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.



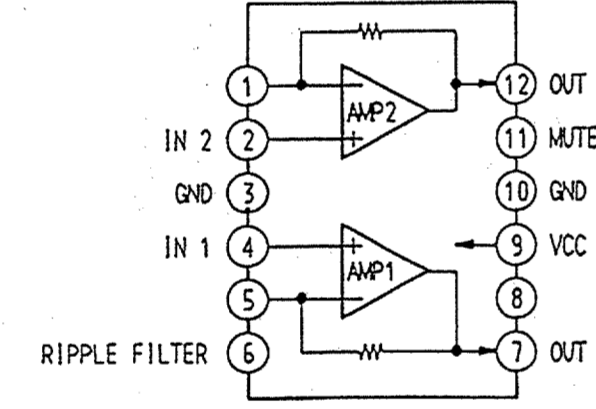
- A Board -



A Board IC201, 207 SI-3090CA

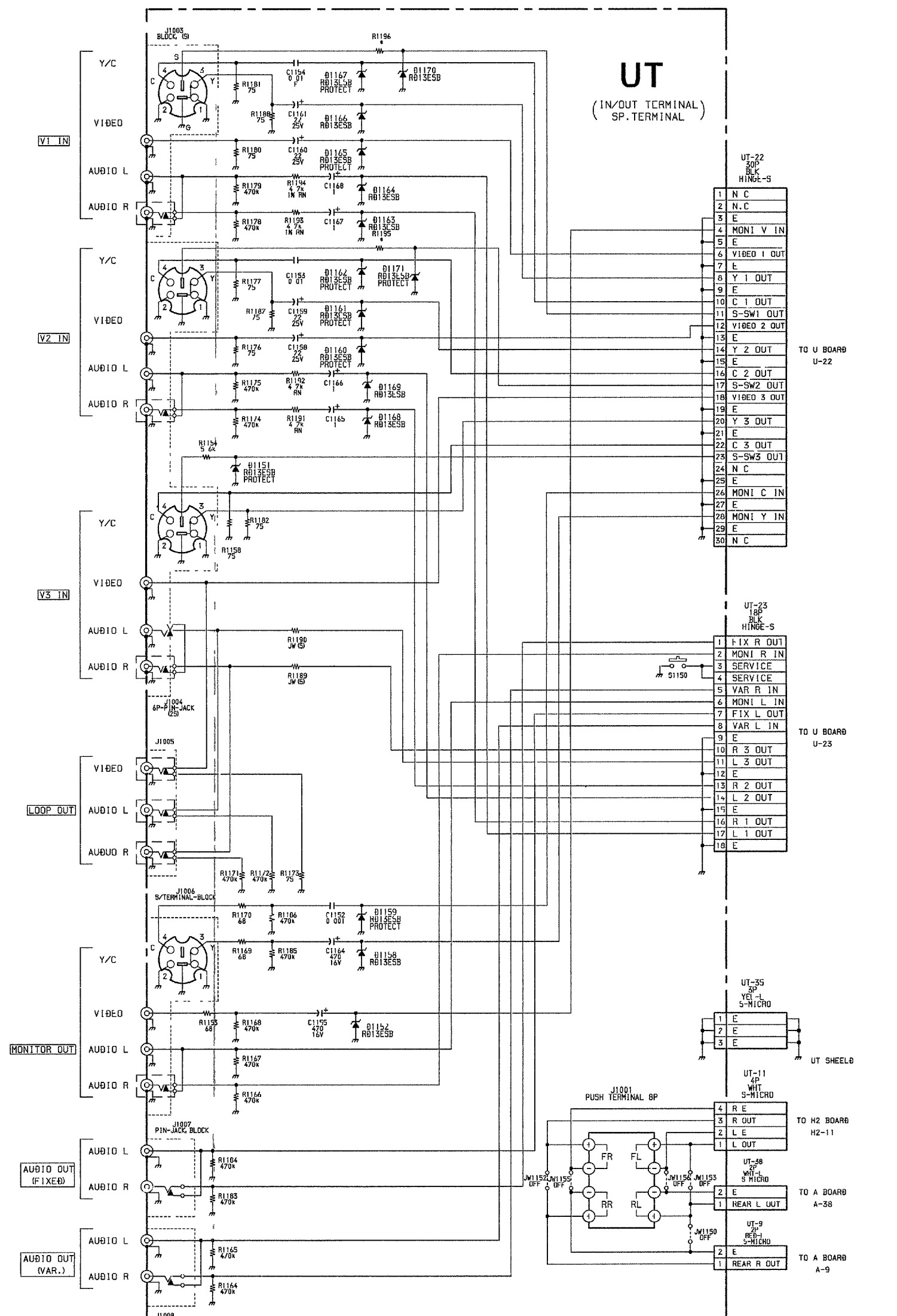
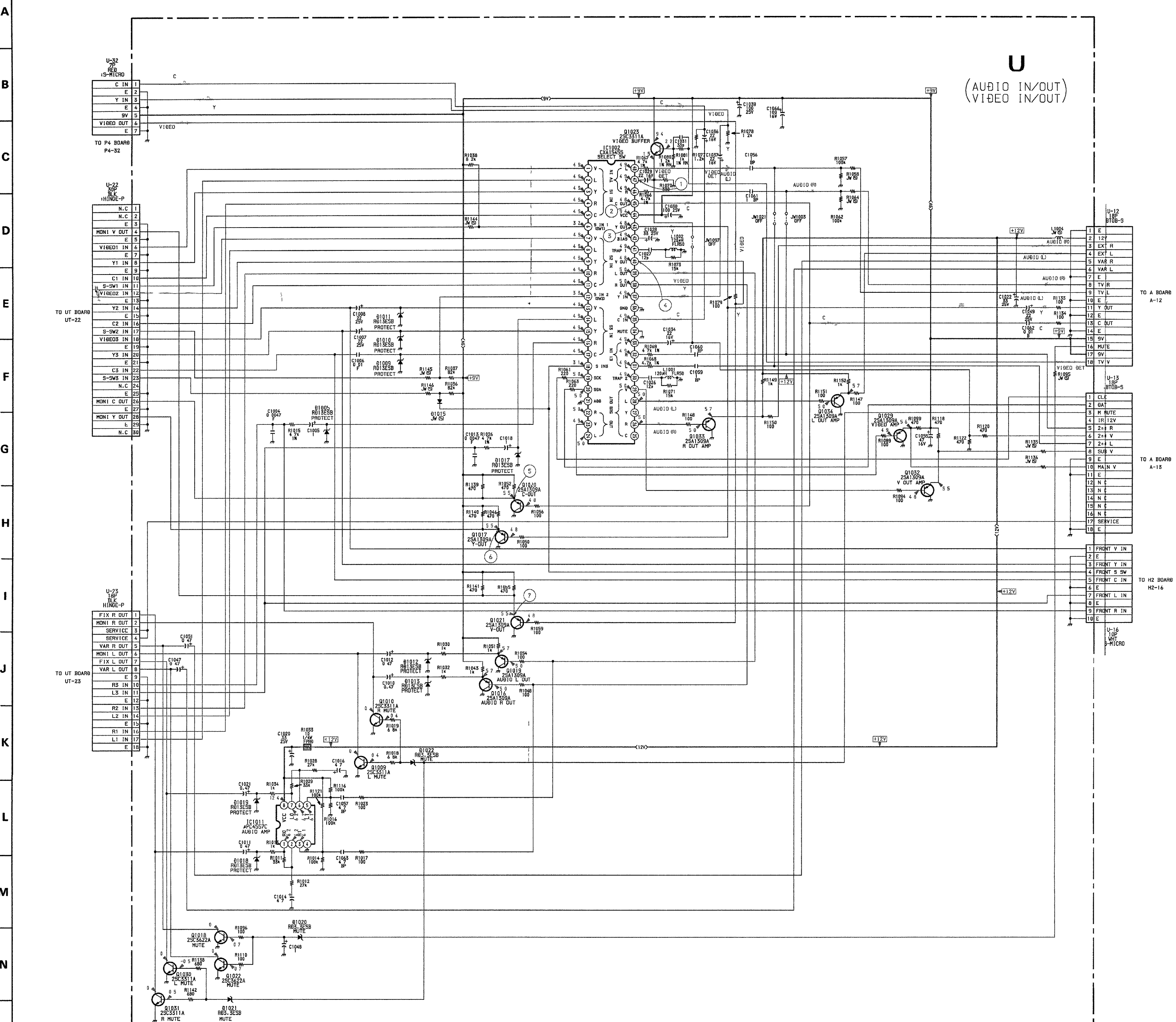


A Board IC1401 TA8216H



RIPPLE FILTER



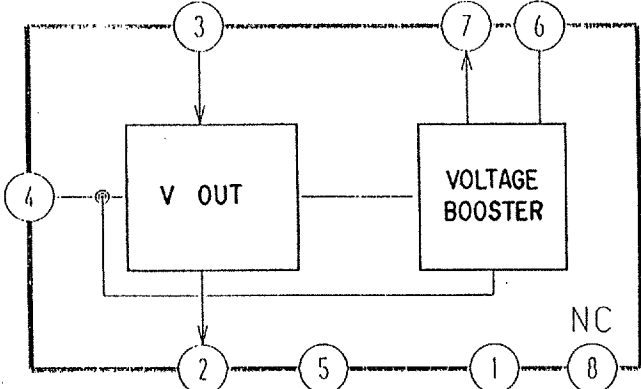


U Board IC002 CXA1545S

U Board

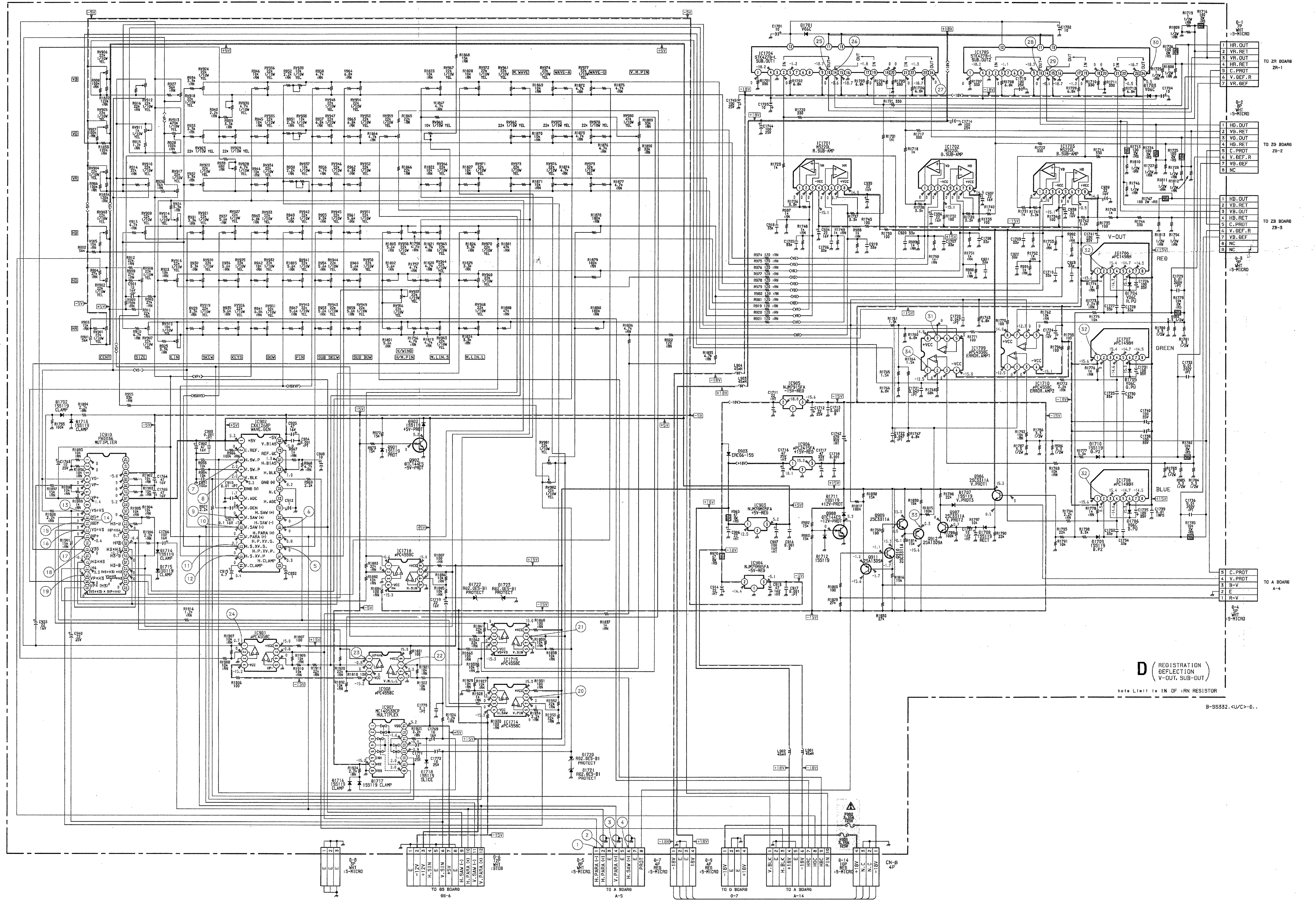
1	0.8Vp-p (H)
2	1.8Vp-p (H)
3	1.8Vp-p (H)
4	2.0Vp-p (H)
5	1.8Vp-p (H)
6	1.8Vp-p (H)
7	1.8Vp-p (H)

D Board IC1706, 1707, 1708 μ PC1498H



— D Board —

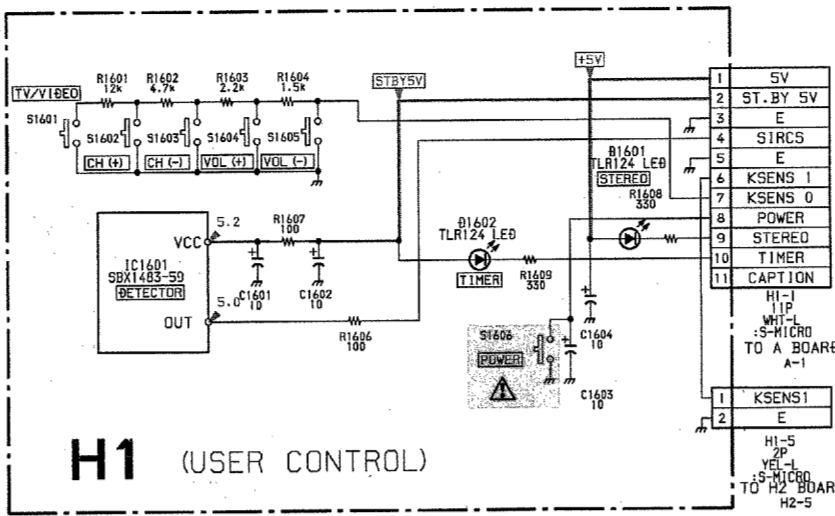
1 2.6Vp-p (H)	2 2.7Vp-p (H)	3 2.2Vp-p (V)
4 4.4Vp-p (V)	5 2.4Vp-p (V)	6 2.4Vp-p (H)
7 4.2Vp-p (H)	8 4.0Vp-p (V)	9 2.3Vp-p (V)
10 2.3Vp-p (V)	11 2.2Vp-p (H)	12 2.6Vp-p (V)
13 1.8Vp-p (V)	14 2.2Vp-p (H)	15 1.3Vp-p (V)
16 2.1Vp-p (V)	17 2.3Vp-p (H)	18 6.2Vp-p (V)
19 2.7Vp-p (V)	20 6.6Vp-p (V)	21 2.8Vp-p (V)
22 0.48Vp-p (V)	23 2.4Vp-p (H)	24 2.2Vp-p (V)
25 36.0Vp-p (V)	26 32.0Vp-p (H)	27 25.0Vp-p (V)
28 26.0Vp-p (H)	29 32.0Vp-p (V)	30 24.0Vp-p (H)
31 1.0Vp-p (V)	32 68.0Vp-p (V)	33 1.4Vp-p (V)
34 3.0Vp-p (V)		



D (REGISTRATION REFLECTION V-OUT, SUB-OUT)

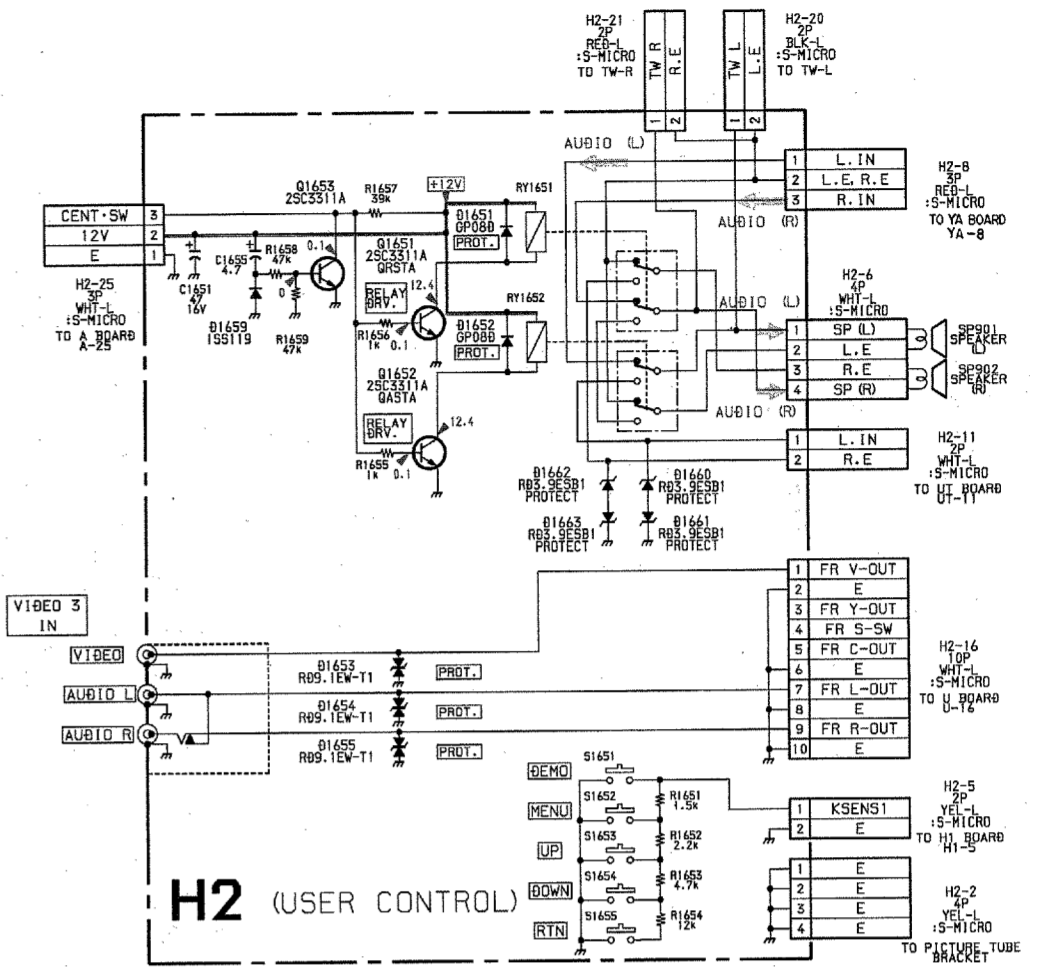
Note Limit is 1% OF 1/4W RESISTOR

B-5532-CU/C3-0..



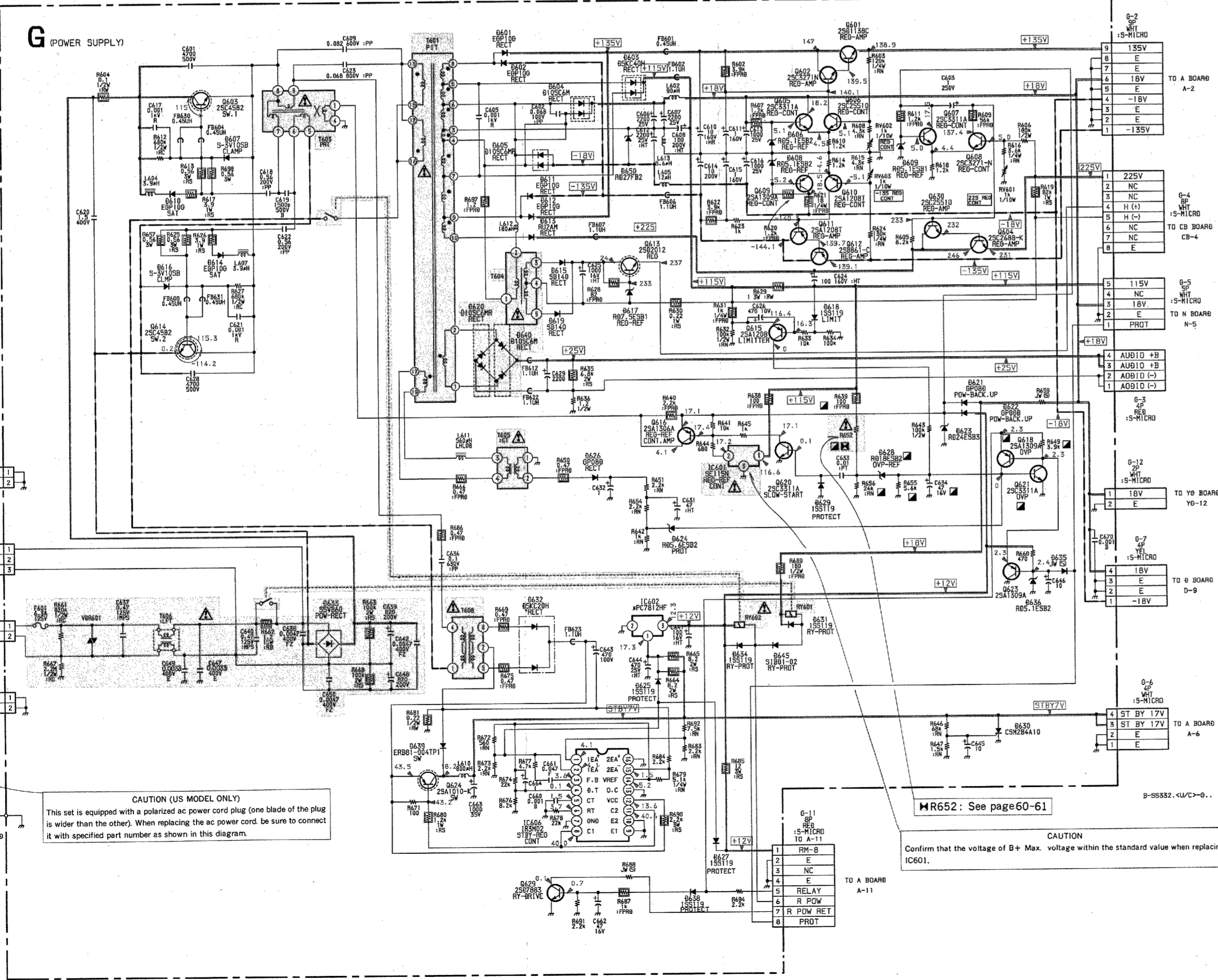
H1 (USER CONTROL)

B-59332. <U/C>-H1.



H2 (USER CONTROL)

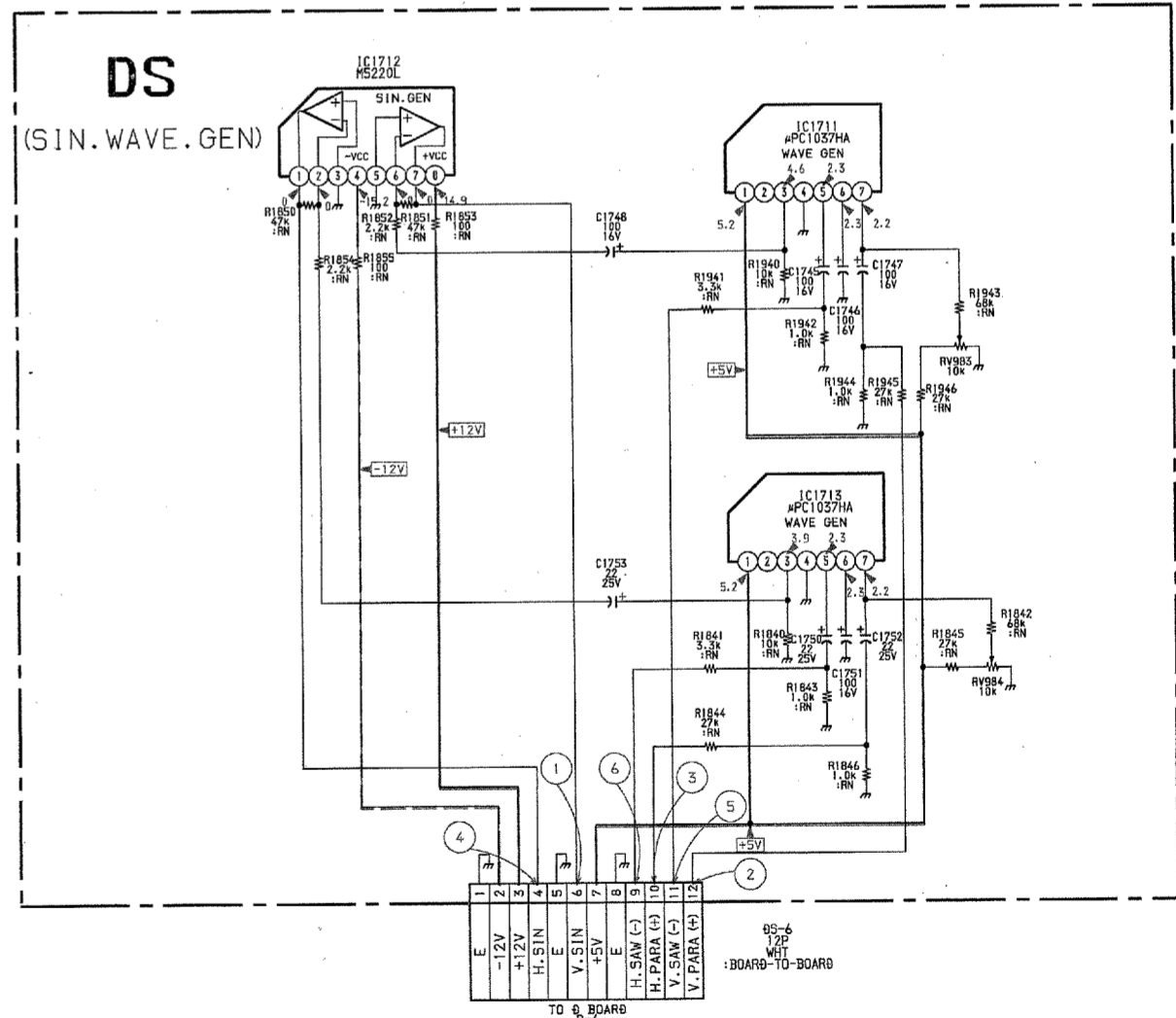
B-59332. <U/C>-H2.



G (POWER SUPPLY)

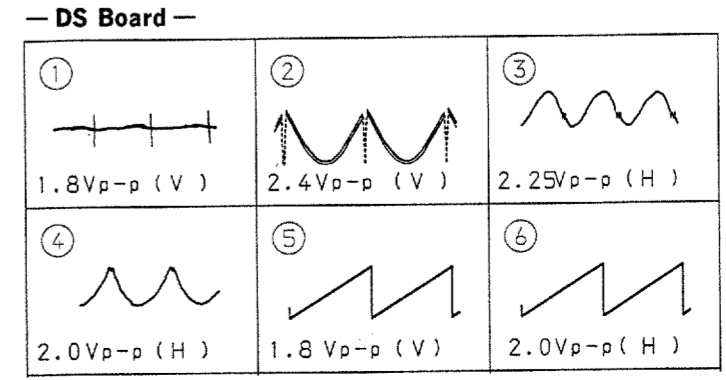
MR652: See page 60-61

CAUTION Confirm the voltage of B+ Max. voltage within the standard value when replacing IC601.

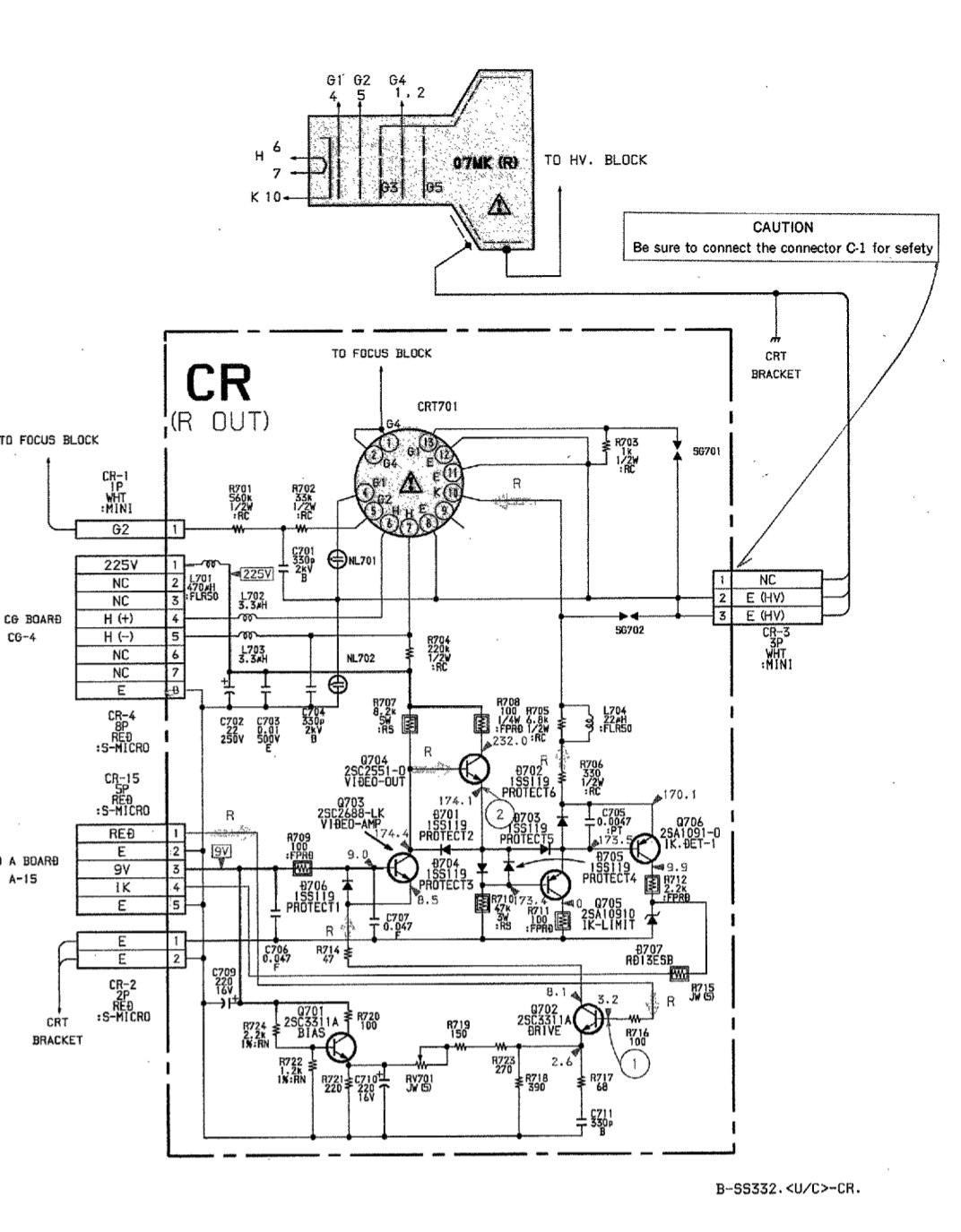
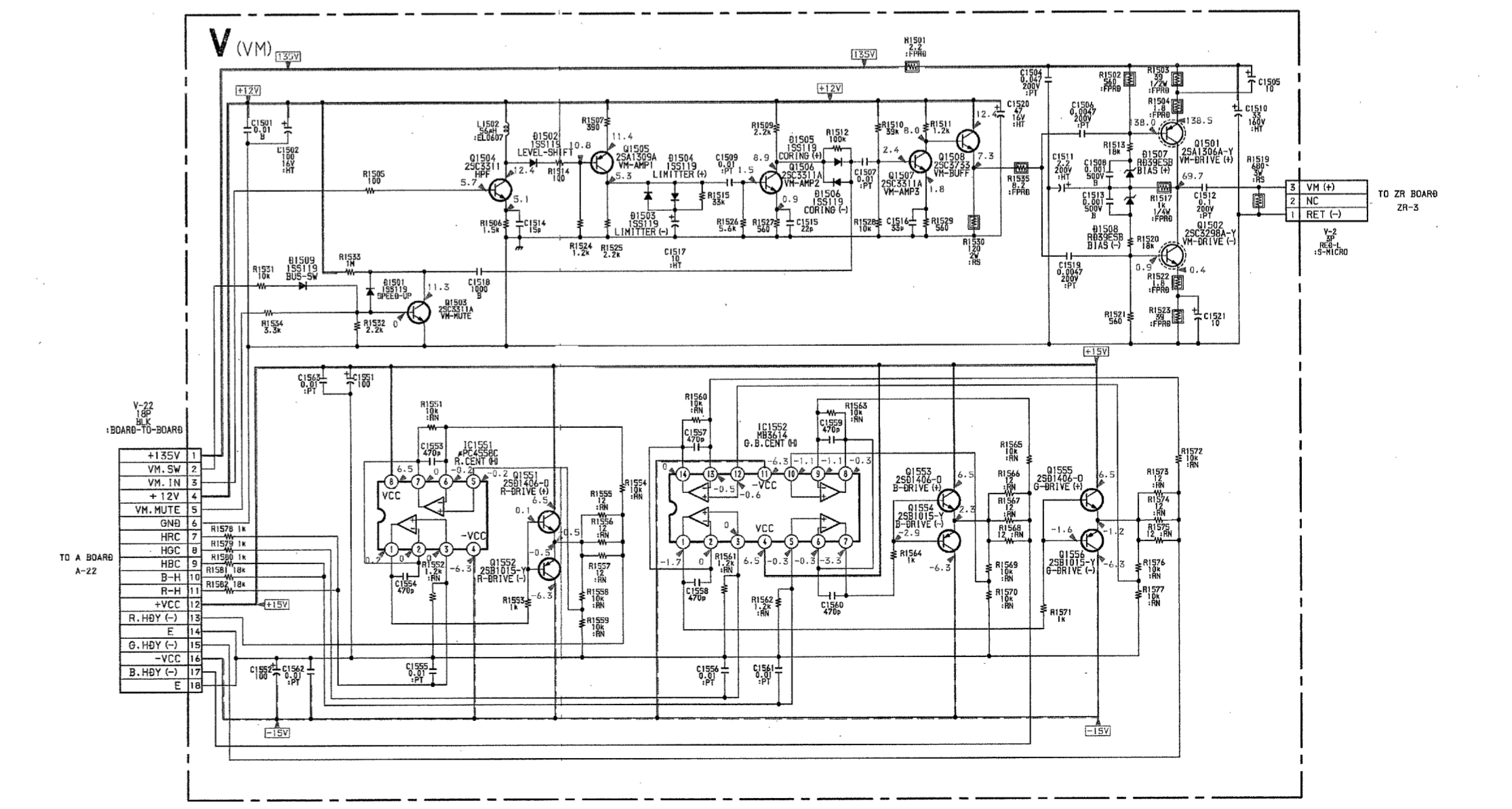
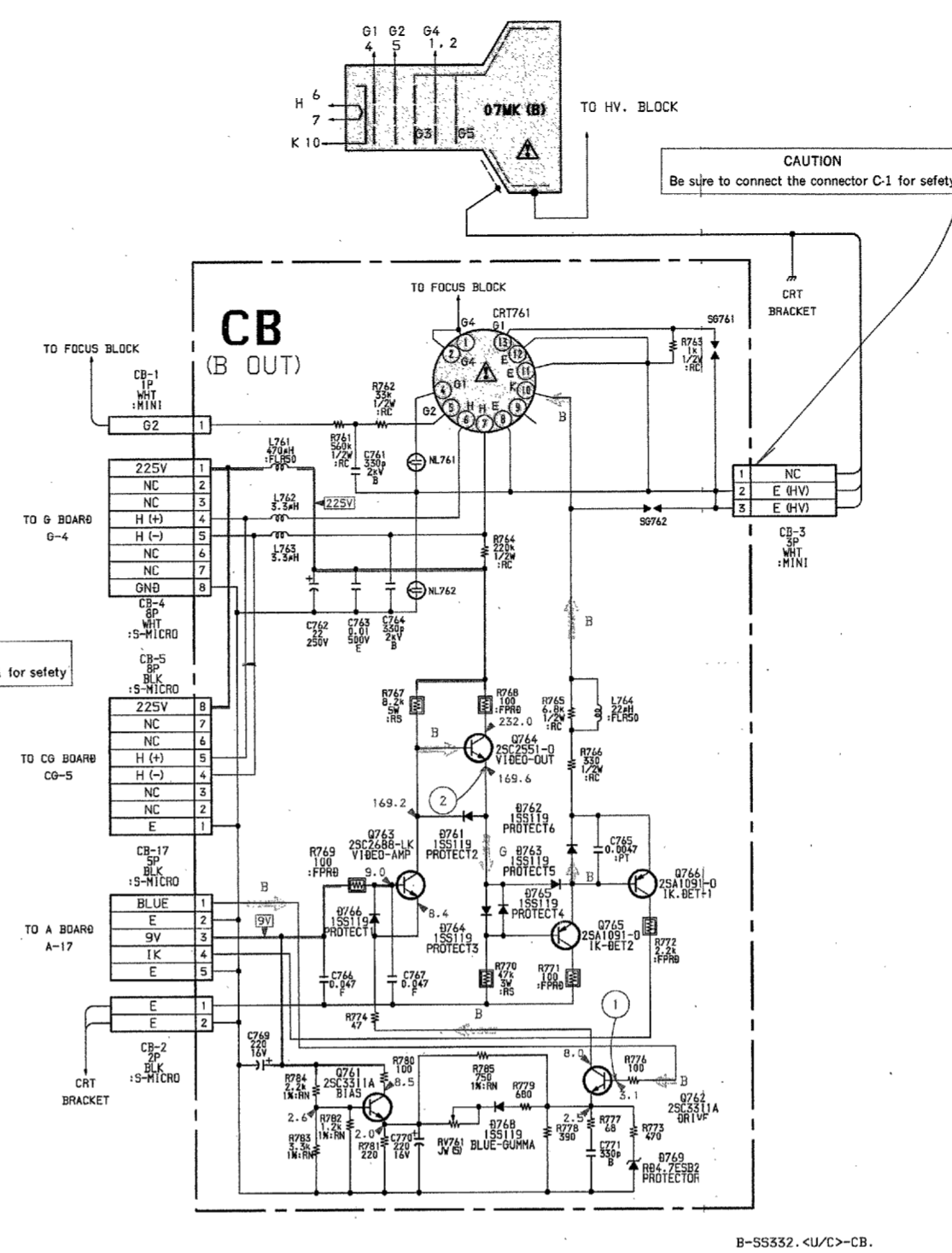
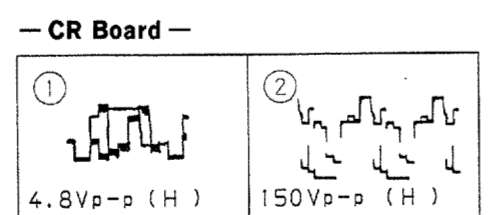
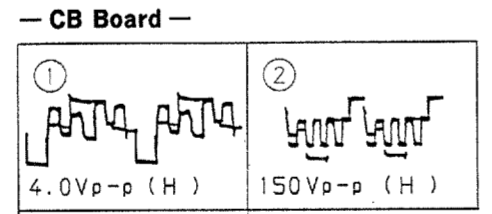
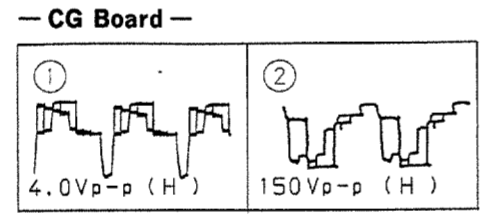
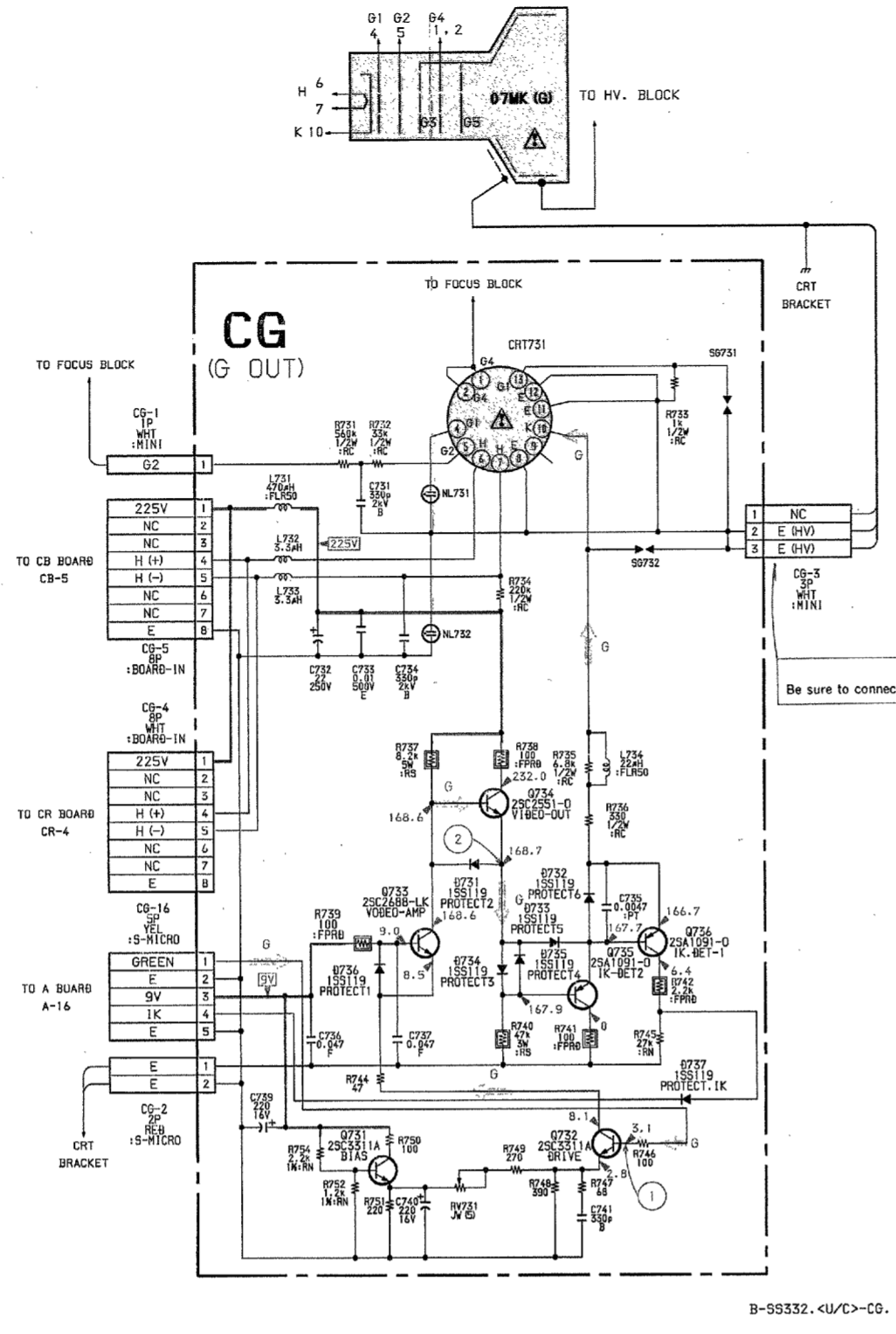
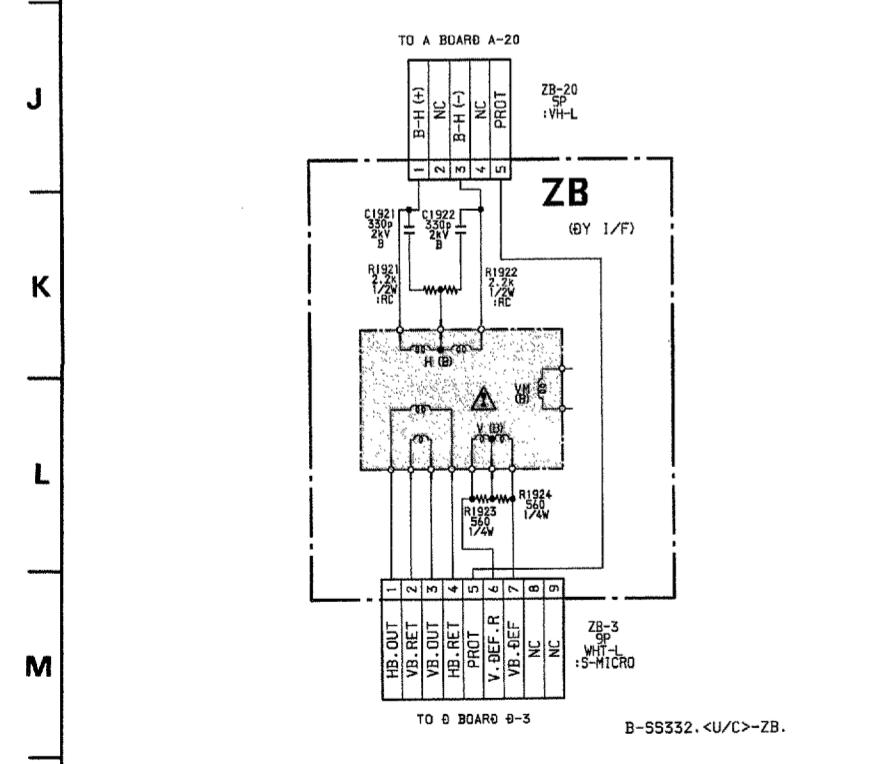
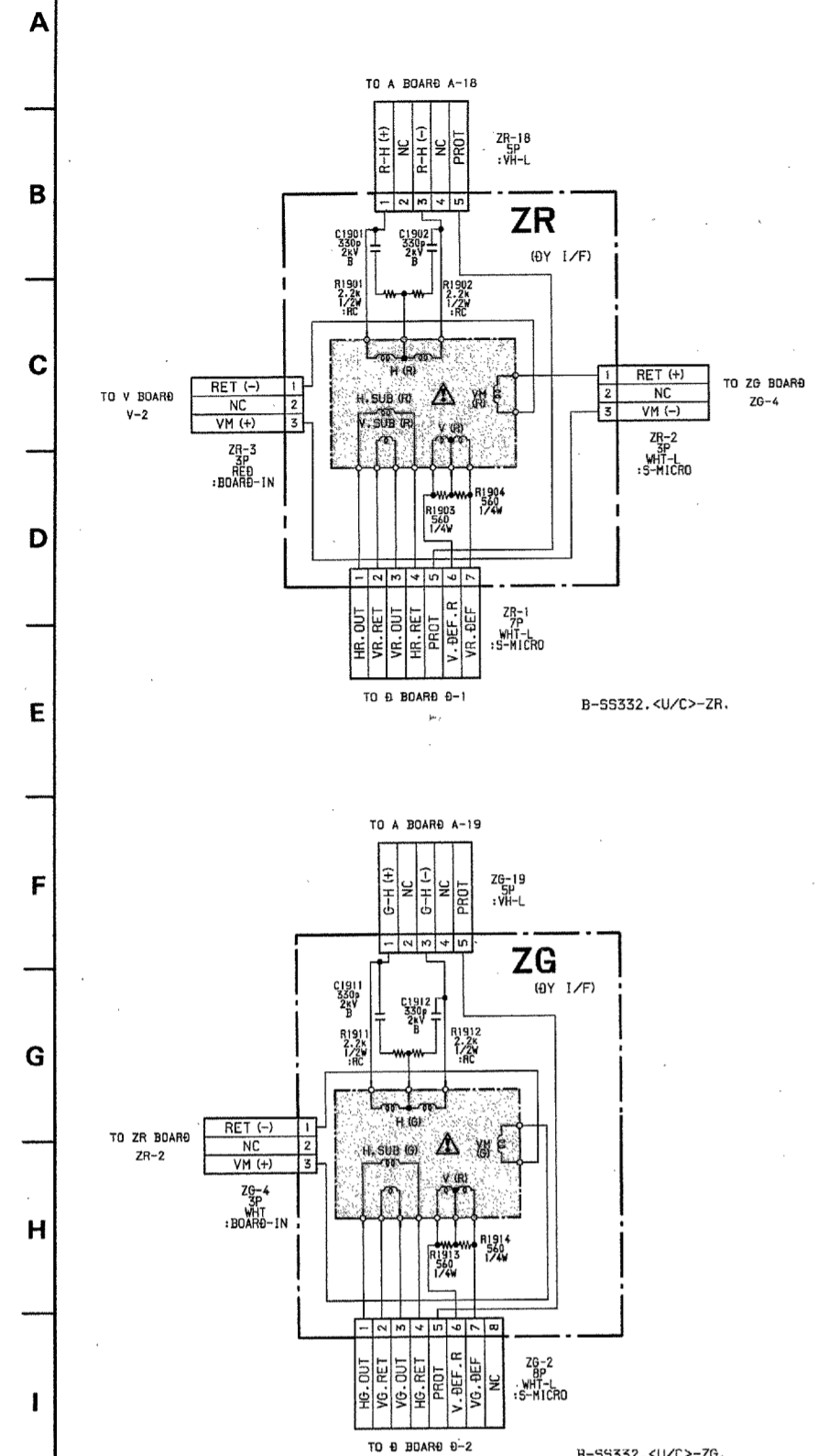


DS (SIN. WAVE. GEN)

B-59332. <U/C>-DS.

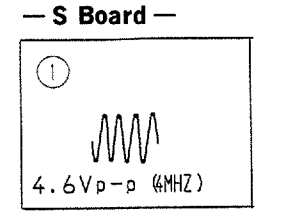
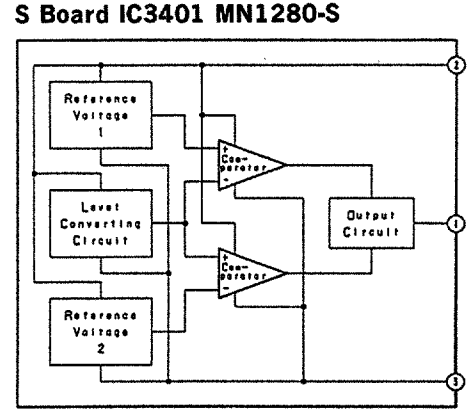
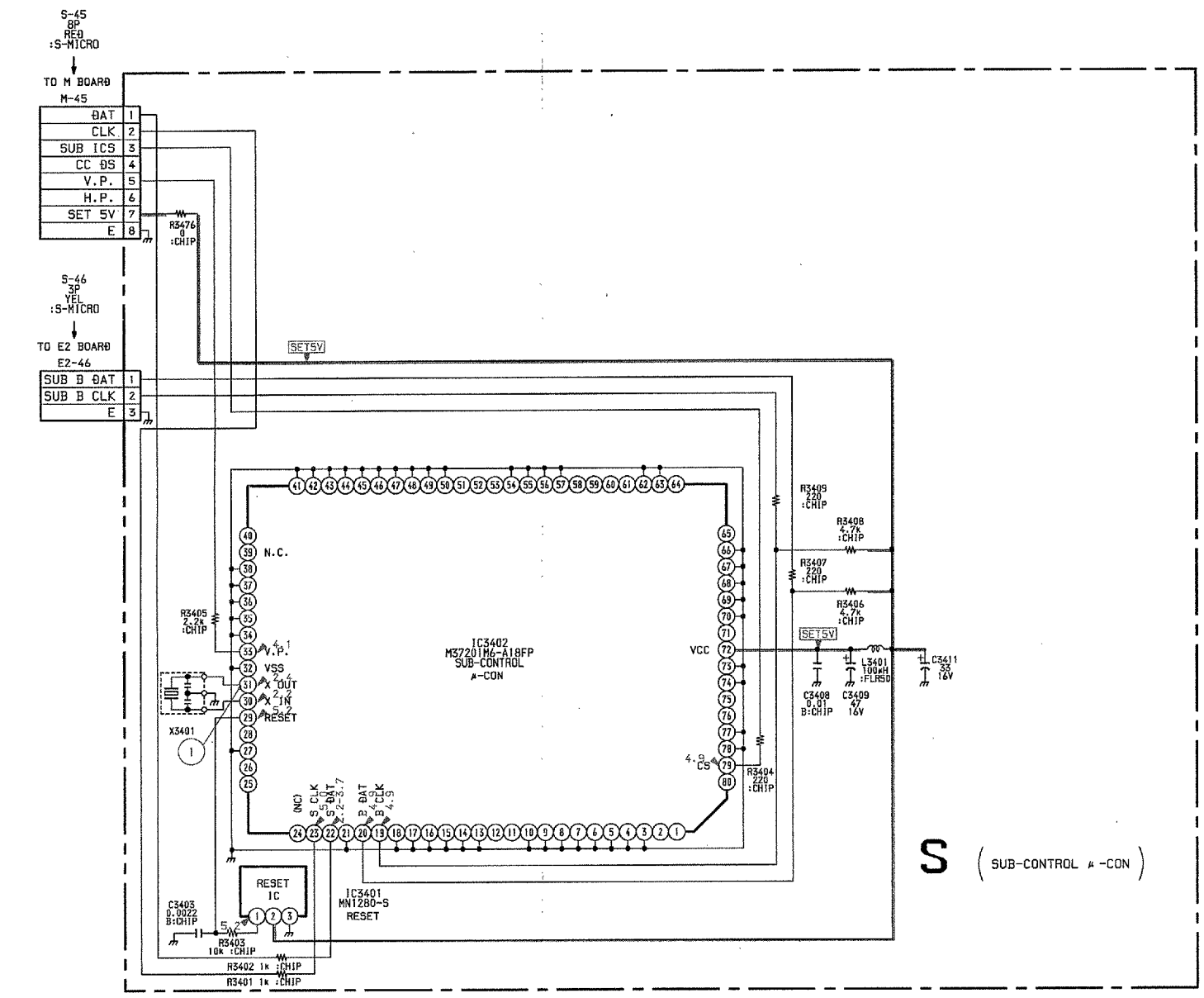
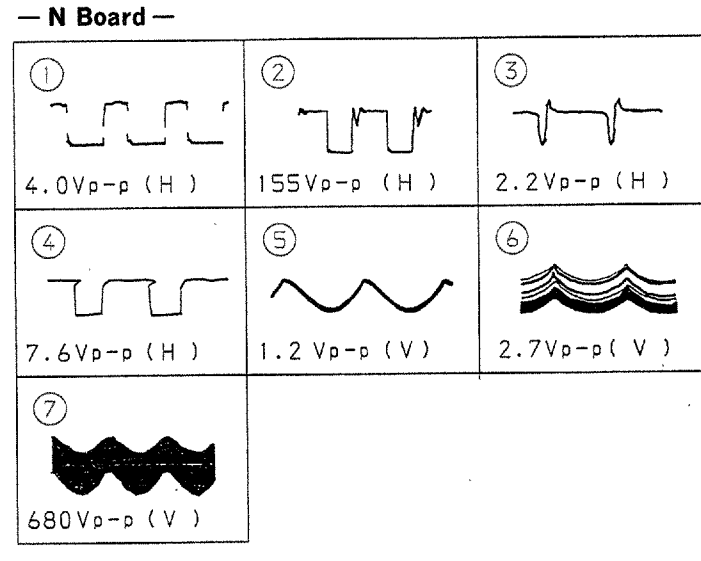
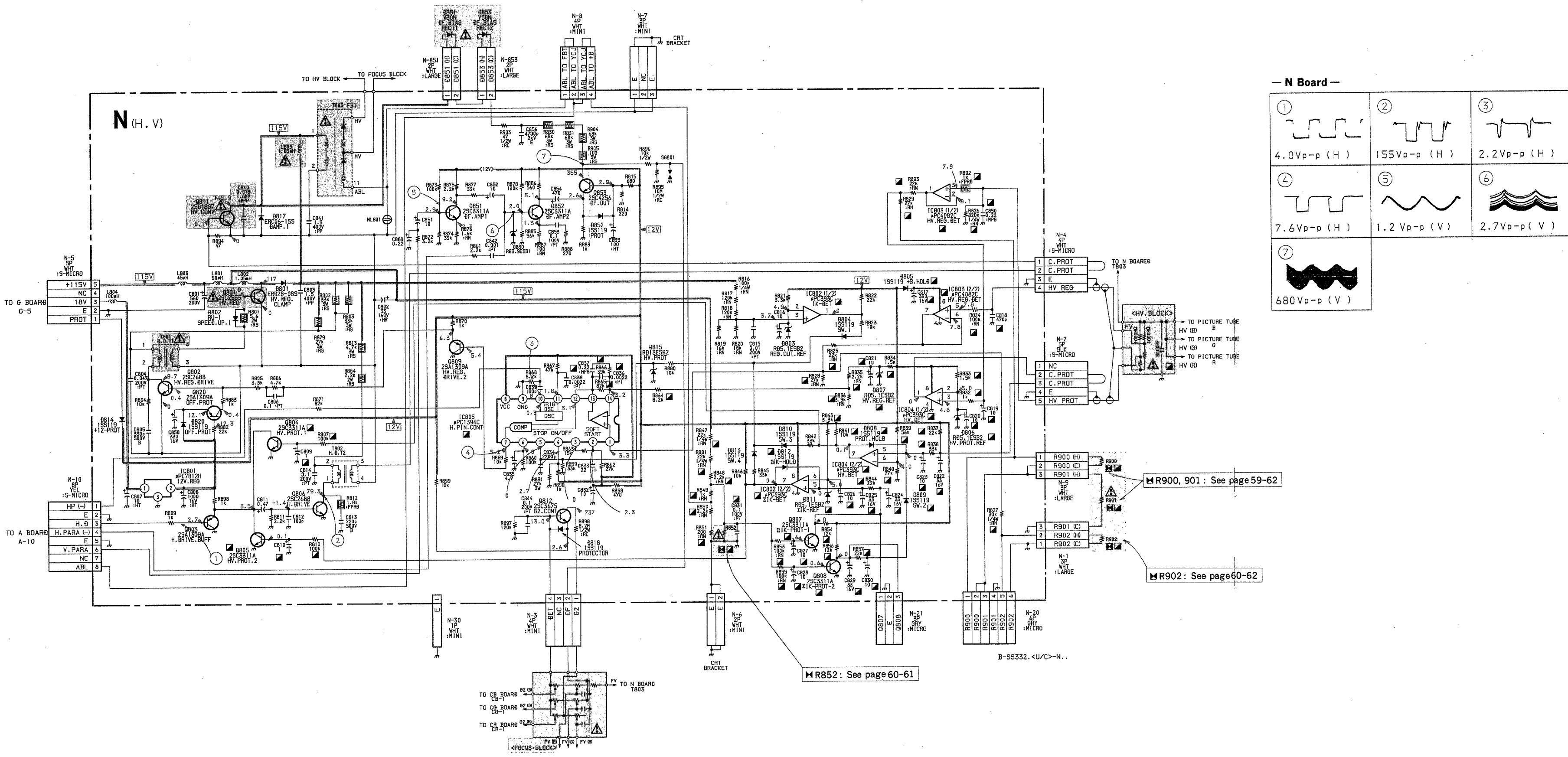


CAUTION (US MODEL ONLY) This set is equipped with a polarized ac power cord plug (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

A
B
C
D
E
F
G
H
I



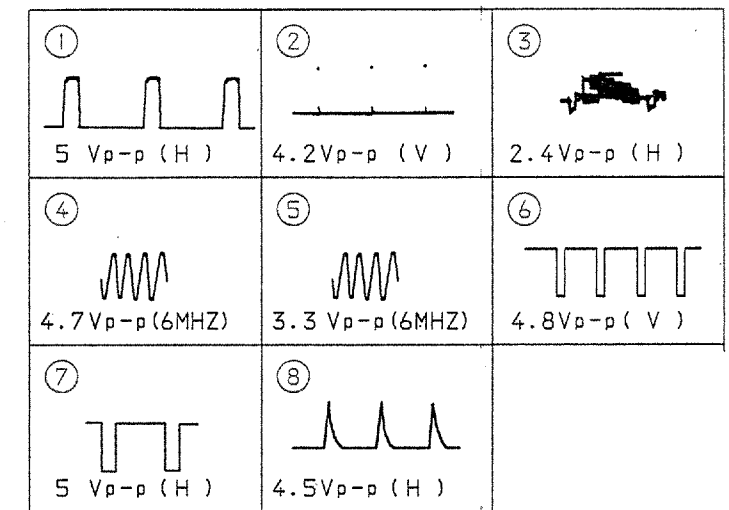
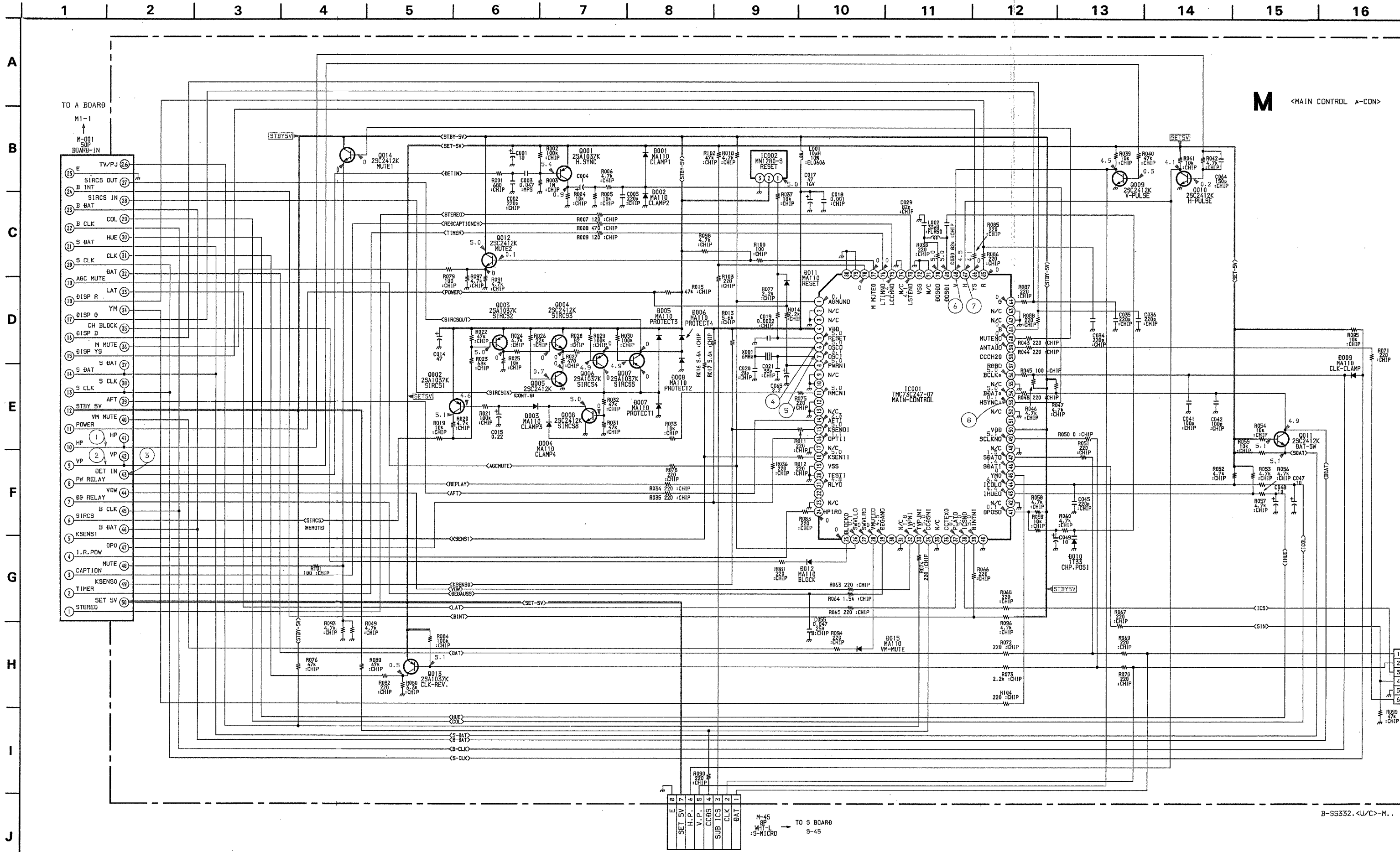
Ⓜ R900, 901: See page 59-62

Ⓜ R902: See page 60-62

Ⓜ R852: See page 60-61

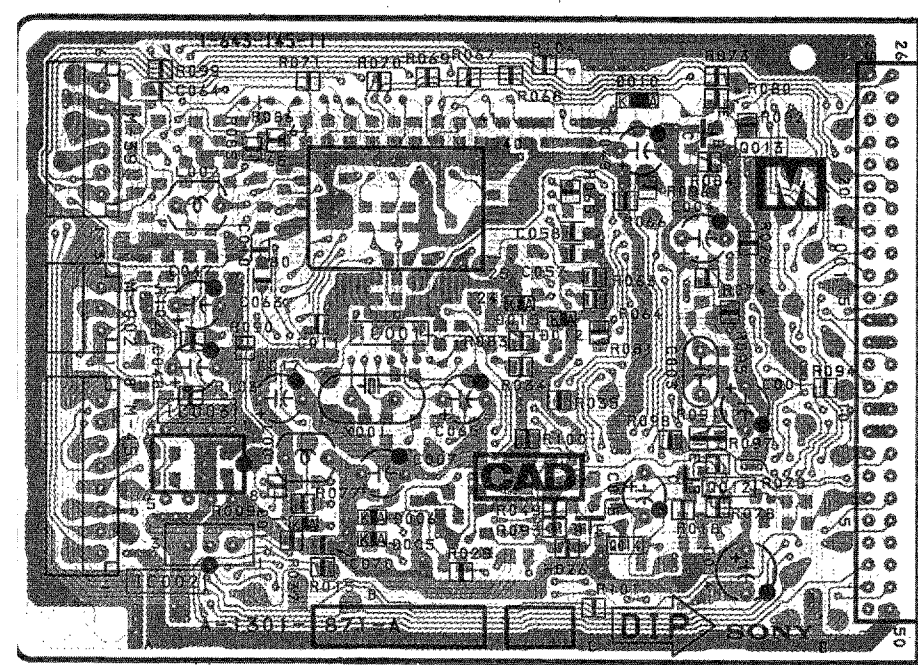
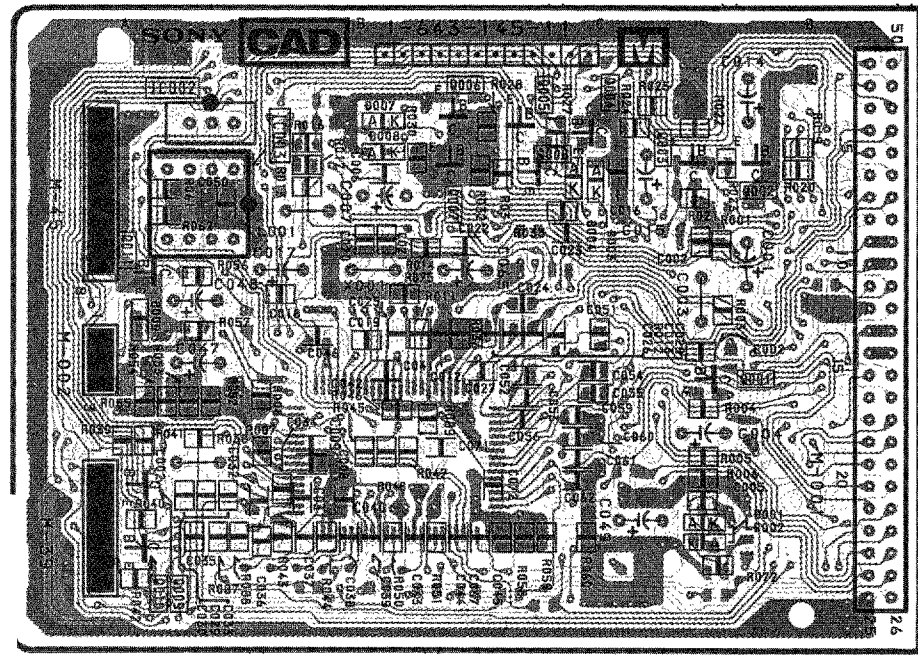
B-SS332. <U/C>-N..

B-SS332. <U/C>-S..

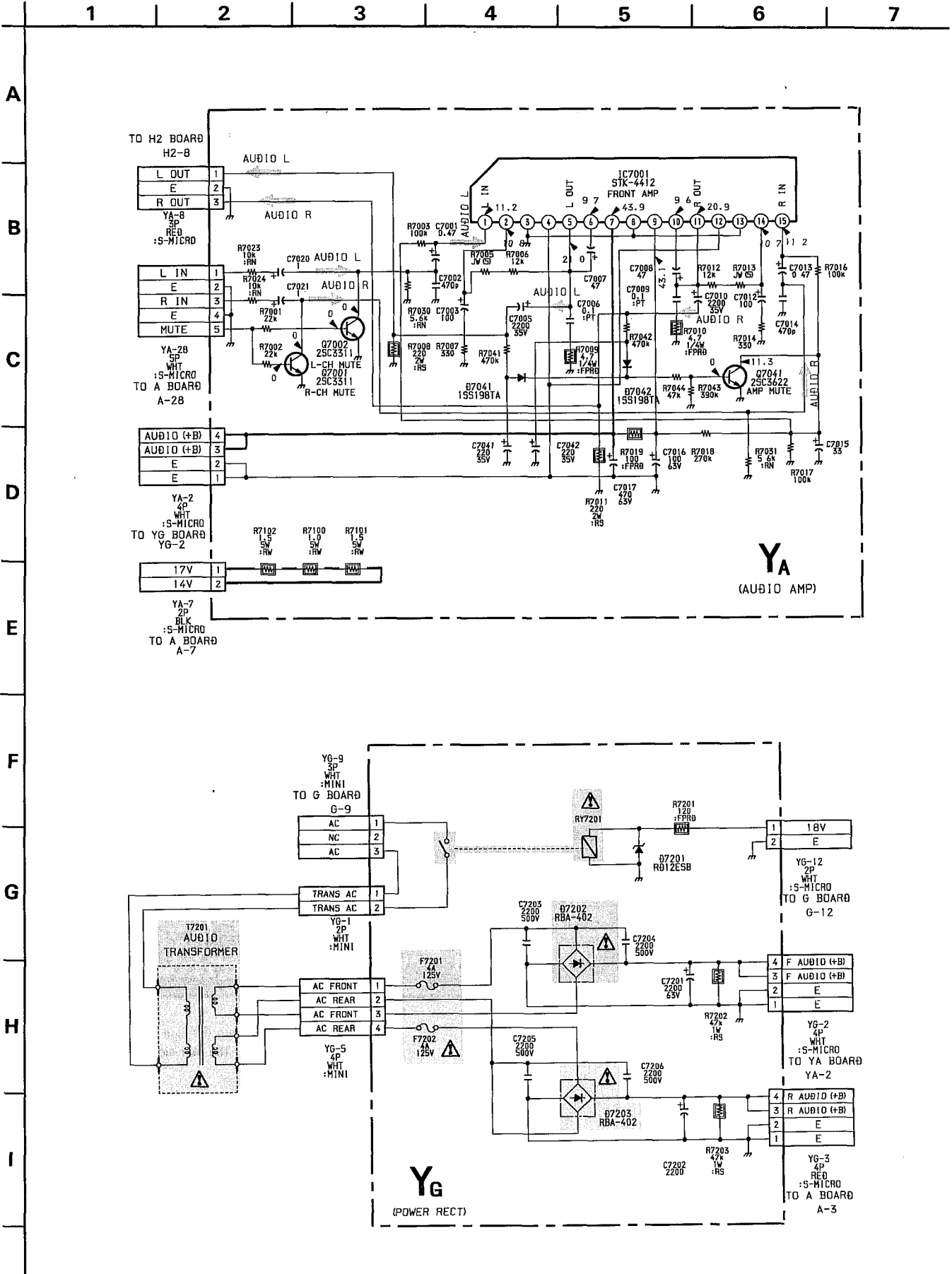


M [MAIN CONTROL, MICRO COMPUTER]

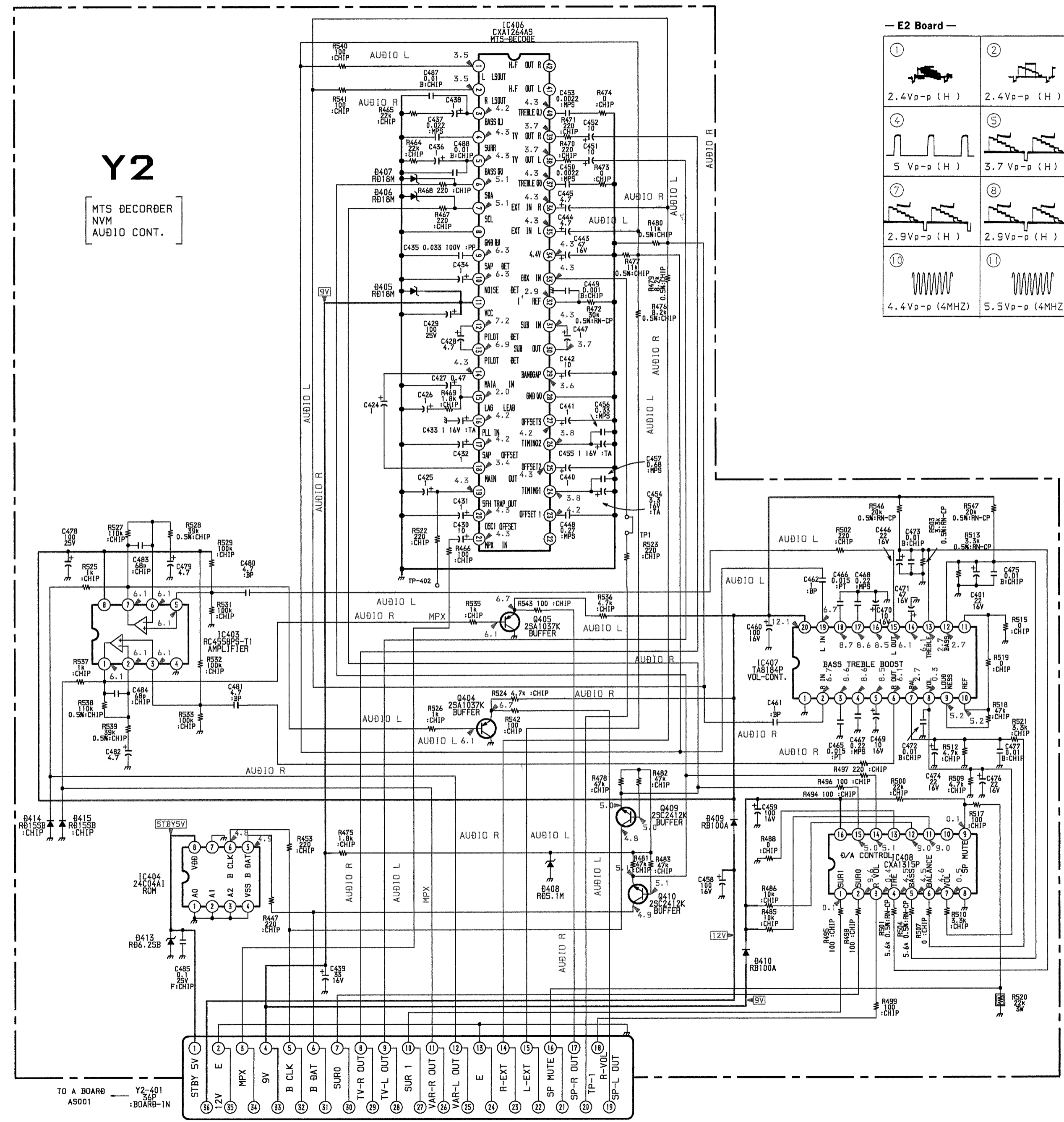
- M Board -



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

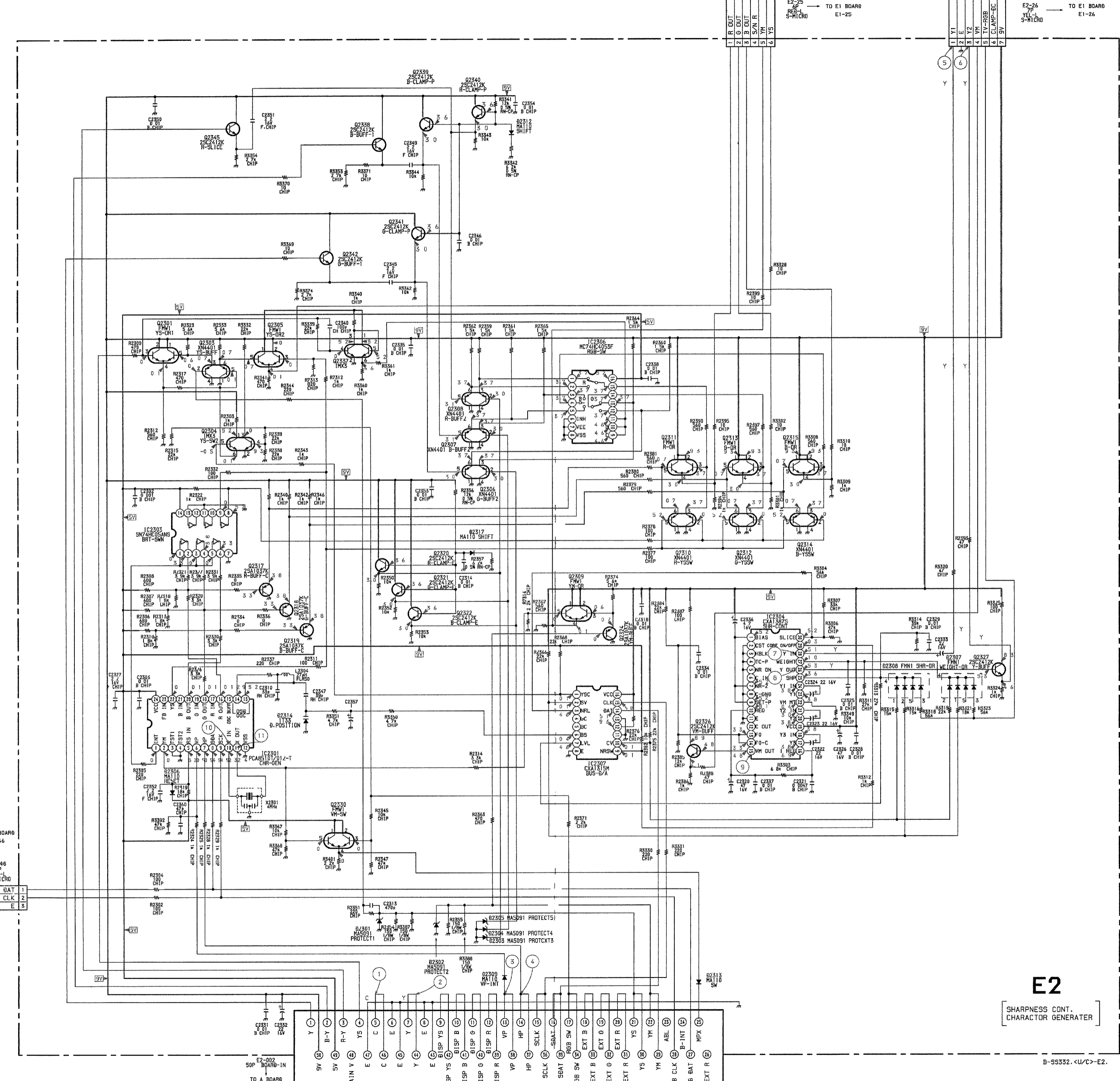


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

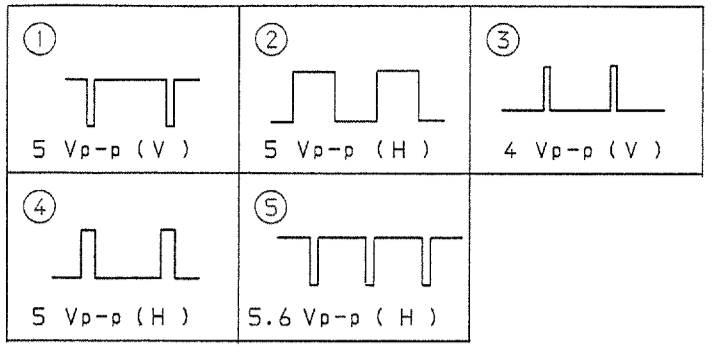


- E2 Board -

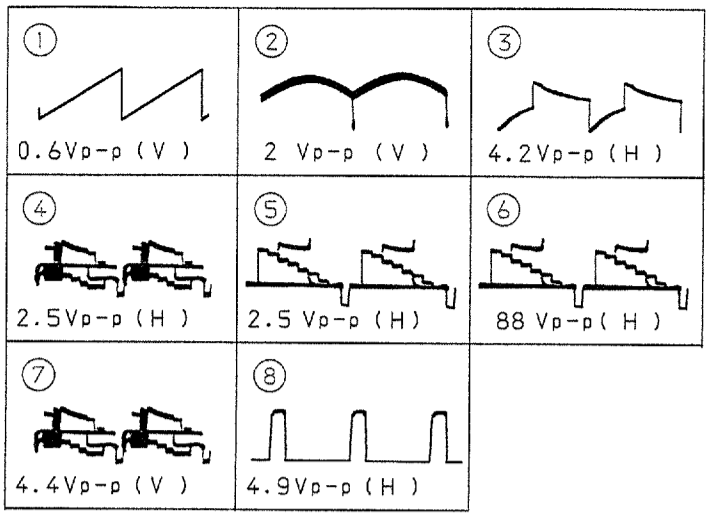
①	②	③
④	⑤	⑥
⑦	⑧	⑨
⑩	⑪	



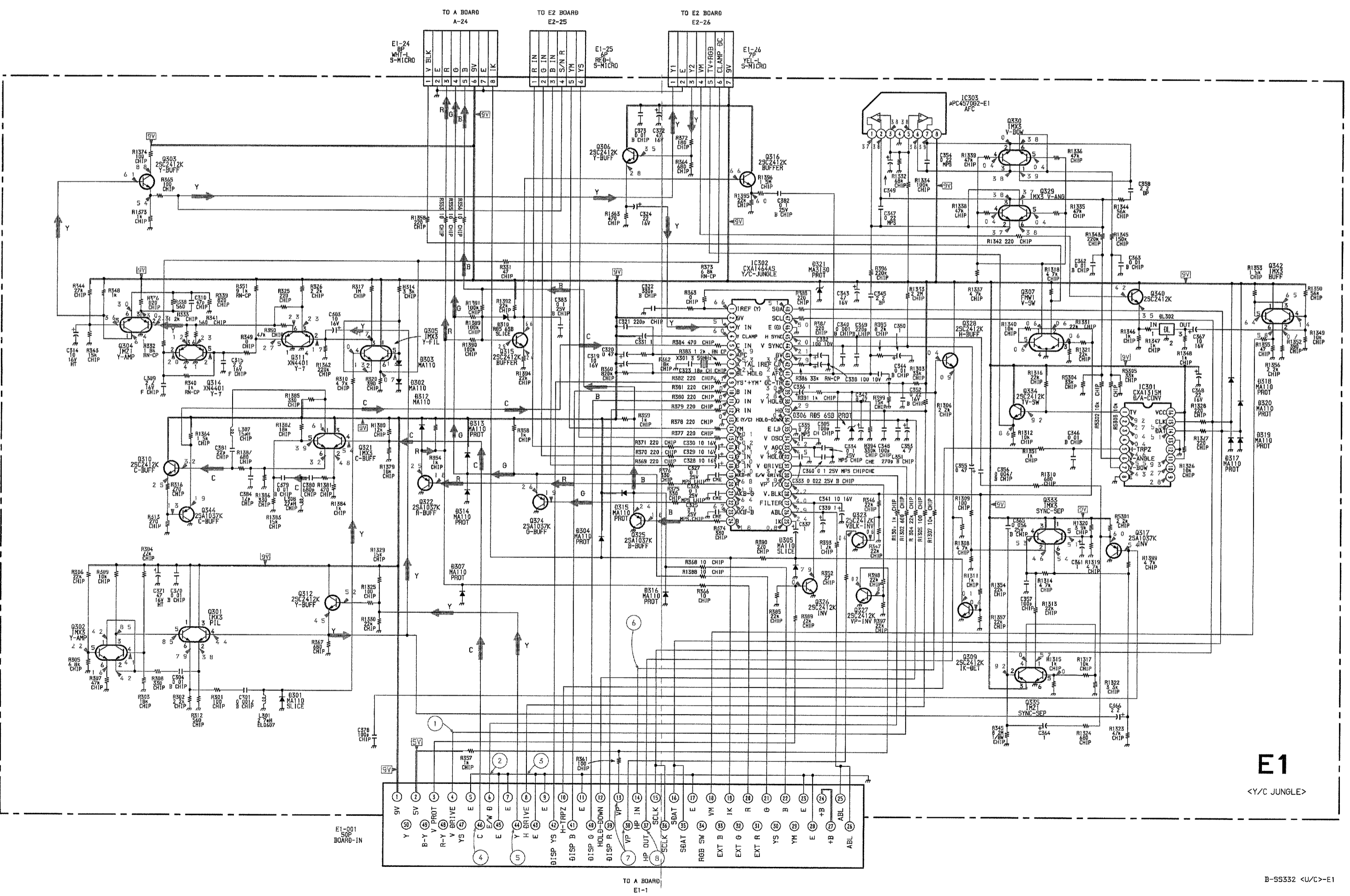
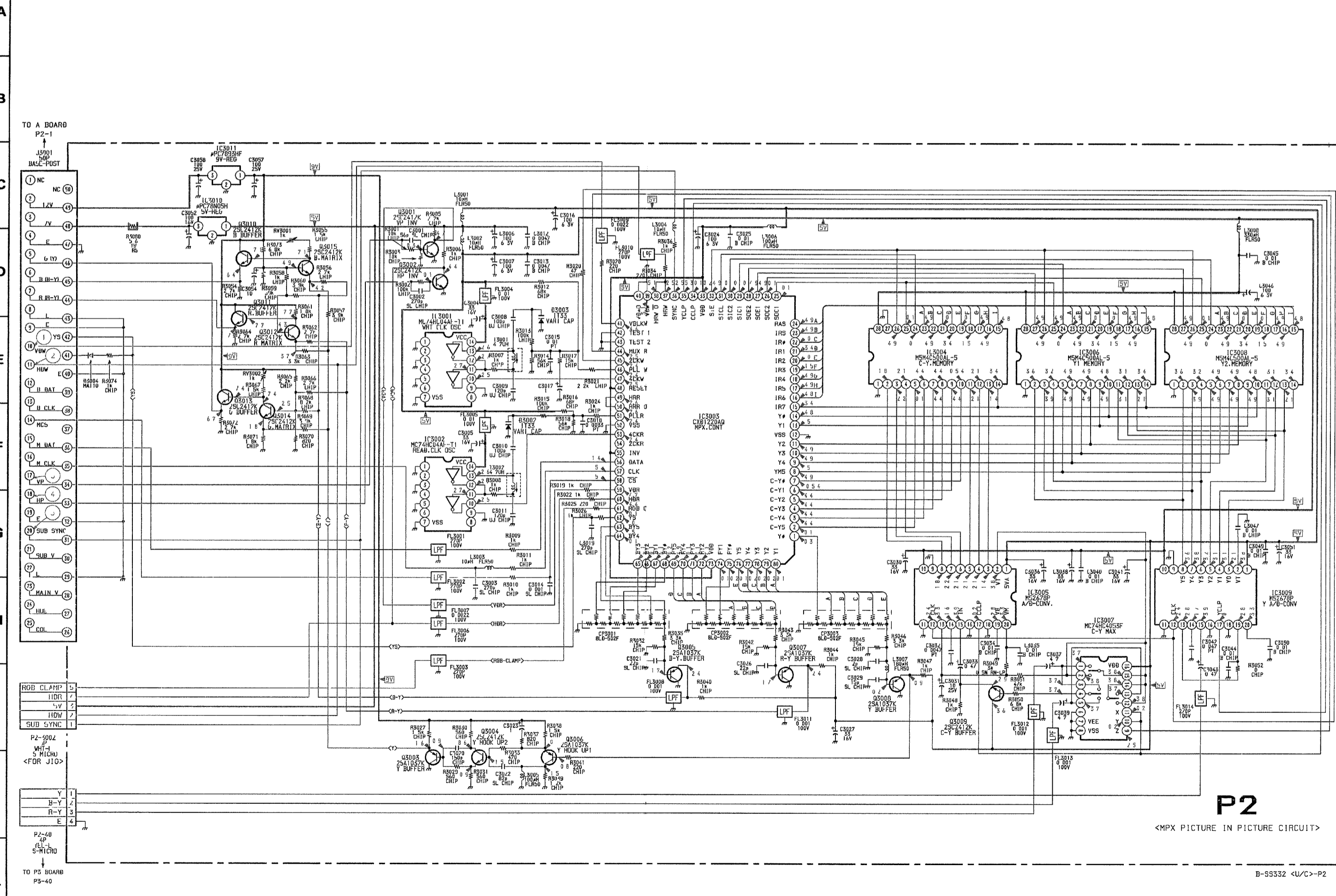
- P2 Board -



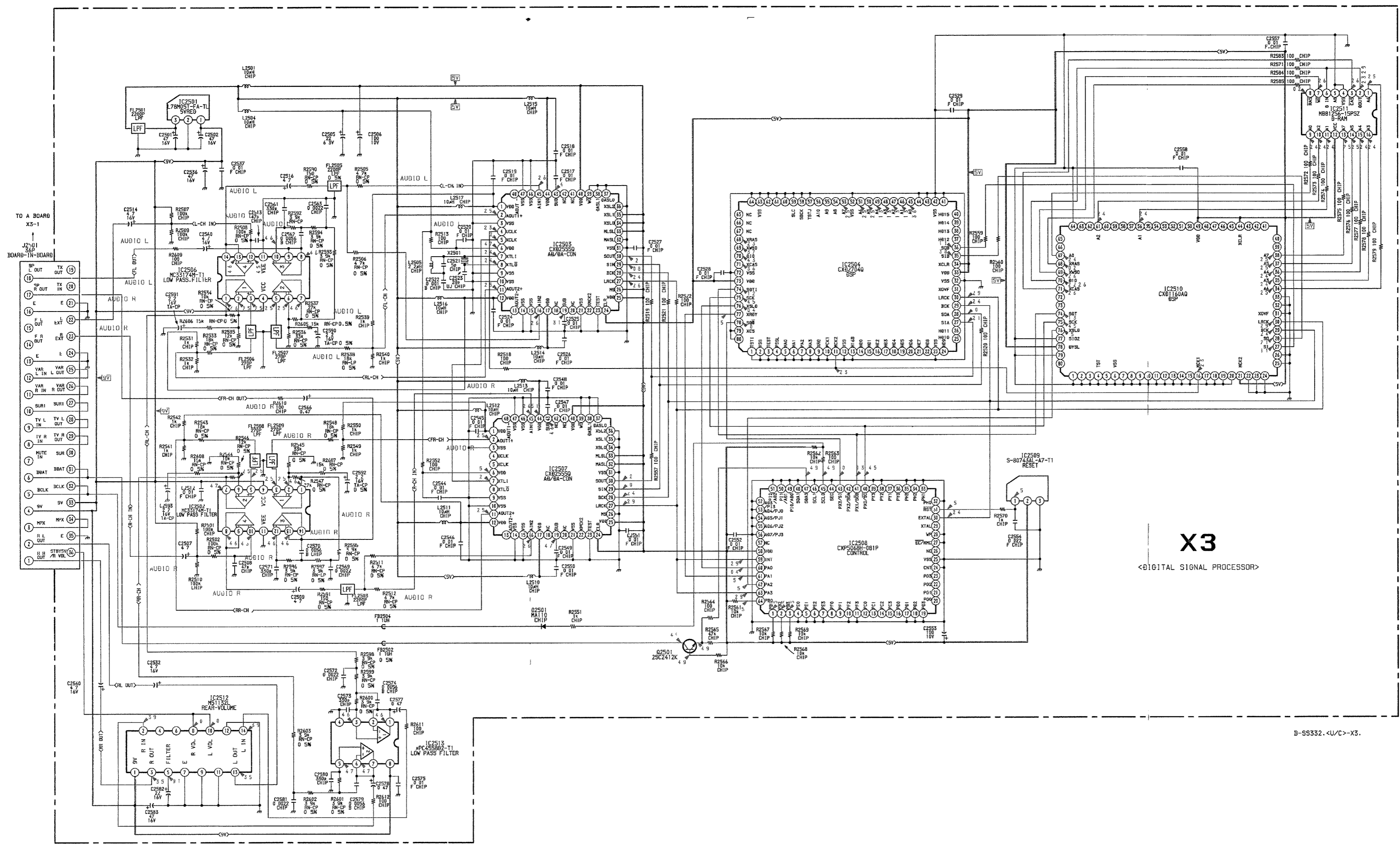
- E1 Board -



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

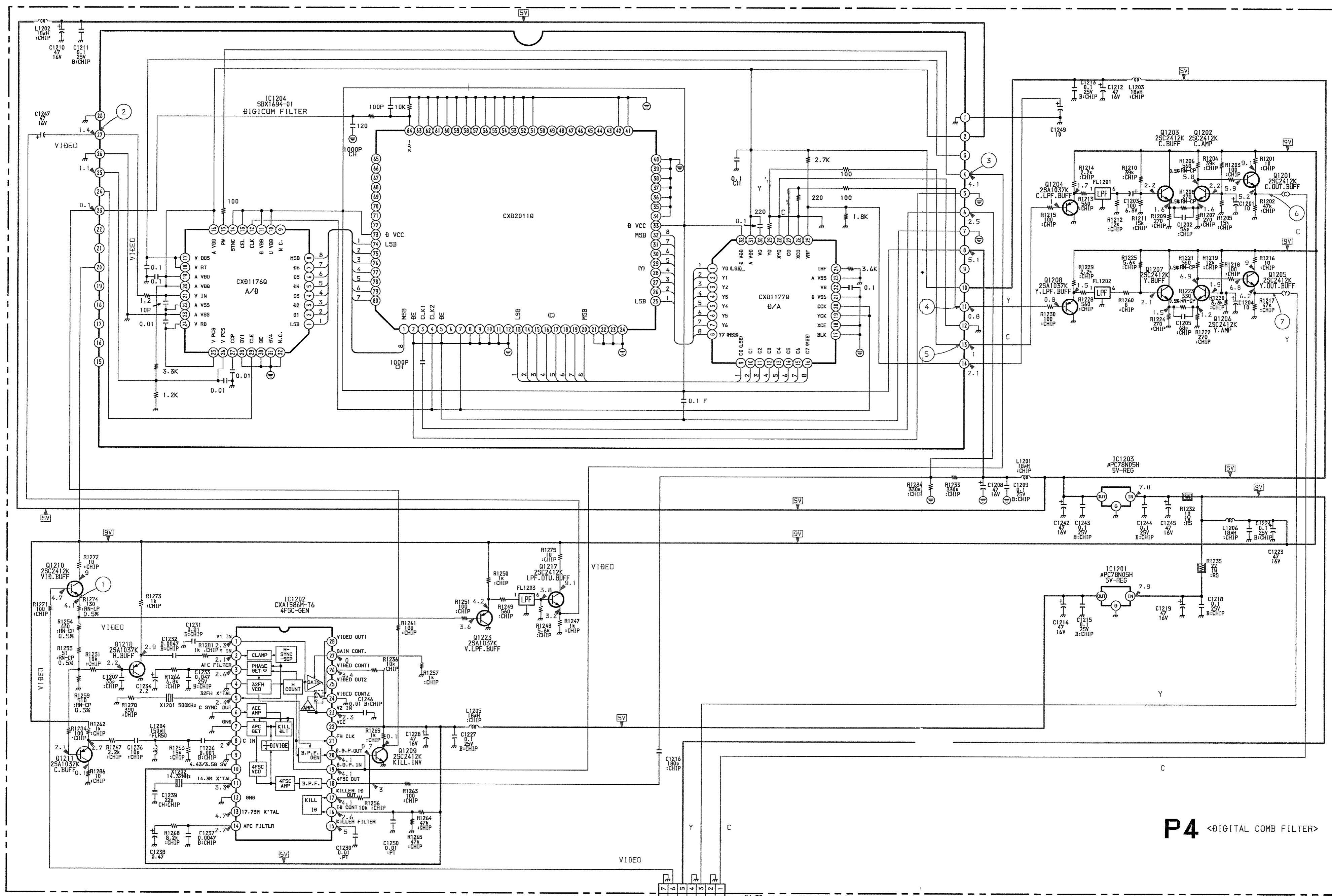


A
B
C
D
E
F
G
H
I
J
K

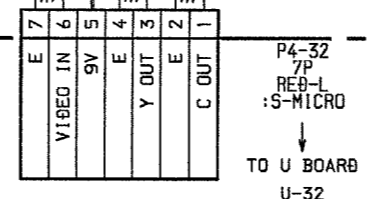


X3
 <DIGITAL SIGNAL PROCESSOR>

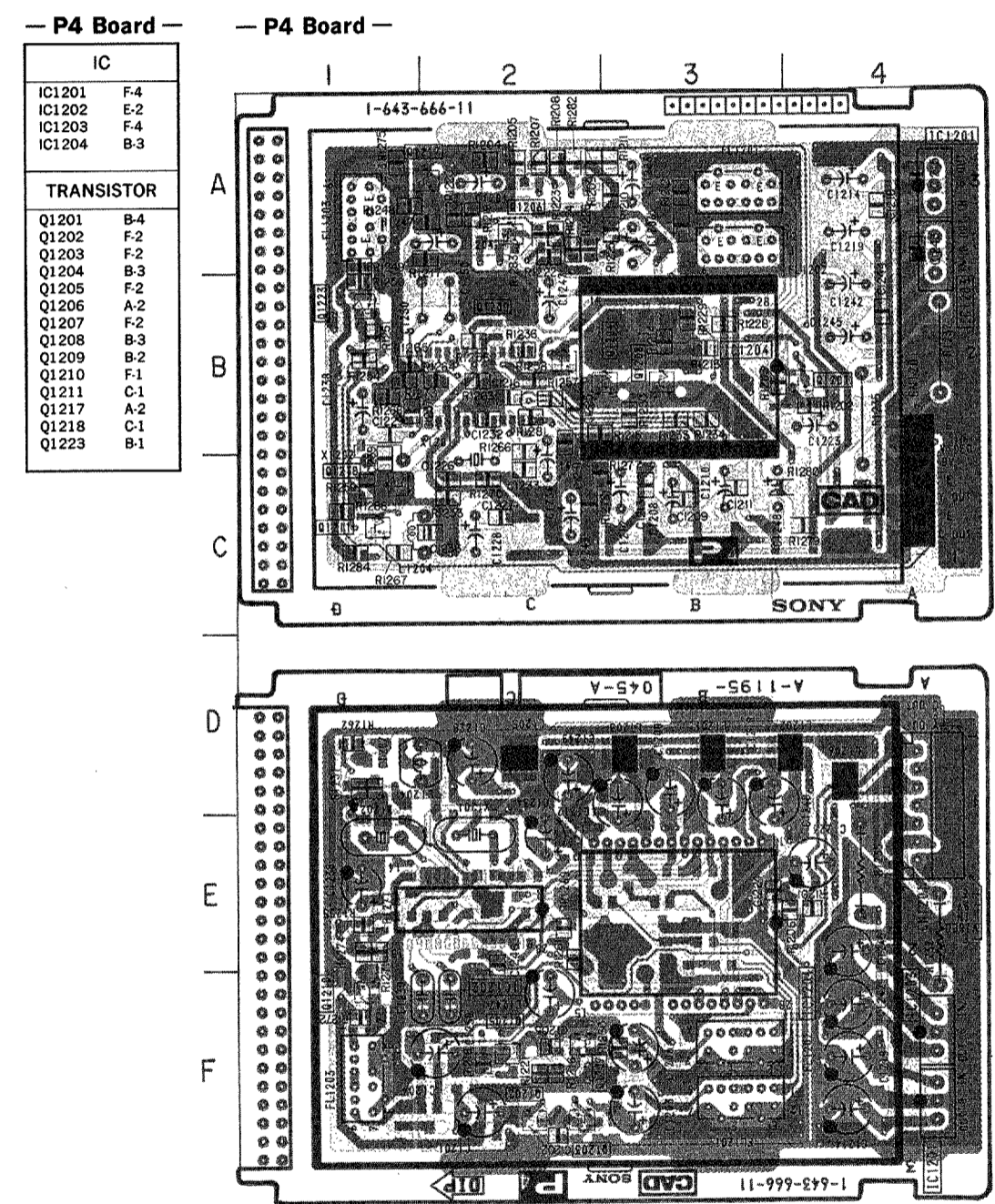
B-SS332.<U/C>-X3.



P4 <DIGITAL COMB FILTER>

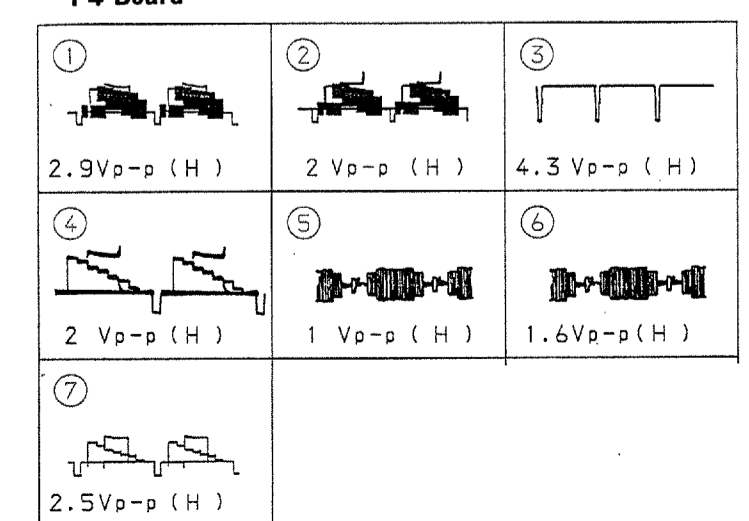


P4 [DIGITAL COMB FILTER]

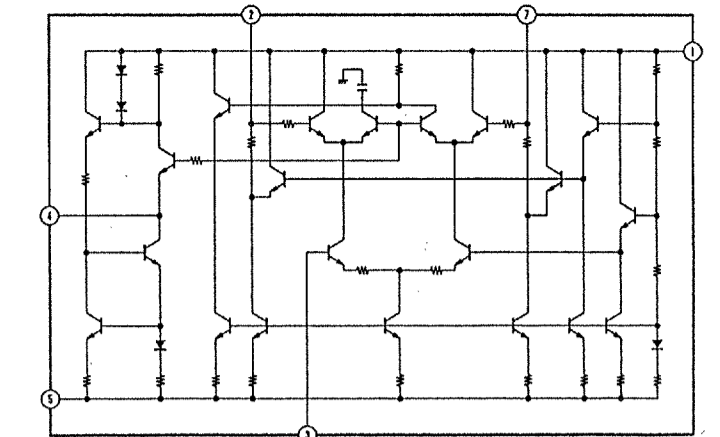


IC	
IC1201	F-4
IC1202	E-2
IC1203	F-4
IC1204	B-3
TRANSISTOR	
Q1201	B-4
Q1202	F-2
Q1203	F-2
Q1204	B-3
Q1205	F-2
Q1206	A-2
Q1207	F-2
Q1208	B-3
Q1209	B-2
Q1210	F-1
Q1211	C-1
Q1217	A-2
Q1218	C-1
Q1223	B-1

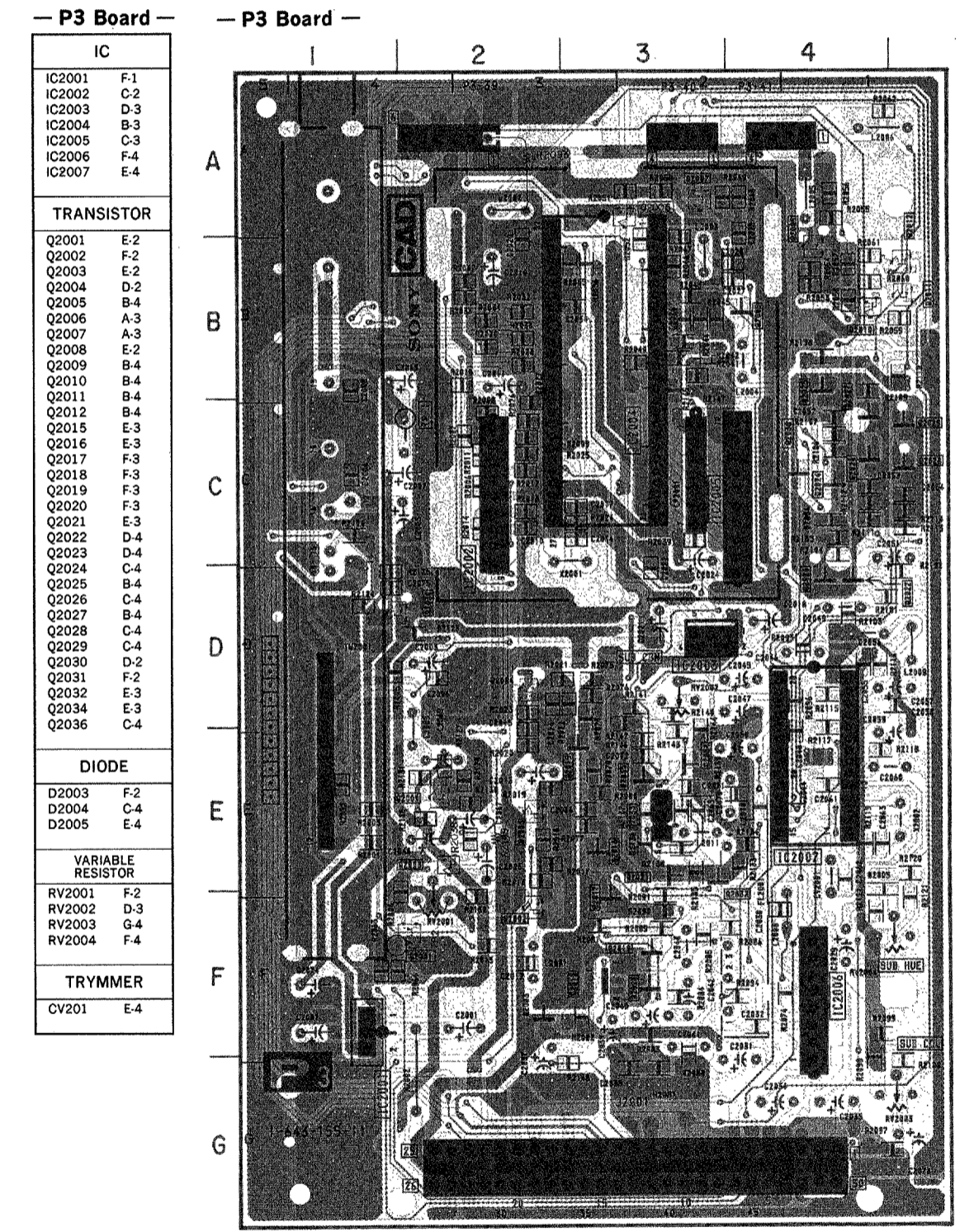
: Pattern from the side which enables seeing
 : Pattern of the rear side



P3 Board IC2006 CX20061

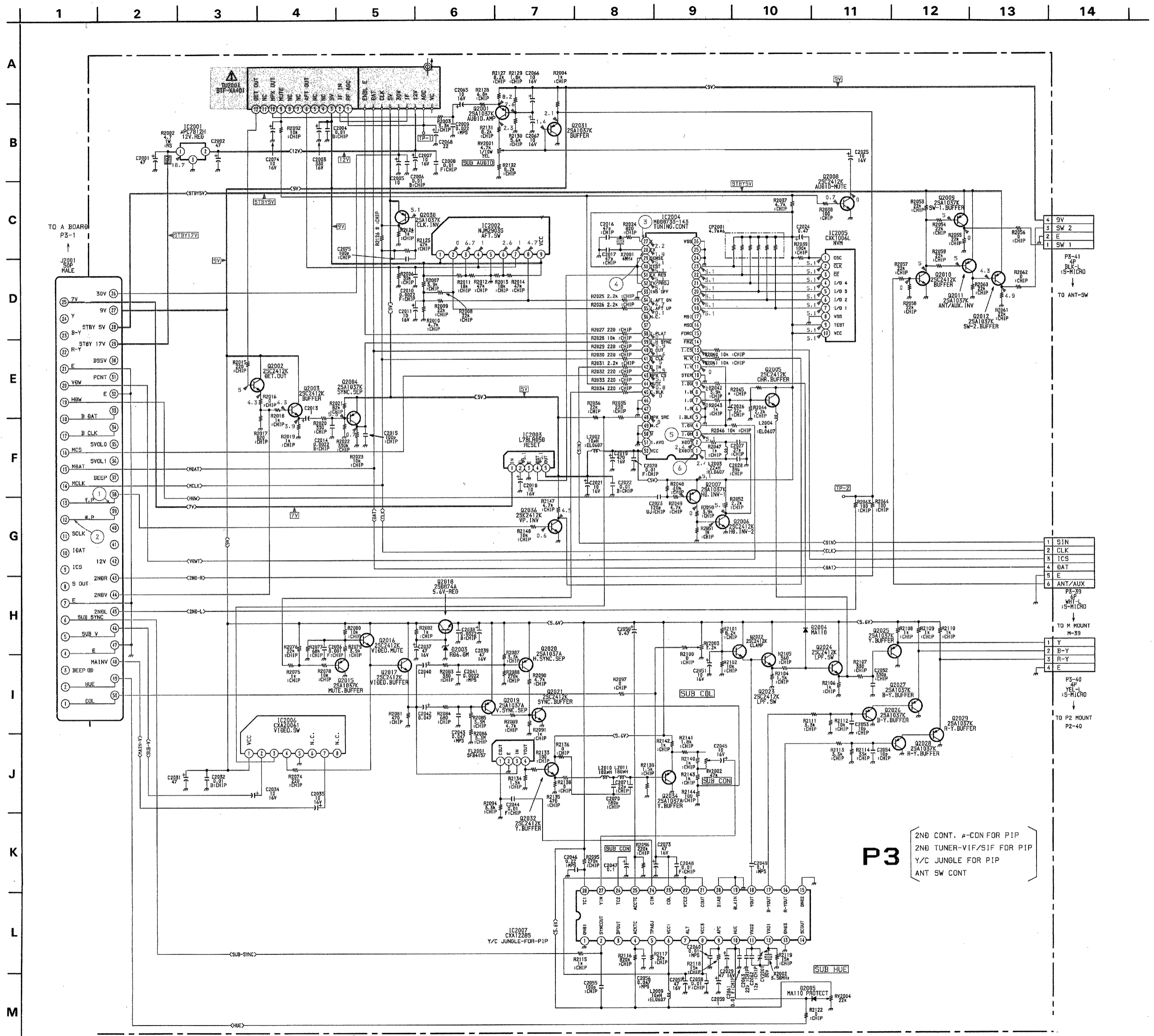
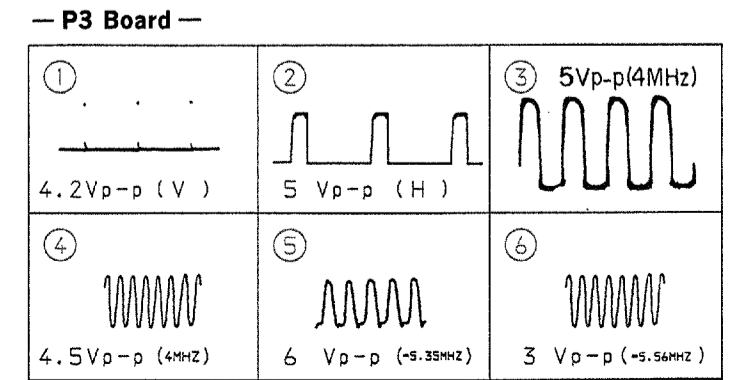


P3 2ND CONT. μ-CON FOR PIP, ANT SW CONT
2ND TUNER-VIF/SIF FOR PIP, Y/C JUNGLE FOR PIP



IC	
IC2001	F-1
IC2002	C-2
IC2003	D-3
IC2004	B-3
IC2005	C-3
IC2006	F-4
IC2007	E-4
TRANSISTOR	
Q2001	E-2
Q2002	F-2
Q2003	E-2
Q2004	D-2
Q2005	B-4
Q2006	A-3
Q2007	A-3
Q2008	E-2
Q2009	B-4
Q2010	B-4
Q2011	B-4
Q2012	B-4
Q2015	E-3
Q2016	E-3
Q2017	F-3
Q2018	F-3
Q2019	F-3
Q2020	F-3
Q2021	E-3
Q2022	D-4
Q2023	D-4
Q2024	C-4
Q2025	B-4
Q2026	C-4
Q2027	B-4
Q2028	C-4
Q2029	C-4
Q2030	D-2
Q2031	F-2
Q2032	E-3
Q2034	E-3
Q2036	C-4
DIODE	
D2003	F-2
D2004	C-4
D2005	E-4
VARIABLE RESISTOR	
RV2001	F-2
RV2002	D-3
RV2003	G-4
RV2004	F-4
TRYMMER	
CV201	E-4

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



P3 2ND CONT. μ-CON FOR PIP
2ND TUNER-VIF/SIF FOR PIP
Y/C JUNGLE FOR PIP
ANT SW CONT