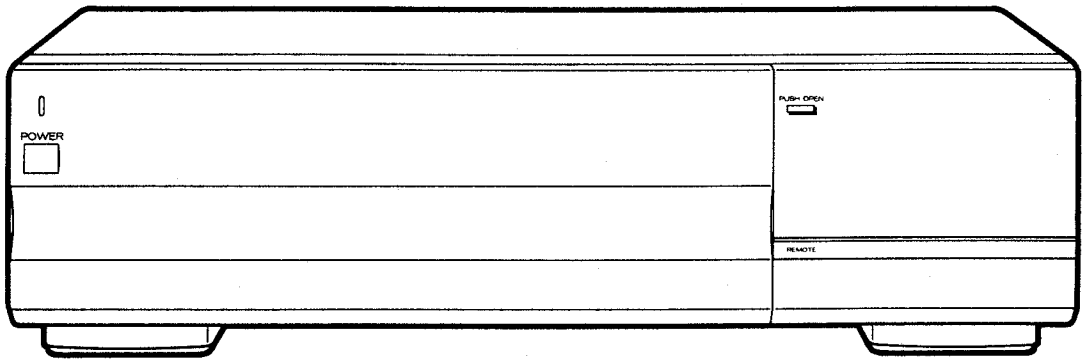
1990

MITSUBISHI Service Manual

VIDEO CASSETTE RECORDER



S-VHS
VHS

MODEL

HS-B82

Only cassettes marked S-VHS or VHS can be used with this video cassette recorder.

SPECIFICATION

Tape Format	:S-VHS/VHS 1/2" high-density video cassette tape
Power source	:240V AC;50Hz
Power consumption	:Approx. 50W
Television System	:PAL colour and CCIR monochrome signal (System I) 625lines 50fields
Video recording system	:4 rotary heads, azimuth helical scanning system
Audio recording system	
Hi-Fi stereo	:2 rotary heads, azimuth helical scanning system Frequency modulation, deep layer recording
Linear Audio	:1 stationary head, 1 track (mono)
Tape speed	:23.39mm/sec (SP) 11.70mm/sec (LP)
Record/playback time	:240 min. with E-240 cassette (SP) 480 min. with E-240 cassette (LP)
Fast forward/ Rewind time	:Approx. 2 min. with E-240 cassette
Heads: Video	:4 rotary single ferrite heads
Hi-Fi Audio	:2 rotary single ferrite heads
Audio/Control	:1 stationary head
Erase	:1 full track head + flying erase
Video input	:0.5 to 2.0Vp-p/75Ω unbalanced AUX VIDEO socket and EURO AV socket
Audio input: Line	:-8 dBs/50kΩ unbalanced AUX AUDIO socket and EURO AV socket
Video output	:1.0Vp-p/75Ω unbalanced VIDEO OUT socket and EURO AV socket
Audio output	:-6 dBs/1kΩ unbalanced AUDIO OUT socket and EURO AV socket
Luminance Input/ Output	:1.0Vp-p/75Ω (S Terminal)
Chroma Input/ Output	:0.3Vp-p/75Ω Burst Signal (S Terminal)
TV Tuner	:UHF 21~69CH
Operating Temperature	:5°C to 40°C
RF Channel output	:Set to Channel 38CH Channel 32~40 Selectable
Weight	:Approx. 9.0kg
Dimensions	:425mm (W) × 120mm (H) × 407mm (D)
Timer	:8 programs for any channels in one month/every week/Monday to Friday 12 hour digital synchronized with integrated quartz oscillator frequency.
Channel Selection	:99 position UP/DOWN +EXT (voltage synthesizer selector)
Deck	:F Deck

- Weight and dimensions shown are approximate.
- Design and specifications are subject to change without notice.

MITSUBISHI ELECTRIC (U.K.) LTD.

TRAVELLERS LANE HATFIELD HERTS AL 10 8XB

CONTENTS

DISASSEMBLY

1. Removal of Top Cover

A. Remove the four screws (ⓐ~ⓓ) retaining the Top Cover, as shown in Fig.1.

B. Gently expand the bottom edges of the Top Cover, then slide toward rear in the direction of the arrows.

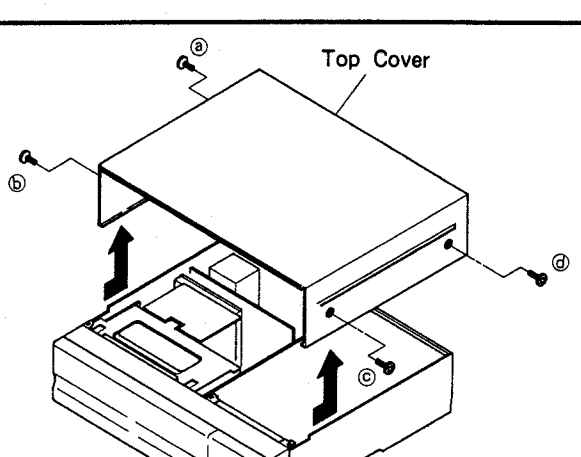


Fig.1

2. Removal of Bottom Cover

A. Remove the ten screws (ⓐ~ⓙ) retaining the Bottom Cover, as shown in Fig.2.

B. Remove the Bottom Cover.

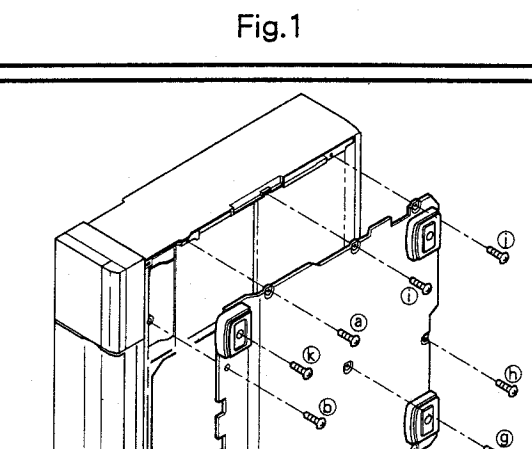


Fig.2

3. Removal of Front Panel

A. Remove the Top Cover. (Item 1)

B. Remove the screw (ⓚ) retaining the front insulator as shown in Fig.2.

C. Open the Door Unit.

D. Unfasten the six snaps (ⓐ~ⓕ) as shown in Fig.3.

E. Remove the Front Panel.

Note :

To install the Front Panel, move the SLIDE RESISTOR of PCB TIMER and the knob of the REC LEVEL of Front Panel to left or right side.

4. Removal of Door Unit

A. Remove the Front Panel (Item 3).

B. Remove the six screws (ⓖ~ⓛ) retaining the ground lead , the door holder and the damper unit, as shown in Fig.3.

C. Disconnect the flat cable by gentle lifting the covers of the connector [MA] , [MC] .

D. Remove the Door Unit.

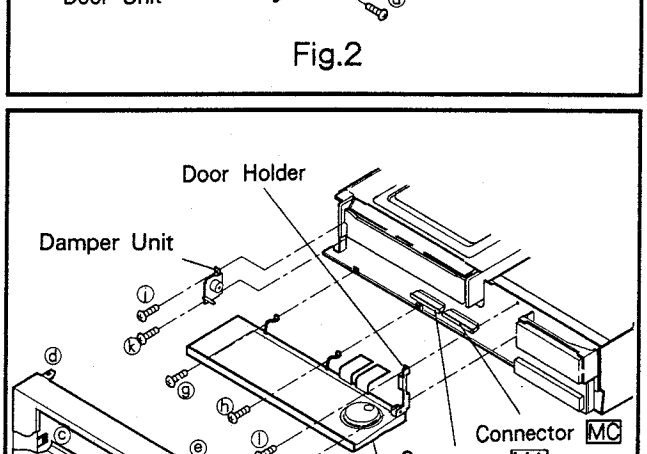


Fig.3

HOW TO EXECUTE CIRCUIT BOARD SERVICE

CAUTION : BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB UNPLUG THE POWER CORD FROM THE A.C. SOURCE.

Location of Printed Circuit Boards (Refer to Fig. 4)

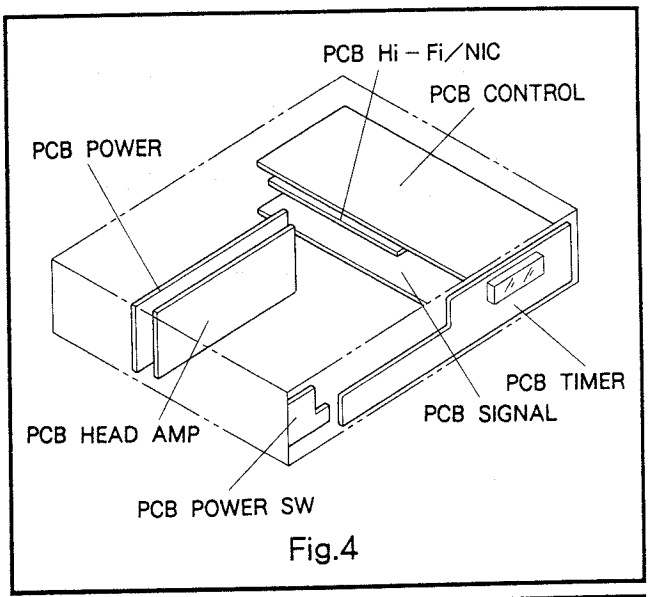


Fig.4

Note :

Use caution when disconnecting the flat cable connector avoid possible contact problems when reconnected.

1. Removal of PCB CONTROL

A. Remove the Top Cover. (Page 1, Item 1)
B. Remove the six screws (ⓐ~ⓕ) and unfasten the snap (ⓖ) as shown in Fig. 5.
C. Rotate the PCB CONTROL in the direction of the arrow.

Note :

Use the insulating sheet under the PCB CON – TROL when servicing it by tuning inside out.

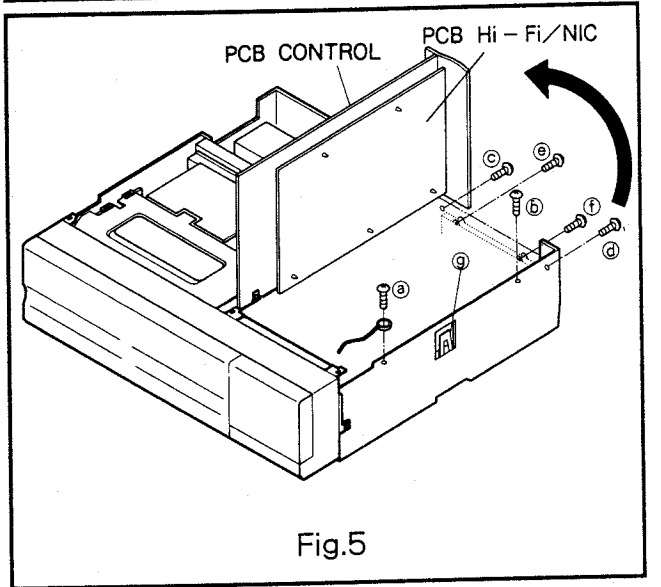


Fig.5

2. Removal of PCB Hi-Fi/NIC

A. Rotate the PCB CONTROL. (Item 1)
B. Unfasten the five stopers (ⓐ to ⓔ) and remove the PCB Hi-Fi/NIC as shown in Fig. 6.

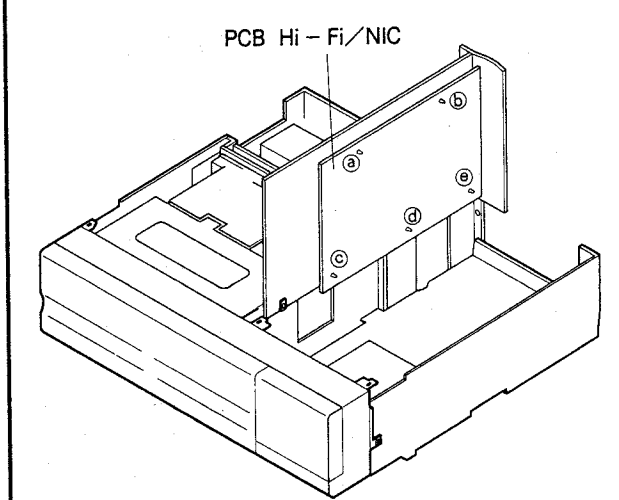


Fig.6

3. Removal of TUNER UNIT

A. Rotate the PCB CONTROL.(Item 1)
B. Unfasten the three screws (ⓐ ~ ⓒ) as shown in Fig. 7.
C. Pull the Tuner Unit upward to remove it.

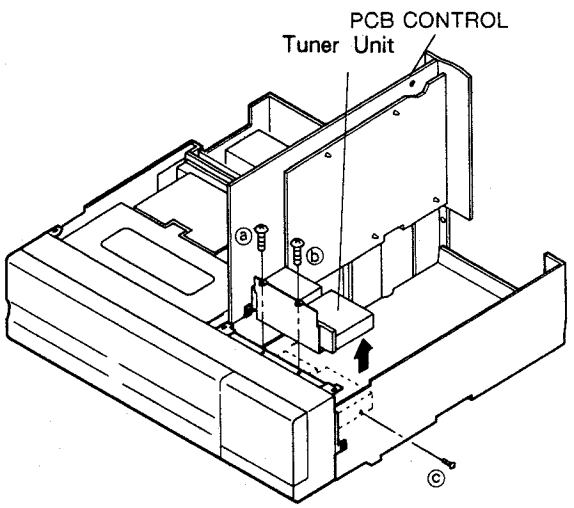


Fig.7

4. Removal of PCB SIGNAL

A. Remove the Bottom Cover (Page 1 Item 2) and the copper side is serviceable.
B. If it is nessary to remove the PCB SIGNAL comply with the following steps.

a. Rotate the PCB CONTROL. (Item 1)
b. Remove the four screws (ⓐ~ⓓ) as shown in Fig. 8.
c. Pull the PCB SIGNAL upward in the direction of the arrow.

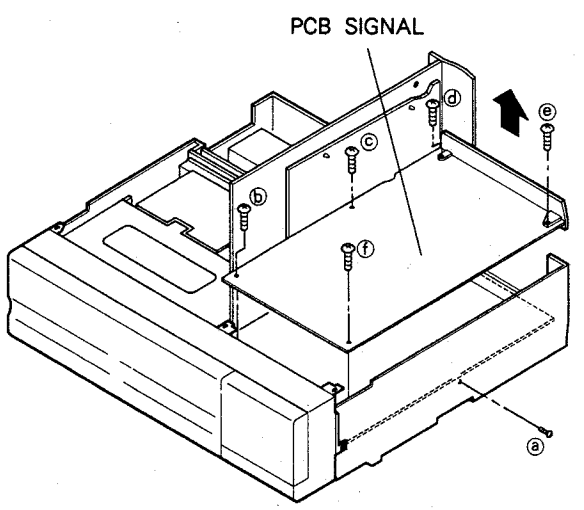


Fig.8

5. Removal of PCB TIMER

A. Remove the Front Panel and the Door Unit. (Page 1, Item 3,4)
B. Remove the screw (ⓐ) and the three snaps (ⓑ~ⓓ), and remove the Low Panel.
C. Remove the screw (ⓔ) and remove the PCB POWER SW, as shown in Fig. 9.
D. Remove the six screws (ⓕ~ⓚ) retaining the Front Terminal Boad and the Terminal Holder.
E. Remove the two screws (ⓛ, ⓜ) and remove the PCB TIMER.

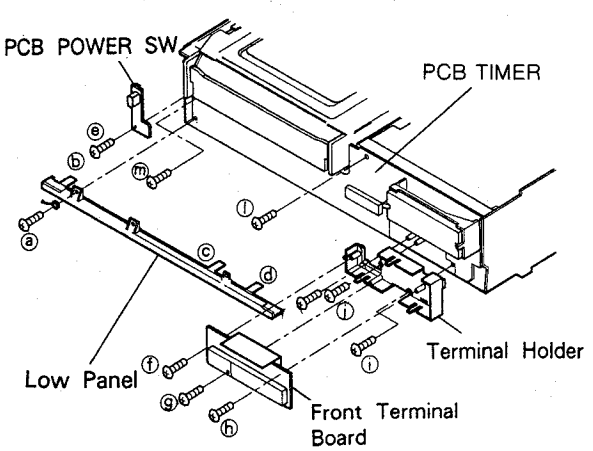


Fig.9

6. Removal of PCB HEAD AMP

A. Remove the three screws (ⓐ~ⓒ), as shown in Fig.10.
B. Remove the Shield Plate .
C. Pull the Shield Cover upward to remove it.
D. Disconnect the flat cable by gentle pulling cover of the connector GB .
E. Remove three screws (ⓓ~ⓕ).
F. To service the copper side, remove the Shield Case ⓐ.
G. To service the component side, unsolder the four soldering points of the Shield Case ⓑ to remove it.

Note :

To service with power on, use the Extention Cord (859C344050), and ground the lead wire with a short lead.

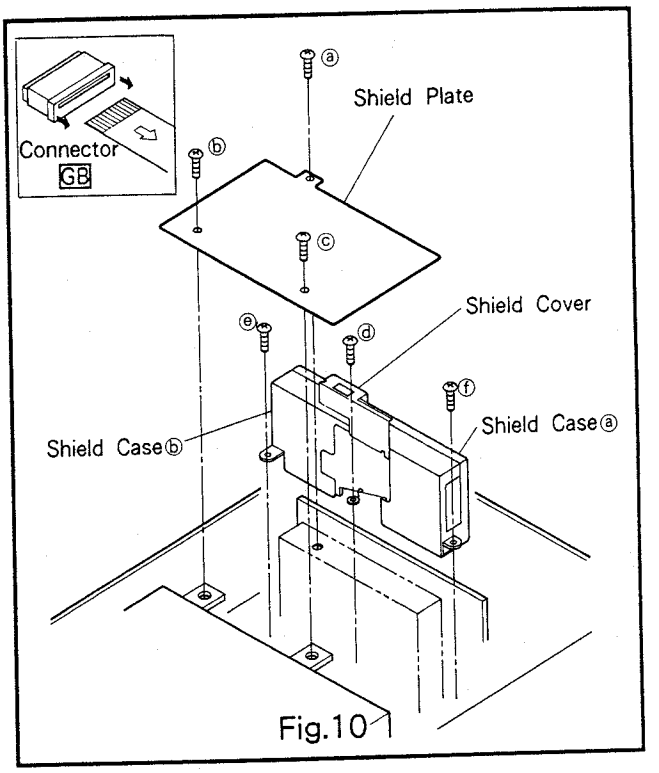


Fig.10

7. Removal of PCB POWER

A. Remove the four screws (ⓐ~ⓓ), and lift the PCB POWER. And the service of the PCB POWER is available as shown in Fig.11.
B. Remove the six screws (ⓔ~ⓙ) and lift the Back Cover in the direction of the arrows. And the service of the Power Regulator is available.

Note :

A. The screws (ⓐ and ⓑ) are fixed with the earth lead.
B. The Back Cover is fixed with the heat sink.

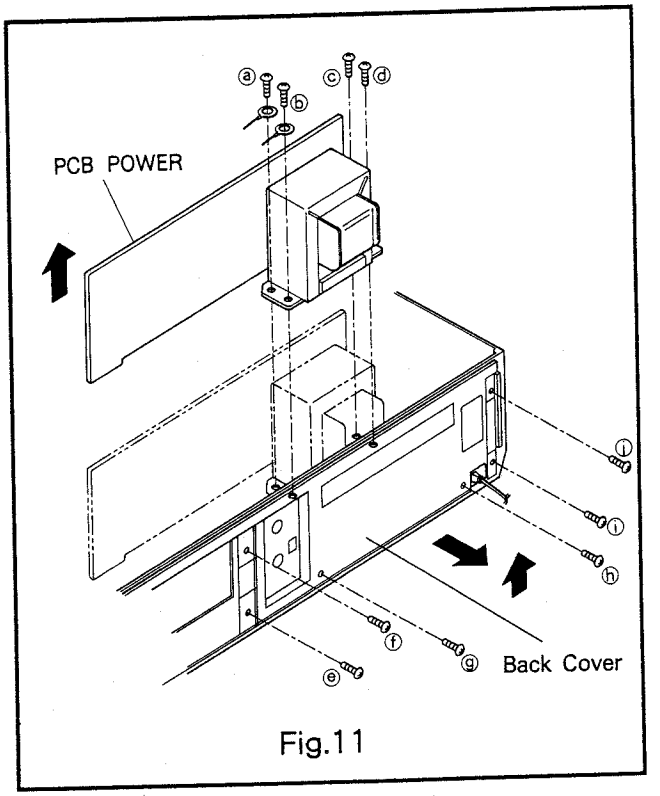
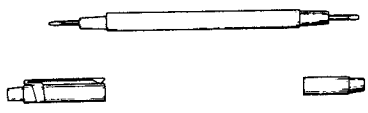
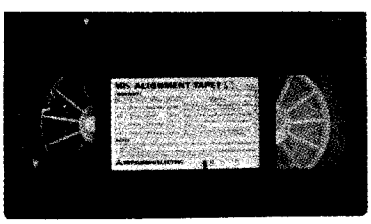
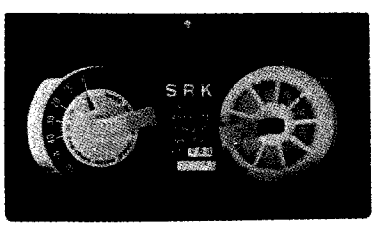
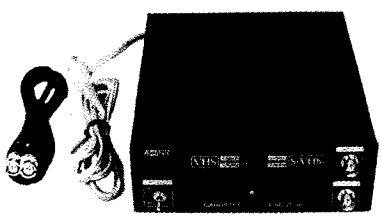
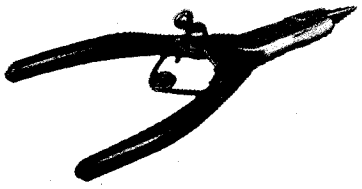
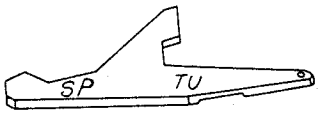


Fig.11

MECHANICAL & ELECTRICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Adjustment Driver 767-M (859C338000) 	The adjustment driver is intended to adjust variable resistors, trimmers, transformers etc. in the circuitry.	Select a tip suitable for the particular head of the component concerned and adjust.
Hex Keys (1.5mm)  **(859C259020) (859C259050)**	The hex keys are used for tightening or removing hexagonal socket head screws which fasten the guide rollers of the supply and take-up reels.	Insert the given size (1.5mm) hexagonal socket and turn.
Alignment Tape (PS-2 PAL) (859C339010) **(NS-1 NTSC) (859C339000)** **(PC(S)PAL) (859C339070)** 	Standard signals (VHS Standard) are recorded on the alignment tape and reproduced when required in the adjustment of Y/C circuit, audio circuit and interchangeability alignment.	Install and run in the play mode, the same as for an ordinary tape.
Back Tension Gauge (859C345080) 	The back tension gauge is used for measuring the tension of the tape on the supply side.	Load this gauge in the cassette housing and run in the play mode. Read the gauge indicator.
Carrier Checker (859C346050) 	Used for the adjustment or inspection of the carrier set deviation.	Use in conjunction with the oscilloscope. For detail refer to the service manual or the attached data.

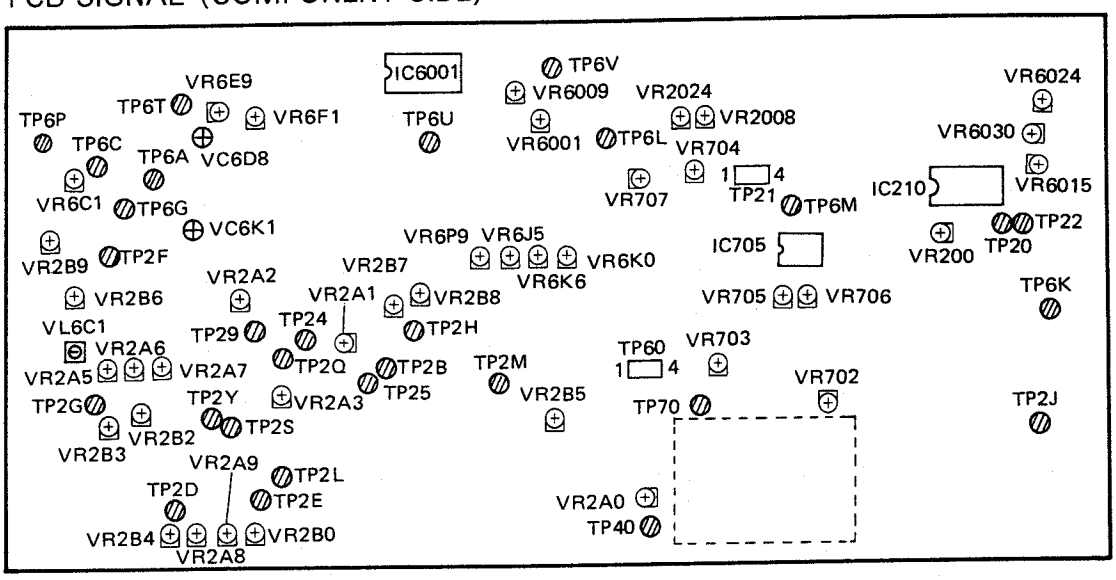
	PURPOSE	METHOD
Grip ring fixer **(859C347050)** 	A tool for preventing the grip ring from opening excessively.	While opening the grip ring with the tips of this tool, install the grip ring on to the shaft.
Adjustment Driver **(859C259080)** 	For adjustment of guide rollers.	Carefully insert and adjust guide rollers.
Reel disk Adj. Jig **(859C342020)** 	The height gauge is used for measuring height and parpendicularity of the Reel disk and Takeup Guide Arm.	The height gauge is applied to the part being measured.
Extension Cord **(859C344050)**	For PCB Head Amp service.	Use when repair of the PCB Head Amp is necessary.

ELECTRICAL ADJUSTMENT

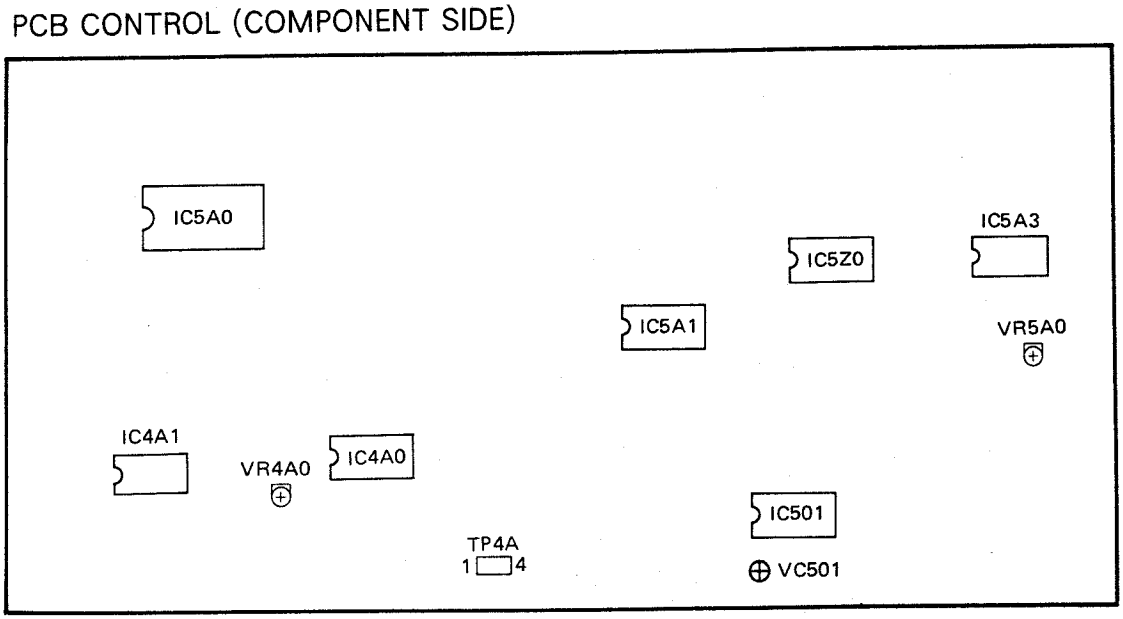
Circuit adjustments become necessary, in most cases, due to the wear of mechanical parts or following the replacement of critical components such as the video-head. Certain circuit defects can often cause circuit adjustments to vary considerably. Should this occur, be sure to determine the nature of the defect and repair prior to proceeding with adjustments.

Always use the test equipment recommended for a given adjustment procedure. If the appropriate test equipment is not available, it is recommended that adjustments NOT be attempted. Refrain from the indiscreet adjustment of circuit adjustment controls unless properly equipped to do so.

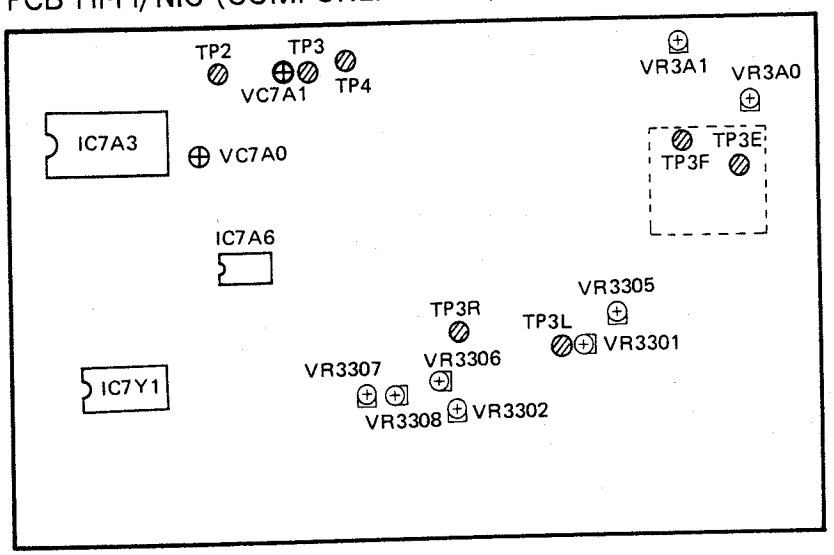
PCB SIGNAL (COMPONENT SIDE)



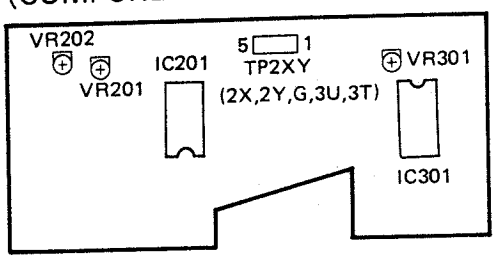
PCB CONTROL (COMPONENT SIDE)



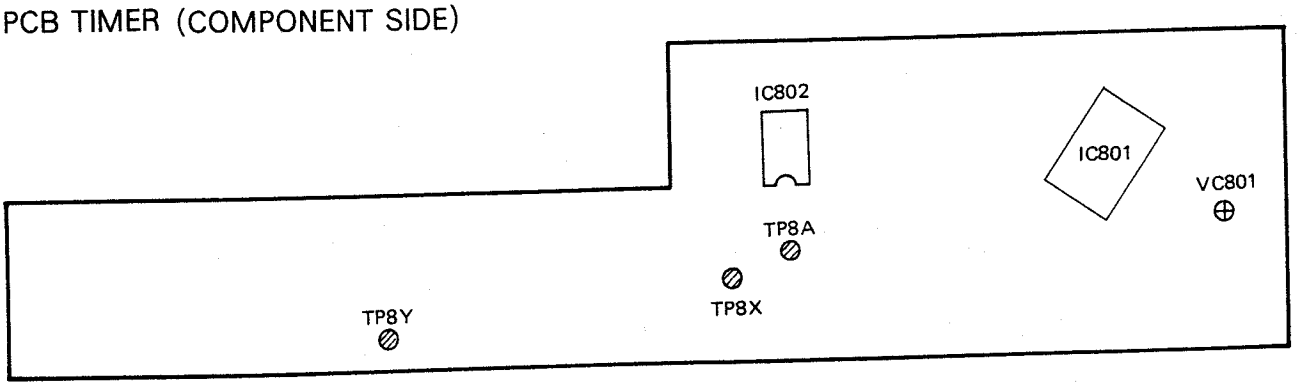
PCB Hi-Fi/NIC (COMPONENT SIDE)



PCB HEAD-AMP
(COMPONENT SIDE)

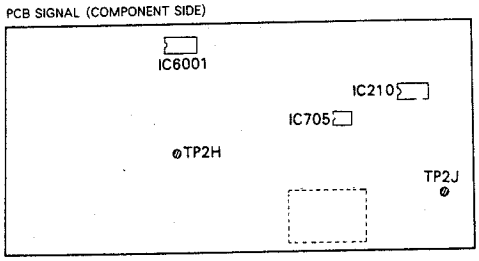


PCB TIMER (COMPONENT SIDE)

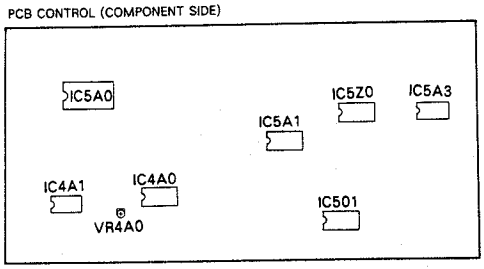


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
	Servo Circuit			
1	PB Switching Point	Playback PAL Alignment tape (Grey scale)	●Oscilloscope to TP2J(SIGNAL) ●Oscilloscope's EXT trigger to TP2H(SIGNAL) ●EXT trigger(-) ●VR4A0(CONTROL) DIV 50mV TIM 0.1μsec (10:1)	1. Short-circuit TP8X and TP8Y on PCB TIMER. Confirm that the "DTR" displayed in Fluorescent Display flashed fast. 2. Adjust VR4A0 so that the trigger point is located at 8.5±1H before the vertical synchronizing signal. (-)slope
			●EXT triger(+)	3. Check that the trigger point is located at 8.5±1H before the vertical synchronizing signal. (+)slope
		Playback NTSC Alignment tape (Grey scal)		4. Open circuit TP8X and TP8Y. 5. Confirm that the trigger point is located at 8.5±2H before the vertical synchroniging signal after the DTR converges.

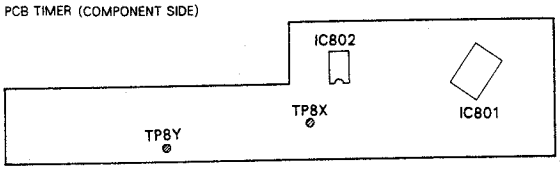
PCB SIGNAL (COMPONENT SIDE)

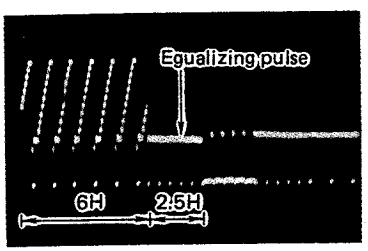


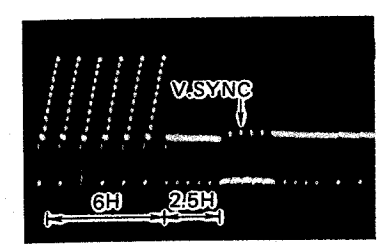
PCB CONTROL (COMPONENT SIDE)



PCB TIMER (COMPONENT SIDE)

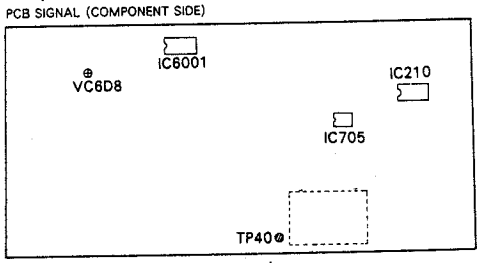




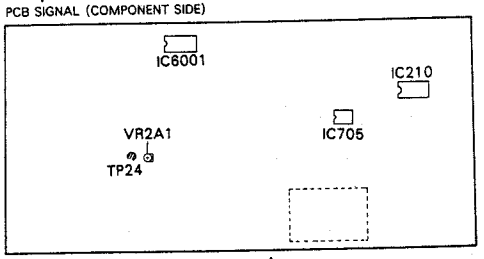


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
	Y/C Signal Circuit			
2	Chroma X'tal OSC	Aligment tape (colour bar or G card)	●Frequency counter to TP40(SIGNAL) ●VC6D8(SIGNAL)	1. Adjust VC6D8 so that the frequency at TP40 is 4.433619MHz±30Hz.
3	Sub-emphasis Limiter	STOP mode	●Digital Voltmeter to TP24(SIGNAL) ●VR2A1(SIGNAL)	1. Adjust VR2A1 so that the level at TP24 is 3.48Vdc.
4	AGC Level	Supply VIDEO signal (G card) STOP mode	●Oscilloscope to TP2Y(SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR2A3(SIGNAL) DIV 50mV TIM 10μsec (10:1)	1. Short circuit TP2Q(SIGNAL PCB) and TP2G (SIGNAL PCB). 2. Adjust VR2A3 so that the luminance signal is 2.1Vp-p.

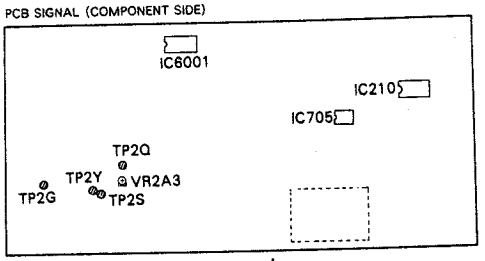
PCB SIGNAL (COMPONENT SIDE)

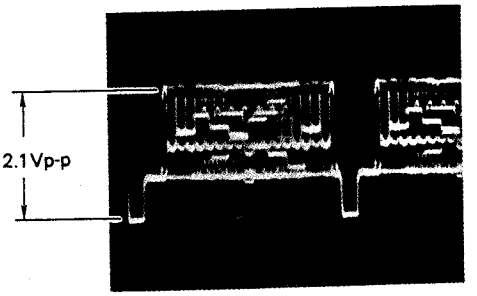


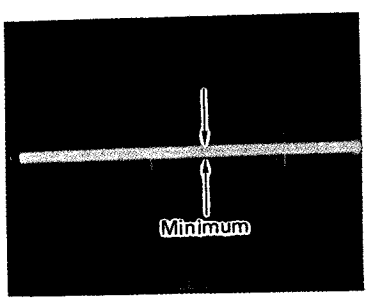
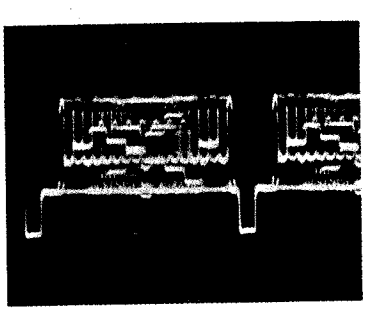
PCB SIGNAL (COMPONENT SIDE)



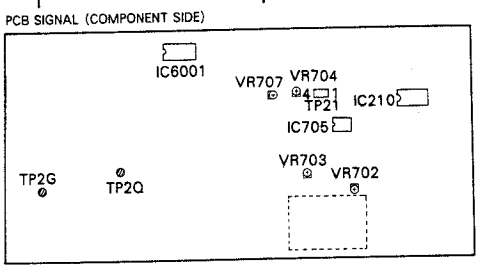
PCB SIGNAL (COMPONENT SIDE)



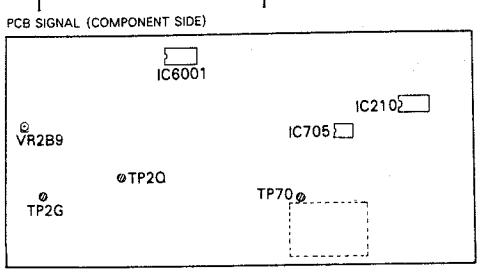


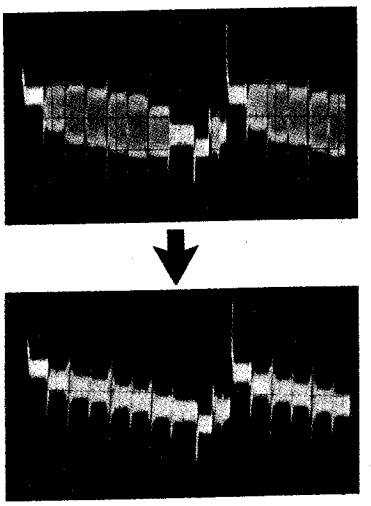
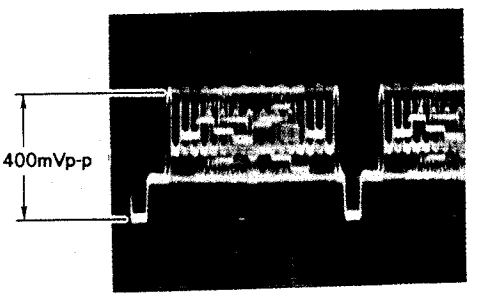
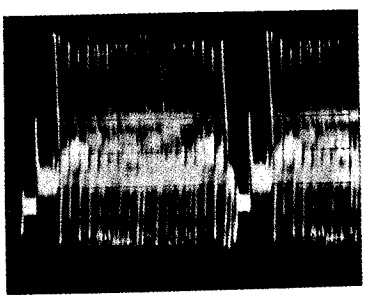
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
5	Vertical Correlation	Supply VIDEO signal (Colour bar) STOP mode	●Oscilloscope's CH-1 to TP21 connector pin① (SIGNAL) ●Oscilloscope's CH-2 to TP21 connector pin② (SIGNAL) ●Oscilloscope's CH-2 to Invert mode ●Oscilloscope to ADD mode ●VR702(SIGNAL) ●VR703(SIGNAL) DIV 20mV TIM 5msec (10:1) ●Oscilloscope's CH-1 to TP21 connector pin① (SIGNAL) ●Oscilloscope's CH-2 to TP21 connector pin③ (SIGNAL) ●Oscilloscope's CH-2 to Invert mode ●Oscilloscope to ADD mode ●VR704(SIGNAL) ●VR707(SIGNAL)	1. Short circuit TP2Q(SIGNAL PCB) and TP2G (SIGNAL PCB). 2. Alternate adjustments in the following sequence: VR703, VR702 so that the chroma level is minimum.  3. Alternate adjustments in the following sequence: VR707, VR704 so that the chroma level is minimum. Note:The volt range of CH-1 and CH-2 must be the same range.
6	EE Luminance Level of DCF Output	Supply VIDEO signal (G card) STOP mode	●Oscilloscope to TP70(SIGNAL) ●VR2B9(SIGNAL) DIV 10mV TIM 10μsec (10:1)	1. Short circuit TP2Q and TP2G. 2. Measure the amplitude of the luminance signal at TP70.  3. Open circuit TP2Q and TP2G. 4. Adjust VR2B9 so that the amplitude at TP70 becomes the same level of item 2.

PCB SIGNAL (COMPONENT SIDE)

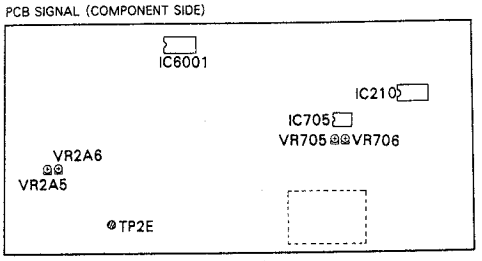


PCB SIGNAL (COMPONENT SIDE)

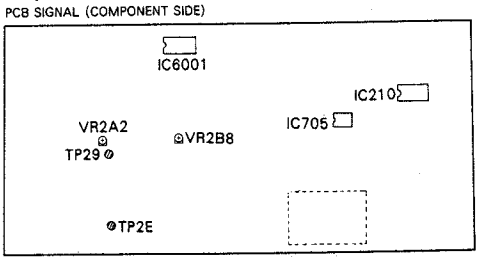


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
7	Y/C Separation	Supply VIDEO signal (Colour bar) STOP mode S-VHS mode	●Oscilloscope to TP2E(SIGNAL) ●VR705(SIGNAL) ●VR706(SIGNAL) DIV 20mV TIM 10 µsec (10:1)	1. Set the EURO AV SELECT switch to "COMP". 2. Turn VR2A6(SIGNAL PCB) and VR2A5(SIGNAL PCB) fully counter-clockwise as seen from component side. 3. Alternate adjustments in the following sequence: VR705, VR706 so that the magenta level is minimum. 
8	EE Mode Luminance Level	Supply VIDEO signal (G card) STOP mode S-VHS mode	●Oscilloscope to TP29(SIGNAL) ●VR2A2(SIGNAL) DIV 10mV TIM 10 µsec (10:1)	1. Adjust VR2A2 so that the luminance signal is 400mVp-p. 
			●Oscilloscope to TP2E(SIGNAL) ●VR2B8(SIGNAL) DIV 10mV TIM 10 µsec (10:1)	2. Adjust VR2B8 so that the video signal level of S-VHS mode and Normal VHS mode are the same level. 

PCB SIGNAL (COMPONENT SIDE)

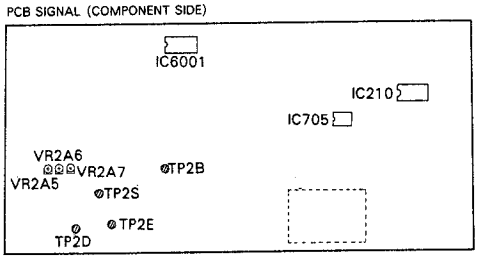


PCB SIGNAL (COMPONENT SIDE)

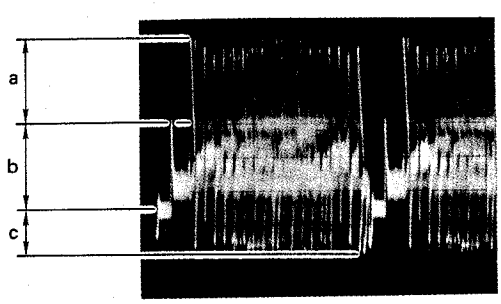


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
9	White Clip and Dark Clip	Supply VIDEO signal (G card) STOP mode S-VHS mode Normal VHS mode	●Oscilloscope to TP2E(SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR2A6(SIGNAL) ●VR2A5(SIGNAL) ●VR2A7(SIGNAL) DIV 10mV TIM 10μsec (10:1)	1. Short circuit TP2D(SIGNAL PCB) and TP2B (SIGNAL PCB). 2. Adjust VR2A6(W-CLIP) and VR2A5(D-CLIP) so that the overshoot appearing at the white side and the undershoot below sync tip are 105% and 70% respectively. 3. Adjust VR2A7(W-CLIP) so that the overshoot appearing at the white peak side is 95±5%. 4. Confirm that the dark clip is 55±10%.

PCB SIGNAL (COMPONENT SIDE)



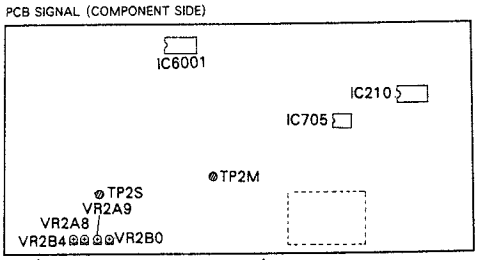
	S-VHS mode	Normal VHS mode
White Clip (b : a)	1 : 1.05	1 : 0.95 ± 0.05
Dark Clip (b : c)	1 : 0.7	1 : 0.55 ± 0.10

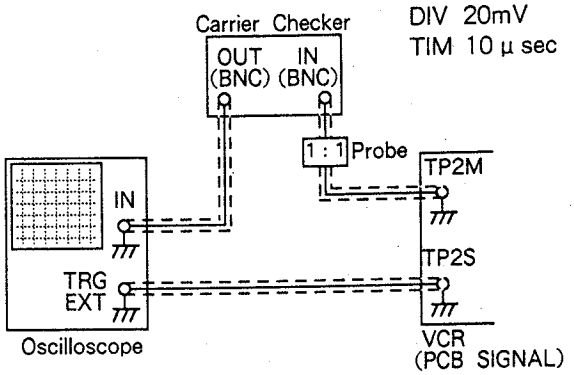


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
10	FM Carrier	Supply VIDEO signal (G card) EE mode S-VHS mode Normal VHS mode	●Oscilloscope to TP2M(SIGNAL) via the carrier checker ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR2B0(SIGNAL) ●VR2A9(SIGNAL) ●VR2B4(SIGNAL) ●VR2A8(SIGNAL) DIV 50mV TIM 10μsec (10:1)	1. Adjust VR2B0(FM CAR SET) and VR2A9(FM DEV SET) so that the response waveform 5.4MHz(sync-tip) line and 7.0MHz (deviation) just touch each of the white lines on the oscilloscope. 2. Adjust VR2B4(FM CAR SET) and VR2A8(FM DEV SET) so that the response waveform 3.8MHz(sync-tip) line and 4.8MHz (deviation) just touch each of the white lines on the oscilloscope.

	S-VHS mode	Normal VHS mode
Deviation line (A)	7.0MHz	4.8MHz
Sync – tip line (B)	5.4MHz	3.8MHz

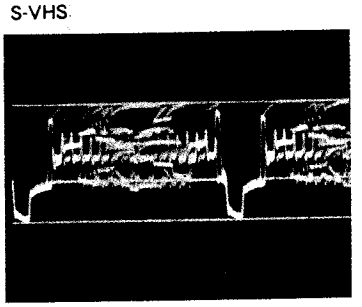
PCB SIGNAL (COMPONENT SIDE)





DIV 20mV
TIM 10μsec

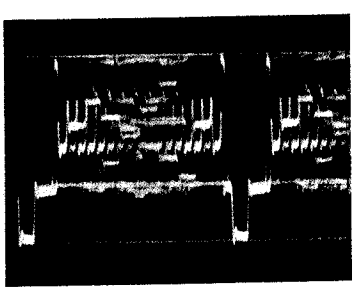
S-VHS



7.0MHz Line

5.4MHz Line

Normal VHS

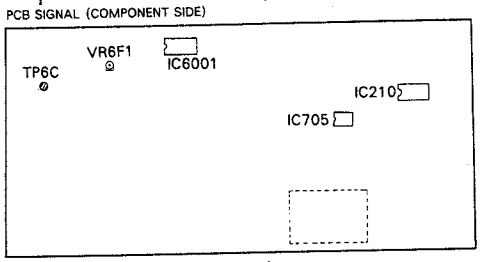


4.8MHz Line

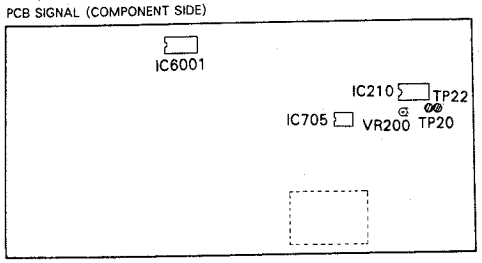
3.8MHz Line

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
11	Chroma AFC	EXT mode REC mode Don't supply VIDEO signal	●Frequency counter to TP6C (SIGNAL) ●VR6F1 (SIGNAL)	1. Short circuit TP20 (SIGNAL PCBA) and TP2B (SIGNAL PCB). 2. Adjust VR6F1 so that the frequency is 5056.6±2.0kHz.
12	List 2	EXT mode STOP mode Don't supply VIDEO signal	●Frequency counter to TP20 (SIGNAL) ●VR200 (SIGNAL)	1. Set the VIDEO MUTE SW to OFF. 2. Connect TP22 (SIGNAL PCB) to GND. 3. Adjust VR200 so that the frequency is 15.725±0.010kHz.

PCB SIGNAL (COMPONENT SIDE)

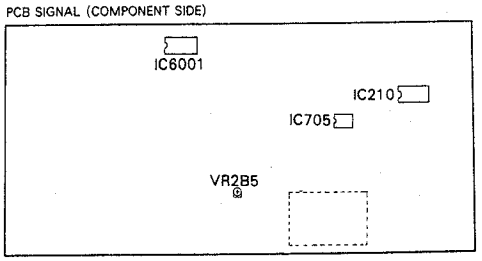


PCB SIGNAL (COMPONENT SIDE)

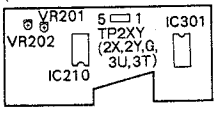


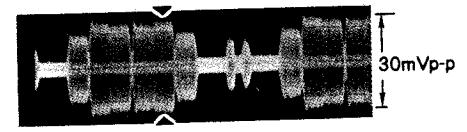
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
13	Y/C REC Level	Supply RF signal (Colour bar) LP REC mode S-VHS mode	●Oscilloscope to TP2XY connector pin④ (HEAD-AMP) ●Oscilloscope's GND to TP2XY connector pin⑤ (HEAD-AMP) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR201(HEAD-AMP) DIV 10mV TIM 10μsec (1:1)	1. Short circuit TP2D(SIGNAL PCB) and TP2B (SIGNAL PCB). 2. Adjust VR201 so that the magenta level is 30mVp-p.
			●VR202(HEAD-AMP) DIV 5mV TIM 10μsec (10:1)	3. Open circuit TP2D and TP2B. 4. Adjust VR202 so that the luminance FM level is 100mVp-p.
		Normal VHS mode	●VR2B5(SIGNAL) DIV 5mV TIM 10μsec (10:1)	5. Adjust VR2B5 so that the luminance FM level is 100mVp-p.

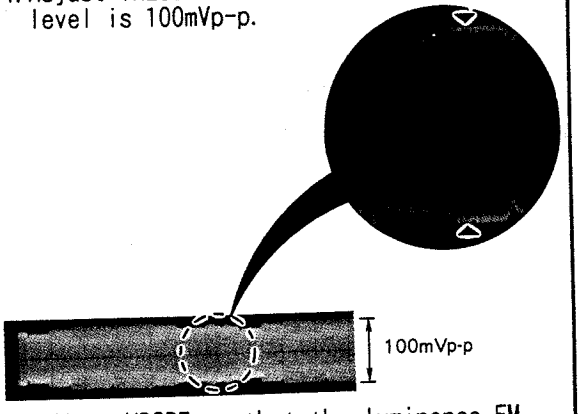
PCB SIGNAL (COMPONENT SIDE)

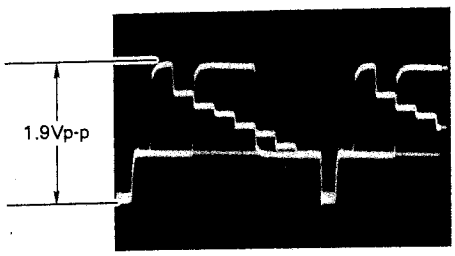
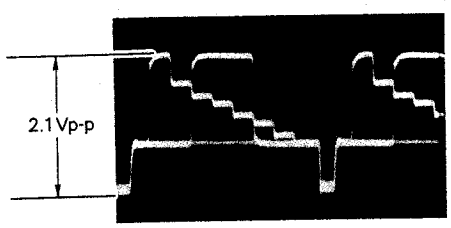
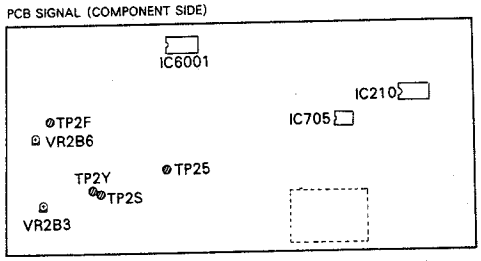
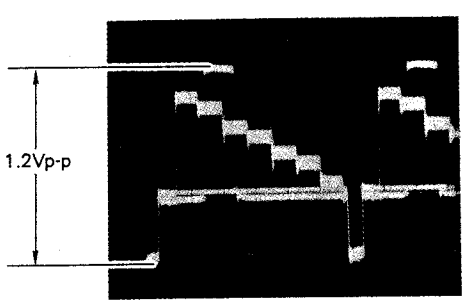
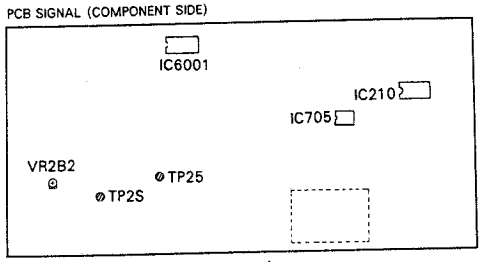
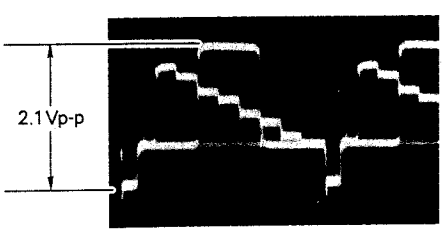
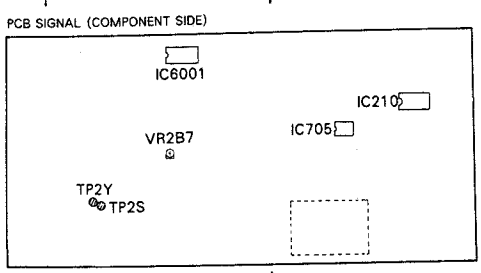


PCB HEAD-AMP (COMPONENT SIDE)

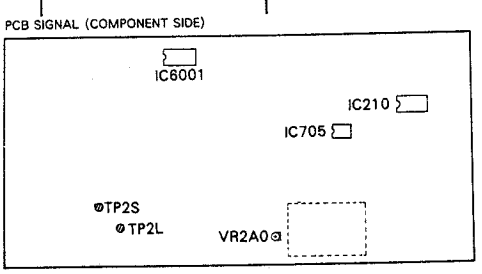


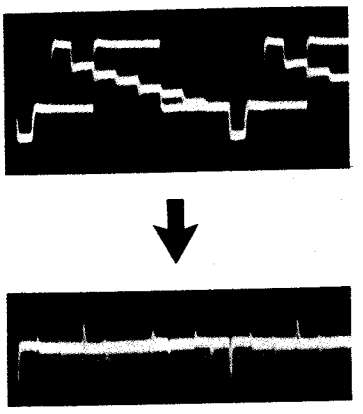


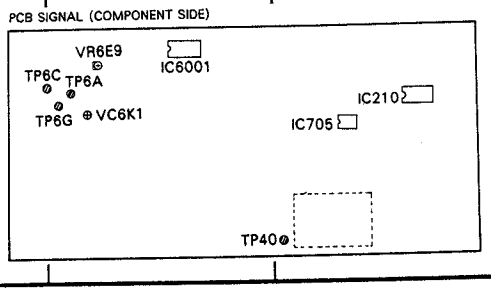


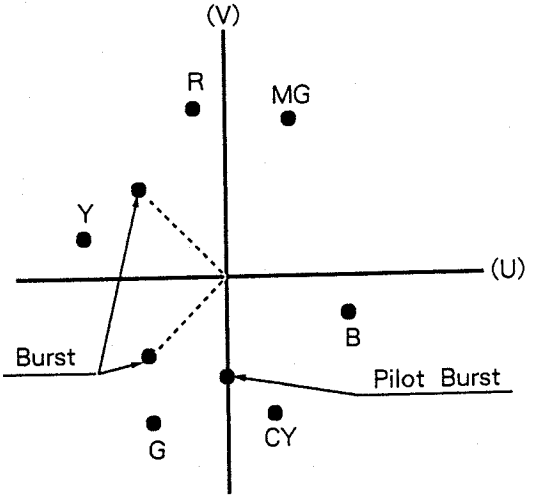
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
14	Demodulation Sensitivity (Normal VHS)/ Playback Luminance Level (Normal VHS)	Playback Alignment tape (Colour bar)	●Oscilloscope to TP2Y(SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR2B3(SIGNAL) DIV 50mV TIM 10μsec (10:1) ●VR2B6(SIGNAL) DIV 50mV TIM 10μsec (10:1)	1. Short circuit TP2F(SIGNAL PCB) and TP2B (SIGNAL PCB). 2. Adjust VR2B3 so that the level is 1.9Vp-p.  3. Open circuit TP2F and TP2B. 4. Adjust VR2B6 so that the level is 2.1Vp-p. 
	PCB SIGNAL (COMPONENT SIDE) 			
15	Demodulation Sensitivity (S-VHS)	Playback S-VHS Alignment tape (PC(S))	●Oscilloscope to TP25(SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR2B2(SIGNAL) DIV 20mV TIM 10μsec (10:1)	1. Adjust VR2B2 so that the level is 1.2Vp-p. 
	PCB SIGNAL (COMPONENT SIDE) 			
16	Playback Luminance Level (S-VHS)	Playback S-VHS Alignment tape (PC(S))	●Oscilloscope to TP2Y(SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR2B7(SIGNAL) DIV 50mV TIM 10μsec (10:1)	1. Adjust VR2B7 so that the level is 2.1Vp-p. 
	PCB SIGNAL (COMPONENT SIDE) 			

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
17	Noise Cancel(Y)	Playback Alignment tape (Colour bar)	●Oscilloscope to TP2L(SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR2A0(SIGNAL) DIV 5mV TIM 10μsec (10:1)	1. Adjust VR2A0 so that the video signal level is minimum. Note: The amplitude of video signal must be below 30mVp-p. (Except spike part)
18	Pilot Burst Phase	Supply VIDEO signal (Colour bar) SP mode EE mode S-VHS SW to ON	●Vector scope to TP6A(SIGNAL) ●VC6K1(SIGNAL) ●VR6E9(SIGNAL)	1. Short circuit TP6C(SIGNAL PCB) and TP6G (SIGNAL PCB). 2. Connect the EXT ϕREF terminal of vector scope to TP40(SIGNAL PCB). 3. Locate the burst to the fixed position, and adjust VC6K1 so that the pilot burst located 270° from U-axis. 4. Adjust VR6E9 so that the pilot burst level is about 1.1 times the burst level. 5. Alternate adjustments of step 3 and step 4.

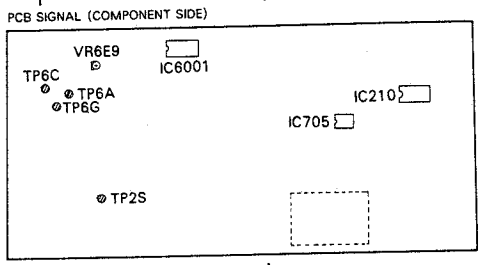


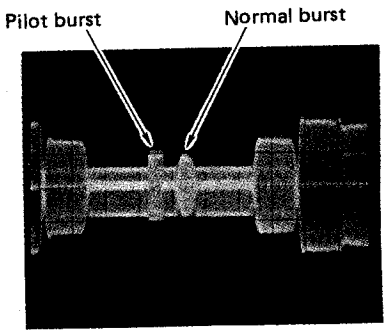


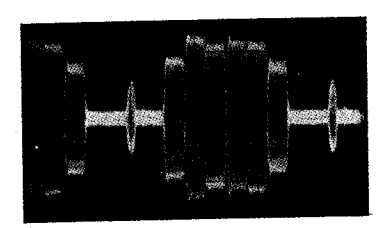


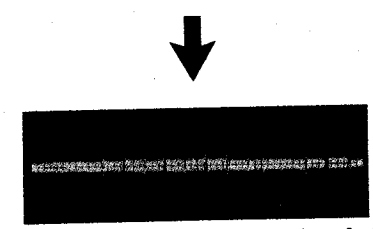


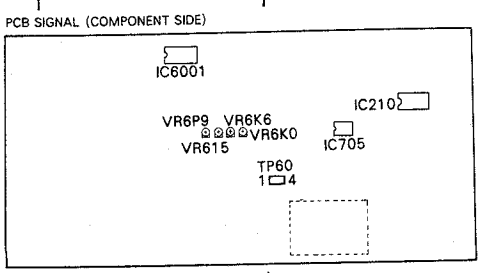
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
19	Pilot Burst Level	Supply VIDEO signal (Colour bar) EE mode S-VHS SW to ON	●Oscilloscope to TP6A(SIGNAL) ●Oscilloscope's GND to TP6G (SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VR6E9(SIGNAL) DIV 5mV TIM 5μsec (10:1)	1. Short circuit TP6C(SIGNAL PCB) and TP6G (SIGNAL PCB). 2. Adjust VR6E9 so that the pilot burst amplitude is 1.1 times the burst signal in S-VHS mode(S803:ON). 3. Check that the pilot burst signal disappears in Normal VHS mode (S803:OFF)
20	Chroma-COMB	Supply VIDEO signal (Colour bar) EE mode	●Oscilloscope's CH-1 to TP60 connector pin① (SIGNAL) ●Oscilloscope's CH-2 to TP60 connector pin② (SIGNAL) ●Oscilloscope's GND to TP60 connector pin④ (SIGNAL) ●Oscilloscope's CH-2 to Invert mode ●Oscilloscope to ADD mode ●Oscilloscope's CH-2 to TP60 connector pin③ (SIGNAL) ●VR6P9(SIGNAL) ●VR6J5(SIGNAL) ●VR6K0(SIGNAL) ●VR6K6(SIGNAL) Note: CH-1 and CH-2 input attenuator must be matched. DIV 50mV TIM 10μsec (10:1)	1. Alternate adjustments in the following sequence: VR6P9, VR6J5 so that the chroma level is minimum. 2. Check that the minimum chroma level is less than 30mVp-p. 3. Alternate adjustments in the following sequence: VR6K0. VR6K6 so that the chroma level is minimum.

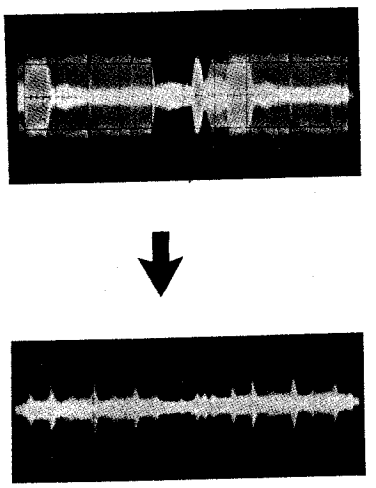
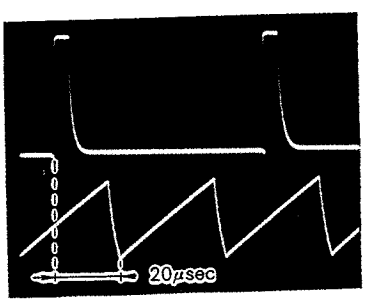




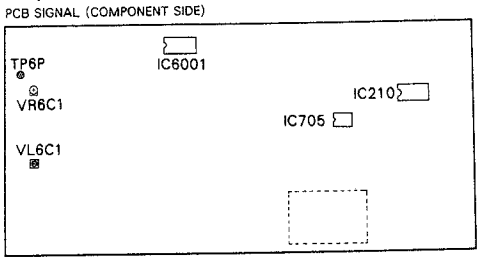




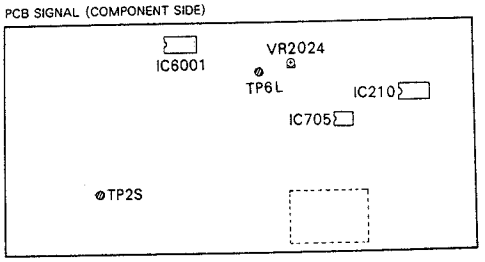


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
21	Chroma Noise Reduction	Playback Alignment tape (Colour bar)	●Oscilloscope to TP6P(SIGNAL) ●Oscilloscope's EXT trigger to TP2S(SIGNAL) ●VL6C1(SIGNAL) ●VR6C1(SIGNAL) DIV 50mV TIM 10μsec (10:1)	1. Alternate adjustments in the following sequence: VL6C1, VR6C1 so that the chroma level of magenta is minimum. 2. Make sure that the minimum chroma level is less than 30mVp-p. 
22	VCO of LP-SS Circuit	EE mode	●Oscilloscope's CH-1 to TP2S (SIGNAL) ●Oscilloscope's CH-2 to TP6L (SIGNAL) ●Set the TRIG. SOURCE SW to CH -1 ●VR2024(SIGNAL) DIV 0.2V TIM 5msec (10:1)	1. Check that the frequency of waveform at CH-2 is approximately 2 times as many as that at CH-1. 2. Adjust VR2024 so that the time between the rising edge of CH-1 and bottom edge of CH-2 is 20μsec. 

PCB SIGNAL (COMPONENT SIDE)

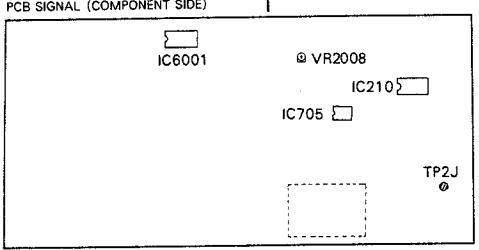


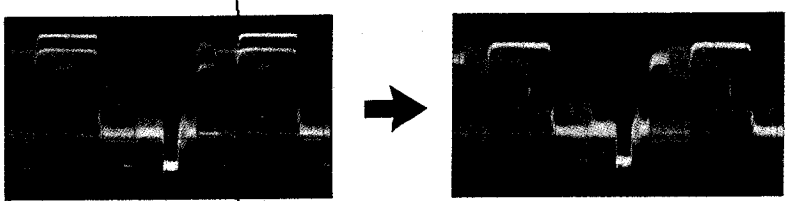
PCB SIGNAL (COMPONENT SIDE)



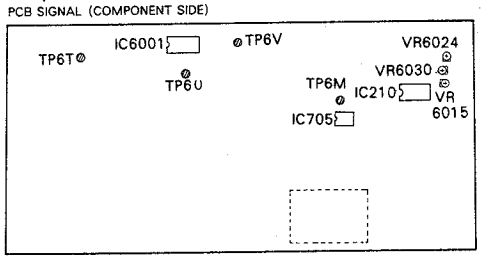
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
23	Luminance Output Level of LP-SS Circuit	Playback a self recorded LP tape (Colour bar) Speed search mode	●Oscilloscope to TP2J(SIGNAL) ●VR2008(SIGNAL) DIV 50mV TIM 10 μsec (10:1)	1. Adjust VR2008 so that the amplitude of the two luminance waveforms on the oscilloscope's display coincide.
24	U-Axis and V-Axis of CAI	Playback a self recorded LP tape (Colour bar) Still mode	●Oscilloscope's CH-1 to TP6U (SIGNAL) ●Oscilloscope's CH-2 to TP6V (SIGNAL) ●Oscilloscope to X-Y mode ●VR6030(SIGNAL) DIV 10mV (10:1)	[LP-SS VHS] 1. Adjust VR6030 so that the burst is located at ±45° from the X-axis and the two bright-point of each colour coincide.
		Playback a self recorded LP tape (Colour bar) Still mode	●VR6024(SIGNAL) DIV 10mV (10:1)	[LP-SS S-VHS] 1. Adjust VR6024 so that the burst is located at ±45° from the X-axis and the two bright-point of each colour coincide.
		Playback NTSC Alignment tape (Colour bar)	●VR6015(SIGNAL) DIV 10mV (10:1)	[NTSC-PB] 1. Adjust VR6015 so that the burst is located at +55° from the minus X-axis.

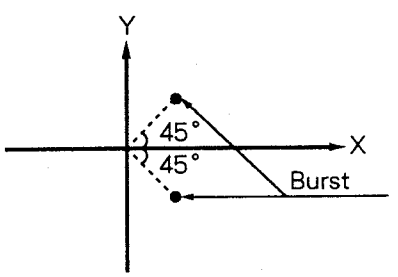
PCB SIGNAL (COMPONENT SIDE)

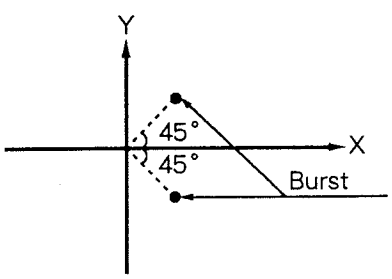


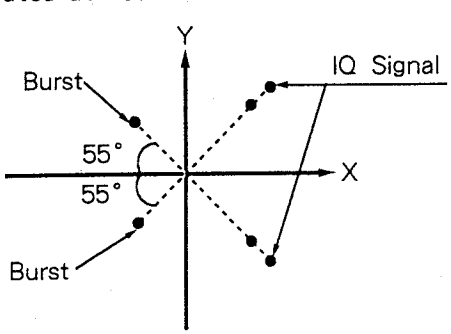


PCB SIGNAL (COMPONENT SIDE)



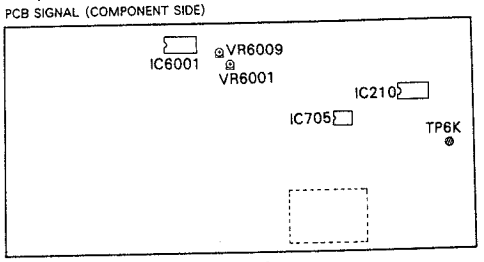


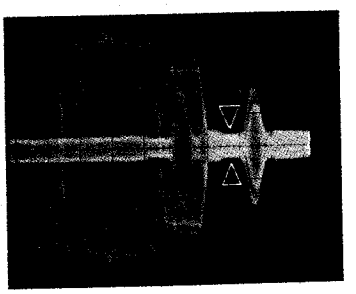


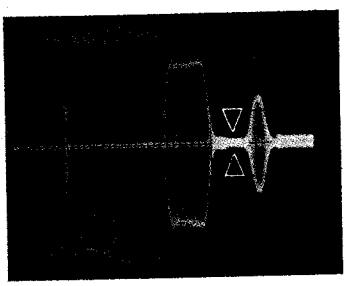


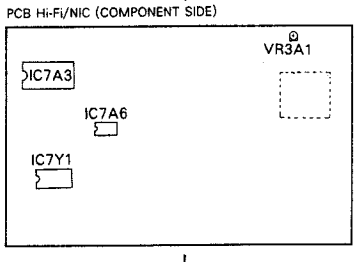
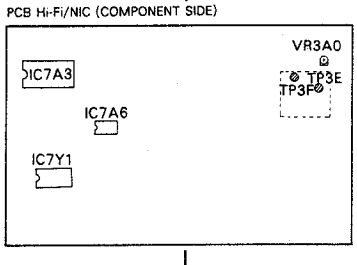
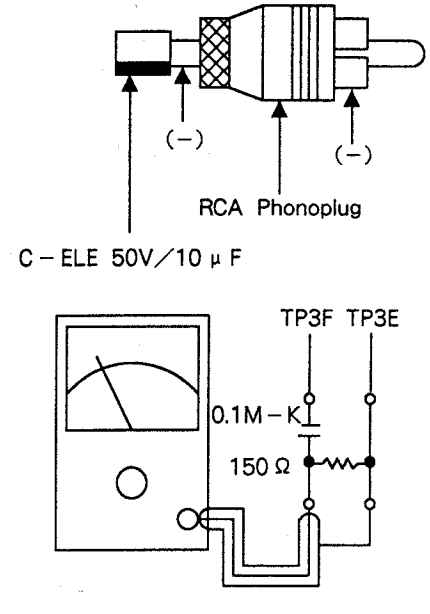
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
25	CAI Carrier Offset	Playback a self recorded SP tape (Colour bar) Normal VHS mode	●Oscilloscope to TP6K(SIGNAL) ●VR6009(SIGNAL) ●VR6001(SIGNAL) DIV 20mV TIM 5μsec (10:1)	1. Alternate adjustments in the following sequence: VR6009, VR6001 so that the carrier leak level is minimum. 2. Check that the minimum carrier leak level is less than 30mVp-p.

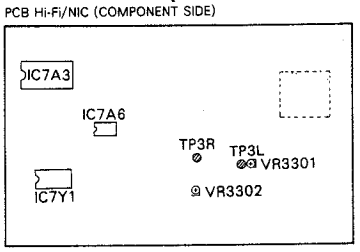
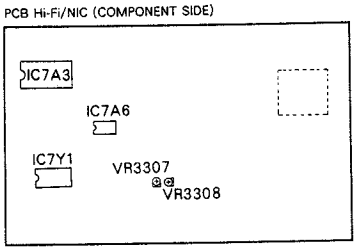
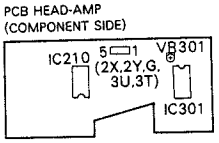
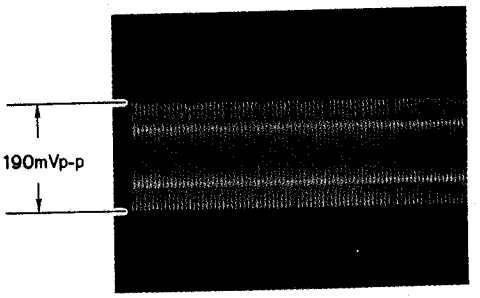
PCB SIGNAL (COMPONENT SIDE)



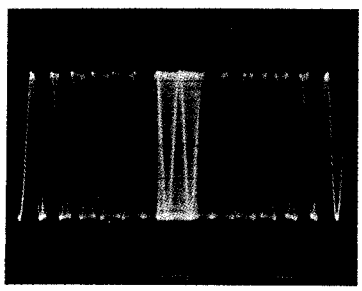




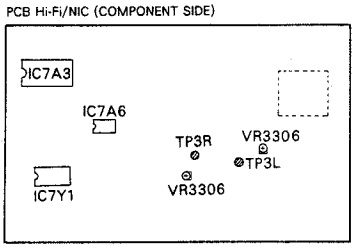
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
	Audio Circuit			
	* 1. Set the MIX SW to Normal mode. * 2. Set the AV Input select SW to AUX mode. * 3. Supply video signal to the AUX VIDEO socket.			
26	Playback Audio Level	Playback Alignment tape (PC1K) 	●AC voltmeter to AUX AUDIO socket(L-CH or R-CH) ●VR3A1(Hi-Fi/NIC)	1. Set the AUDIO MONITOR SW to AUDIO mode. 2. Adjust VR3A1 for an AUDIO OUT level of -6dBs(388mVr.m.s). 3. Confirm that the level fluctuation is less than ±1dBs. If level fluctuation is over ±1dB then check the mechanical adjustments.
27	Audio Bias Level	SP REC mode 	●AC voltmeter to TP3E(Hi-Fi/NIC) and TP3F (Hi-Fi/NIC) through a high pass fillter. Note: Be careful that the AC voltmeter housing does not touch the VCR chassis. ●VR3A0(Hi-Fi/NIC)	1. Insert a shorted RCA type Phonoplug into the AUX AUDIO socket. 2. Confirm that the monitor TV etc. does not affect the indication of the AC voltmeter and then adjust VR3A0 for a level of 2.6mVr.m.s. Note: Do not set the VCR to PLAY mode with the AC voltmeter connected. (The audio amplifier will be over-loaded.) 

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
	Hi – Fi Audio Circuit			
	※1.Set the AUDIO MONITOR SW to Hi – Fi mode ※2.Set the AV Input select SW to AUX mode			
28	OSC Frequency	REC mode PCB Hi-Fi/NIC (COMPONENT SIDE)  	●Frequency Counter to TP3L (Hi-Fi/NIC) ●VR3301 (Hi-Fi/NIC) ●Frequency Counter to TP3R (Hi-Fi/NIC) ●VR3302 (Hi-Fi/NIC)	1. Short circuit AUX AUDIO socket (L-CH and R-CH). 2. Adjust VR3301 so that Frequency at TP3L is 1.4000MHz±3kHz. 3. Adjust VR3302 so that Frequency at TP3R is 1.8000MHz±3kHz.
29	E-E Level	Supply AUDIO signal (1kHz, -8dBs) to AUDIO IN socket (R-ch and L-ch) PCB Hi-Fi/NIC (COMPONENT SIDE)  	●AC voltmeter to Audio Output jack ●L-CH AUDIO OUT socket ●VR3307 (Hi-Fi/NIC) ●R-CH AUDIO OUT socket ●VR3308 (Hi-Fi/NIC)	1. Set the REC LEVEL ADJ to center click stop position . 2. Set the MIX SW to OFF. 3. Adjust VR3307 so that the audio output level at L-CH is -6dBs. 4. Adjust VR3308 so that the audio output level at R-CH is -6dBs.
30	FM REC Level PCB HEAD-AMP (COMPONENT SIDE)  	REC mode Normal VHS mode	●Oscilloscope's CH-1 to TP2XY connector pin① (TP3T) (HEAD-AMP) ●Oscilloscope's GND to TP2XY connector pin② (TP3U) (HEAD-AMP) ●VR301 (HEAD-AMP) DIV 10mV TIM 20 µsec (10:1)	1. Short circuit AUDIO IN socket (L-CH and R-CH). 2. Adjust VR301 so that the amplitude of waveform on display is 190mVp-p. 

No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
31	FM Frequency Deviation	Supply AUDIO signal (100kHz, 10dBs) AUX AUDIO socket L-CH and R-CH STOP mode	●Oscilloscope to TP3L (Hi-Fi/NIC)	1. Set the recorder to EXT signal input mode and MIX SW to OFF. 2. Set the REC LEVEL control to maximum. 3. Set the oscilloscope's range to 10mV/1 μsec (DELAY mode 0.1 μsec).



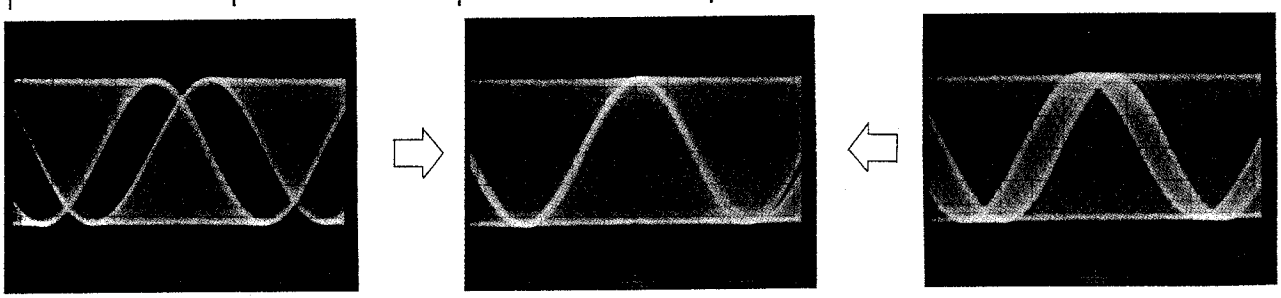
PCB Hi-Fi/NIC (COMPONENT SIDE)



●VR3305 (Hi-Fi/NIC)

DIV 10mV
TIM 1 μsec
(10:1)

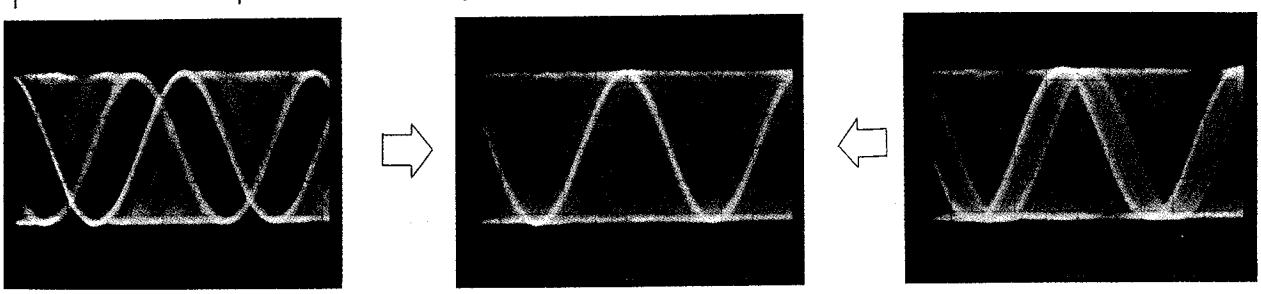
4. Monitor the wavefrom in the area of center in the DELAY mode.
5. Adjust VR3305 to obtain the waveform like following picture.



●Oscilloscope to TP3R (Hi-Fi/NIC)
●VR3306 (Hi-Fi/NIC)

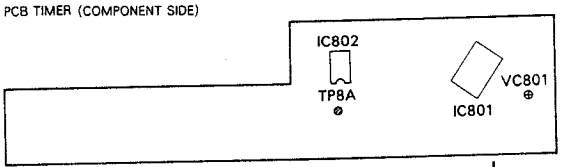
DIV 10mV
TIM 1 μsec
(10:1)

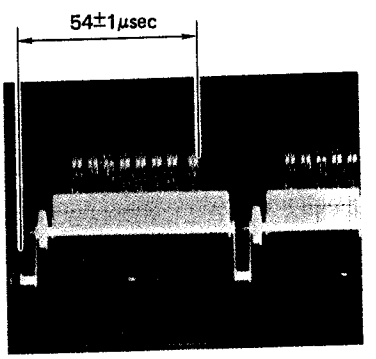
6. Adjust VR3306 to obtain the waveform like following picture.



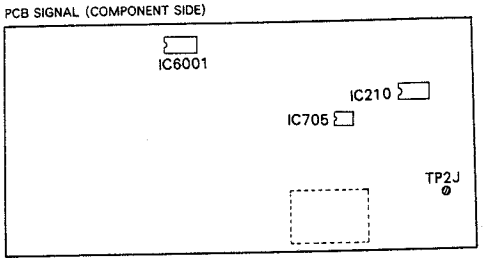
No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
	Timer Circuit			
32	Timer Frequency	Power OFF (standby mode)	●Frequency Counter to TP8A (TIMER) ●VC801 (TIMER)	1. Set the frequency counter to PERIOD mode. 2. Adjust VC801 for a period of 136.533332 ±0.00054Hz.
33	Display Position	Program REC setting mode	●Oscilloscope to TP2J (SIGNAL) ●VC501 (CONTROL) DIV 20mV TIM 10μsec (10:1)	1. Adjust VC501 so that the time difference between the falling edge of H-SYNC and end of character signal is 54±1μsec.

PCB TIMER (COMPONENT SIDE)

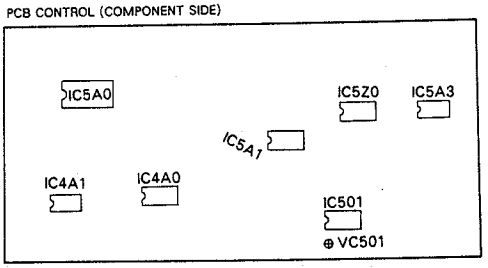




PCB SIGNAL (COMPONENT SIDE)

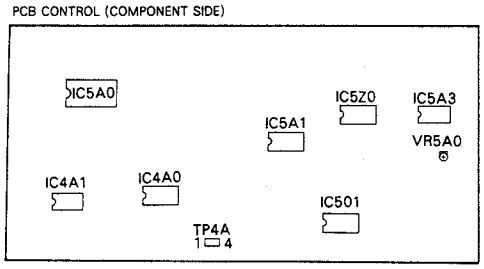


PCB CONTROL (COMPONENT SIDE)

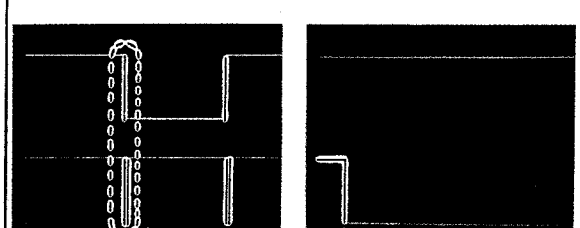


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
34	List 2 Still Jitter	Playback SP self-recorded tape STILL mode	●Oscilloscop's CH-1 to TP4A connector pin② (CONTROL) ●Oscilloscop's CH-2 to TP4A connector pin④ (CONTROL) ●Set the TRIG. SOURCE SW to CH -1 ●VR5A0(CONTROL) DIV 0.2V TIM 5msec (10:1)	1. Activate the still function and adjust VR805(STILL ADJUST) to eliminate picture jitter. 2. Set the oscilloscope to puls(+) slope. Set the horizontal display SW of oscilloscope to DELAY mode and monitor the waveform in the area of the falling edge at CH-1 (TIM 50 µsec). 3. Set DELAY TIME of the oscilloscope until falling edge of V-SYNC waveform at CH-2 coincide with second vertical scale on the left of the oscilloscope. 4. Set the oscilloscope to minus(-) slope. 5. Adjust VR5A0 so that the time difference between the falling edge of V-SYNC waveform at CH-2 in the area of the falling edge of FF waveform at minus(-) trigger by CH-1 and the falling edge of V-SYNC waveform at CH-2 in the area of the rising edge of FF waveform at plus (+) trigger by CH-1 is 128 µsec as shown below.

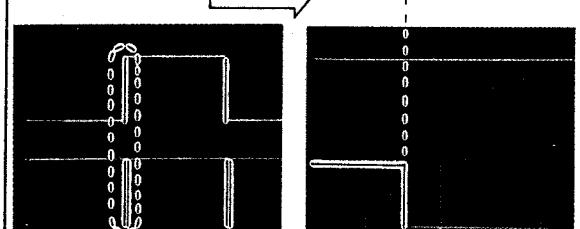
PCB CONTROL (COMPONENT SIDE)

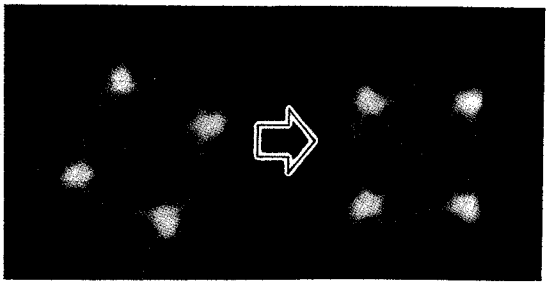
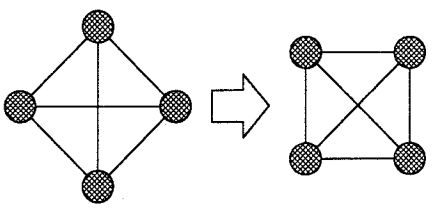


Trigger slope(+)

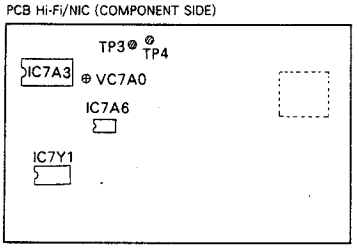


Trigger slope(-)

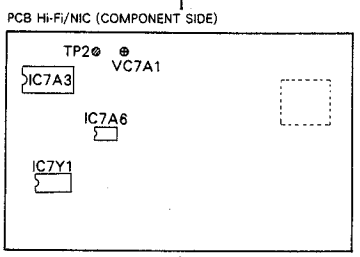


No.	ITEM	MODE	ADJ. METHOD	ADJUSTMENT PROCEDURE
			NICAM Circuit	
35	Carrier VCXO	Supply RF signal (STEREO or DUAL SOUND) EE mode	●Oscilloscope's CH-1 to TP3(Hi-Fi/NIC) ●Oscilloscope's CH-2 to TP4(Hi-Fi/NIC) ●Oscilloscope to X-Y mode ●VC7A0(Hi-Fi/NIC) DIV 20mV (10:1)	1. Adjust VC7A0 to obtain the waveform illustrated.  
36	Clock VCXO	Disconnect RF signal EE mode	●Frequency counter to TP2 (Hi-Fi/NIC) ●VC7A1(Hi-Fi/NIC)	1. Adjust VC7A1 so that the frequency is 5.82400MHz±15Hz.

PCB Hi-Fi/NIC (COMPONENT SIDE)



PCB Hi-Fi/NIC (COMPONENT SIDE)



MECHANICAL ADJUSTMENT AND REPLACEMENT (F DECK)

1. Cleaning of Deck

The following parts require cleaning whenever serviced to maintain satisfactory performance.

1-1 Video Head

A. Clean the video heads in the following method if dust and other foreign objects on the video heads disturb the normal playback of images :
Dampen video head cleaning cloth with alcohol. Hold the cloth against the drum and turn the drum slowly counterclockwise to clean.
Note :
Do not directly touch the head attached to the upper drum. The head is very hard but brittle to impact, especially in the vertical direction.
Do not apply force in the vertical direction.

B. Allow residual alcohol to dry thoroughly before running tape . Otherwise, the liquid may stick to and damage the tape.

1-2 Tape Transport (Refer to Fig. 1-1.)

Clean the following parts of the tape transport.

1. Tension regulation arm S
2. Tension arm
3. Supply guide pole
4. FE head
5. Supply impedance roller
6. Supply guide roller
7. Supply slant pole
8. Upper and lower drum
9. Takeup slant pole
10. Takeup guide roller
11. Takeup impedance roller
12. A/C head
13. Takeup guide pole
14. Pinch roller
15. Capstan shaft
16. Takeup guide arm
17. Tension regulation arm T

A. Clean the tape transport with gauze dampened with alcohol, except the supply and takeup guide rollers.
If Guide rollers are stained with dust, clean them with dry gauze or exchange them for new parts.

B. Allow residual alcohol to dry thoroughly before running a tape. Otherwise the liquid may stick to and damage the tape.

1-3 Reel Disk Drive System

A. Clean the reel disk braking surfaces and the reel belt.

B. Clean the above parts with gauze dampened with alcohol.

C. Allow the residual liquid to dry thoroughly before operating the reel disk.

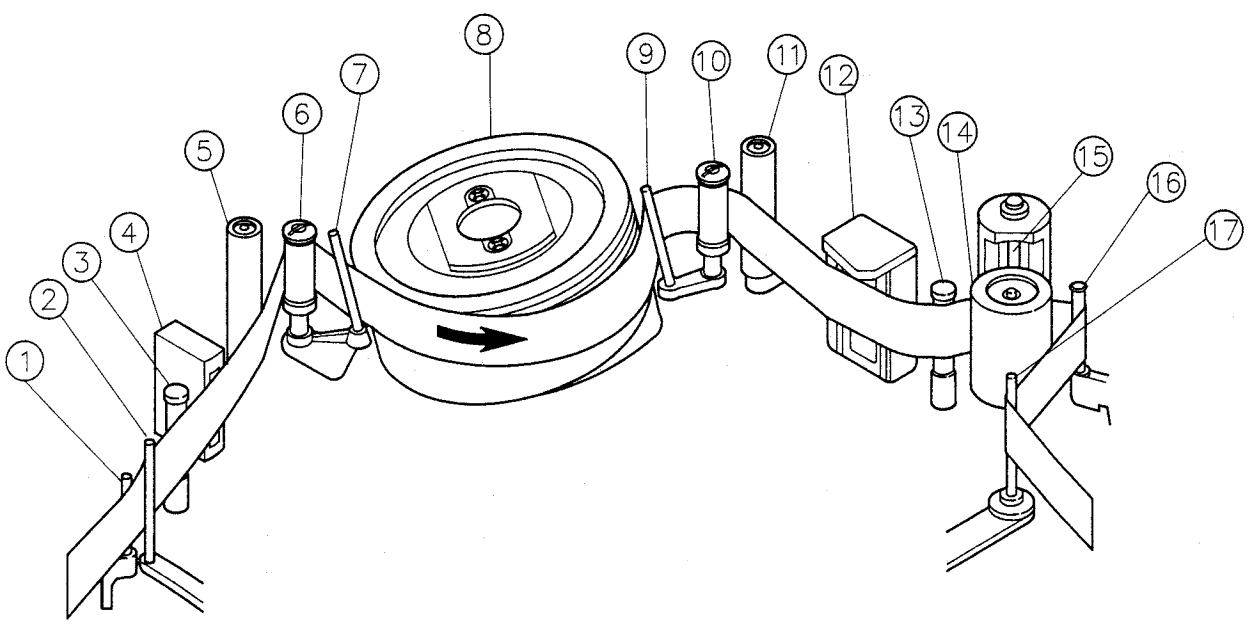


Fig.1 – 1

F0D001

2. Replacement of Major Parts

2-1 Cassette Housing

2-1-1 Removal (Refer to Fig. 2-1-1~2-1-2.)

A. Set the VCR to the eject mode.
B. Remove the top panel, bottom panel, and front panel.
C. Unfasten the snap of the cable holder and remove the cable holder from the cassette housing as shown in Fig.2-1-1.
D. Unscrew four cassette housing fastening screws (ⓐ,ⓑ,ⓒ, and ⓓ). Raise the cassette housing slowly in the direction shown by the arrow.

2-1-2 Installation (Refer to Fig.2-1-1~2-1-3.)

A. Slowly lower the cassette housing onto the main plate of the deck so that the safety lever enters between the insert guide and the shaft as shown in Fig.2-1-1. Align the two positioning holes (ⓔ and ⓕ) and the two U holes (ⓖ and ⓗ) located on the cassette housing with the matching holes in the deck.
B. In step A above, if the front loading gear of the cassette housing does NOT engage the boss on the main plate, carefully push the gear toward the front of the VCR using a small-diameter screwdriver, as illustrated in Fig.2-1-3. If the gear still will not engage, rotate the Front Loading Gear a few degrees from the below the deck until the gear engages the boss correctly.
C. Fasten the housing to the deck with the four screws (ⓐ,ⓑ,ⓒ and ⓓ).

2-2 Lock arm and Drive gear

2-2-1 Removal (Refer to Fig. 2-1-3~2-2.)

A. Unfasten four snaps (ⓐ, ⓑ, ⓒ and ⓓ) as shown in Fig.2-1-3, and remove the side plate TU.
B. Turn the FL SW lever clockwise to separate the FL SW lever from the drive gear, and pull the lock arm and drive gear to remove them from the shaft as shown in Fig.2-2.

2-2-2 Installation (Refer to Fig.2-1-3~2-2.)

A. Install the drive gear on the shaft as shown in Fig.2-2.
B. Line the matching mark on the drive gear and beginning of gear section on the lock arm as shown in Fig.2-2, and install the lock arm.
C. Install the side plate TU to the cassette housing, and secure it with four snaps (ⓐ,ⓑ, ⓒ and ⓓ) as shown in Fig.2-1-3.

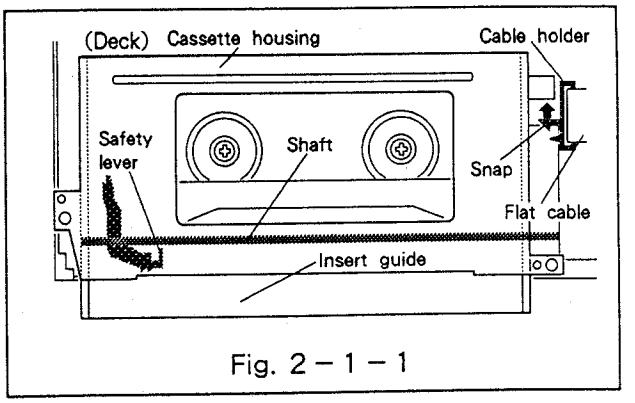


Fig. 2 – 1 – 1

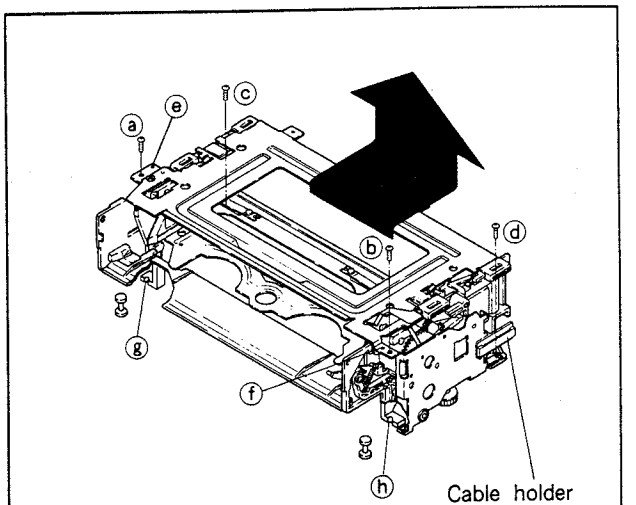


Fig. 2 – 1 – 2 F0D002

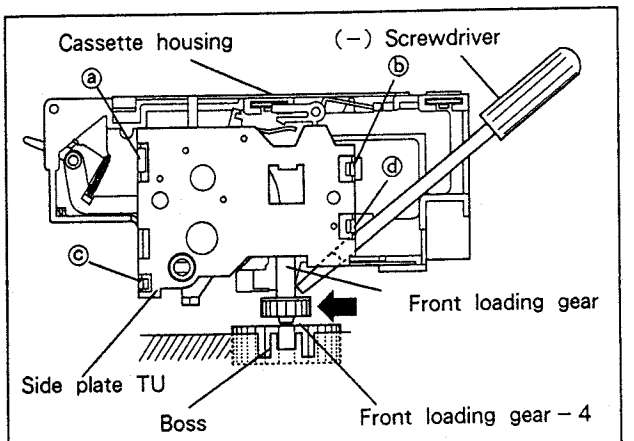


Fig. 2 – 1 – 3 F0D003

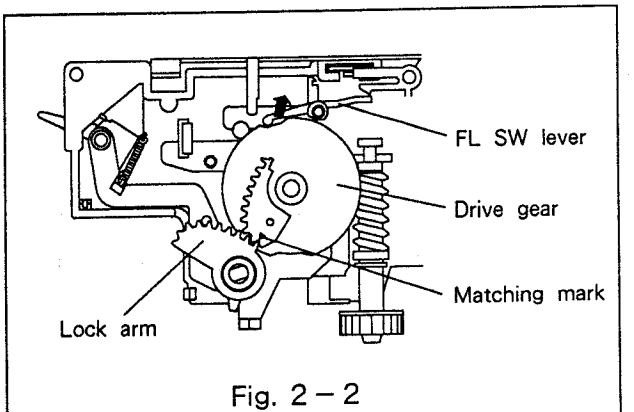


Fig. 2 – 2

2-3 Drum Assembly

2-3-1 Removal (Refer to Fig. 2-3-1~2-3-3.)

A. Unscrew the brush fastening screw and remove the brush.

B. Unscrew two fastening screws (ⓐ and ⓑ) and remove the head amplifier PCB which is connected to the drum assembly.

Note :

The cable and connector between the drum and head amplifier may be damaged if the cable is pulled strongly, as the cable is short. Remove the shield cap of the PCB, raise the PCB slightly and disconnect the flat cable. (Removal method for the flat cable connector and stopper is shown in Fig.2-3-3.)

Disconnect the grounding wire and remove the head amplifier PCB.

C. Unscrew three drum fastening screws (ⓒ,ⓓ and ⓔ) from the reverse side of the deck.

D. Remove the drum assembly by raising it with care not to touch other parts around the drum assembly.

E. Disconnect the connectors from the drum assembly.

2-3-2 Installation (Refer to Fig. 2-3-1,2-3-2.)

A. Connect the connectors to a new drum assembly.

B. Place the new drum assembly on the main plate of the deck slowly with care not to touch other parts.

C. Fasten the drum assembly with three fastening screws (ⓒ, ⓓ and ⓔ) on the reverse side of the deck.

D. Connect the head amplifier PCB to the drum assembly and fasten the PCB with two screws (ⓐ and ⓑ).

Note :

Conduct the mechanism interchangeability adjustment outlined in Para.3 to give optimum performance when the drum assembly is replaced.

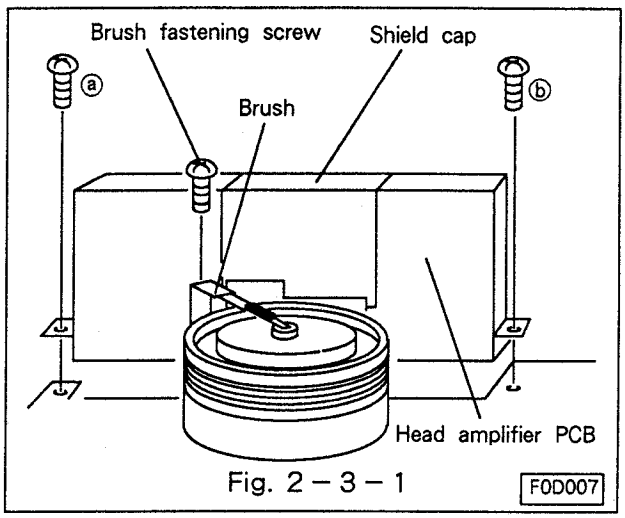


Fig. 2 – 3 – 1 F0D007

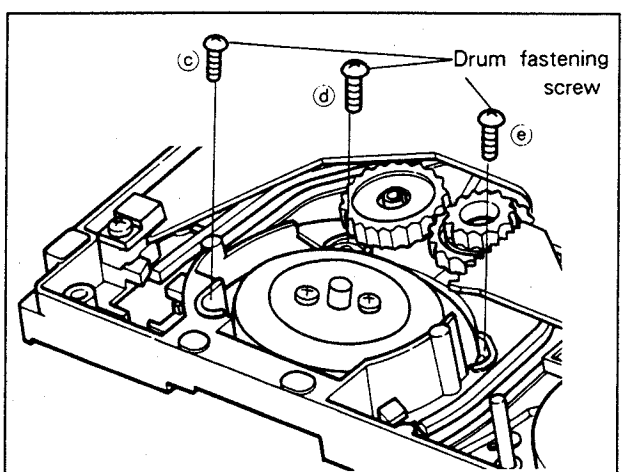


Fig. 2 – 3 – 2 F0D008

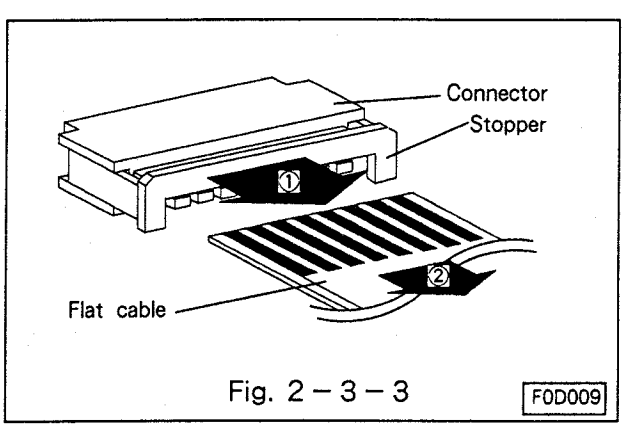


Fig. 2 – 3 – 3 F0D009

2-4 Upper Drum

2-4-1 Removal (Refer to Fig. 2-4-1.)

A. Unscrew the brush fastening screw and remove the brush.
B. Unsolder two inside soldered terminals of each head on the upper drum.
C. Unscrew the upper drum fastening screws.
D. Remove the upper drum slowly and carefully.

Note :
If the upper drum is difficult to remove, heat the upper drum fastening screw holes with a soldering iron, and the drum will be easily removed.

2-4-2 Installation (Refer to Fig. 2-4-1.)

Note :
Handle the upper drum carefully as the video heads are fragile.

A. Position the lower drum so that the hole in the shaft faces the operator. Align the upper drum with the lower drum so that the CH1 mark on the upper drum is on the right side, and couple the drums.
B. Fasten the upper drum with two screws. (Tighten the screws alternately.)
C. Solder the terminals not soldered on the upper drum.
D. Clean the video heads as outlined in Para. 1 -1.

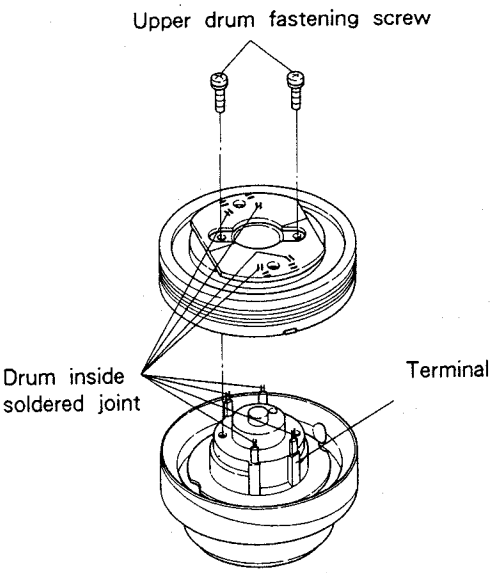


Fig. 2 – 4 – 1 F0D010

2-5 Reel Belt (Refer to Fig. 2-5)

A. Remove the reel belt from the capstan motor and the belt pulley.
B. Install a new reel belt.

Note :
Make certain that the new belt is free from grease, before installing.

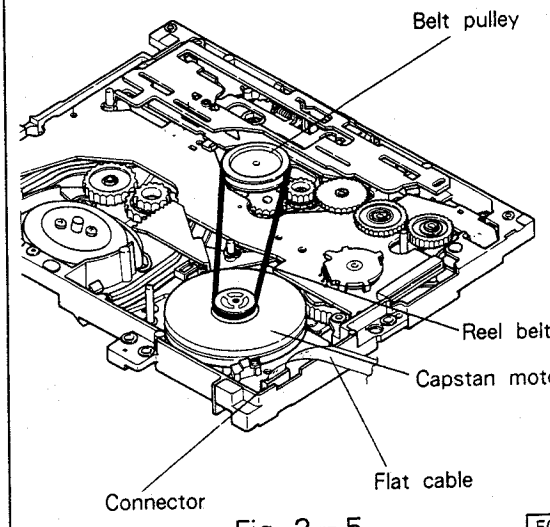


Fig. 2 – 5 F0D011

2-6 Capstan Motor

2-6-1 Removal (Refer to Fig. 2-5, 2-6)

A. Disconnect the flat cable.
B. Remove the reel belt.
C. Remove three fastening screws shown in Fig. 2-6 and remove the capstan motor.

CAUTION :
Restrain the capstan motor as the three screws are removed, since an un-restrained motor may damage other parts of the deck. When performing removal or installation of the capstan motor,take care that the outside of the rotor's rim is not greased.(Refer to Fig.2-5.)
If greasy components are attached on the outside of the rotor's rim, wipe them off with a dry cloth because they may cause defects during special effects playback.

2-6-2 Installation (Refer to Fig. 2-5, 2-6.)

A. Fasten the motor with three fastening screws.(Refer to Fig. 2-6.)
B. Install the reel belt.
C. Connect the flat cable.

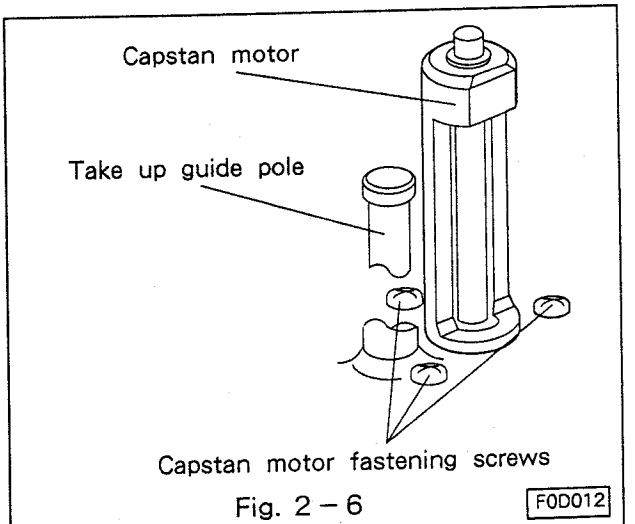


Fig. 2 – 6 F0D012

2-7 Loading Motor

2-7-1 Removal (Refer to Fig. 2-7-1, 2-7-2.)

A. Set the VCR to the eject mode.
B. Unscrew the humidity sensor assembly fastening screw and remove the humidity sensor assembly.
C. Disconnect the wires from the loading motor.
D. Remove two stoppers securing the motor and the motor holder plate.(Refer to Fig. 2-7-2.)
E. Slide the motor and motor holder plate away, and then raise them to remove.
F. Unscrew two screws and detach the motor holder plate from the motor.
G. Disconnect the coupling from the motor.

2-7-2 Installation (Refer to Fig. 2-7-1~2-7-3.)

A. Fasten the coupling to a new loading motor. (Refer to Fig. 2-7-3.)
B. Fasten the motor holder plate to the motor with two screws.
C. Place the motor and motor holder plate in the motor holder to the rear of the deck.
D. Turn the motor shaft so that the coupling on the loading motors shall match the worm gear of the motor holder. Slide the loading motor forward and secure it with the stoppers.
E. Solder the leads to the loading motor. (Brown lead wire to the positive terminal and red lead wire to the negative terminal.)
F. Fasten the humidity sensor assembly with fastening screw.

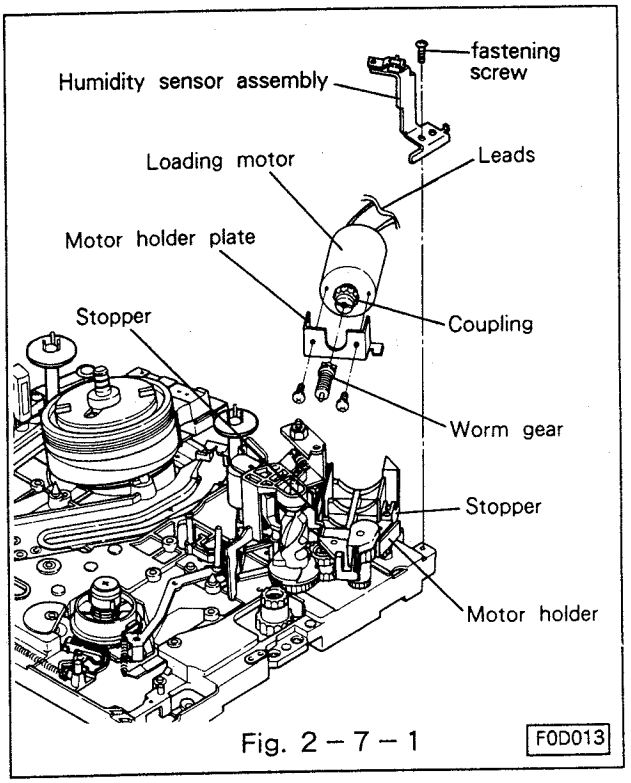


Fig. 2 – 7 – 1 F0D013

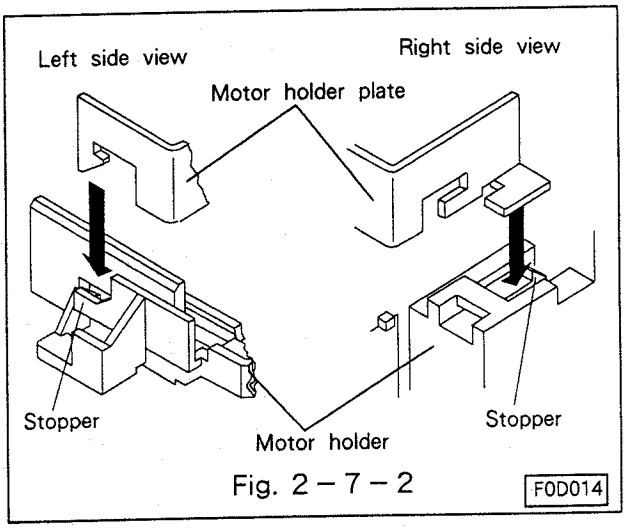


Fig. 2 – 7 – 2 F0D014

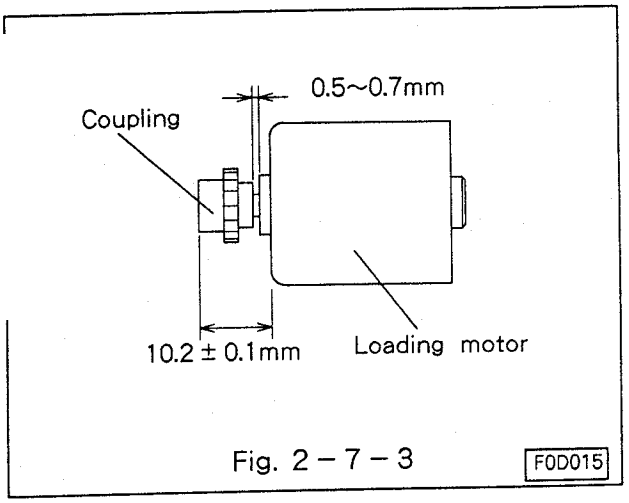


Fig. 2 – 7 – 3 F0D015

2-8 Pinch Roller

2-8-1 Removal (Refer to Fig. 2-8-1, 2-8-2.)

A. Set the VCR to the eject mode.
B. Remove the pinch roller arm cap and the grip ring which secures the pinch roller arm assembly.
C. Pull the pinch roller arm assembly upwards to remove.
D. Remove the pinch roller cap from the pinch roller arm, and remove the pinch roller. (Refer to Fig. 2-8-2.)

2-8-2 Installation (Refer to Fig. 2-8-1,2-8-2.)

A. Assemble the pinch roller cap and the pinch roller to the pinch roller arm by exercising care with the installation angle of the pinch roller cap and the marking of the Pinch Roller. (Refer to Fig. 2-8-2.)
B. Assemble the pinch roller assembly to the shaft on the main plate.
C. Secure the pinch roller arm assembly with the pinch roller arm cap and the grip ring.

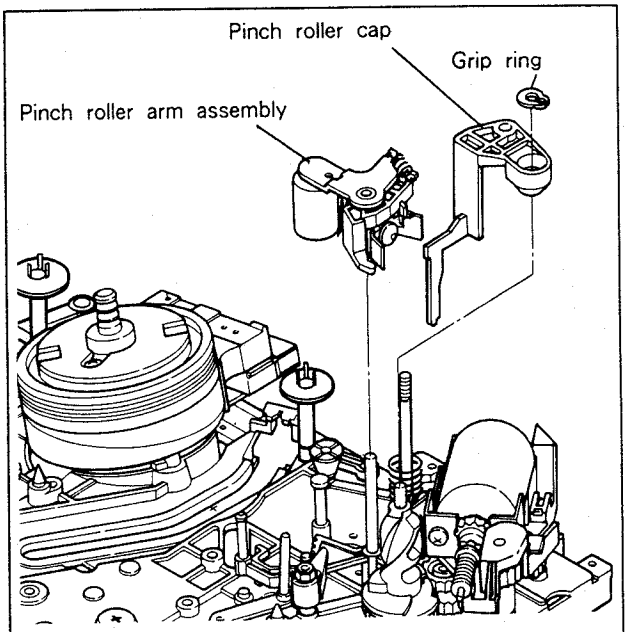


Fig. 2 – 8 – 1 F0D016

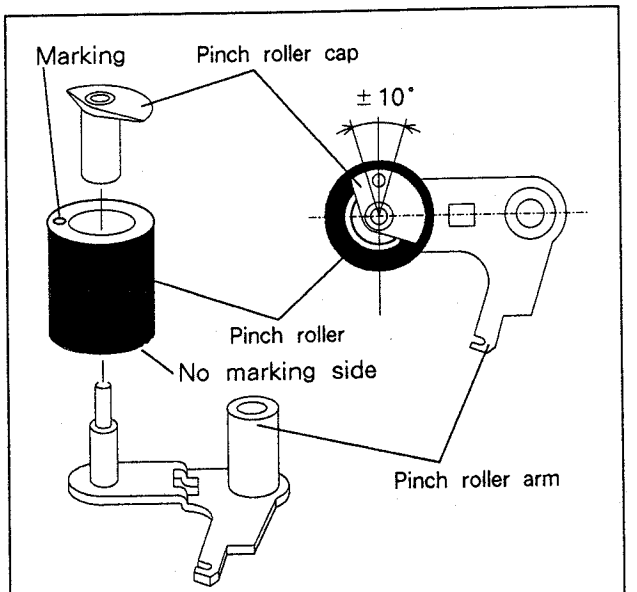


Fig. 2 – 8 – 2 F0D017

2-9 Mode Switch

Note :
Replace the mode switch with the VCR in the eject mode.

2-9-1 Removal (Refer to Fig. 2-9-1)

A. Unsolder the five soldered joints of the mode switch from the deck PCB.
B. Unfasten two catches fastening the switch to the deck PCB assembly.
(Exercise care as the catches may be broken off.)
C. Remove the mode switch slowly while assuring that the soldered joints are all unsoldered.

2-9-2 Installation (Refer to Fig. 2-9-1,2-9-2.)

A. Line the matching marks of the mode switch.
(Refer to Fig. 2-9-2.)
B. Finely adjust the mode switch so that continuity at each terminal shall be as given in the illustration.
C. Fasten the switch to the deck PCB with care so that the switch shall not turn, and secure with two catches.(Refer to Fig. 2-9-1.)
D. Solder the five terminals which connect the mode switch to the deck PCB assembly.

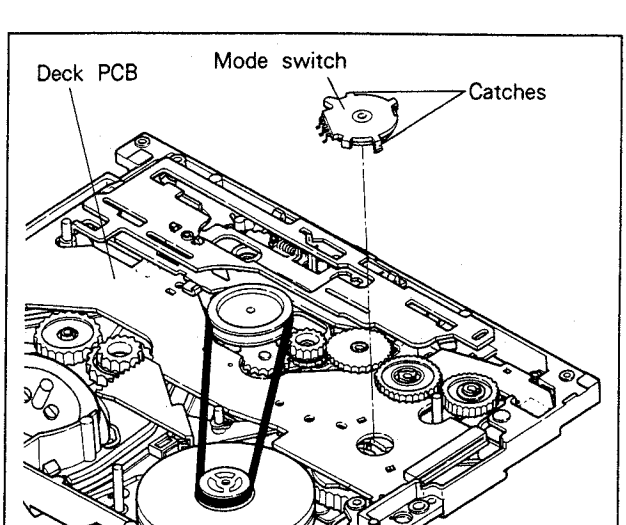


Fig. 2 – 9 – 1
F0D018

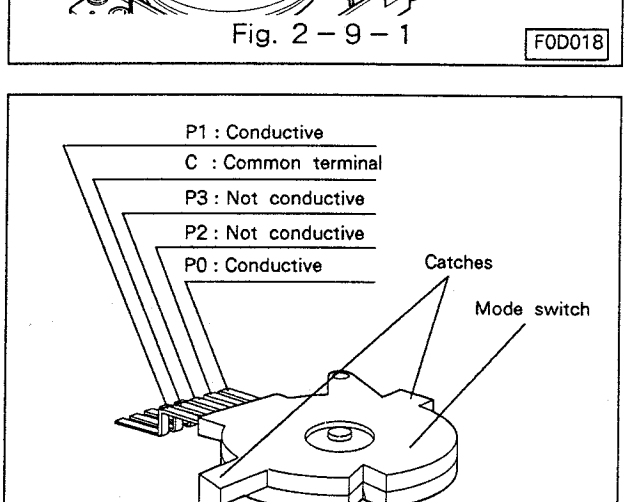


Fig. 2 – 9 – 2
F0D019

2-10 Supply Reel Disk

2-10-1 Removal (Refer to Fig. 2-10-1~2-10-3.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Unscrew the screw ⓐ which fastens the T band holder.
C. Unfasten the catch of the T band holder from the main plate with a small screw driver etc. as shown in Fig. 2-10-2.
Raise and remove the T band holder with care not to score or dirty the tension brake belt.
D. Detach the tension spring from the tension arm and the tension lever.
E. Remove the grip ring ⓑ which secures the tension arm. Raise the tension arm upward to remove it from the shaft.
F. Detach the tension regulation spring S from the tension regulating arm S and the tension lever.
G. Detach the safety lever spring from the safety lever and the tension lever.

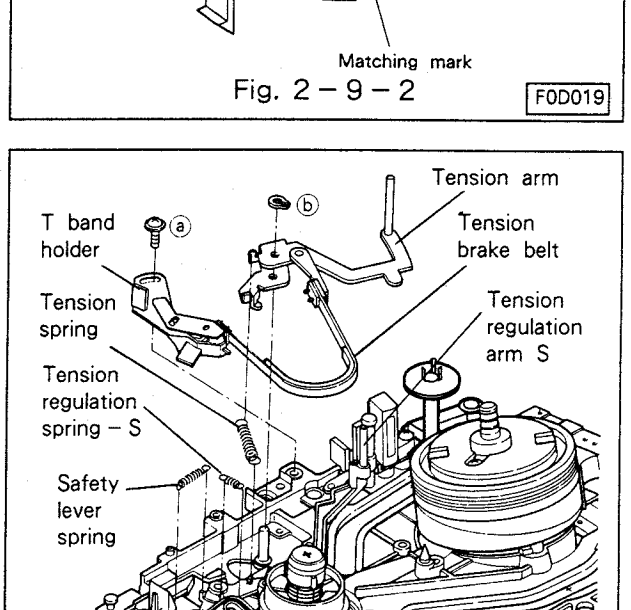


Fig. 2 – 10 – 1
F0D020

H. Raise the tension lever avoiding the main brake S and remove the lever from the shaft. (Refer to Fig. 2-10-3.)
I. Raise the tension regulation arm S and remove it from the shaft.
J. While turning the main brake S slightly clockwise to separate the brake from the supply reel disk, and raise the supply reel disk to remove it from the shaft.(Refer to Fig. 2-10-3.)

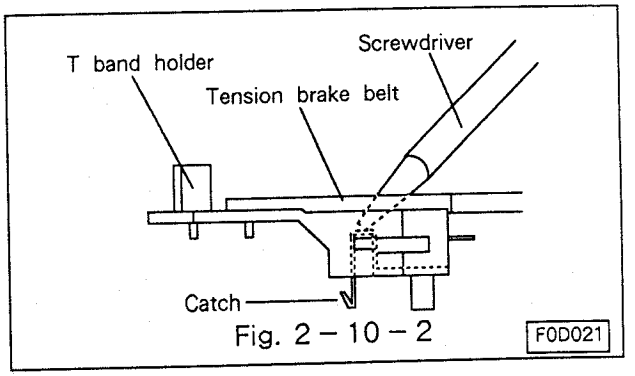


Fig. 2 – 10 – 2 F0D021

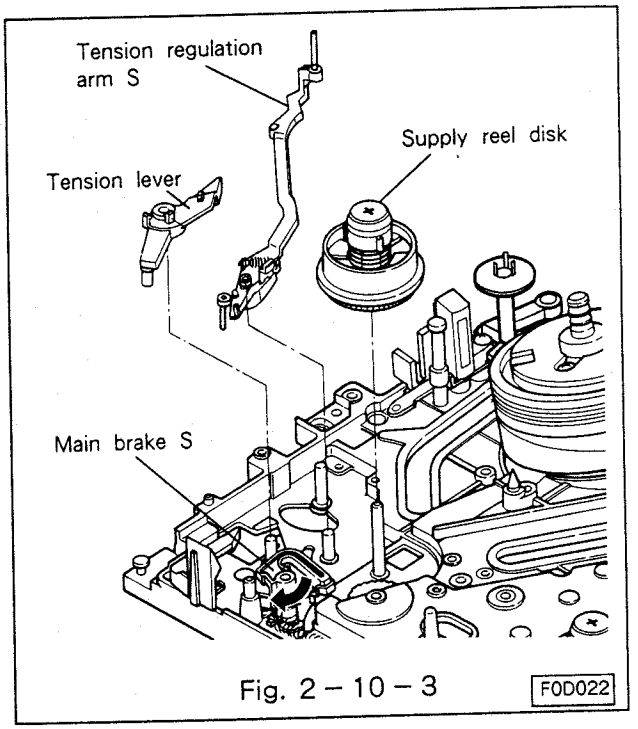


Fig. 2 – 10 – 3 F0D022

2-10-2 Installation (Refer to Fig. 2-10-4~2-10-7.)

A. Turn the main brake S slightly clockwise to separate it from the supply reel disk shaft, and mount the supply reel disk on the shaft so that the reel gear meshes with the gear of the supply reel disk.
B. Assemble the tension regulation arm S to the shaft.
C. Assemble the tension lever to the shaft avoiding the main brake S.
Note :
Install the tension lever so that the pin at the lower part of the lever shall be in front of the slot in the main plate (viewing the front).
D. Fasten the safety lever spring to the safety lever and the tension lever.
E. Fasten the tension regulation spring S to the tension regulation arm S and the tension lever.

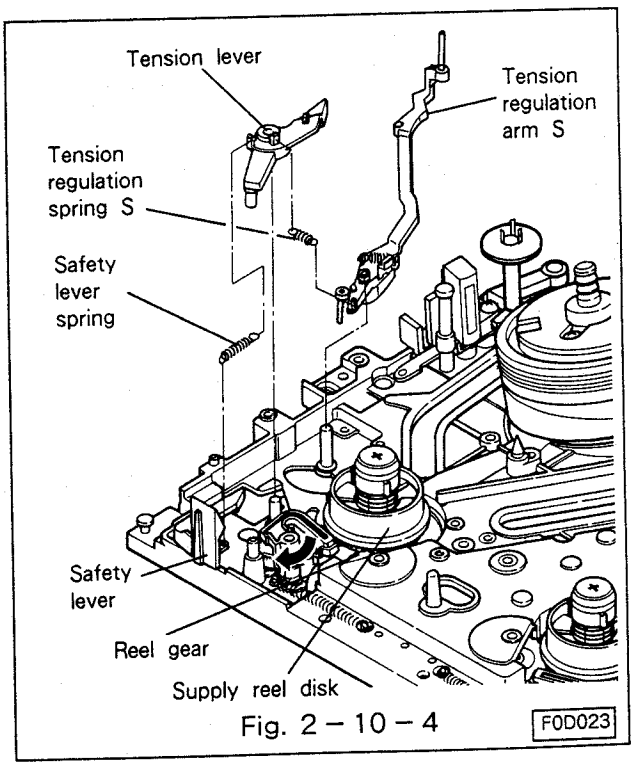


Fig. 2 – 10 – 4 F0D023

F. Assemble the tension arm to the shaft and secure the arm with the grip ring ⓑ. (Refer to Fig. 2-10-5.)
G. Fasten the tension spring to the tension arm and the tension lever. (Refer to Fig. 2-10-5.)
H. Assemble the T band holder to the main plate with care not to score or dirty the tension brake belt, and secure the holder with the screw ⓐ lightly. (Refer to Fig. 2-10-5.)
Note :
In the assembly of the T band holder, make certain that the hook of the holder positively engages with the reverse side of the main plate.
If the hook is difficult to engage with the main plate, push the hook lightly with a small screw driver etc. (Refer to Fig. 2-10-2.)
I. Separate the main brake S and the tension regulation arm S from the supply reel disk and make certain that the disk turns freely.
J. Place the reel disk adjusting jig (Part Number 859C342020) in the reference position on the main plate. (Refer to Fig. 2-10-6.)
K. Slowly turn the jig about the point A and make sure that the height of the supply reel disk flange shall agree with the point B on the supply disk adjusting side of the jig (marked SP). (Refer to Fig. 2-10-7.)
L. If the height of the disk is not satisfactory, hold the disk so that it shall not turn, and turn the height adjusting screw at the top of the disk to adjust the height. (Refer to Fig. 2-11-3.)
   A) Turn the screw clockwise if the measured height is low.
   B) Turn the screw counterclockwise if the measured height is high.
M. On completion of adjustment, lock the height adjusting screw by burning it with the tip of the hot iron.
N. Install the cassette housing as in Para. 2-1-2.
O. Adjust back tension and tension pole position as outlined in Para. 3-1.

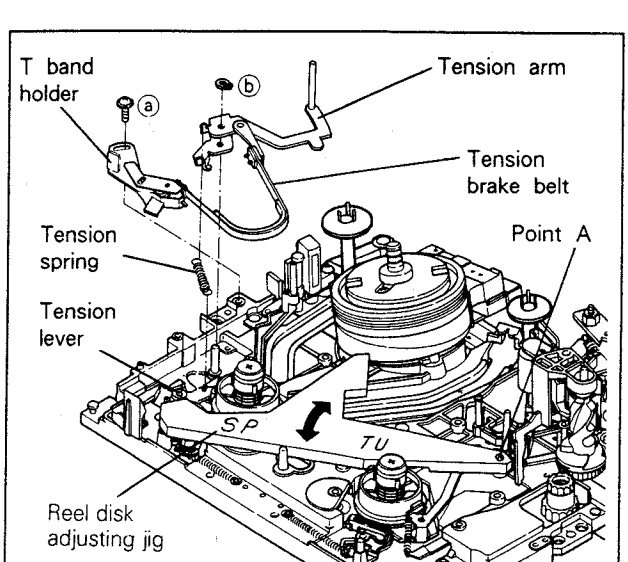


Fig. 2 – 10 – 5 F0D024

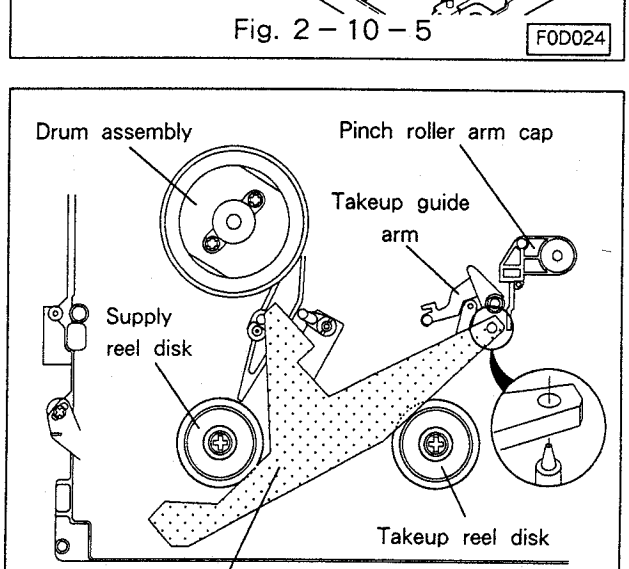


Fig. 2 – 10 – 6 F0D025

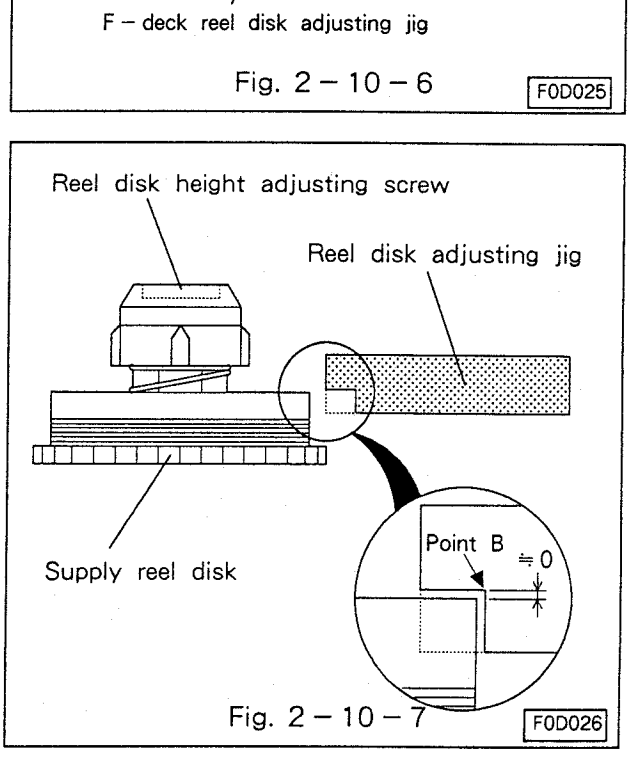


Fig. 2 – 10 – 7 F0D026

2-11 Takeup Reel Disk

2-11-1 Removal (Refer to Fig. 2-11-1.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Detach the spring RS and the tension regulation spring T from the tension regulation arm T and the lever RS.
C. Remove the cut washer which fastens the tension regulation arm T.
D. Turn the takeup guide arm slightly clockwise and raise the tension regulation arm T to remove it from the shaft.
E. Turn the main brake slightly counter-clockwise to separate the brake from the takeup reel disk and raise the disk upwards to remove it from the shaft.

2-11-2 Installation (Refer to Fig. 2-11-2, 2-11-3.)

A. Turn the main brake T slightly counter-clockwise to release the takeup reel disk shaft. Slip the takeup reel disk onto the shaft so that the gear of the takeup reel shall mesh with the reel gear.
B. Turn the takeup guide arm slightly clockwise and install the tension regulation arm T to the shaft. Secure the arm with a cut washer.
C. Fasten the tension regulation spring T and the spring RS to the tension regulation arm T and the lever RS.
D. Separate the main brake T and the tension regulation arm T from the takeup reel disk and make certain that the takeup reel disk turns freely.
E. Place the reel disk adjusting jig (Part Number 859C342020) in the reference position on the main plate. (Refer to Fig. 2-10-6.)
F. Turn the jig slowly about the point A towards the takeup reel disk to make certain that the height of the disk flange agrees with the point B on the takeup side of the jig (marked TU). (Refer to Fig. 2-11-3.)
G. If the height of the disk is not satisfactory, hold the disk so that it shall not turn, and turn the height adjusting screw at the top of the disk to adjust the height. (Refer to Fig. 2-11-3.)
   A) Turn the screw clockwise if the measured height is low.
   B) Turn the screw counterclockwise if the measured height is high.
H. On completion of height adjustment, lock the adjusting screw by burning it with the tip of the hot iron.
I. Install the cassette housing as in Para. 2-1-2.

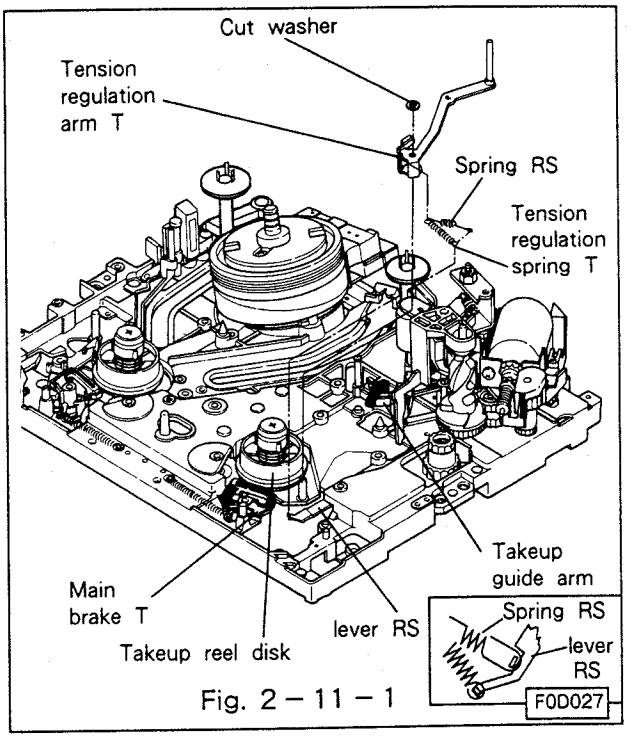


Fig. 2 – 11 – 1

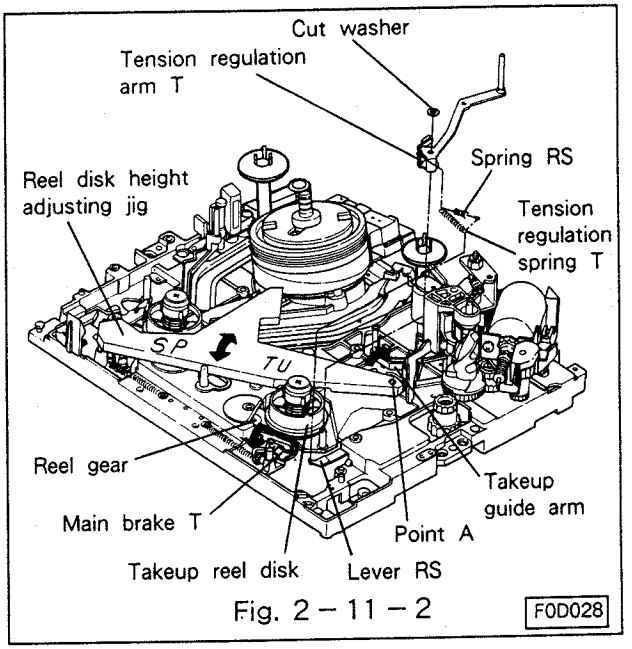


Fig. 2 – 11 – 2

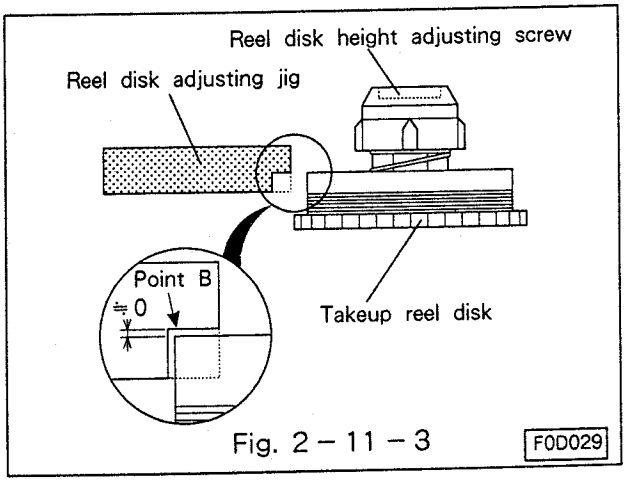


Fig. 2 – 11 – 3

2-12 A/C Head

2-12-1 Removal (Refer to Fig. 2-12-1, 2-12-2.)

A. Disconnect the connector from the A/C head PCB.
B. Remove the nut which fastens the A/C head assembly.
C. Raise upwards and remove the A/C head assembly from the shaft by paying attention to the A/C arm spring which turns the A/C head assembly clockwise.
D. Remove three A/C head fastening screws (ⓐ, ⓑ, and ⓒ) and the A/C spring shown in Fig. 2-12-2, and remove the A/C head from the A/C arm.
E. Unsolder the A/C head PCB from the A/C head.(Refer to Fig. 2-12-2.)

2-12-2 Installation (Refer to Fig. 2-12-1~2-12-3.)

A. Solder the A/C head PCB to the A/C head. (Refer to Fig. 2-12-2.)
B. Fasten the A/C head to the A/C arm with three screws (ⓐ, ⓑ, and ⓒ) and the A/C spring.
Note :
Install the A/C head to the A/C arm so that the base surface of the A/C head shall be parallel to the A/C arm, and their spacing and the A/C head installation screwⓒ height shall be as specified in Fig. 2-12-3.
C. Assemble the A/C head assembly to the shaft while turning the A/C arm spring counter-clockwise about 60°.(Refer to Fig. 2-12-1.)
D. Tighten the A/C head assembly fastening nut so that the base surface of the A/C head shall be about 7mm above the main plate surface.(Refer to Fig. 2-12-3.)
E. Plug in the connector to the A/C head PCB. (Refer to Fig. 2-12-1.)
F. Conduct the A/C head adjustment and the phase adjustment as outlined in Para. 3-3 and 3-4.

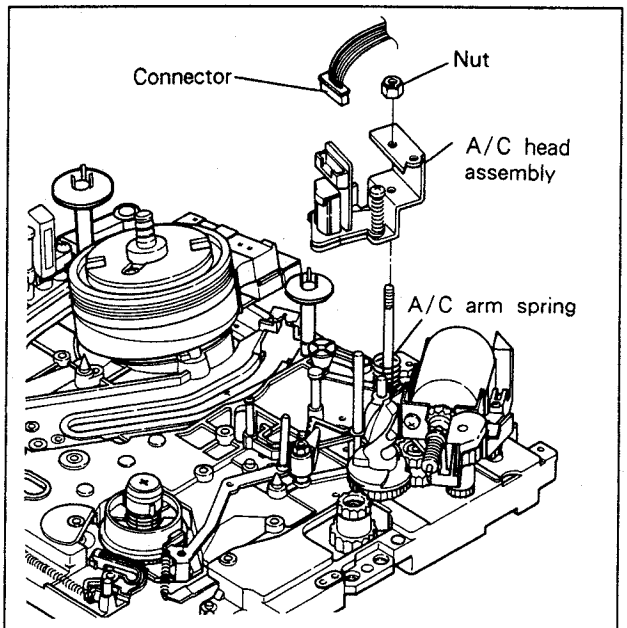


Fig. 2-12-1 F0D030

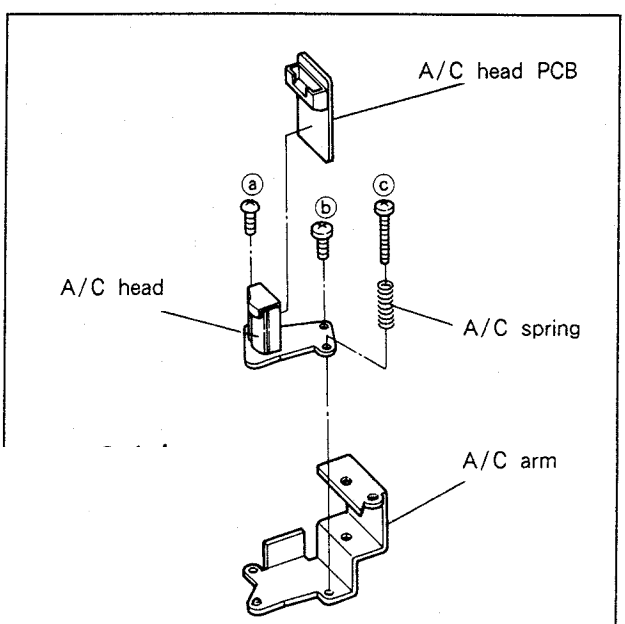


Fig. 2-12-2 F0D031

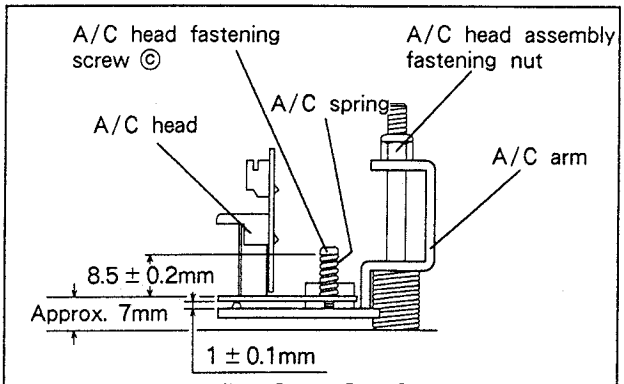


Fig. 2-12-3 F0D032

2-13 Take Up Guide Arm

2-13-1 Removal (Refer to Fig. 2-13-1.)

A. Set the VCR in the eject mode.
B. Remove the pinch roller arm assembly. (Refer to Para. 2-8 "Pinch Roller.")
C. Raise and separate the pinch roller cam and the TU-G gear arm from the shaft at the same time.
D. Remove the takeup guide arm fastening nut. Raise and separate the takeup guide arm from the shaft with care not to lose the TU-G spring.

2-13-2 Installation (Refer to Fig. 2-13-1~2-13-3.)

A. Install the TU-G spring and the takeup guide arm so that one end of the TU-G spring is fastened to the takeup guide arm and the other end is fastened to the hook of the main plate. Secure them with the fastening nut temporarily.
B. Place the reel disk adjusting jig (for the F deck) in the reference position on the main plate (Refer to Fig. 2-10-6). Tighten the takeup guide arm fastening nut so that the lower flange of the takeup guide arm is level with point B of the height adjusting jig (for the E deck). (Refer to Fig. 2-13-2.)
C. Turn the takeup tension lever fully clockwise as shown in Fig. 2-13-1.
D. Line the matching mark on the gear arm and beginning of gear section on the takeup guide arm, and line the matching mark on the pinch roller cam and centre of gear on the joint gear as shown in Fig. 2-13-3, and install the pinch roller cam and the TU-G gear to the shaft at the same time.
E. Assemble the pinch roller assembly to the shaft on the main plate.
F. Secure the pinch roller arm assembly with the pinch roller arm cap and the grip ring.

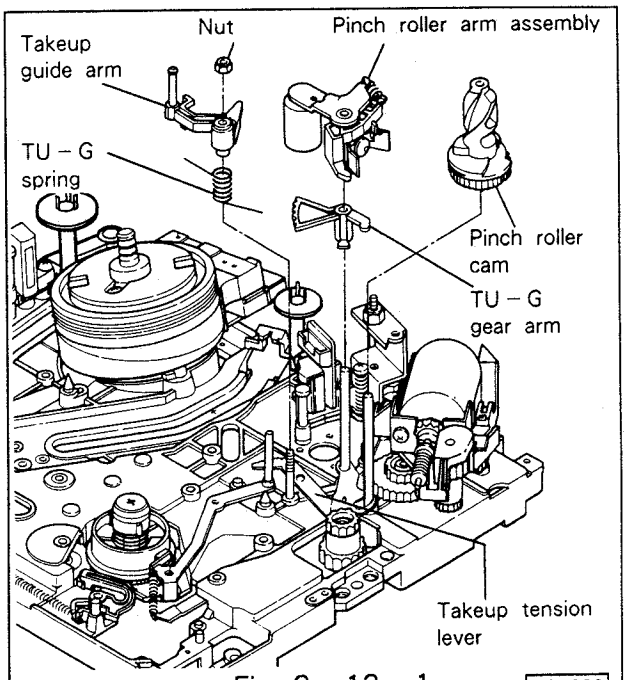


Fig. 2 – 13 – 1 F0D033

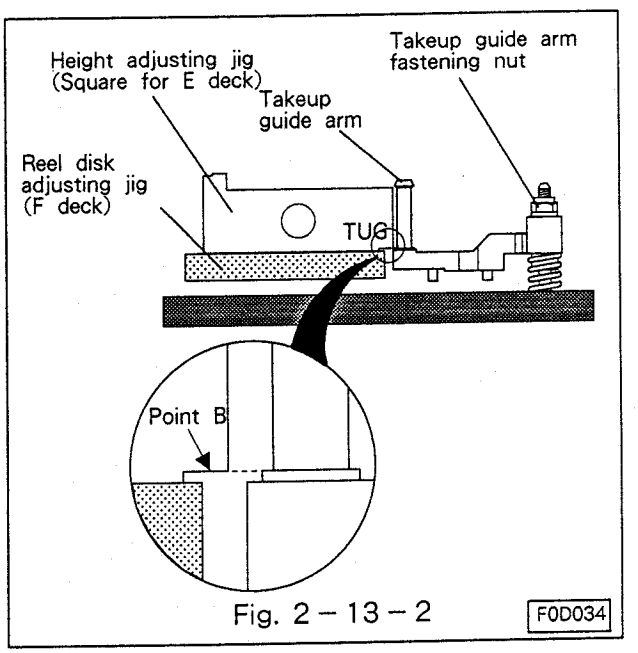


Fig. 2 – 13 – 2 F0D034

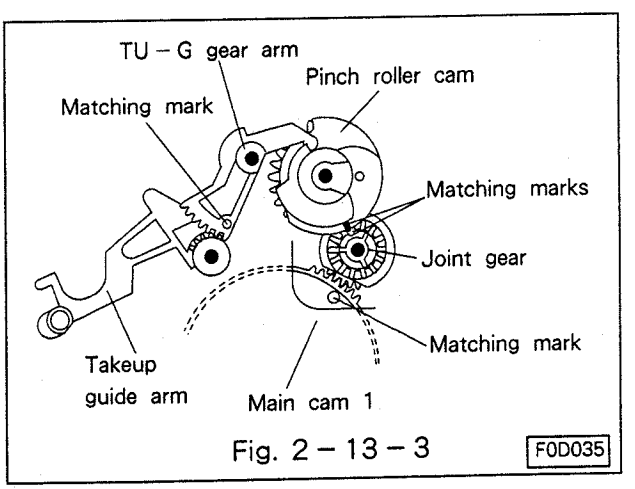


Fig. 2 – 13 – 3 F0D035

2-14 Deck PCB (Printed Circuit Board)

2-14-1 Removal (Refer to Fig. 2-14-1, 2-14-2.)

A. Detach the capstan brake spring from the capstan brake and the loading gear arm.
B. Remove the reel belt from the bottom of the deck.(Refer to Fig. 2-5.)
C. Detach two grip rings ⓕ shown in Fig. 2-14-2 and remove the loading gear arm.
D. Unsolder the terminals of the FE head.
E. Unfasten the catches and remove the F/L gear 2, 3 and 4.(Refer to Fig. 2-14-2.)
F. Remove grip ring ⓖ and cut washer ⓗ, and unfasten three catches shown in Fig. 2-14-3 to remove the cam plate B.(Refer to Fig. 2-14-2.)
G. Unscrew five fastening screws (ⓐ to ⓔ) and remove the deck PCB.(Refer to Fig. 2-14-2.)

2-14-2 Installation (Refer to Fig. 2-14-1~2-14-3.)

A. Make certain that the mode switch is set to the eject position.(Refer to section 2-9.) Fasten the deck PCB with five screws and solder the FE head terminals. (Refer to Fig. 2-14-1.)
Note :
The safety lever is normally held to the leftwith a spring. Pull the safety lever forwards and install the deck PCB.
B. Install the cam plate B by paying attention to the pin ⓐ to ⓖ positions shown in Fig. 2-14-3, and secure the plate with three catches, grip ring ⓖ and cut washer ⓗ.
C. Line the matching mark on the loading arm T and that on the loading gear arm as shown in Fig. 2-14-3, and assemble the loading gear arm so that the pin of the loading gear arm enters the groove of the main cam 2. Secure the loading gear arm with two grip rings ⓕ.
D. Assemble the F/L gear 2, 3, and 4 to the shafts.
E. Install the reel belt.(Refer to Fig. 2-5.)
F. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck.(Refer to Fig. 2-14-1.)

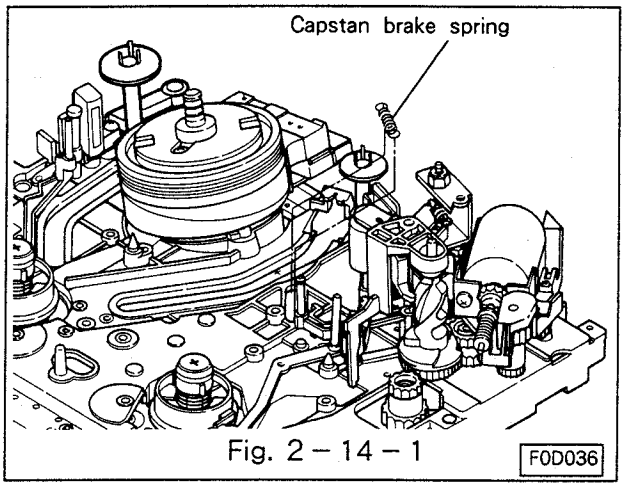


Fig. 2 – 14 – 1 F0D036

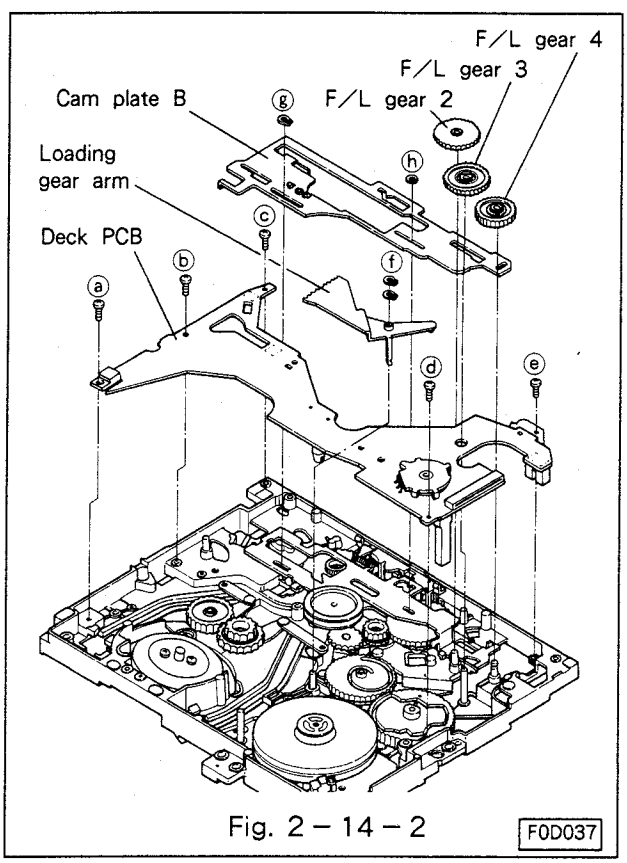


Fig. 2 – 14 – 2 F0D037

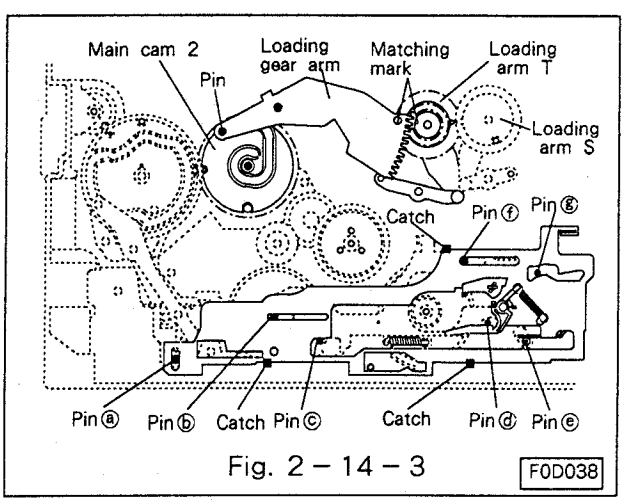


Fig. 2 – 14 – 3 F0D038

2-15 Positioning and Installation Sequence of Parts Around Main Cam 1 (Bottom Side of Deck) (Refer to Fig. 2-15-1~2-15-6.)

Note :
Set the VCR to the eject mode to install the main cam 1 and its peripheral parts.

A. Line the positioning hole in the lever RS and that of the main plate, and assemble the lever RS to the shaft.

B. Line the positioning hole in the lever C with that of the main plate, and assemble the lever C to the shaft.

C. With care not to move the lever RS and lever C, assemble the main cam 1 to the shaft by lining the matching mark of the joint gear with the positioning hole of main plate. Secure the main cam 1 with the grip ring.(Refer to Fig. 2-15-2.)

Note :
The pins of the lever RS and the lever C enter the groove of the main cam 1 when the levers are lined with the positioning holes.
Make certain that the pins of the levers enter the groove of the main cam 1.

D. Assemble the thrust washer to the pin ⓒ shown in Fig. 2-15-2, and install the cam plate C so that the corresponding positions of the plate shall match the pins ⓐ to ⓖ.

E. Fasten the cam spring C to the cam plate C and the cam plate holder.(Refer to Fig. 2-15-2.)

F. Assemble the lever B to the shaft so that the pin of the lever shown in Fig. 2-15-3 shall enter the groove of the main cam 1. Secure the lever with a grip ring.

G. Line the positioning hole of the F/L idler lever with that of the main plate.(Refer to Fig. 2-15-3.)

Note :
The pin of the F/L idler lever enters the groove of the main cam 2 when the positioning hole of the F/L idler lever is lined.
Make certain that the pin of the lever enters the groove of the main cam 2.

H. Line the matching mark of the main cam 2 with that of the main cam 1, and also the positioning hole of the main cam 2, and assemble the main cam 2 to the shaft. (Refer to Fig. 2-15-3.)

Note :
Make certain that the pin of the F/L idler lever correctly enters in the groove of the main cam 2.

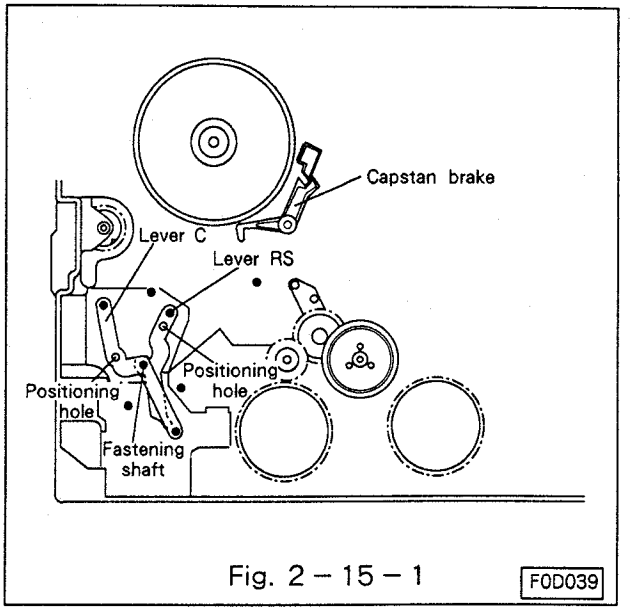


Fig. 2 – 15 – 1 F0D039

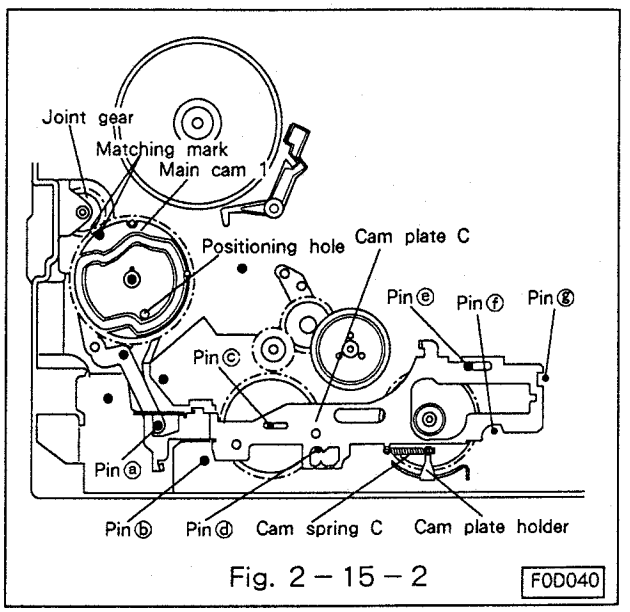


Fig. 2 – 15 – 2 F0D040

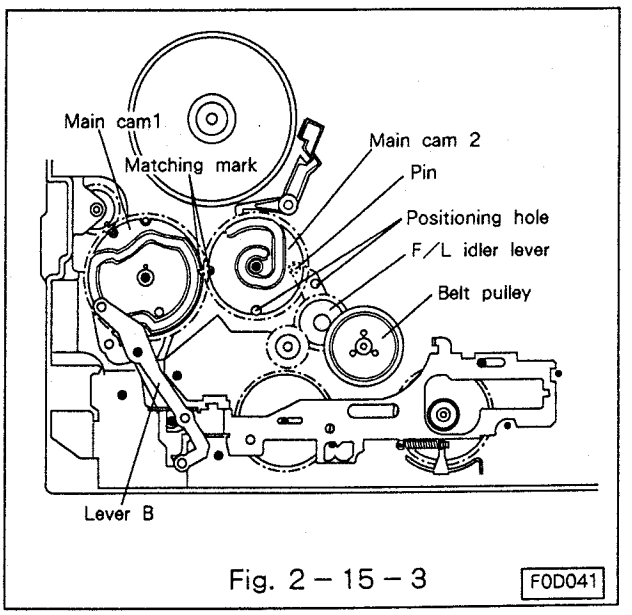


Fig. 2 – 15 – 3 F0D041

I. Make certain that the mode switch is in the eject position. Fasten the deck PCB assembly with five screws and solder the FE head terminals.(Refer to Fig. 2-14-2 and 2-14-1.)
Note :
The safety lever is normally held in a positionto the left by the spring. Pull the lever forwards and install the deck PCB assembly.

J. Install the cam plate B so that the plate shall match the pins ⓐ to ⓖ as shown in Fig. 2-15-4, especially the pin ⓔ, and secure the plate with three clamps, cut washer (pin ⓑ) and grip ring (pin ⓕ).

K. Line the matching mark of the loading arm T with that of the loading gear arm as shown in Fig. 2-15-4, and assemble the loading gear arm to the shaft so that the pin of the loading gear arm shall enter the groove of the main cam 2. Secure the arm with two grip rings ⓕ.(Refer to Fig. 2-15-5.)

L. Assemble the F/L gear 2, 3, and 4 to the shafts as shown in Fig. 2-15-5.

M. Install the reel belt. (Refer to Fig. 2-5.)

N. Fasten the tension regulation spring T and the spring RS to the tension regulation arm T and the lever RS from the top side of the deck. (Refer to Fig. 2-11-1.)

O. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck. (Refer to Fig. 2-15-6.)

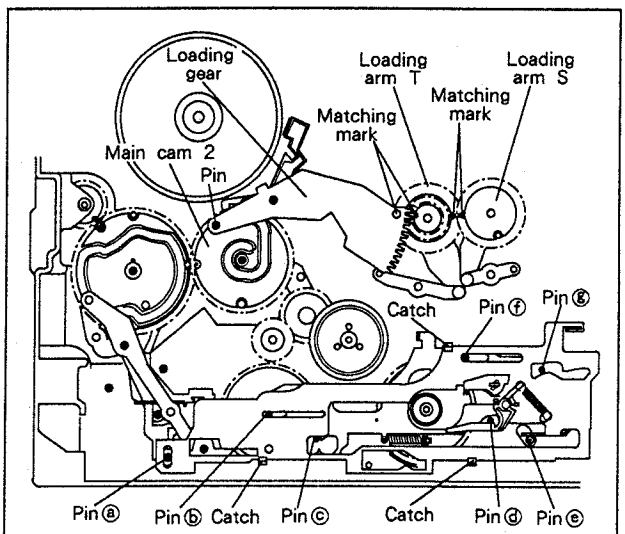


Fig. 2 – 15 – 4 F0D042

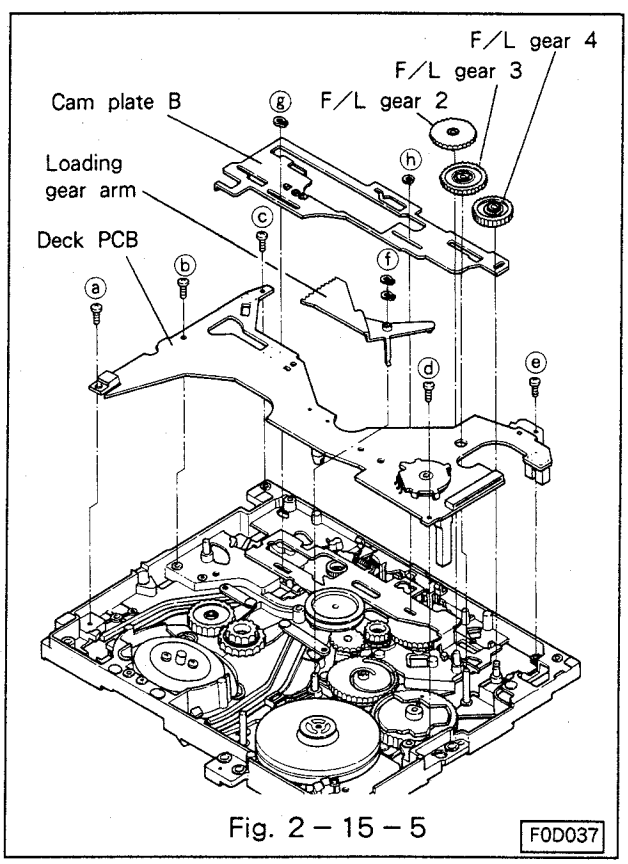


Fig. 2 – 15 – 5 F0D037

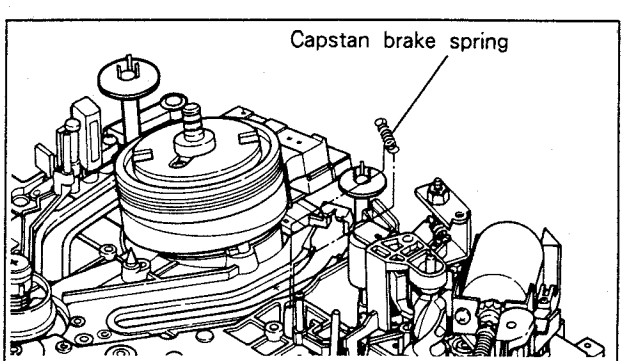


Fig. 2 – 15 – 6 F0D036

2-16 Supply and Takeup Guide Rollers

2-16-1 Removal (Refer to Fig. 2-16.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Loosen the set screw to such a degree as the guide roller turns lightly.
C. Loosen the guide roller height adjusting screw located at the top of the guide roller by turning counterclockwise with the height adjusting screwdriver. Raise and remove the roller from the tape guide.

2-16-2 Installation (Refer to Fig. 2-16.)

A. Make certain that the fastening thread section of a new guide roller is provided with a rubber ring.
B. Set the new guide roller in the tape guide fastening hole.
C. Turn the guide roller slowly clockwise till it becomes stiff.
D. Turn further about 1/6 turns from a point where the guide roller becomes heavy, and return the roller about one turn counter-clockwise.
E. Again turn the guide roller slowly clockwise till it becomes heavy. Turn the roller further about 1/6 turn from the point where the roller becomes stiff.
F. Secure the guide roller lightly with the set screw. Check and adjust the envelope as in Para. 3-2.

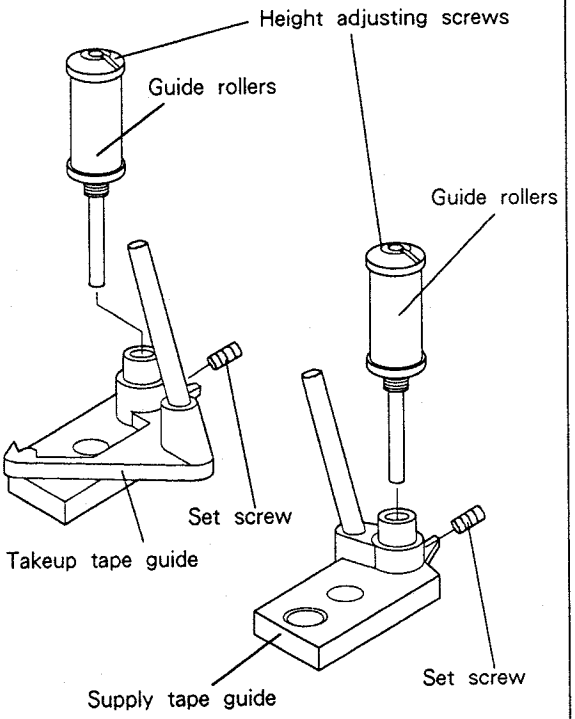


Fig. 2 – 16 F0D043

2-17 Supply and Takeup Tape Guide Assemblies

Note :
Refer to section 3-2-7 and 3-3-3 before replacing the supply or takeup tape guide assemblies.

2-17-1 Removal (Refer to Fig. 2-17-1~2-17-4.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Detach the capstan brake spring from the capstan brake and the loading gear arm.
C. Remove the reel belt. (Refer to Fig. 2-5.)
D. Secure the tension arm and the tension regulation arm S with a rubber band etc. so as to separate them from the supply guide roller.

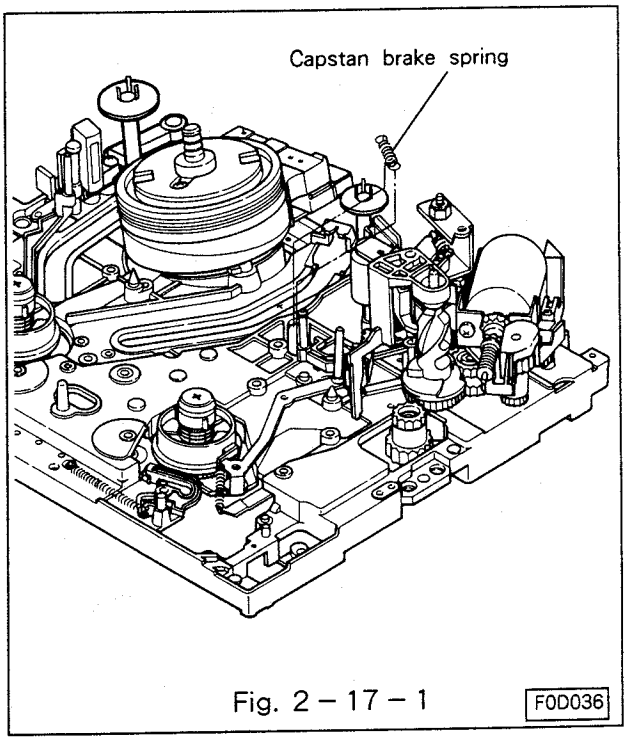


Fig. 2 – 17 – 1 F0D036

E. Remove the grip ring and remove the loading gear arm.(Refer to Fig. 2-17-2.)
F. Turn the loading arm S and T to the loading position.(Refer to Fig. 2-17-2.)
G. Unfasten the clamp shown in Fig. 2-17-3, and remove the loading arm S.
H. Remove the loading arm T further in case of replacing the takeup guide assembly.
I. Unfasten the clamp of the slider which secures the supply or takeup tape guide assembly, and remove the tape guide assembly and the slider from the main plate. (Refer to Fig. 2-17-4.)

2-17-2 Installation (Refer to Fig. 2-17-1~2-17-4.)

A. Place a new tape guide assembly on the installation rail of the main plate and install the slider on the reverse side of the main plate so that the catch of the slider enters the fastening hole of the tape guide assembly.
B. If the takeup tape guide is replaced, install the loading arm T at first.(Refer to Fig. 2-14-2.)
C. Install the loading arm T so that the matching mark of the loading arm S is lined with the matching mark of the loading arm T as illustrated in Fig. 2-17-2.
D. Line the matching mark of the loading gear arm with that of the loading arm T, and assemble the loading gear arm to the shaft so that the pin of the loading gear arm enters the groove of the main cam 2. Secure the loading gear arm with two grip rings.
E. Install the reel belt.(Refer to Fig. 2-5.)
F. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck.(Refer to Fig. 2-17-1.)
G. Install the cassette housing as in Para. 2-1-2.

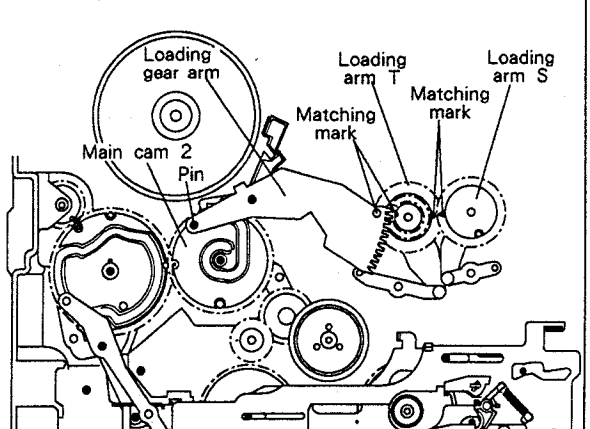


Fig. 2 – 17 – 2 F0D044

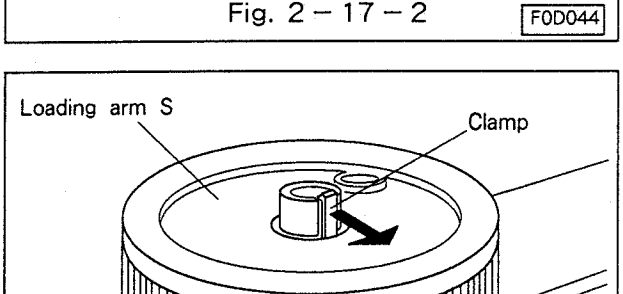


Fig. 2 – 17 – 3 F0D045

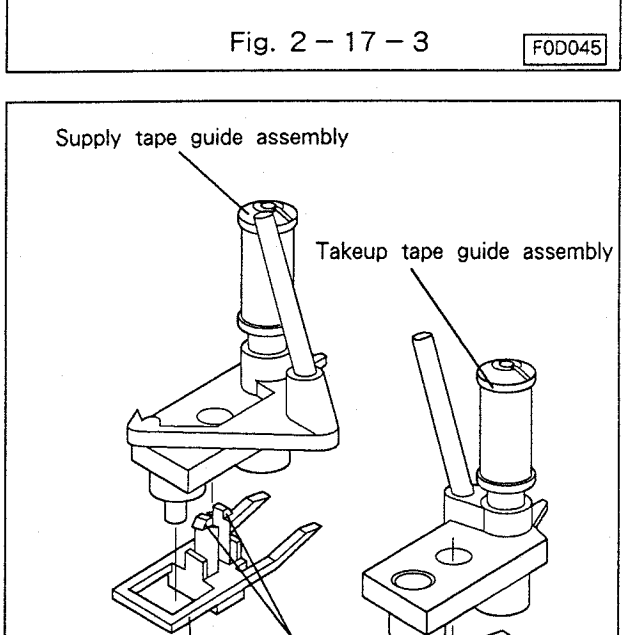


Fig. 2 – 17 – 4 F0D046

3. Interchangeability Adjustment of Mechnism

Note :
Tracking may need to be preset in the interchangeability adjustment of the mechanism. Digital tracking should be preseted. To preset, short circuit TP8X and TP8Y on the PCB TIMER.

Note :
The adjustment is conducted in the playback mode, using the stair step signal of the alignment tape, connect an oscilloscope to TP2A and external Trig. to TP2H, unless otherwise specified.

3-1 Adjustment of Back Tension and Tension Pole Position (Refer to Fig. 3-1.)

Run a blank tape for several minutes to break in the reel disks and the transport before beginning the adjustment.

A. Set the back tension measuring jig and set the VCR to the playback mode.
B. When the running of the tape becomes steady, make certain that the tension arm check hole is within the M/P hole of the main plate (0 ± 0.5mm) or the interval between the centre of tension pole and the centre of Supply guide pole is 2 ± 0.5mm.
C. If neither the centre of Tension pole nor the tension arm check hole is in position, loosen the T band holder fastening screw lightly and move the T band holder so that the condition specified by the para.B is satisfied.
D. On completion of adjustment, tighten the T band fastening screw.
E. Make certain that the reading of the back tension measuring jig is 50 ± 6g-cm.
F. When the running of the tape is steady, check visually to make certain that the deflection of the Tension pole is 1mm or less.

Note :
Slight fluctuation of back tension may be tolerated, however if fluctuation exceeds 5g-cm, the reel disk etc. may be defective. Examine and correct the defect.

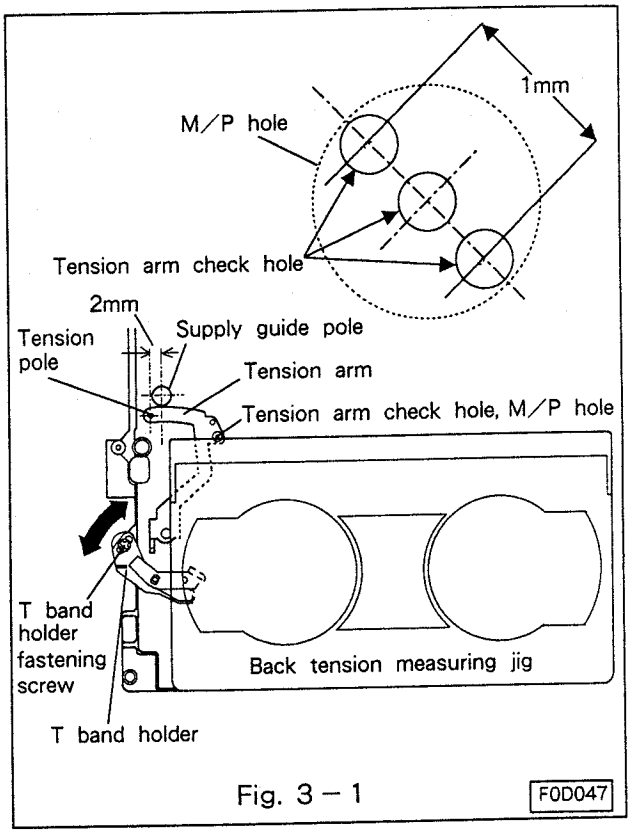


Fig. 3 – 1 F0D047

3-2 Check and Adjustment of FM Envelope

3-2-1 Guide Roller Adjustment (Refer to Fig. 3-2-1.)

A. Set the VCR to the playback mode.
B. Preset tracking.
C. Check if the FM waveform is flat like A shown in Fig. 3-2-1.
D. Adjust the height of the supply guide roller as in 3-2-2 if the leading portion (the entry side of the drum) of the FM waveform is not flat like B or C.
Adjust the height of the takeup guide roller as in 3-2-3 if the trailing portion (the exit side of the drum) is not flat like D or E.

3-2-2 Adjustment of Supply Guide Roller Height (Refer to Fig. 3-2-1, 3-2-2.)

A. Loosen the set screw to such a degree as the supply guide roller turns lightly.(Refer to Fig. 3-2-2.)
B. The supply guide roller is low if the leading portion (the entry side of the drum) of the FM waveform is like B, and high if like C. Adjust the height of the roller by turning the adjusting screw at the top of the roller so that the FM waveform shall be flat like A.
- Turn the adjusting screw counterclockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

C. Carry out the coarse adjustment of phase as in 3-2-4.

3-2-3 Adjustment of Takeup Guide Roller Height (Refer to Fig. 3-2-1, 3-2-2.)

A. Loosen the set screw to such a degree as the takeup guide roller turns lightly.(Refer to Fig. 3-2-2.)
B. The takeup guide roller is low if the trailing portion (the exit side of the drum) of the FM waveform is like D, and high if like E. Adjust the height of the roller by turning the adjusting screw at the top of the roller so that the FM waveform shall be flat like A.
- Turn the adjusting screw counterclockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

C. On completion of height adjustment, adjust the azimuth and height of the A/C head as in 3-3-2.
D. Coarsely adjust the phase as in 3-2-4.

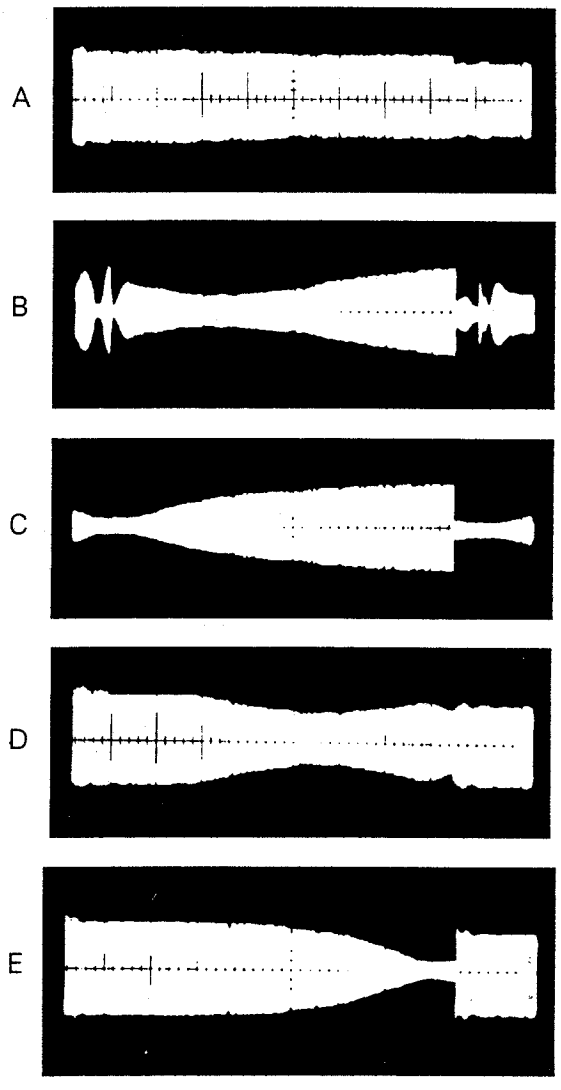


Fig. 3 – 2 – 1 F0D048~052

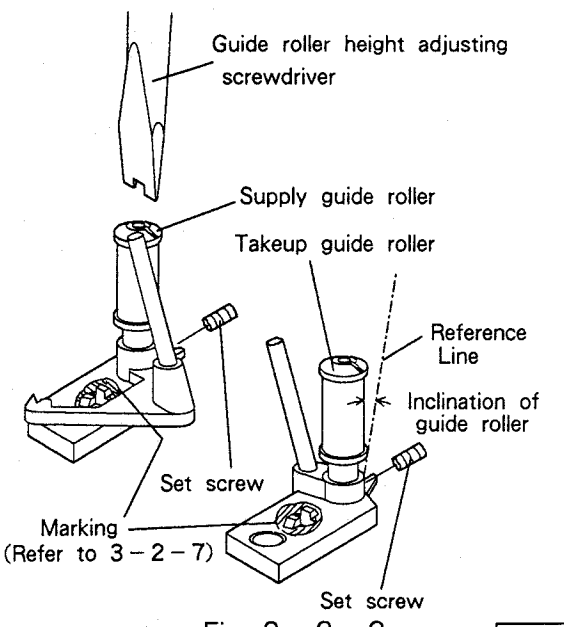


Fig. 3 – 2 – 2 F0D053

3-2-4 Coarse Phase Adjustment (Refer to Fig. 3-2-3, 3-2-4.)

A. Set the VCR to the playback mode.
B. Preset tracking.
C. Check the FM waveform after checking and adjusting the guide rollers.
D. If the amplitude of the FM waveform is narrow like F because of out of phase, adjust the phase adjusting nut so that the amplitude of the FM waveform shall be maximum.

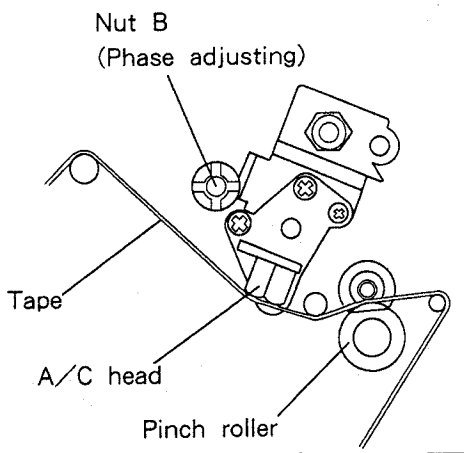
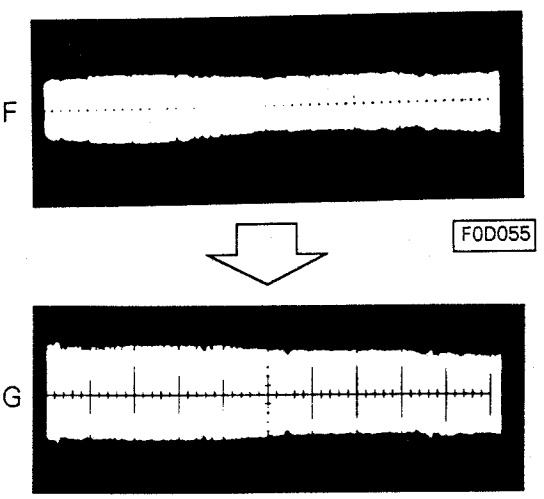


Fig. 3 – 2 – 3 F0D054

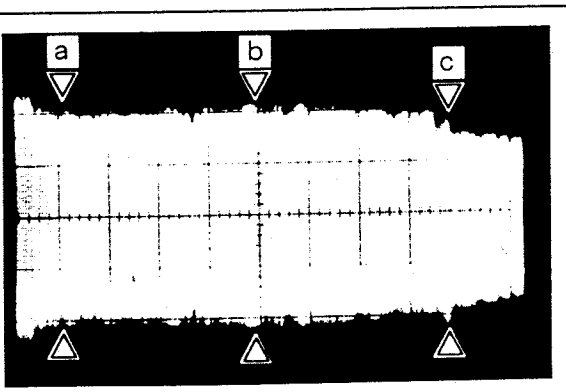


F0D055

Fig. 3 – 2 – 4 F0D056

3-2-5 Check of FM Waveform Flatness (Refer to Fig. 3-2-5.)

A. Set the VCR to the playback mode.
B. Set the tracking switch to the manual mode. Vary tracking and check if the amplitude changes while the waveform remains flat.
C. Adjust tracking in the manual mode so that the amplitude shall be maximum, and adjust the oscilloscope so that the amplitude shall be '5' on the scale of the oscilloscope.
D. Adjust tracking so that the amplitude at the middle (around the point 'b') of the FM wave form is about 80% ('4' on the scale of the scope) of the maximum amplitude. Make certain that the amplitudes around the points 'a' and 'c' satisfy the requirements given in Fig. 3-2-5.
E. If deviating from the requirements, conduct the check and adjustment of the FM envelope as in 3-2 from beginning.



	Normal VHS mode	S – VHS mode
a	At least 2.8 of the scale	At least 3.2 of the scale
c	At least 2.8 of the scale	At least 3.2 of the scale

Fig. 3 – 2 – 5 F0D057

3-2-6 Check 1 : Tape Running Condition on Guide Rollers (Refer to Fig. 3-2-6.)

A. Set the VCR to the playback mode.
B. Visually check if there is a space between the tape and the lower flange of the supply and the take up guide roller.
C. If not, replace the tape guide as in 3-2-7.
Note :
In this case the tape guide should be replaced with the tape guide which has a larger inclination.
D. If the supply tape guide is replaced, check the guide roller as in 3-2-1.
If the take up tape guide is replaced, check the guide roller as in 3-2-3, and the waveform flatness as in 3-2-5
E. Load and unload the tape several times to make certain that the flatness of the FM waveform dose not change.
F. If changes occur, check the A/C arm shaft for looseness.
If not free, replace the A/C arm and adjust the audio/control head as in 3-3.

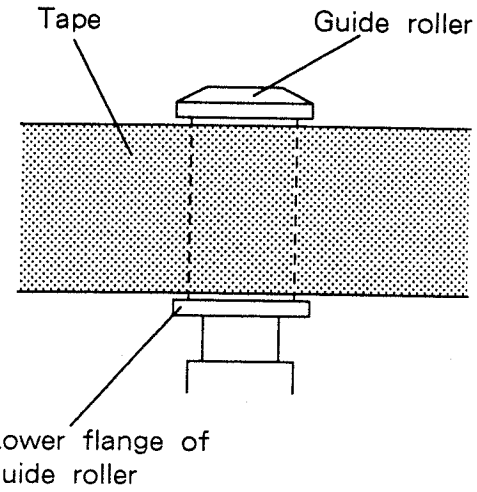


Fig. 3 – 2 – 6 F0D058

3-2-7 Replacement of Tape Guides

A. Identify the Item Number of the tape guide to be replaced. This is done by observing the marking present on the die-cast portion of the tape guide base, and comparing that marking to Fig. 3-2-7.
B. If the Item Number of the tape guide presently installed is a '2', replace the guide with an Item Number '1' guide. (Part No. 635B059010)
C. If the Item Number of the present tape guide is a '1', replace the guide with an Item Number '3' guide.
D. If the Item Number of the present tape guide is a '3', replace the guide with other Item Number '3' guide.
E. Once the tape guide is replaced, resume alignment starting with 3-2-1.

Identification of Tape Guide Item Number
(Example ; Parts No. 635B059010)
Item No.

Item No.1	No marking
Item No.2	Marked with black magic marker
Item No.3	Marked with red magic marker

Fig. 3 – 2 – 7

3-2-8 Check 2 : Tape Running Condition on Guide Rollers

A. Set the VCR to the playback mode.
B. Press the head of the supply guide roller and the take up guide roller lightly, and release the roller. Check if the FM waveform is quickly restored to the previous level.
C. If the FM waveform is not restored quickly, replace the tape guide as in 3-2-7.
D. If the supply tape guide is replaced, check the guide roller as in 3-2-1.
If the takeup tape guide is replaced, check the guide roller as in 3-2-1, and check the FM waveform as flatness as in 3-2-5
E. If satisfactory, tighten the set screw of the guide roller on the supply side and the take up side.

3-3 Adjustment of Audio/Control Head

3-3-1 Adjustment of A/C Head Slant (Refer to Fig. 3-3-1.)

A. Play back a blank tape.
B. Turn the screw C slowly clockwise to crease the bottom edge of the tape slightly by the lower flange of the takeup guide pole.
C. Turn the screw C slowly counterclockwise to eliminate the crease of the bottom edge of the tape.
D. Turn the screw C slowly clockwise again and stop turning just before the tape is creased.

3-3-2 Adjustment of A/C Head Azimuth and Height (Refer to Fig. 3-3-1~3-3-3.)

A. Using stair step signal of alignment tape, connect an oscilloscope to the audio output terminal and set the VCR to the playback mode.
B. Turn the nut A (height adjusting) and the screw B (azimuth adjusting) so that the audio output level shall be maximum.
C. Turn the A/C head counterclockwise and release it to make certain that the audio output level does not change.
D. If the level changes, check if the A/C arm shaft is loose. If not free, replace the A/C arm and adjust the slant of the A/C head as in 3-3-1 and the azimuth and height of the A/C head from beginning.
E. Apply a force lightly to the A/C head shaft in the direction of A and A' of the arrow shown in Fig. 3-3-3 to make certain that the audio output level remains at maximum level and does not change.
F. If the level changes, turn the nut A (height adjusting) so that the audio output level shall be maximum. Apply a force lightly to the A/C head shaft in the direction of B and B' of the arrow shown in Fig. 3-3-3 and adjust so that the sound output level shall be maximum.
G. Check the sound output level in the playback mode to make sure that the fluctuation of the level is less than 2dBp-p.
H. If the fluctuation exceeds 2dBp-p, adjust the slant of the A/C head and the azimuth and height of the head.
I. If this is still not satisfactory, replace the takeup tape guide as outlined in 3-3-3.
Note :
In this case the tape guide should be replaced with a guide which has less inclination.
J. On completion of the above adjustment, adjust phase as in 3-4.

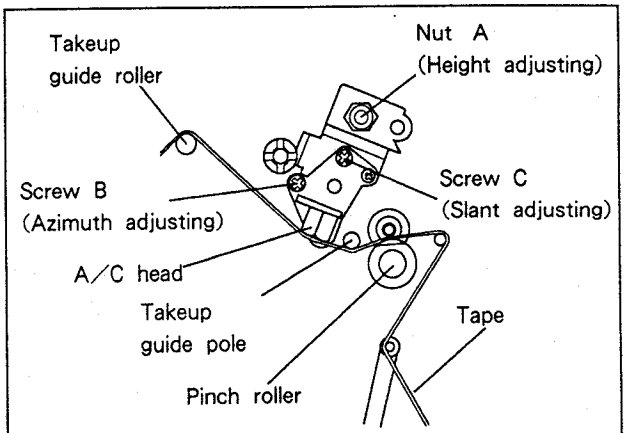


Fig. 3-3-1 F0D059

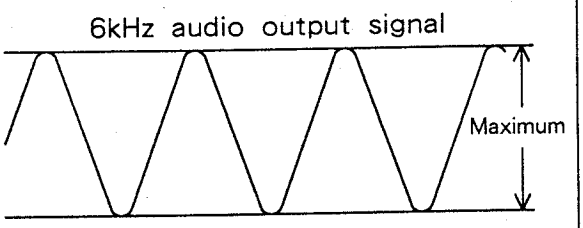


Fig. 3-3-2 F0D060

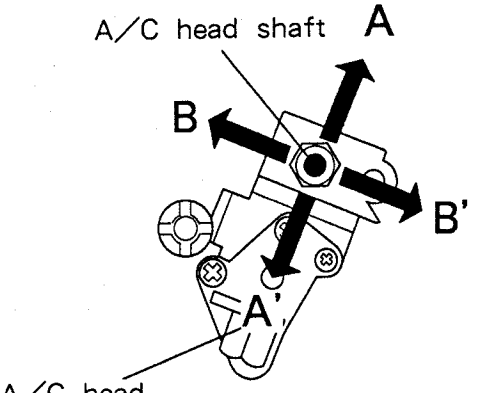


Fig. 3-3-3 F0D061

Identification of Tape Guide Item Number
(Example ; Parts No. 635B0600[1]0)
Item No.

Item No.1	No marking
Item No.2	Marked with black magic marker
Item No.3	Marked with red magic marker

Fig. 3-3-4

3-3-3 Replacement of Tape Guides

A. Identify the Item Number of the Tape Guide to be replaced. This is done by observing the marking present on the die-cast portion of the Tape Guide base, and comparing that marking to Fig. 3-3-4.
B. If the Item Number of the tape guide presently installed is a '3', replace the guide with an Item Number '1' guide.
C. If the Item Number of the present tape guide is a '1', replace the guide with an Item Number '2' guide.
D. If the Item Number of the present tape guide is a '2', replace the guide with other Item Number '2' guide.
E. Once the tape guide is replaced, resume alignment starting with 3-2-1.

3-4 Phase Adjustment (Refer to Fig. 3-4.)

A. Set the VCR to the playback mode.
B. Preset tracking.
C. Turn the phase adjusting nut to make the amplitude of the FM waveform is maximum.
Note :
Do not turn the phase adjusting nut exceeding one turn in either direction.
D. Turn the A/C head counterclockwise and return to make sure that the amplitude of the FM waveform is the same as that before turning the head.
E. If the amplitude changes, check the A/C arm shaft if loose. If not free, replace the A/C arm and adjust the A/C head as in 3-3 and the phase as in this section from beginning.
F. Load and unload the tape several times to make certain that the amplitude of the FM waveform does not change.

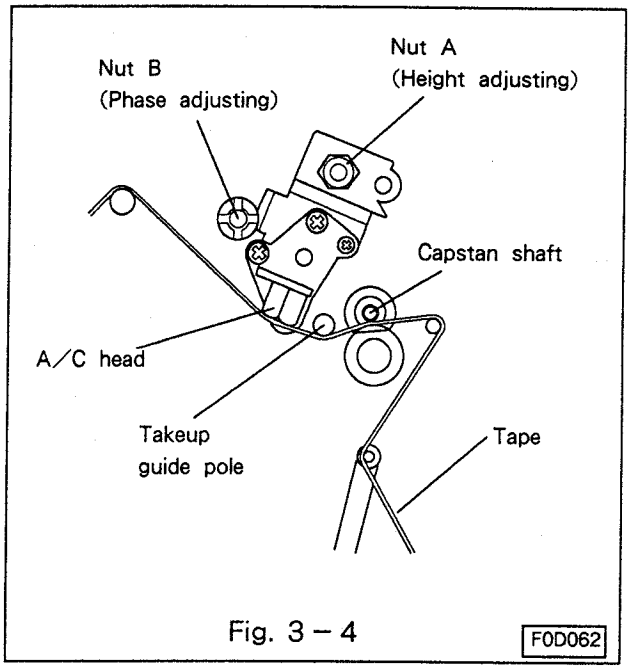


Fig. 3 – 4

F0D062

3-5 Adjustment of Takeup Guide Arm Height (Refer to Fig. 3-5.)

A. Run a final portion of E-240 blank tape in the reverse search mode.
B. Adjust the height of the takeup guide pole by turning the height adjusting nut so that the tape shall not be creased at the upper and the lower flange portion of the take up guide pole.
   Note :
   To avoid backlash ensure the final adjustment is done in the clockwise direction.
   Do not turn the nut exceeding one turn in either direction.
C. Eject the cassette tape and set to the reverse search mode again to make certain that the tape is not creased at the upper and the lower flange portion of the takeup guide pole.
D. Set to the playback mode and be sure that the tape is not creased at the upper and the lower flange portion of the takeup guide pole.

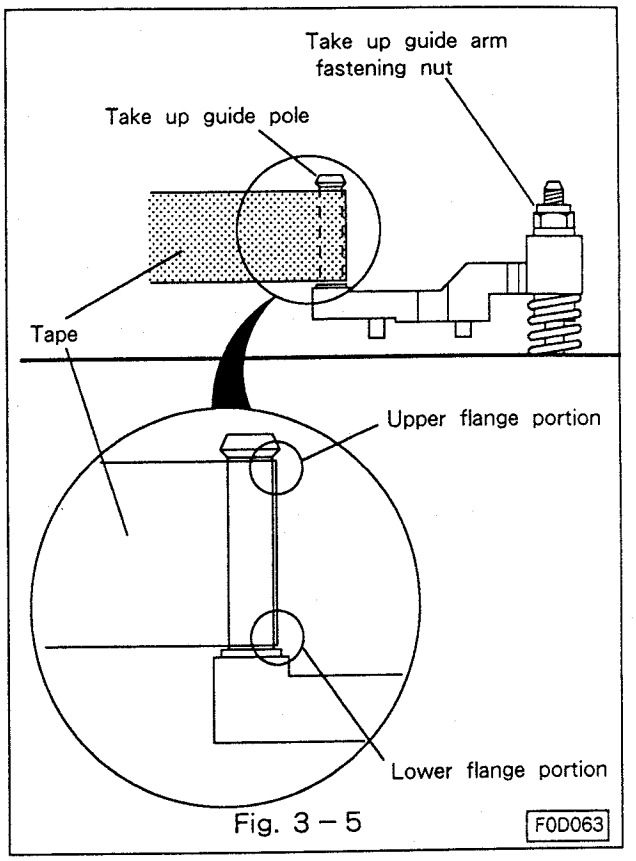


Fig. 3 – 5

KEY TO ABBREVIATIONS

A/C : Audio/Control
ACC : Automatic Colour Control
A.E : Audio Erase
AFC : Automatic Frequency Control
AFT-D : Automatic Fine Tuning Door Switch
AGC : Automatic Gain Control
AL : After Loading
AMP : Amplifier
ANT : Antenna
A-PB : Audio-Playback
A-REC : Audio-Recording
ALC : Automatic Level Control

BPF : Band-Pass Filter
B/W : Black and White
BS : Band SW

CASS : Cassette
CP : Capstan
CP-FG : Capstan-Frequency Generator
CP-F/R : Capstan-Forward/Reverse
CP-M : Capstan-Motor
CONV : Converter
CTL : Control
C-LAMP : Cassette Lamp
C-I LAMP : Cassette Indicator Lamp

DAL : Delay-After Loading
DEMOD : Demodulator
DET : Detector
DL : Delay Line
DL-REV : Delay Reverse
DL-FWD : Delay Forward
DOC : Drop Out Compensator

EF : Emitter Follower
EMPHA : Emphasis
EQ : Equalizer
EE : Electronic-Electronic
ES : End Sensor

FE-H : Full Erase Head
FF : Flip Flop or Fast Forward
FG : Frequency generator
FL-SW : Front Loading SW
FLM : Front Loading Motor
F/R-SW : FF/Rewind Switch

G : Ground

HE-1 : Hall Element-1
HE-2 : Hall Element-2
H-LED : Humidity-LED
H-SENS : Humidity-Sensor
HPF : High-Pass Filter

LIM : Limiter
LPF : Low-Pass Filter
LM : Loading Motor

MDA : Motor Drive Amplifier
MC : Mechanical Control
MIC : Microphone
MOD : Modulator

OPE : Operation
OSC : Oscillator

PB : Play Back
PG : Pulse Generator
P/R-SW : P.B/REC-SW
PCB : Printed Circuit Board
PIC : Picture Control

REC : Recording
REF : Reference
RIS : Record Inhibit Switch
REW : Rewind
REG : Regulator
RS : Reverse Search

SENS : Sensor
SM : Supply Motor
S/P : Still/Pause
SS : Speed Search
STBY : Stand By
S & H : Sample & Hold
SYNC SEP : Sync Separator

TM : Take up Motor
T-REC : Timer-Recording
T.P : Test Point
TR : Transistor
TU-P : Tuner-Power

UL : Unloading

VS : Voltage Synthesizer
V.SYNC : Vertical Sync
VCO : Voltage Controlled Oscillator
VXO : Variable Crystal Oscillator

W/D : White/Dark

X'OSC : Crystal Oscillator

Y/C : Luminance/Chrominance

CHIP PARTS REPLACEMENT

CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts which are used for certain circuit elements. When replacing these parts, note the cautions as follows.

Cautions:

A. Use fine tipped, well insulated soldering pencil (iron) about 30 watts and the tweezers.
B. Melting the solder, remove the Chip Parts carefully not to tear off the copper foil of the printed circuit board.
C. Discard removed chips; do not reuse them.
D. Do not apply heat for more than 3 seconds to the new chip Parts.
E. Avoid using a rubbing stroke when soldering.
F. Take care not to scratch when soldering, or damage the Chip Parts.
G. Supplementary cementing is not required.

1 Removal of chip Parts
(Resistors, capacitors, etc.)

A. Grasp the part with tweezers. Melting the solder at both side alternately, remove the one side of the part with a twisting motion.
B. Melt the solder at the other side and remove the part.

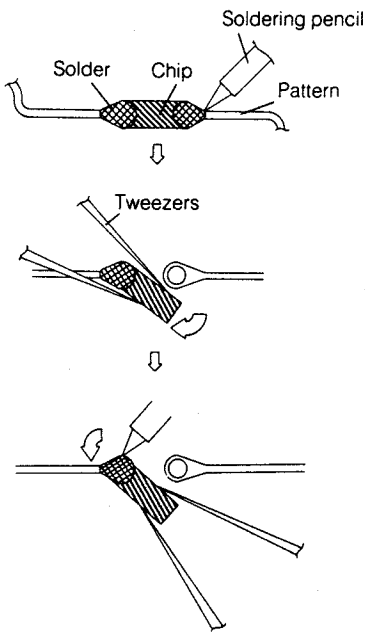


Fig. 1

2 Removal of Chip Parts (Transistors)

A. Melting the solder of one lead, Lift the side of that lead upward.
B. Simultaneously melt the solder of the two remaining leads and lift the part to remove.

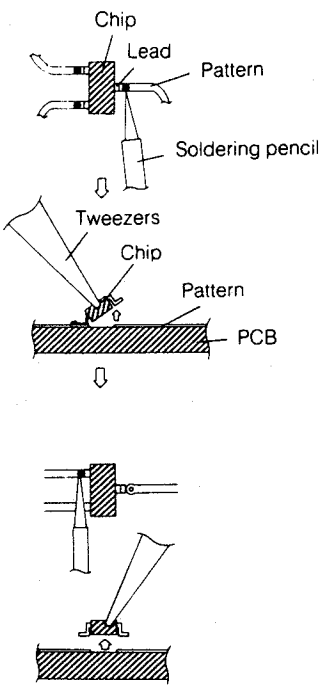


Fig. 2

3 Replacement

A. Presolder the contact points of the circuit pattern.
B. Press the part downward with tweezers and apply the soldering pencil as shown in the figure.

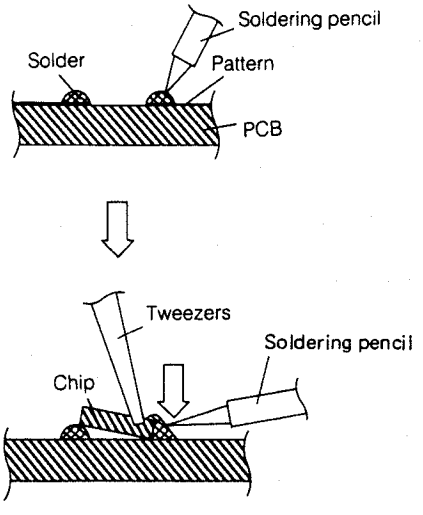
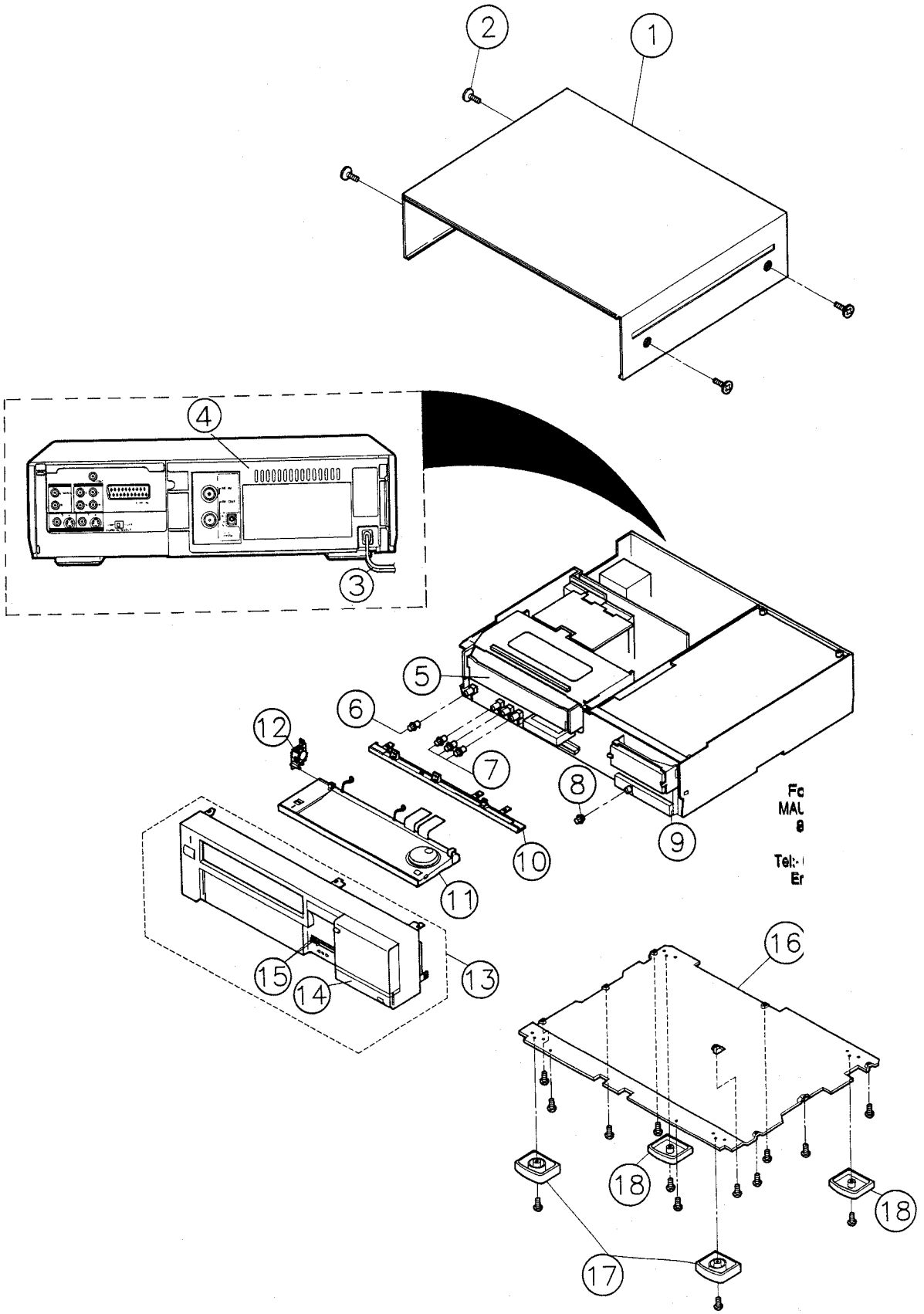


Fig. 3

— MEMO —

PARTS LIST

1. CABINET PARTS

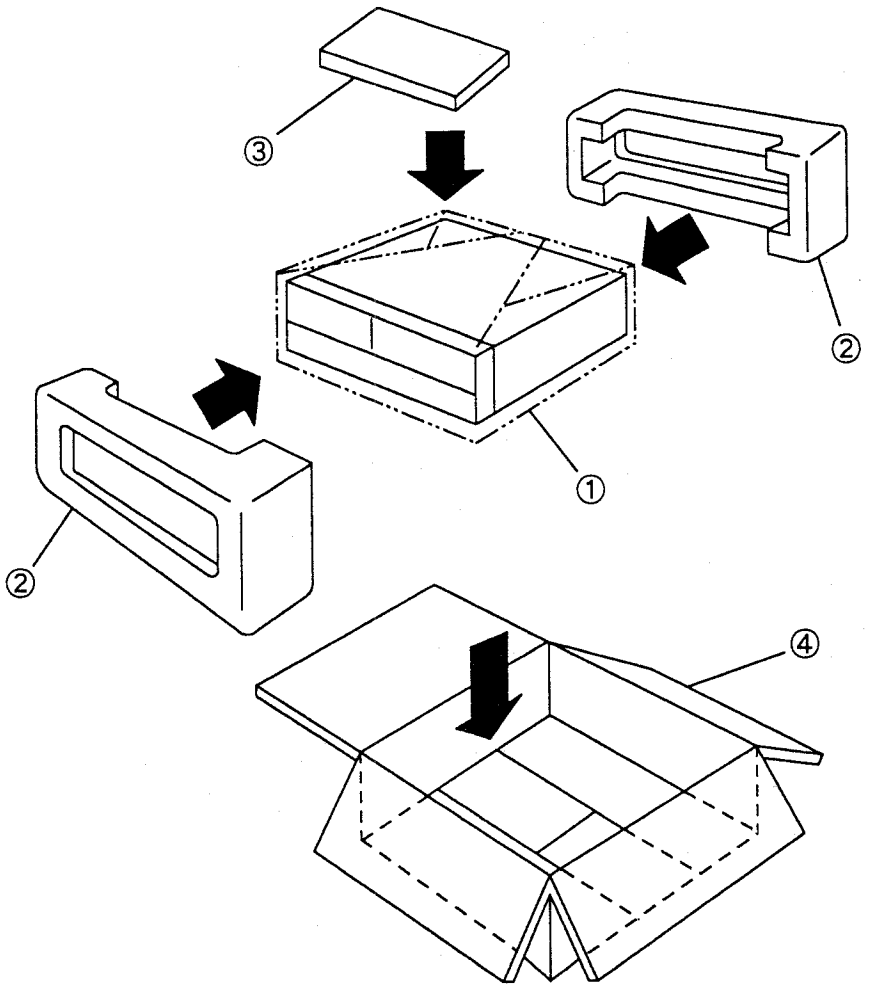


NOTE:
Broken AC power cord must be exchanged with a new original cord.

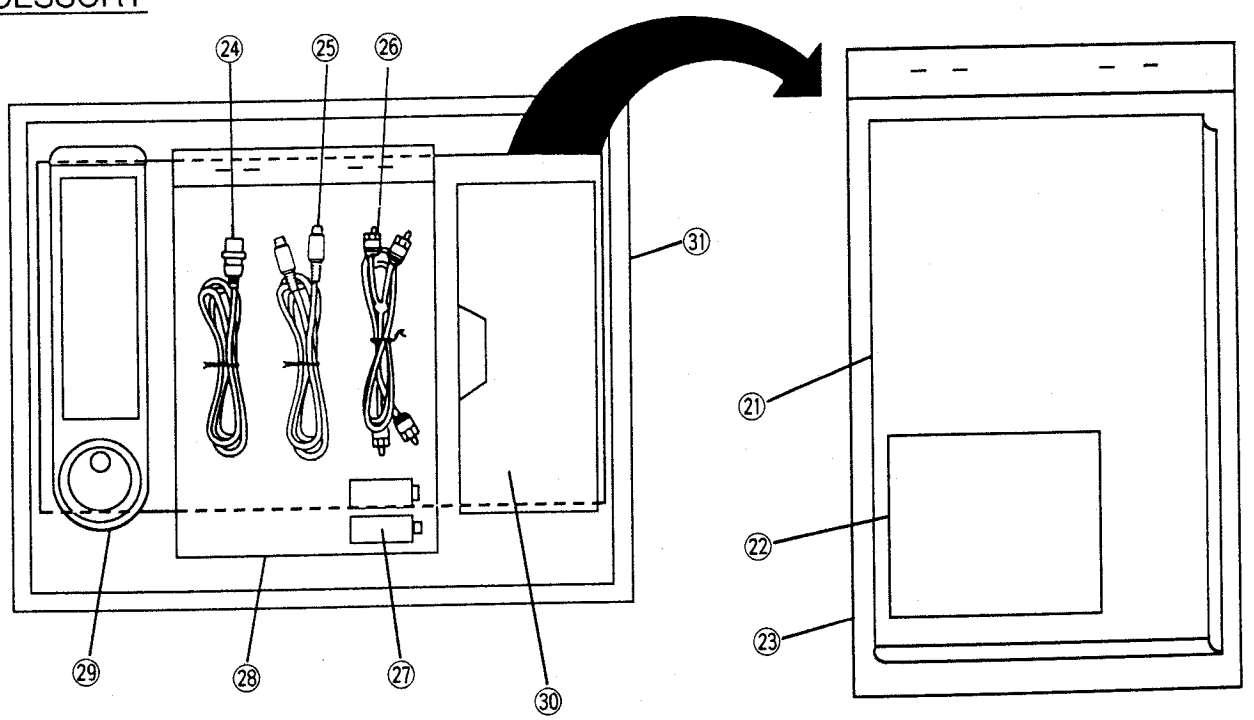
○ : NEW PARTS

	ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
			CABINET ASSEMBLY	
	1	968C022050	TOP COVER ASSY	
	2	669D223080	SCREW	
	3	246C103020	AC POWER CORD	
	4	641B362030	BACK COVER	
○	5	702B690060	F/L DOOR	
○	6	734D482020	TRACKING KNOB	
	7	734D482030	TRACKING KNOB	
○	8	734D428060	TRACKING KNOB	
○	9	440B104010	FRONT TERMINAL BOARD	
	10	761B183010	LOW PANEL	
○	11	939P337030	DOOR UNIT	
○	12	520C026010	DAMPER UNIT	
○	13	701B195030	FRONT UNIT	
○	14	702C890030	DOOR(R)	
	15	704C655010	LEVEL KNOB	
○	16	590A273010	BOTTOM PANEL	
	17	771C093010	INSULATOR(FRONT)	
	18	771C093020	INSULATOR(REAR)	

2. PACKING PARTS



ACCESSORY



○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
INTEGRATED CIRCUITS			
IC161	272P270010	IC	LA7212
IC200	272P265010	IC	BA7021
IC201	272P325020	IC	NJM2235S [PCB SIGNAL]
○ IC201	272P392010	IC	AN3334K [PCB HEAD AMP]
IC202	272P390010	IC	BA7604
IC203	266P016010	IC	LA7016
IC210	272P151010	IC	NJM2217L
IC213	272P265010	IC	BA7021
○ IC214	267P032010	IC	AMP2(B078-1)
IC215	272P390010	IC	BA7604
IC216	272P390010	IC	BA7604
IC217	266P016010	IC	LA7016
○ IC2A0	272P474020	IC	M52084FP
IC2A1	272P317020	IC	M52054FP
IC2A2	272P390010	IC	BA7604
IC2A3	272P390010	IC	BA7604
IC2A4	266P620010	IC	AN608P
○ IC2A5	272P518010	IC	MN3815
○ IC2A6	263P653030	IC	MC14053BF
IC2A7	267P034010	IC	EMP2(B079-1)
IC2A8	272P079010	IC	NJM2902M
○ IC2000	272P565010	IC	TL8812F
IC2001	266P063020	IC	BA7022A
○ IC2002	272P517010	IC	NJM2228M
IC301	272P060010	IC	BA7252S
IC3A0	272P234010	IC	LA7295
IC3A1	272P200020	IC	M5201L
IC3303	272P376030	IC	XRA15218N
IC3304	272P488010	IC	BA7703K1
IC3306	267P014020	IC	DTR(B061-2)
○ IC3307	267P097010	IC	KIC-LR-CONT(B118-1)
IC3310	266P286010	IC	TK15022Z
IC3311	266P286010	IC	TK15022Z
IC3312	266P016010	IC	LA7016
IC3313	266P016010	IC	LA7016
IC4A0	263P194020	IC	BU2821S
IC4A1	272P237010	IC	LA6324N
IC4A2	272P235010	IC	TA7291S
IC4A3	263P066020	IC	TC4066BP
IC501	263P610010	IC	M50455-090SP
○ IC5A0	263P333010	IC	M37420M6-251SP
○ IC5A1	263P334010	IC	M50927-224SP
IC5A2	263P077020	IC	TC4077BP
IC5A3	263P053020	IC	TC4053BP
IC5A4	263P011020	IC	TC4011BP
IC5Z0	263P192010	IC	M50927-222SP
IC6A0	266P016010	IC	LA7016
○ IC6A1	263P335010	IC	MC14013BF
IC6C1	272P231020	IC	HA118054FP
○ IC6C3	272P439010	IC	M52077P
○ IC6C4	272P516010	IC	M52059AFP
IC6C7	272P390010	IC	BA7604
○ IC6001	272P520010	IC	M52093SP
○ IC700	267P032010	IC	AMP2(B078-1)
○ IC702	272P518010	IC	MN3815
○ IC703	272P518010	IC	MN3815
○ IC704	272P512010	IC	MN3109S
○ IC705	272P439010	IC	M52077P
○ IC706	267P028050	IC	KIC-SUB(B075-5)
IC7A0	266P982010	IC	AN608P
IC7A1	266P982010	IC	AN608P
IC7A2	272P283010	IC	TA8662N
IC7A3	263P636010	IC	TC6011N
IC7A4	263P622020	IC	HM6264ALSP10
IC7A6	272P284010	IC	TD6710AN
IC7A7	263P011020	IC	TC4011BP
IC7B0	267P036010	IC	AFL87F-14000A10
IC7B1	267P036010	IC	AFL87F-14000A10
○ IC7B4	267P099010	IC	KIC-NICAM(B120-1)
IC7C0	266P982010	IC	AN608P
IC802	272P064010	IC	M58630P
○ IC803	263P118010	IC	UPD7554G-622
○ IC801A	263P424010	IC	UPD75217GF-519-3
IC902	266P010020	IC	UPC574J-K
○ IC960	267P008010	IC	STK5472
TRANSISTORS			
Q 105	260P807010	CHIP TRANSISTOR	DTC124K
Q 107	260P817030	CHIP TRANSISTOR	2SA1037K
○ Q 200	260P855050	CHIP TRANSISTOR	2SC4081
Q 201	260P562040	TRANSISTOR	2SA952-K [PCB SIGNAL]
Q 201	260P807010	CHIP TRANSISTOR	DTC124K [PCB HEAD AMP]
Q 202	260P807010	CHIP TRANSISTOR	DTC124K [PCB HEAD AMP]
Q 202	260P859050	CHIP TRANSISTOR	2SA1576-R [PCB SIGNAL]
Q 203	260P562040	TRANSISTOR	2SA952-K
Q 204	260P807010	CHIP TRANSISTOR	DTC124K [PCB HEAD AMP]
○ Q 204	260P872020	CHIP TRANSISTOR	DTC124EU [PCB SIGNAL]
○ Q 205	260P871020	CHIP TRANSISTOR	DTA124EU
Q 206	260P562040	TRANSISTOR	2SA952-K [PCB SIGNAL]
Q 206	260P806010	CHIP TRANSISTOR	DTA124EK [PCB HEAD AMP]
○ Q 207	260P835030	CHIP TRANSISTOR	2SC2413K [PCB SIGNAL]
○ Q 207	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 208	260P835030	CHIP TRANSISTOR	2SC2413K [PCB HEAD AMP]
Q 208	260P859050	CHIP TRANSISTOR	2SA1576-R [PCB SIGNAL]
○ Q 209	260P835030	CHIP TRANSISTOR	2SC2413K [PCB HEAD AMP]

○ : NEW PARTS

	ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
			PACKING PARTS	
	1	831D190010	PACKING SHEET	
○	2	803A229030	PACKING CUSHION	
	3	----------	ACCESSORY	
○	4	801C041010	PACKING CASE	
	5	831D198030	PACKING BAG	For AC Power Cord
			ACCESSORY	
○	21	872C012000	INSTRUCTION BOOK	
	22	851B545010	SHEET CAUTION DEW	
	23	831D181020	PACKING BAG	
	24	242D231030	CABLE	RF Cable
	25	242D335010	CABLE	S-Cable
	26	242C938010	CABLE(2P)	Audio Cable
	27	----------	BATTERY	
	28	831D110080	PACKING BAG	
○	29	939P379010	REMOTE HAND UNIT	
	30	----------	CASSETTE TAPE	
○	31	829C037010	BOX ACCESSORY	

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○ Q 209	260P872020	CHIP TRANSISTOR	DTC124EU [PCB SIGNAL]
○ Q 210	260P835030	CHIP TRANSISTOR	2SC2413K [PCB HEAD AMP]
○ Q 210	260P871020	CHIP TRANSISTOR	DTA124EU [PCB SIGNAL]
○ Q 211	260P835030	CHIP TRANSISTOR	2SC2413K
Q 212	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 213	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 214	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 215	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 216	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2A0	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 2A1	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2A2	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2A3	260P859050	CHIP TRANSISTOR	2SA1576-R
Q 2A4	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 2A5	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2A6	260P859050	CHIP TRANSISTOR	2SA1576-R
Q 2A7	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 2A8	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2A9	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2B1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2B2	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2B3	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2B4	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2B5	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2B6	260P871020	CHIP TRANSISTOR	DTA124EU
○ Q 2B7	260P871020	CHIP TRANSISTOR	DTA124EU
○ Q 2B8	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2C0	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2C1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2C3	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2C4	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2C5	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2C9	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 2D0	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2D1	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2D2	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2D3	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2D5	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2D6	260P855050	CHIP TRANSISTOR	2SC4081
Q 2D7	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 2D8	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2D9	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2E0	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2E1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2E2	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2E3	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2E4	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2E5	260P562040	TRANSISTOR	2SA952-K
○ Q 2E6	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2E7	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2E8	260P871020	CHIP TRANSISTOR	DTA124EU
○ Q 2E9	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2F1	260P855050	CHIP TRANSISTOR	2SC4081
Q 2F2	260P844010	CHIP TRANSISTOR	FMW1
○ Q 2F3	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2F4	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2F5	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2F6	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2F7	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2F8	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2F9	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2G0	260P844010	CHIP TRANSISTOR	FMW1
○ Q 2G1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2G2	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2G4	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2G5	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2G6	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2G7	260P855050	CHIP TRANSISTOR	2SC4081
Q 2G8	260P844010	CHIP TRANSISTOR	FMW1
○ Q 2G9	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2H0	260P844010	CHIP TRANSISTOR	FMW1
○ Q 2H1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2H2	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2H3	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2H5	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2H6	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2H8	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 2J0	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2J1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2J2	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2J3	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2J4	260P859050	CHIP TRANSISTOR	2SA1576-R
○ Q 2J5	260P871020	CHIP TRANSISTOR	DTA124EU
○ Q 2J6	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2J7	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2J8	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2J9	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2K0	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2K1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 2K3	260P872020	CHIP TRANSISTOR	DTC124EU
Q 2K4	260P562040	TRANSISTOR	2SA952-K
○ Q 2001	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 2002	260P855050	CHIP TRANSISTOR	2SC4081
Q 2003	260P859050	CHIP TRANSISTOR	2SA1576-R
Q 2004	260P859050	CHIP TRANSISTOR	2SA1576-R
Q 301	260P255040	TRANSISTOR	2SA950-Y
Q 302	260P416030	TRANSISTOR	2SC2274-F
○ Q 303	260P835030	CHIP TRANSISTOR	2SC2413K
Q 304	260P807010	CHIP TRANSISTOR	DTC124K
Q 305	260P807010	CHIP TRANSISTOR	DTC124K
○ Q 306	260P835030	CHIP TRANSISTOR	2SC2413K
○ Q 307	260P835030	CHIP TRANSISTOR	2SC2413K
Q 308	260P387030	TRANSISTOR	2SC2236-Y
Q 3A0	260P629060	TRANSISTOR	2SC3331-S, T, U
Q 3A1	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3A2	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3A3	260P807010	CHIP TRANSISTOR	DTC124K

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 3300	260P387030	TRANSISTOR	2SC2236-Y
Q 3307	260P807010	CHIP TRANSISTOR	DTC124K
Q 3308	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3310	260P817030	CHIP TRANSISTOR	2SA1037K
Q 3313	260P807010	CHIP TRANSISTOR	DTC124K
Q 3321	260P817030	CHIP TRANSISTOR	2SA1037K
Q 3330	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3331	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3332	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3400	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3401	260P818030	CHIP TRANSISTOR	2SC2412K
Q 3408	260P807010	CHIP TRANSISTOR	DTC124K
Q 3409	260P807010	CHIP TRANSISTOR	DTC124K
Q 4A1	260P560040	TRANSISTOR	2SA933S-S
Q 4A2	260P559060	TRANSISTOR	2SC1740S-S. E
Q 4A3	260P560040	TRANSISTOR	2SA933S-S
Q 4A5	260P459010	TRANSISTOR	2SK381-A
Q 4A8	260P559030	TRANSISTOR	2SC1740S
Q 4B0	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 4B1	260P559030	TRANSISTOR	2SC1740S
Q 4B2	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 4B3	260P586050	TRANSISTOR	2SB892-T. U
Q 4B4	260P560040	TRANSISTOR	2SA933S-S
Q 4B5	260P632010	TRANSISTOR	DTC124ES
Q 4B6	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 4B7	260P559030	TRANSISTOR	2SC1740S
Q 4B8	260P632010	TRANSISTOR	DTC124ES
Q 4B9	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 4C0	260P459010	TRANSISTOR	2SK381-A
Q 501	260P560040	TRANSISTOR	2SA933S-S
Q 502	260P632010	TRANSISTOR	DTC124ES
Q 507	260P559030	TRANSISTOR	2SC1740S
Q 571	268P014020	PHOTO TRANSISTOR	PN205L-(NC)
Q 572	268P014020	PHOTO TRANSISTOR	PN205L-(NC)
Q 573	268P044010	PHOTO INTERRUPTER	ON2270-R
Q 574	268P044010	PHOTO INTERRUPTER	ON2270-R
Q 575	268P045010	PHOTO INTERRUPTER	GP1L52
Q 5A0	260P338050	TRANSISTOR	2SC2603-G
Q 5A1	260P559030	TRANSISTOR	2SC1740S
Q 5A2	260P559030	TRANSISTOR	2SC1740S
Q 5A3	260P559030	TRANSISTOR	2SC1740S
Q 5A4	260P560040	TRANSISTOR	2SA933S-S
Q 5A5	260P559030	TRANSISTOR	2SC1740S
Q 5A6	260P632010	TRANSISTOR	DTC124ES
Q 5A7	260P632010	TRANSISTOR	DTC124ES
Q 5A8	260P632010	TRANSISTOR	DTC124ES
Q 5A9	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5B0	260P559030	TRANSISTOR	2SC1740S
Q 5B1	260P559030	TRANSISTOR	2SC1740S
Q 5B2	260P632010	TRANSISTOR	DTC124ES
Q 5B3	260P560040	TRANSISTOR	2SA933S-S
Q 5B4	260P559030	TRANSISTOR	2SC1740S
Q 5B6	260P560040	TRANSISTOR	2SA933S-S
Q 5B7	260P560040	TRANSISTOR	2SA933S-S
Q 5B8	260P560040	TRANSISTOR	2SA933S-S

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 5B9	260P559030	TRANSISTOR	2SC1740S
Q 5C0	260P632010	TRANSISTOR	DTC124ES
Q 5C1	260P632010	TRANSISTOR	DTC124ES
Q 5C2	260P559030	TRANSISTOR	2SC1740S
Q 5C3	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5C4	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5C5	260P560040	TRANSISTOR	2SA933S-S
Q 5C6	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5C7	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5C8	260P559030	TRANSISTOR	2SC1740S
Q 5C9	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5D0	260P559030	TRANSISTOR	2SC1740S
Q 5D1	260P559030	TRANSISTOR	2SC1740S
Q 5D2	260P632010	TRANSISTOR	DTC124ES
Q 5D3	260P632010	TRANSISTOR	DTC124ES
Q 5D4	260P255040	TRANSISTOR	2SA950-Y
Q 5D5	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5D6	260P632010	TRANSISTOR	DTC124ES
Q 5D7	260P560040	TRANSISTOR	2SA933S-S
Q 5D8	260P562040	TRANSISTOR	2SA952-K
Q 5D9	260P560040	TRANSISTOR	2SA933S-S
Q 5E0	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 5E1	260P559030	TRANSISTOR	2SC1740S
Q 5E2	260P560040	TRANSISTOR	2SA933S-S
Q 5E3	260P559030	TRANSISTOR	2SC1740S
Q 5E5	260P560040	TRANSISTOR	2SA933S-S
Q 5E9	260P654020	TRANSISTOR	2SC2058S-P
Q 5F0	260P654020	TRANSISTOR	2SC2058S-P
Q 5F1	260P438020	TRANSISTOR	2SD1273, P M21C
Q 5F2	260P632010	TRANSISTOR	DTC124ES
Q 5F3	260P632010	TRANSISTOR	DTC124ES
Q 5F4	260P603010	TRANSISTOR	DTA124ES/UN4112
○ Q 6A0	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 6A1	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6C0	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 6C2	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 6C3	260P872020	CHIP TRANSISTOR	DTC124EU
Q 6C4	260P844010	CHIP TRANSISTOR	FMW1
○ Q 6C6	260P871020	CHIP TRANSISTOR	DTA124EU
○ Q 6C9	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 6D1	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6D2	260P855050	CHIP TRANSISTOR	2SC4081
Q 6D3	260P844010	CHIP TRANSISTOR	FMW1
○ Q 6D5	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 6D6	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6D7	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6D8	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6D9	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6E0	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6E1	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 6E4	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6E5	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6F0	260P872020	CHIP TRANSISTOR	DTC124EU
○ Q 6Z0	260P855050	CHIP TRANSISTOR	2SC4081
○ Q 6Z1	260P855050	CHIP TRANSISTOR	2SC4081

○ : NEW PARTS

	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○	Q 6Z2	260P855050	CHIP TRANSISTOR	2SC4081
	Q 6Z3	260P844010	CHIP TRANSISTOR	FMW1
○	Q 6000	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6001	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6002	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6004	260P872020	CHIP TRANSISTOR	DTC124EU
○	Q 6005	260P872020	CHIP TRANSISTOR	DTC124EU
○	Q 6006	260P872020	CHIP TRANSISTOR	DTC124EU
○	Q 6007	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6008	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6009	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6011	260P872020	CHIP TRANSISTOR	DTC124EU
	Q 6012	260P844010	CHIP TRANSISTOR	FMW1
○	Q 6013	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6015	260P872020	CHIP TRANSISTOR	DTC124EU
○	Q 6017	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6020	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6021	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 6034	260P872020	CHIP TRANSISTOR	DTC124EU
○	Q 6035	260P871020	CHIP TRANSISTOR	DTA124EU
	Q 700	260P859050	CHIP TRANSISTOR	2SA1576-R
○	Q 701	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 702	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 703	260P855050	CHIP TRANSISTOR	2SC4081
	Q 704	260P859050	CHIP TRANSISTOR	2SA1576-R
	Q 705	260P859050	CHIP TRANSISTOR	2SA1576-R
	Q 706	260P859050	CHIP TRANSISTOR	2SA1576-R
○	Q 707	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 708	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 709	260P855050	CHIP TRANSISTOR	2SC4081
	Q 710	260P859050	CHIP TRANSISTOR	2SA1576-R
	Q 711	260P859050	CHIP TRANSISTOR	2SA1576-R
○	Q 712	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 713	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 714	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 715	260P872020	CHIP TRANSISTOR	DTC124EU
○	Q 716	260P855050	CHIP TRANSISTOR	2SC4081
○	Q 717	260P855050	CHIP TRANSISTOR	2SC4081
	Q 718	260P859050	CHIP TRANSISTOR	2SA1576-R
	Q 7A0	260P818030	CHIP TRANSISTOR	2SC2412K
	Q 7A1	260P818080	CHIP TRANSISTOR	2SC2412K-R
	Q 802	260P559050	TRANSISTOR	2SC1740S-E
	Q 803	260P559030	TRANSISTOR	2SC1740S
○	Q 901	260P585010	TRANSISTOR	2SD1682-R, S
	Q 902	260P560030	TRANSISTOR	2SA933S
	Q 903	260P255040	TRANSISTOR	2SA950-Y
	Q 904	260P586050	TRANSISTOR	2SB892-T. U
○	Q 906	260P585010	TRANSISTOR	2SD1682-R, S
	Q 907	260P438020	TRANSISTOR	2SD1273, P M21C
	Q 908	260P632010	TRANSISTOR	DTC124ES
	Q 971	260P438010	TRANSISTOR	2SD1273-Q

DIODES

	SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
	D 200	264P828010	CHIP DIODE	DAN202U
○	D 201	264P822010	CHIP DIODE	HSM2838
	D 202	264P828010	CHIP DIODE	DAN202U
	D 203	264P828010	CHIP DIODE	DAN202U
	D 204	264P828010	CHIP DIODE	DAN202U
	D 205	264P814010	CHIP DIODE	DAP202U
	D 2A0	264P828010	CHIP DIODE	DAN202U
	D 2A2	264P814010	CHIP DIODE	DAP202U
	D 2A4	264P814010	CHIP DIODE	DAP202U
	D 2A5	264P814010	CHIP DIODE	DAP202U
	D 2A7	264P814010	CHIP DIODE	DAP202U
	D 2B0	264P814010	CHIP DIODE	DAP202U
	D 2B2	264P123030	DIODE	1SS99
	D 2B3	264P814010	CHIP DIODE	DAP202U
	D 2B4	264P814010	CHIP DIODE	DAP202U
	D 2B5	264P828010	CHIP DIODE	DAN202U
	D 2B6	264P814010	CHIP DIODE	DAP202U
	D 2B8	264P828010	CHIP DIODE	DAN202U
	D 301	264P341020	DIODE	HZ11A1
	D 3A0	264P808010	CHIP DIODE	DAN202K
	D 3A1	264P808010	CHIP DIODE	DAN202K
	D 3300	264P341020	DIODE	HZ11A1
	D 3320	264P808010	CHIP DIODE	DAN202K
	D 3321	264P808010	CHIP DIODE	DAN202K
	D 3323	264P515010	DIODE	MA165
	D 4A1	264P515010	DIODE	MA165
	D 4A3	264P500020	DIODE	EM01Z
	D 4A5	264P515010	DIODE	MA165
	D 4A6	264P515010	DIODE	MA165
	D 4B0	264P515010	DIODE	MA165
	D 4B1	264P515010	DIODE	MA165
	D 4B2	264P515010	DIODE	MA165
	D 4B3	264P515010	DIODE	MA165
	D 501	264P515010	DIODE	MA165
	D 502	264P515010	DIODE	MA165
	D 570	264P307020	LIGHT EMITTING DIODE	GL-451
	D 571	264P515010	DIODE	MA165
	D 5A0	264P515010	DIODE	MA165
	D 5A1	264P515010	DIODE	MA165
	D 5A2	264P515010	DIODE	MA165
	D 5A3	264P515010	DIODE	MA165
	D 5A4	264P515010	DIODE	MA165
	D 5A5	264P515010	DIODE	MA165
	D 5A6	264P515010	DIODE	MA165
	D 5A7	264P515010	DIODE	MA165
	D 5A8	264P515010	DIODE	MA165
	D 5A9	264P515010	DIODE	MA165
	D 5B0	264P515010	DIODE	MA165
	D 5B1	264P515010	DIODE	MA165
	D 5B2	264P515010	DIODE	MA165
	D 5B3	264P515010	DIODE	MA165
	D 5B4	264P501040	DIODE	HZ3ALL
	D 5B5	264P515010	DIODE	MA165

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 5B6	264P342070	DIODE	HZ4C2
D 5B7	264P484040	DIODE	RD5.6FB3
D 5B8	264P515010	DIODE	MA165
D 5B9	264P515010	DIODE	MA165
D 5C0	264P515010	DIODE	MA165
D 5C1	264P515010	DIODE	MA165
D 5C2	264P515010	DIODE	MA165
D 5C3	264P515010	DIODE	MA165
D 5C4	264P515010	DIODE	MA165
D 5C5	264P515010	DIODE	MA165
D 5C6	264P515010	DIODE	MA165
D 5C7	264P515010	DIODE	MA165
D 5C8	264P515010	DIODE	MA165
D 5C9	264P515010	DIODE	MA165
D 5D0	264P515010	DIODE	MA165
D 5D1	264P515010	DIODE	MA165
D 5D2	264P515010	DIODE	MA165
D 5D3	264P515010	DIODE	MA165
D 5D4	264P515010	DIODE	MA165
D 5D5	264P515010	DIODE	MA165
D 5D6	264P515010	DIODE	MA165
D 5D7	264P515010	DIODE	MA165
D 5D8	264P515010	DIODE	MA165
D 5D9	264P592010	DIODE	HZ18-2L
D 5E0	264P515010	DIODE	MA165
D 5E1	264P515010	DIODE	MA165
D 5E2	264P515010	DIODE	MA165
D 5E3	264P515010	DIODE	MA165
D 5E4	264P515010	DIODE	MA165
D 6A0	264P828010	CHIP DIODE	DAN202U
D 6C0	264P828010	CHIP DIODE	DAN202U
D 6C1	264P828010	CHIP DIODE	DAN202U
D 6C2	264P814010	CHIP DIODE	DAP202U
D 6C6	264P828010	CHIP DIODE	DAN202U
D 6000	264P814010	CHIP DIODE	DAP202U
D 6002	264P828010	CHIP DIODE	DAN202U
D 700	264P830020	CHIP DIODE	DA204U
D 701	264P830020	CHIP DIODE	DA204U
D 7A0	264P463090	DIODE	
D 7A1	264P808010	CHIP DIODE	DAN202K
D 7A2	264P808010	CHIP DIODE	DAN202K
D 7A5	264P808010	CHIP DIODE	DAN202K
D 7A6	264P808010	CHIP DIODE	DAN202K
D 7A8	264P808010	CHIP DIODE	DAN202K
D 801	264P463090	DIODE	
D 802	264P568010	DIODE	1SS252
D 803	264P193080	DIODE	MZ309B2/HZ9B24
D 804	264P568010	DIODE	1SS252
D 805	264P568010	DIODE	1SS252
D 806	264P568010	DIODE	1SS252
D 809	264P568010	DIODE	1SS252
D 810	264P568010	DIODE	1SS252
D 811	264P568010	DIODE	1SS252
D 812	264P568010	DIODE	1SS252
D 813	264P568010	DIODE	1SS252
D 814	264P568010	DIODE	1SS252
D 815	264P568010	DIODE	1SS252
D 816	264P568010	DIODE	1SS252
D 817	264P568010	DIODE	1SS252
D 818	264P568010	DIODE	1SS252
D 819	264P568010	DIODE	1SS252
D 820	264P568010	DIODE	1SS252
D 821	264P568010	DIODE	1SS252
D 822	264P568010	DIODE	1SS252
D 823	264P568010	DIODE	1SS252
D 824	264P568010	DIODE	1SS252
D 825	264P568010	DIODE	1SS252
D 834	264P341070	DIODE	HZ6C2
D 841	264P313040	DIODE	SLR-34MC3
D 842	264P313040	DIODE	SLR-34MC3
D 843	264P313040	DIODE	SLR-34MC3
D 844	264P568010	DIODE	1SS252
D 847	264P568010	DIODE	1SS252
D 848	264P568010	DIODE	1SS252
○ D 850	299P111030	LEVEL METER UNIT	LI-2261E
D 8A0	264P313050	DIODE	SLR-34URC3
D 8A1	264P313050	DIODE	SLR-34URC3
D 8A2	264P568010	DIODE	1SS252
D 8A4	264P568010	DIODE	1SS252
D 8A6	264P568010	DIODE	1SS252
D 8A7	264P568010	DIODE	1SS252
D 8A8	264P568010	DIODE	1SS252
D 8A9	264P568010	DIODE	1SS252
D 8B0	264P313040	DIODE	SLR-34MC3
D 8B0	264P568010	DIODE	1SS252
D 8B1	264P313040	DIODE	SLR-34MC3
D 8B2	264P313060	LIGHT EMITTING DIODE	SLR-34DC3
D 8B3	264P313040	DIODE	SLR-34MC3
D 8B4	264P313050	DIODE	SLR-34URC3
D 8B5	264P313050	DIODE	SLR-34URC3
D 8B6	264P313040	DIODE	SLR-34MC3
D 901	264P430030	DIODE	DSA3A1(17M FORMING)
D 902	264P430030	DIODE	DSA3A1(17M FORMING)
D 905	264P301010	DIODE	1SS82(TP)
D 906	264P301010	DIODE	1SS82(TP)
D 907	264P301010	DIODE	1SS82(TP)
D 909	264P461040	DIODE	EQA02-06A
D 911	264P341020	DIODE	HZ11A1
D 914	264P342030	DIODE	HZ30-3
D 915	264P461040	DIODE	EQA02-06A
D 916	264P045040	DIODE	1S2471
D 917	264P045040	DIODE	1S2471
D 960	264P045040	DIODE	1S2471
○ D 970	264P536010	DIODE	RBV-402
○ D 971	264P536010	DIODE	RBV-402

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
FILTERS			
○ BF3301	409P356010	BAND PASS FILTER	
BF3302	409P371010	BAND PASS FILTER	
○ BF6000	409P649010	BAND PASS FILTER	
BPF201	409P455010	BAND PASS FILTER	
BPF2A0	409P455010	BAND PASS FILTER	
○ BPF2A1	409P611010	BAND PASS FILTER	
BPF6C0	409P540010	BAND PASS FILTER	
BPF6C1	409P460010	BAND PASS FILTER	
○ BPF700	409P623010	BAND PASS FILTER	
○ BPF701	409P623010	BAND PASS FILTER	
○ BPF702	409P656010	BAND PASS FILTER	
BPF7A0	409P453010	BAND PASS FILTER	
CF161	299P034030	CERAMIC RESONATOR	
CF5A0	299P118020	CERAMIC RESONATOR	CST8.00MT
CF5A1	299P116010	CERAMIC RESONATOR	KBR-4.0MES
CF5Z0	299P116010	CERAMIC RESONATOR	KBR-4.0MES
DL6C1	337P160010	COMB FILTER	EFD-VR645A45H
○ LF6000	409P609010	LOW PASS FILTER	
LPF201	409P444010	LOW PASS FILTER	
○ LPF2A0	409P608010	LOW PASS FILTER	
LPF2A1	409P444010	LOW PASS FILTER	
○ LPF2A2	409P466020	LOW PASS FILTER	
LPF2A3	409P372010	LOW PASS FILTER	
○ LPF6C0	409P612010	LOW PASS FILTER	
○ LPF6C1	409P386010	BAND PASS FILTER	SBP-4245
○ LPF700	409P654010	LOW PASS FILTER	
○ LPF701	409P608010	LOW PASS FILTER	
○ LPF702	409P608010	LOW PASS FILTER	
DELAY LINES			
DF2A0	409P629010	DELAY EQUALIZER	
○ DF2A1	409P610010	DELAY EQUALIZER	
○ DF700	409P431010	DELAY EQUALIZER	
DL6C0	337P130010	DELAY LINE	
○ DL6C2	337P164010	DELAY LINE	
○ DL6C3	337P164010	DELAY LINE	
○ DL700	337P164010	DELAY LINE	
COILS			
L 200	325C242050	CHIP COIL	100μH-K
L 201	325C242050	CHIP COIL	100μH-K [PCB SIGNAL]
L 201	325C262050	PEAKING COIL	100μH-K [PCB HEAD AMP]
L 202	325C242050	CHIP COIL	100μH-K [PCB SIGNAL]
L 202	325C262050	PEAKING COIL	100μH-K [PCB HEAD AMP]
L 203	325C242050	CHIP COIL	100μH-K [PCB SIGNAL]
L 203	325C262050	PEAKING COIL	100μH-K [PCB HEAD AMP]
L 204	325C242050	CHIP COIL	100μH-K [PCB SIGNAL]
L 204	325C262050	PEAKING COIL	100μH-K [PCB HEAD AMP]
L 205	325C242050	CHIP COIL	100μH-K
L 206	325C242050	CHIP COIL	100μH-K
L 207	325C242050	CHIP COIL	100μH-K
L 208	325C242050	CHIP COIL	100μH-K
L 209	325C242050	CHIP COIL	100μH-K
L 210	325C242050	CHIP COIL	100μH-K
L 211	325C242050	CHIP COIL	100μH-K
L 212	325C242050	CHIP COIL	100μH-K
L 214	325C242050	CHIP COIL	100μH-K
L 2A0	325C242050	CHIP COIL	100μH-K
L 2A1	325C242050	CHIP COIL	100μH-K
L 2A2	325C242050	CHIP COIL	100μH-K
L 2A3	325C262050	PEAKING COIL	100μH-K
L 2A4	325C262050	PEAKING COIL	100μH-K
L 2A5	325C166060	PEAKING COIL	18μH-J
L 2A6	325C166020	PEAKING COIL	8.2MHJ
○ L 2A8	325C166080	PEAKING COIL	27μH-J
L 2A9	325C242050	CHIP COIL	100μH-K
L 2B0	325C163010	PEAKING COIL	330μH-J
L 2B2	325C166070	PEAKING COIL	22μH-J
L 2B3	325C166050	PEAKING COIL	15μH-J
L 2B4	325C167070	PEAKING COIL	150μH-J
L 2B6	325C167070	PEAKING COIL	150μH-J
L 2B7	325C167090	PEAKING COIL	220μH-J
L 2B8	325C168000	PEAKING COIL	270μH-J
L 2B9	325C167050	PEAKING COIL	100μH-J
L 2C0	325C167040	PEAKING COIL	82μH-J
L 2C1	325C242050	CHIP COIL	100μH-K
L 2C3	325C166040	PEAKING COIL	12μH-J
L 2C4	325C166030	PEAKING COIL	10μH-J
L 2C5	325C166030	PEAKING COIL	10μH-J
L 2C6	325C166090	PEAKING COIL	33μH-J
L 2C7	325C242050	CHIP COIL	100μH-K
L 2C8	325C242050	CHIP COIL	100μH-K
L 2C9	325C242050	CHIP COIL	100μH-K
L 2D0	325C242050	CHIP COIL	100μH-K
L 2D1	325C242050	CHIP COIL	100μH-K
L 2000	325C242050	CHIP COIL	100μH-K
L 2001	325C167000	PEAKING COIL	39μH-J
L 2002	325C167000	PEAKING COIL	39μH-J
L 2003	325C242050	CHIP COIL	100μH-K
L 2004	325C242050	CHIP COIL	100μH-K
L 2005	325C166090	PEAKING COIL	33μH-J
L 2006	325C166060	PEAKING COIL	18μH-J
L 301	325C112070	PEAKING COIL	150μH-K
○ L 302	325C162010	PEAKING COIL	47μH-K
L 303	325C262050	PEAKING COIL	100μH-K
L 304	325C262050	PEAKING COIL	100μH-K
L 3A0	321C010040	RF COIL	1000μH-J
L 3A1	321C015050	RF COIL	8200μH-J
L 3A3	325C107080	PEAKING COIL	180μH-J
L 3A5	325C262050	PEAKING COIL	100μH-K

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
L 3302	325C262050	PEAKING COIL	100 μH-K
L 3303	325C262050	PEAKING COIL	100 μH-K
L 3304	325C262050	PEAKING COIL	100 μH-K
L 3310	325C167030	PEAKING COIL	68 μH-J
L 3311	325C262050	PEAKING COIL	100 μH-K
L 3320	325C262050	PEAKING COIL	100 μH-K
L 3321	325C262050	PEAKING COIL	100 μH-K
L 3322	325C262050	PEAKING COIL	100 μH-K
L 501	325C267050	PEAKING COIL	100 μH-J
L 502	325C166050	PEAKING COIL	15 μH-J
L 503	325C267050	PEAKING COIL	100 μH-J
L 570	299P124010	LATCH MAGNET	
L 5A0	325C124050	PEAKING COIL	0.33 μH-M
L 5A1	325C124080	PEAKING COIL	0.56 μH-M
L 5A2	325C124050	PEAKING COIL	0.33 μH-M
L 5A3	325C167050	PEAKING COIL	100 μH-J
L 5A4	325C166050	PEAKING COIL	15 μH-J
L 5A6	325C166050	PEAKING COIL	15 μH-J
L 5Z0	325C261030	PEAKING COIL	10 μH-K
L 6A0	325C242050	CHIP COIL	100 μH-K
L 6A1	325C242050	CHIP COIL	100 μH-K
L 6C0	325C166020	PEAKING COIL	8.2MHJ
L 6C2	325C242050	CHIP COIL	100 μH-K
L 6C3	325C262050	PEAKING COIL	100 μH-K
L 6C4	325C167010	PEAKING COIL	47 μH-J
L 6C5	321C015050	RF COIL	8200 μH-J
L 6C6	325C166090	PEAKING COIL	33 μH-J
L 6C7	325C166050	PEAKING COIL	15 μH-J
L 6C8	325C166050	PEAKING COIL	15 μH-J
L 6C9	325C166050	PEAKING COIL	15 μH-J
L 6D0	325C166050	PEAKING COIL	15 μH-J
L 6D1	325C165090	PEAKING COIL	4.7 μH-J
L 6D2	325C166050	PEAKING COIL	15 μH-J
L 6D3	325C166050	PEAKING COIL	15 μH-J
L 6D4	325C165090	PEAKING COIL	4.7 μH-J
L 6D5	325C242050	CHIP COIL	100 μH-K
L 6D6	325C262050	PEAKING COIL	100 μH-K
L 6D9	325C242050	CHIP COIL	100 μH-K
L 6000	325C242050	CHIP COIL	100 μH-K
L 6001	325C242050	CHIP COIL	100 μH-K
L 6002	325C165090	PEAKING COIL	4.7 μH-J
L 6003	325C165090	PEAKING COIL	4.7 μH-J
L 6004	325C165090	PEAKING COIL	4.7 μH-J
L 6005	325C165090	PEAKING COIL	4.7 μH-J
L 6006	325C165090	PEAKING COIL	4.7 μH-J
L 6007	325C242050	CHIP COIL	100 μH-K
L 700	325C242050	CHIP COIL	100 μH-K
L 701	325C242050	CHIP COIL	100 μH-K
L 702	325C242050	CHIP COIL	100 μH-K
L 703	325C242050	CHIP COIL	100 μH-K
L 704	325C242050	CHIP COIL	100 μH-K
L 705	325C242050	CHIP COIL	100 μH-K
L 706	325C242050	CHIP COIL	100 μH-K
L 707	325C242050	CHIP COIL	100 μH-K
L 708	325C242050	CHIP COIL	100 μH-K
○ L 709	325C165090	PEAKING COIL	4.7 μH-J
○ L 710	325C165090	PEAKING COIL	4.7 μH-J
L 711	325C112010	PEAKING COIL	47 μH-J
L 712	325C166050	PEAKING COIL	15 μH-J
L 713	325C166050	PEAKING COIL	15 μH-J
○ L 714	325C165090	PEAKING COIL	4.7 μH-J
L 715	325C242050	CHIP COIL	100 μH-K
L 716	325C242050	CHIP COIL	100 μH-K
L 717	325C107020	PEAKING COIL	56 μH-J
L 7A0	325C168060	PEAKING COIL	820 μH-J
L 7A1	325C168060	PEAKING COIL	820 μH-J
L 7A3	325C166030	PEAKING COIL	10 μH-J
L 7A4	325C166050	PEAKING COIL	15 μH-J
L 7A5	409P402030	EMI FILTER	DSS306-55FZ103N100
L 7B0	325C166040	PEAKING COIL	12 μH-J
L 7B1	325C166040	PEAKING COIL	12 μH-J
L 7B2	411P011010	BEADS FERRITE	ZBF503S-P
L 7B3	325C166090	PEAKING COIL	33 μH-J
○ VL6C1	349P166010	DL MATCH	

TRANSFORMERS

○	350P490010	POWER	
○ T 3A0	409P423030	AUDIO BIAS OSC	705720044D

VARIABLE RESISTORS

VR200	127C090070	VR-SEMIFIXED	1/5W 85KΩ-M
VR201	127C180070	VR-SEMIFIXED	1/5W B5KΩ-M
VR202	127C180050	VR-SEMIFIXED	1/5W B2KΩ-M
VR2A0	127C080050	VR-SEMIFIXED	1/5W B2KΩ-M
VR2A1	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M
VR2A2	127C080040	VR-SEMIFIXED	1/5W B1KΩ-M
○ VR2A3	127C091000	VR-SEMIFIXED	1/5W B30KΩ-M
VR2A5	127C090090	VR-SEMIFIXED	1/5W B20KΩ-M
VR2A6	127C090090	VR-SEMIFIXED	1/5W B20KΩ-M
VR2A7	127C081040	VR-SEMIFIXED	1/10W 300KΩ-M
VR2A8	127C090090	VR-SEMIFIXED	1/5W B20KΩ-M
VR2A9	127C090080	VR-SEMIFIXED	1/5W B10KΩ-M
VR2B0	127C090090	VR-SEMIFIXED	1/5W B20KΩ-M
VR2B2	127C081000	VR-SEMIFIXED	1/5W B30KΩ-M
VR2B3	127C080090	VR-SEMIFIXED	1/5W B20KΩ-M
○ VR2B4	127C091000	VR-SEMIFIXED	1/5W B30KΩ-M
VR2B5	127C090040	VR-SEMIFIXED	1/5W B1KΩ-M
VR2B6	127C080050	VR-SEMIFIXED	1/5W B2KΩ-M
VR2B7	127C080070	VR-SEMIFIXED	1/5W B5KΩ-M
VR2B8	127C080070	VR-SEMIFIXED	1/5W B5KΩ-M
VR2B9	127C080050	VR-SEMIFIXED	1/5W B2KΩ-M
VR2008	127C080050	VR-SEMIFIXED	1/5W B2KΩ-M
VR2024	127C081020	VR-SEMIFIXED	1/5W B100KΩ-M
VR301	127C180070	VR-SEMIFIXED	1/5W B5KΩ-M
VR3A0	127C081020	VR-SEMIFIXED	1/5W B100KΩ-M
VR3A1	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M
VR3301	127C090080	VR-SEMIFIXED	1/5W B10KΩ-M
VR3302	127C090080	VR-SEMIFIXED	1/5W B10KΩ-M
VR3305	127C080090	VR-SEMIFIXED	1/5W B20KΩ-M

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
VR3306	127C080090	VR-SEMIFIXED	1/5W B20KΩ-M
VR3307	127C081030	VR-SEMIFIXED	1/10W B200KΩ-N
VR3308	127C081030	VR-SEMIFIXED	1/10W B200KΩ-N
VR4A0	127C091020	VR-SEMIFIXED	1/5W B100KΩ-M
VR5A0	127C091030	VR-SEMIFIXED	1/5W B200KΩ-M
VR6C1	127C080030	VR-SEMIFIXED	1/5W B500Ω-M
VR6E9	127C081020	VR-SEMIFIXED	1/5W B100KΩ-M
○ VR6F1	127C091000	VR-SEMIFIXED	1/5W B30KΩ-M
VR6J5	127C090040	VR-SEMIFIXED	1/5W B1KΩ-M
○ VR6K0	127C090020	VR-SEMIFIXED	1/5W B300Ω-M
VR6K6	127C090040	VR-SEMIFIXED	1/5W B1KΩ-M
○ VR6P9	127C090020	VR-SEMIFIXED	1/5W B300Ω-M
VR6001	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M
VR6009	127C080080	VR-SEMIFIXED	1/5W B10KΩ-M
VR6015	127C090060	VR-SEMIFIXED	1/5W B3KΩ-M
VR6024	127C090060	VR-SEMIFIXED	1/5W B3KΩ-M
VR6030	127C090060	VR-SEMIFIXED	1/5W B3KΩ-M
VR702	127C090040	VR-SEMIFIXED	1/5W B1KΩ-M
VR703	127C090040	VR-SEMIFIXED	1/5W B1KΩ-M
VR704	127C090040	VR-SEMIFIXED	1/5W B1KΩ-M
VR705	127C090060	VR-SEMIFIXED	1/5W B3KΩ-M
VR706	127C090050	VR-SEMIFIXED	1/5W B2Ω-KM
○ VR707	127C090020	VR-SEMIFIXED	1/5W B300Ω-M
VR802	129D132040	VR-PCB	1/20W B20KΩ-15F
VR803	129D132040	VR-PCB	1/20W B20KΩ-15F
VR805	129D132050	VR-PCB	1/20W B100KΩ-15F
VR808	129C135040	VR-SLIDE	
VR810	129D132040	VR-PCB	1/20W B20KΩ-15F CS
VR8B0	129C126030	VR-PCB	

RESISTORS

R 102	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
○ R 103	103P404080	CHIP RESISTOR	1/10W 82KΩ-J
R 104	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 105	103P404070	CHIP RESISTOR	1/10W 68KΩ-J
○ R 106	103P404080	CHIP RESISTOR	1/10W 82KΩ-J
R 109	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 110	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
○ R 118	103P409090	CHIP RESISTOR	1/10W 75Ω-J
R 161	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 162	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 163	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 164	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 165	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 166	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 167	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 168	103P405050	CHIP RESISTOR	1/10W 330KΩ-J
R 169	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
○ R 170	103P404080	CHIP RESISTOR	1/10W 82KΩ-J
R 172	103P405050	CHIP RESISTOR	1/10W 330KΩ-J
R 175	103P401070	CHIP RESISTOR	1/10W 220Ω-J
○ R 176	103P401010	CHIP RESISTOR	1/10W 68Ω-J
○ R 200	103P409090	CHIP RESISTOR	1/10W 75Ω-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○ R 201	103P409090	CHIP RESISTOR	1/10W 75Ω-J [PCB SIGNAL]
R 201	103P472080	CHIP RESISTOR	1/10W 1.3KΩ-F [PCB HEAD AMP]
○ R 202	103P409090	CHIP RESISTOR	1/10W 75Ω-J
R 203	103P400010	CHIP RESISTOR	1/10W 10Ω-J [PCB HEAD AMP]
R 203	103P471010	CHIP RESISTOR	1/10W 270Ω-F [PCB SIGNAL]
R 204	103P471030	CHIP RESISTOR	1/10W 330Ω-F [PCB SIGNAL]
R 204	103P472060	CHIP RESISTOR	1/10W 1.1KΩ-F [PCB HEAD AMP]
○ R 205	103P409090	CHIP RESISTOR	1/10W 75Ω-J [PCB SIGNAL]
R 205	103P473060	CHIP RESISTOR	1/10W 1.6KΩ-F [PCB HEAD AMP]
R 206	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 207	103P400010	CHIP RESISTOR	1/10W 10Ω-J [PCB HEAD AMP]
○ R 207	103P409090	CHIP RESISTOR	1/10W 75Ω-J [PCB SIGNAL]
○ R 208	103P409090	CHIP RESISTOR	1/10W 75Ω-J [PCB SIGNAL]
○ R 208	103P473010	CHIP RESISTOR	1/10W 1.8KΩ-F [PCB HEAD AMP]
○ R 209	103P409090	CHIP RESISTOR	1/10W 75Ω-J [PCB SIGNAL]
○ R 209	103P471020	CHIP RESISTOR	1/10W 300Ω-F [PCB HEAD AMP]
R 210	103P401070	CHIP RESISTOR	1/10W 220Ω-J [PCB SIGNAL]
○ R 210	103P471040	CHIP RESISTOR	1/10W 360Ω-F [PCB HEAD AMP]
R 211	103P401070	CHIP RESISTOR	1/10W 220Ω-J
○ R 212	103P471050	CHIP RESISTOR	1/10W 390Ω-F
R 213	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J [PCB HEAD AMP]
R 213	103P403070	CHIP RESISTOR	1/10W 10KΩ-J [PCB SIGNAL]
R 214	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J [PCB HEAD AMP]
○ R 214	103P409090	CHIP RESISTOR	1/10W 75Ω-J [PCB SIGNAL]
R 215	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 216	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 217	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 218	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 219	103P401070	CHIP RESISTOR	1/10W 220Ω-J [PCB HEAD AMP]
R 219	103P403080	CHIP RESISTOR	1/10W 12KΩ-J [PCB SIGNAL]
R 220	103P402050	CHIP RESISTOR	1/10W 1KΩ-J [PCB HEAD AMP]
○ R 220	103P475070	CHIP RESISTOR	1/10W 22KΩ-F [PCB SIGNAL]
R 221	103P401070	CHIP RESISTOR	1/10W 220Ω-J [PCB HEAD AMP]

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 221	103P475090	CHIP RESISTOR	1/10W 27KΩ-F [PCB SIGNAL]
R 222	103P401050	CHIP RESISTOR	1/10W 150Ω-J [PCB SIGNAL]
R 222	103P402040	CHIP RESISTOR	1/10W 820Ω-J [PCB HEAD AMP]
R 223	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 224	103P474020	CHIP RESISTOR	1/10W 5.6KΩ-F [PCB SIGNAL]
R 224	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J [PCB HEAD AMP]
R 225	103P473050	CHIP RESISTOR	1/10W 2.7KΩ-F
R 226	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J [PCB HEAD AMP]
○ R 226	103P473090	CHIP RESISTOR	1/10W 3.9KΩ-F [PCB SIGNAL]
R 227	103P474030	CHIP RESISTOR	1/10W 5.6KΩ-F [PCB SIGNAL]
○ R 227	103P474040	CHIP RESISTOR	1/10W 6.2KΩ-F [PCB HEAD AMP]
○ R 228	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F [PCB SIGNAL]
R 228	103P476050	CHIP RESISTOR	1/10W 47KΩ-F [PCB HEAD AMP]
○ R 229	103P476010	CHIP RESISTOR	1/10W 33KΩ-F
R 230	103P475010	CHIP RESISTOR	1/10W 12KΩ-F
R 231	103P474030	CHIP RESISTOR	1/10W 5.6KΩ-F
○ R 232	103P471010	CHIP RESISTOR	1/10W 270Ω-F
R 233	103P474000	CHIP RESISTOR	1/10W 4.3KΩ-F
○ R 234	103P405040	CHIP RESISTOR	1/10W 270KΩ-J
R 235	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 236	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 238	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 239	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 240	103P409050	CHIP RESISTOR	1/10W 0Ω
R 241	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 242	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 243	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 244	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 245	103P474010	CHIP RESISTOR	1/10W 4.7KΩ-F
R 246	103P476050	CHIP RESISTOR	1/10W 47K-F
○ R 247	103P475020	CHIP RESISTOR	1/10W 13KΩ-F
R 248	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 249	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
○ R 250	103P479070	CHIP RESISTOR	1/10W 1MΩ-F
○ R 251	103P471090	CHIP RESISTOR	1/10W 560Ω-F
○ R 252	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
R 253	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
○ R 254	103P475030	CHIP RESISTOR	1/10W 15KΩ-F
R 255	103P473070	CHIP RESISTOR	1/10W 3.3KΩ-F
R 256	103P474070	CHIP RESISTOR	1/10W 8.2KΩ-F
R 257	103P475010	CHIP RESISTOR	1/10W 12KΩ-F
R 258	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 259	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 260	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 261	103P403070	CHIP RESISTOR	1/10W 10KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 262	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 263	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 264	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 265	103P476050	CHIP RESISTOR	1/10W 47KΩ-F
○ R 266	103P405040	CHIP RESISTOR	1/10W 270KΩ-J
R 267	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 280	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2A0	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2A1	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2A2	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2A3	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 2A4	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2A5	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2A6	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2A7	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2A8	103P403060	CHIP RESISTOR	1/10W 8.2KΩ-J
R 2A9	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2B0	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2B1	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2B2	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
○ R 2B3	103P471090	CHIP RESISTOR	1/10W 560Ω-F
R 2B4	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
○ R 2B5	103P471090	CHIP RESISTOR	1/10W 560Ω-F
R 2B6	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2B7	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2B8	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2B9	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 2C0	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 2C1	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 2C2	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2C3	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 2C4	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
○ R 2C5	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
○ R 2C6	103P471090	CHIP RESISTOR	1/10W 560Ω-F
R 2C7	103P472010	CHIP RESISTOR	1/10W 680Ω-F
○ R 2C8	103P478090	CHIP RESISTOR	1/10W 470KΩ-F
○ R 2C9	103P478050	CHIP RESISTOR	1/10W 330KΩ-F
R 2D0	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2D2	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2D3	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2D4	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2D6	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2D8	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2D9	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2E1	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2E2	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2E3	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 2E4	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2E6	103P404070	CHIP RESISTOR	1/10W 68KΩ-J
R 2E7	103P401050	CHIP RESISTOR	1/10W 150Ω-J
○ R 2E9	103P474050	CHIP RESISTOR	1/10W 6.8KΩ-F
R 2F0	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2F1	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2F7	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2F8	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2F9	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2G0	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2G1	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 2G2	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 2G3	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2G4	103P403050	CHIP RESISTOR	1/10W 6.8KΩ-J
R 2G8	103P405010	CHIP RESISTOR	1/10W 150KΩ-J
R 2G9	103P475010	CHIP RESISTOR	1/10W 12KΩ-F
○ R 2H0	103P474050	CHIP RESISTOR	1/10W 6.8KF
R 2H1	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2H2	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2H3	103P473020	CHIP RESISTOR	1/10W 2K-F
○ R 2H4	103P473030	CHIP RESISTOR	1/10W 2.2K-F
○ R 2H5	103P471000	CHIP RESISTOR	1/10W 240-F
○ R 2H6	103P400090	CHIP RESISTOR	1/10W 47Ω-J
R 2H7	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2H8	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
○ R 2H9	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 2J0	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2J1	103P409050	CHIP RESISTOR	1/10W 0Ω-J
R 2J2	103P403060	CHIP RESISTOR	1/10W 8.2KΩ-J
R 2J3	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 2J5	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2J6	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 2J7	103P404040	CHIP RESISTOR	1/10W 39KΩ-J
R 2J8	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2J9	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2K0	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 2K1	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2K2	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2K3	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2K4	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2K5	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2K6	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2K7	103P403050	CHIP RESISTOR	1/10W 6.8KΩ-J
R 2K8	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
○ R 2K9	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
R 2L0	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2L1	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 2L2	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2L4	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2L5	103P402000	CHIP RESISTOR	1/10W 390Ω-J
○ R 2L6	103P470080	CHIP RESISTOR	1/10W 200Ω-F
R 2L7	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 2L8	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2M0	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 2M1	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 2M2	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2M3	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2M4	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2M5	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 2M6	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2M8	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
R 2M9	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2N0	103P402050	CHIP RESISTOR	1/10W 1KΩ-J

SYMBOL NO.			DESCRIPTION
R 2N1	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2N2	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2N3	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2N4	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2N5	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 2N7	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2N8	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2N9	103P406000	CHIP RESISTOR	1/10W 820KΩ-J
R 2P0	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 2P1	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2P2	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2P3	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2P4	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2P5	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 2P6	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2P7	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2P8	103P402080	CHIP RESISTOR	1/10W 1.8KΩ-J
R 2P9	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2Q0	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2Q1	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 2Q2	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 2Q3	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2Q4	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2Q5	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2Q6	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 2Q7	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2Q8	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2Q9	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 2R0	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2R1	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 2R2	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 2R3	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2R4	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2R5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2R6	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2R7	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2R8	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 2R9	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2S0	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 2S1	103P404040	CHIP RESISTOR	1/10W 39KΩ-J
R 2S3	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 2S4	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2S6	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2S7	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2S9	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2T0	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2T2	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2T3	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2T4	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2T5	103P409050	CHIP RESISTOR	1/10W 0Ω
R 2T8	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 2T9	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2U0	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 2U1	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 2U3	103P403050	CHIP RESISTOR	1/10W 6.8KΩ-J

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2U4	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2U5	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
R 2U6	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 2U7	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2U8	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 2U9	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2V0	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2V1	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 2V2	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 2V3	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2V4	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2V5	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2V6	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2V7	103P405020	CHIP RESISTOR	1/10W 180KΩ-J
R 2V8	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2W0	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2W1	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
○ R 2W2	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
R 2W3	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 2W4	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2W5	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2W6	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2W7	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2W8	103P402020	CHIP RESISTOR	1/10W 560Ω-J
○ R 2W9	103P406050	CHIP RESISTOR	1/10W 2.2MΩ-J
R 2X0	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2X1	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 2X2	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 2X3	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2X4	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2X5	103P404040	CHIP RESISTOR	1/10W 39KΩ-J
R 2X6	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2X7	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2X8	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2X9	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 2Y0	103P402000	CHIP RESISTOR	1/10W 390Ω-JX10/05K
R 2Y1	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2Y2	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2Y3	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2Y4	103P403060	CHIP RESISTOR	1/10W 8.2KΩ-J
R 2Y5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2Y6	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2Z0	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2006	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 2007	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2011	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 2012	103P403060	CHIP RESISTOR	1/10W 8.2KΩ-J
R 2014	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2015	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2016	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 2017	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2018	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2019	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2020	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 2021	103P405010	CHIP RESISTOR	1/10W 150KΩ-J
R 2022	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 2023	103P404070	CHIP RESISTOR	1/10W 68KΩ-J
R 2025	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 2026	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 2029	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
○ R 2031	103P473090	CHIP RESISTOR	1/10W 3.9KΩ-F
R 2032	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 2033	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
○ R 301	103P471090	CHIP RESISTOR	1/10W 56Ω-F
R 303	103P471070	CHIP RESISTOR	1/10W 220Ω-J
R 304	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 305	103P471070	CHIP RESISTOR	1/10W 220Ω-J
○ R 306	103P471090	CHIP RESISTOR	1/10W 560Ω-F
R 307	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 308	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 309	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 310	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 311	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 312	103P400010	CHIP RESISTOR	1/10W 10Ω-J
○ R 314	103P470090	CHIP RESISTOR	1/10W 220Ω-F
R 315	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
○ R 316	103P471050	CHIP RESISTOR	1/10W 390Ω-F
○ R 317	103P470010	CHIP RESISTOR	1/10W 100Ω-F
R 318	103P472010	CHIP RESISTOR	1/10W 680Ω-F
R 319	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 320	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 321	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 322	103P471070	CHIP RESISTOR	1/10W 220Ω-J
R 3A0	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 3A2	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
○ R 3A3	103P408080	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3A4	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 3A5	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3A6	103P403060	CHIP RESISTOR	1/10W 8.2KΩ-J
R 3A7	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 3A8	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 3A9	103P405050	CHIP RESISTOR	1/10W 330KΩ-J
R 3B0	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3B1	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
○ R 3B4	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 3B5	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
R 3B6	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3B7	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3B8	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3B9	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 3C1	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 3C2	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 3C3	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3C4	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3C5	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 3C6	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3C7	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3C8	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 3C9	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3D2	103P404030	CHIP RESISTOR	1/10W 33KΩ-J

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3E0	103P404070	CHIP RESISTOR	1/10W 68KΩ-J
R 3E1	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 3E2	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3E3	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 3E4	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3E8	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3F0	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 3F1	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
R 3300	103P402010	CHIP RESISTOR	1/10W 470Ω-J
○ R 3310	103P401010	CHIP RESISTOR	1/10W 68Ω-J
R 3311	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3312	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3315	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3316	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3333	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 3334	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 3335	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 3336	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 3337	103P405020	CHIP RESISTOR	1/10W 180KΩ-J
R 3338	103P405020	CHIP RESISTOR	1/10W 180KΩ-J
R 3341	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3342	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3343	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 3344	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 3345	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 3346	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 3347	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 3348	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 3351	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 3352	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 3353	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 3354	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 3355	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 3356	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 3361	103P472060	CHIP RESISTOR	1/10W 1.1KΩ-F
R 3362	103P472060	CHIP RESISTOR	1/10W 1.1KΩ-F
R 3363	103P474090	CHIP RESISTOR	1/10W 10KΩ-F
R 3364	103P474090	CHIP RESISTOR	1/10W 10KΩ-F
R 3365	103P475050	CHIP RESISTOR	1/10W 18KΩ-F
R 3366	103P475050	CHIP RESISTOR	1/10W 18KΩ-F
R 3367	103P474030	CHIP RESISTOR	1/10W 5.6KΩ-F
R 3368	103P474030	CHIP RESISTOR	1/10W 5.6KΩ-F
R 3369	103P475090	CHIP RESISTOR	1/10W 27KΩ-F
R 3370	103P475090	CHIP RESISTOR	1/10W 27KΩ-F
R 3371	103P475010	CHIP RESISTOR	1/10W 12KΩ-F
R 3372	103P474070	CHIP RESISTOR	1/10W 8.2KΩ-F
R 3373	103P473080	CHIP RESISTOR	1/10W 3.6KΩ-F
R 3374	103P472070	CHIP RESISTOR	1/10W 1.2KΩ-F
R 3375	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3378	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3380	103P475040	CHIP RESISTOR	1/10W 16KΩ-F
R 3381	103P474060	CHIP RESISTOR	1/10W 7.5KΩ-F
R 3382	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 3385	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3386	103P404030	CHIP RESISTOR	1/10W 33KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3389	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 3390	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 3395	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 3470	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 3471	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 3481	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 3482	103P401050	CHIP RESISTOR	1/10W 150Ω-J
R 3483	103P404060	CHIP RESISTOR	1/10W 56KΩ-J
R 3520	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 3521	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 3522	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3523	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3530	103P404060	CHIP RESISTOR	1/10W 56KΩ-J
R 3531	103P404060	CHIP RESISTOR	1/10W 56KΩ-J
R 3532	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 3533	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 3565	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3566	103P404060	CHIP RESISTOR	1/10W 56KΩ-J
R 3600	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3601	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3602	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3603	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3604	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3605	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 3606	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 3607	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3608	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 3609	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
R 3610	103P405050	CHIP RESISTOR	1/10W 330KΩ-J
R 3611	103P404070	CHIP RESISTOR	1/10W 68KΩ-J
R 3612	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 3620	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3621	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3622	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3623	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3624	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3625	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3626	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3627	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3628	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 3629	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 3630	103P402040	CHIP RESISTOR	1/10W 820Ω-J
○ R 3631	103P405070	CHIP RESISTOR	1/10W 470KΩ-J
R 3634	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 3635	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 3637	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 3638	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 5A7	103P544090	NETWORK	1/8W 100KΩ-J
R 5L0	103P398090	FUSE	1/2W 5.6Ω-J
R 6A0	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6A1	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6A2	103P401050	CHIP RESISTOR	1/10W 150Ω-J
R 6A3	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 6A4	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 6A5	103P402030	CHIP RESISTOR	1/10W 680Ω-J

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 6A6	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 6A7	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 6A8	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 6A9	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6B0	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 6B1	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 6B2	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 6B3	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 6C0	103P401090	CHIP RESISTOR	1/10W 330Ω-J
○ R 6C2	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 6C3	103P712090	CHIP RESISTOR	1/6W OR 1/4W2.2KΩ-J
R 6C4	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 6C5	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 6C6	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 6C7	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 6C8	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 6C9	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6D0	103P409050	CHIP RESISTOR	1/10W 0Ω-J
R 6D1	103P404060	CHIP RESISTOR	1/10W 56KΩ-J
R 6D3	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 6D4	103P404040	CHIP RESISTOR	1/10W 39KΩ-J
R 6D5	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 6D6	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 6D7	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 6D8	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6E0	103P404060	CHIP RESISTOR	1/10W 56KΩ-J
○ R 6E1	103P473010	CHIP RESISTOR	1/10W 1.8KΩ-F
R 6E3	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6E4	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 6E5	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 6E6	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 6E7	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6E8	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 6E9	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 6F0	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 6F1	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6F2	103P404040	CHIP RESISTOR	1/10W 39KΩ-J
R 6F3	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 6F4	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 6F5	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6F6	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 6F7	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 6F8	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6F9	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 6G0	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6G1	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6G2	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 6G3	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6G6	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 6G7	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 6G8	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6G9	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
○ R 6H8	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
○ R 6H9	103P473030	CHIP RESISTOR	1/10W 2.2K-F
○ R 6J0	103P470010	CHIP RESISTOR	1/10W 100-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 6J1	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 6J2	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 6J3	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6J4	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6J6	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
○ R 6J7	103P471050	CHIP RESISTOR	1/10W 390Ω-F
○ R 6K1	103P470010	CHIP RESISTOR	1/10W 100-F
R 6K2	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 6K3	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 6K4	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6K5	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6K7	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6L3	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 6L4	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6L6	103P471010	CHIP RESISTOR	1/10W 270Ω-F
R 6M0	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6M1	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6M2	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6M3	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6M4	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 6M6	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 6M7	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 6P0	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
○ R 6P1	103P470010	CHIP RESISTOR	1/10W 100Ω-F
R 6P2	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
○ R 6P3	103P472090	CHIP RESISTOR	1/10W 1.5KΩ-F
○ R 6P4	103P472090	CHIP RESISTOR	1/10W 1.5KΩ-F
R 6P5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
○ R 6P7	103P470050	CHIP RESISTOR	1/10W 150Ω-F
○ R 6P8	103P471050	CHIP RESISTOR	1/10W 390Ω-F
R 6Q0	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 6Q1	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 6Q2	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 6Q3	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 6Q4	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 6Q7	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 6Q8	103P471030	CHIP RESISTOR	1/10W 330Ω-F
R 6Q9	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 6R0	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6R1	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 6R2	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6R3	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6R4	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
R 6000	103P404050	CHIP RESISTOR	1/10W 47KΩ-J
○ R 6004	103P405000	CHIP RESISTOR	1/10W 120KΩ-J
○ R 6006	103P476090	CHIP RESISTOR	1/10W 68KΩ-F
R 6008	103P406000	CHIP RESISTOR	1/10W 820KΩ-J
R 6009	103P406000	CHIP RESISTOR	1/10W 820KΩ-J
○ R 6011	103P404080	CHIP RESISTOR	1/10W 82KΩ-J
R 6012	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 6013	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6014	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6016	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6017	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6018	103P404020	CHIP RESISTOR	1/10W 27KΩ-J

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 6019	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
R 6021	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6022	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 6023	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
R 6025	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6026	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6027	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 6028	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 6031	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6032	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6033	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 6034	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 6036	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6037	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 6038	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 6039	103P404000	CHIP RESISTOR	1/10W 18KΩ-J
R 6040	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6041	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 6042	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 6043	103P401050	CHIP RESISTOR	1/10W 150Ω-J
R 6044	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6045	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
○ R 6046	103P477060	CHIP RESISTOR	1/10W 130KΩ-F
R 6047	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 6048	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 6049	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 6050	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 6051	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 6052	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 6053	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 6054	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 6055	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 6056	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 6060	103P403030	CHIP RESISTOR	1/10W 4.7KΩ-J
R 6061	103P405050	CHIP RESISTOR	1/10W 330KΩ-J
R 6062	103P405050	CHIP RESISTOR	1/10W 330KΩ-J
R 6063	103P405000	CHIP RESISTOR	1/10W 120KΩ-J
R 700	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 701	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 702	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 703	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 704	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 705	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 706	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 707	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 708	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 709	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 710	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
○ R 711	103P470090	CHIP RESISTOR	1/10W 220Ω-F
R 712	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 713	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 714	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 715	103P471070	CHIP RESISTOR	1/10W 220Ω-J
○ R 716	103P406050	CHIP RESISTOR	1/10W 2.2MΩ-J
R 717	103P404030	CHIP RESISTOR	1/10W 33KΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 718	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 719	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 720	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 721	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 722	103P471070	CHIP RESISTOR	1/10W 220Ω-J
○ R 723	103P406050	CHIP RESISTOR	1/10W 2.2MΩ-J
○ R 724	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
R 725	103P474010	CHIP RESISTOR	1/10W 4.7KΩ-F
R 726	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 727	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 728	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 729	103P403040	CHIP RESISTOR	1/10W 5.6KΩ-J
R 730	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 731	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 732	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 733	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 734	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 735	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 736	103P472070	CHIP RESISTOR	1/10W 1.2KΩ-F
R 737	103P471070	CHIP RESISTOR	1/10W 220Ω-J
R 738	103P471070	CHIP RESISTOR	1/10W 220Ω-J
R 739	103P403010	CHIP RESISTOR	1/10W 3.3KΩ-J
R 740	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 741	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 742	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 743	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 744	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 745	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 746	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
○ R 747	103P471050	CHIP RESISTOR	1/10W 390Ω-F
○ R 748	103P470010	CHIP RESISTOR	1/10W 100Ω-F
R 749	103P403090	CHIP RESISTOR	1/10W 15KΩ-J
R 750	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 751	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 752	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 753	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 754	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 755	103P403050	CHIP RESISTOR	1/10W 6.8KΩ-J
R 756	103P402070	CHIP RESISTOR	1/10W 1.5KΩ-J
R 757	103P404010	CHIP RESISTOR	1/10W 22KΩ-J
○ R 758	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
○ R 759	103P473030	CHIP RESISTOR	1/10W 2.2KΩ-F
R 760	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 761	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 762	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 763	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 764	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 765	103P403000	CHIP RESISTOR	1/10W 2.7KΩ-J
R 766	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
R 767	103P404020	CHIP RESISTOR	1/10W 27KΩ-J
○ R 768	103P472090	CHIP RESISTOR	1/10W 1.5KΩ-F
R 769	103P472050	CHIP RESISTOR	1/10W 1KΩ-F
R 770	103P472010	CHIP RESISTOR	1/10W 680Ω-F
R 771	103P402060	CHIP RESISTOR	1/10W 1.2KΩ-J
R 772	103P403080	CHIP RESISTOR	1/10W 12KΩ-J

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 773	103P403080	CHIP RESISTOR	1/10W 12KΩ-J
R 774	103P402080	CHIP RESISTOR	1/10W 1.8KΩ-J
R 7A0	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 7A1	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 7A2	103P405010	CHIP RESISTOR	1/10W 150KΩ-J
R 7A3	103P405030	CHIP RESISTOR	1/10W 220KΩ-J
R 7A4	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 7A5	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 7A6	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 7A7	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 7A8	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 7A9	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 7B0	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 7B1	103P403070	CHIP RESISTOR	1/10W 10KΩ-J
R 7B3	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 7B4	103P564050	NETWORK	1/8W 47KΩ-J
R 7C0	103P404070	CHIP RESISTOR	1/10W 68KΩ-J
R 7C1	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 7C2	103P404030	CHIP RESISTOR	1/10W 33KΩ-J
R 7C3	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 7C4	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 7C5	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 7C8	103P403020	CHIP RESISTOR	1/10W 3.9KΩ-H
R 7C9	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 7D0	103P402090	CHIP RESISTOR	1/10W 2.2KΩ-J
R 7D3	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 7D8	103P402050	CHIP RESISTOR	1/10W 1KΩ-J
R 7D9	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 7E5	103P404090	CHIP RESISTOR	1/10W 100KΩ-J
R 7E8	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 7K0	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 7K1	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 902	109P052040	FUSE	1/4W 1.2Ω-J
R 903	103P370070	FUSE	1/4W 33Ω-J
○ R 905	103P371010	FUSE	1/4W 68Ω-J
RJ 10	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 11	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 12	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 13	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 14	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 15	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 1	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 2	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 3	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 4	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 5	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 6	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 7	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 8	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ201	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ202	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ203	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ204	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ205	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ206	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ282	103P409050	CHIP RESISTOR	1/10W 0Ω

CAPACITORS AND TRIMMERS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 161	154P326000	CHIP CAPACITOR	SL50V 1000P
○ C 162	154P334070	CHIP CAPACITOR	CH50V 330pF-J
C 164	154P326000	CHIP CAPACITOR	SL50V 1000P
C 169	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 201	141P130090	CHIP CAPACITOR	B50V 1000pF-K
○ C 201	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 203	154P331050	CHIP CAPACITOR	CH50V 15pF-J
C 204	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
○ C 205	154P330070	CHIP CAPACITOR	CH50V 6pF-C
○ C 206	141P132010	CHIP CAPACITOR	B50V 0.01μF-K [PCB SIGNAL]
C 206	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z [PCB HEAD AMP]
○ C 207	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 209	141P139030	CHIP CAPACITOR	B25V 0.1μF-K [PCB SIGNAL]
C 209	154P330040	CHIP CAPACITOR	CJ50V 3pF-C [PCB HEAD AMP]
C 210	181P502060	CHIP CAPACITOR	16V 47μF-M
○ C 211	141P132010	CHIP CAPACITOR	B50V 0.01μF-K [PCB SIGNAL]
C 211	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [PCB HEAD AMP]
C 212	181P216040	CHIP CAPACITOR	04W 50V 4.7μF-M
○ C 213	154P330060	CHIP CAPACITOR	CH50V 5pF-C
C 214	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 215	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
○ C 216	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 217	154P330060	CHIP CAPACITOR	CH50V 5pF-C
C 218	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 219	141P130090	CHIP CAPACITOR	B50V 1000pF-K [PCB HEAD AMP]
○ C 219	141P132010	CHIP CAPACITOR	B50V 0.01μF-K [PCB SIGNAL]
C 220	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 222	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 223	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
○ C 224	141P132010	CHIP CAPACITOR	B50V 0.01μF-K [PCB SIGNAL]
C 224	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [PCB HEAD AMP]
C 225	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 226	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 227	141P130090	CHIP CAPACITOR	B50V 1000pF-K
○ C 228	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 229	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 230	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
○ C 231	141P132010	CHIP CAPACITOR	B50V 0.01μF-K [PCB SIGNAL]
C 231	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [PCB HEAD AMP]
C 232	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z [PCB HEAD AMP]

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 232	181P502030	CHIP CAPACITOR	16V 10μF-M
			[PCB SIGNAL]
C 234	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
			[PCB HEAD AMP]
○ C 234	154P330070	CHIP CAPACITOR	CH50V 6pF-C
			[PCB SIGNAL]
○ C 235	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 236	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 237	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 238	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
			[PCB HEAD AMP]
○ C 238	154P323080	CHIP CAPACITOR	SL50V 120pF-J
			[PCB SIGNAL]
○ C 239	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 240	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 241	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
			[PCB HEAD AMP]
C 241	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
			[PCB SIGNAL]
C 242	154P330060	CHIP CAPACITOR	CH50V 5pF-C
○ C 250	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 251	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 257	154P325040	CHIP CAPACITOR	SL50V 560pF-J
C 258	141P130090	CHIP CAPACITOR	B50V 1000pF-K
○ C 260	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 262	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 263	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2A1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2A2	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 2A3	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2A5	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2A7	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2A8	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2B1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2B2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2B5	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2C0	154P322020	CHIP CAPACITOR	SL50V 27pF-J
○ C 2D0	154P321060	CHIP CAPACITOR	SL50V 15pF-J
○ C 2D3	154P333030	CHIP CAPACITOR	CH50V 82pF-J
C 2D7	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○ C 2D9	154P334090	CHIP CAPACITOR	CH50V 390pF-J
C 2E1	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○ C 2E2	154P333010	CHIP CAPACITOR	CH50V 68pF-J
C 2E3	154P324040	CHIP CAPACITOR	SL50V 220pF-J
C 2E5	154P334090	CHIP CAPACITOR	CH50V 390pF-J
C 2E6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2E7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2E8	154P332010	CHIP CAPACITOR	CH50V 27pF-J
C 2E9	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 2F0	154P332050	CHIP CAPACITOR	CH50V 39pF-C
C 2F1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2F3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2F4	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 2F5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2F6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2F7	154P332050	CHIP CAPACITOR	CH50V 39pF-J
C 2G0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2G1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2G2	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○ C 2G4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2G5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2G7	154P322080	CHIP CAPACITOR	SL50V 120pF-J
○ C 2G8	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 2G9	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 2H0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2H1	154P333090	CHIP CAPACITOR	CH50V 150pF-J
○ C 2H2	154P335070	CHIP CAPACITOR	CH50V 820pF-J
C 2H3	154P334030	CHIP CAPACITOR	CH50V 220pF-J
○ C 2H4	154P333050	CHIP CAPACITOR	CH50V 100pF-J
C 2H6	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2H8	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2J0	154P333030	CHIP CAPACITOR	CH50V 82pF-C
○ C 2J1	154P330090	CHIP CAPACITOR	CH50V 8pF-J
C 2J2	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2J3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2J4	154P333090	CHIP CAPACITOR	CH50V 150pF-J
C 2J5	154P332070	CHIP CAPACITOR	CH50V 47pF-J
○ C 2J6	154P333030	CHIP CAPACITOR	CH50V 82pF-J
○ C 2J8	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2J9	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2K0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2K1	154P332070	CHIP CAPACITOR	CH50V 47pF-J
C 2K2	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○ C 2K3	154P335030	CHIP CAPACITOR	CH50V 560pF-J
○ C 2K4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2K7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2K8	154P332030	CHIP CAPACITOR	CH50V 33pF-J
○ C 2K9	141P131030	CHIP CAPACITOR	B50V 2200pF-K
○ C 2L0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2L1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2L2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2L3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2L4	154P332070	CHIP CAPACITOR	CH50V 47pF-J
○ C 2L5	154P331030	CHIP CAPACITOR	CH50V 12pF-J
○ C 2L6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2L7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2L8	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 2L9	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2M0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2M1	154P332010	CHIP CAPACITOR	CH50V 27pF-J
C 2M2	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2M3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2M4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2M7	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2M8	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2M9	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2N0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2N1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2N2	154P333050	CHIP CAPACITOR	CH50V 100pF-J
C 2N4	141P139030	CHIP CAPACITOR	B25V 0.1μF-K

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○ C 2N5	154P332010	CHIP CAPACITOR	CH50V 27pF-J
○ C 2N8	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2P0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2P4	154P333070	CHIP CAPACITOR	CH50V 120PJ
○ C 2Q0	154P322040	CHIP CAPACITOR	SL50V 33pF-J
C 2Q1	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 2U0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2U2	154P334010	CHIP CAPACITOR	CH50V 180pF-J
C 2U4	154P332070	CHIP CAPACITOR	CH50V 47pF-J
○ C 2U5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2U7	154P335010	CHIP CAPACITOR	CH50V 470pF-J
○ C 2U8	154P334010	CHIP CAPACITOR	SL50V 180pF-J
C 2U9	154P332070	CHIP CAPACITOR	CH50V 47pF-J
C 2V0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2007	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2010	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2015	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2016	154P331050	CHIP CAPACITOR	CH50V 15pF-J
C 2017	154P332090	CHIP CAPACITOR	CH50V 56pF-J
C 2018	154P332070	CHIP CAPACITOR	CH50V 47pF-J
○ C 2021	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2026	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2030	154P326080	CHIP CAPACITOR	SL50V 2200P
○ C 2032	154P334070	CHIP CAPACITOR	CH50V 330pF-J
○ C 2033	154P327020	CHIP CAPACITOR	SL50V 3300pF-J
C 2035	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2036	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 2037	154P330090	CHIP CAPACITOR	CH50V 8pF-C
○ C 2038	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 2039	154P335090	CHIP CAPACITOR	CH50V 1000pF-J
○ C 2041	154P332050	CHIP CAPACITOR	CH50V 39pF-J
○ C 2042	154P331070	CHIP CAPACITOR	CH50V 18pF-J
C 2043	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 2044	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 302	141P135080	CHIP CAPACITOR	F25V0.1μF-Z
C 303	141P130050	CHIP CAPACITOR	B50V 470pF-K
C 304	141P130050	CHIP CAPACITOR	B50V 470pF-K
C 305	141P135080	CHIP CAPACITOR	F25V0.1μF-Z
C 307	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 308	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 309	141P131050	CHIP CAPACITOR	B50V 3300pF-K
C 310	141P135080	CHIP CAPACITOR	F25V0.1μF-Z
C 311	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 314	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 316	141P135080	CHIP CAPACITOR	F25V0.1μF-Z
C 317	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 318	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 320	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 322	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 324	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 327	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 3A1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3A2	141P130090	CHIP CAPACITOR	B50V 1000pF-K
○ C 3A3	141P130060	CHIP CAPACITOR	B50V 560pF-K
○ C 3A8	141P130080	CHIP CAPACITOR	B50V 820pF-K
C 3C3	154P323060	CHIP CAPACITOR	SL50V 100pF-J
○ C 3C4	141P130040	CHIP CAPACITOR	B50V 390pF-K
C 3D3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3D5	154P325000	CHIP CAPACITOR	SL50V 390pF-J
○ C 3D6	141P131020	CHIP CAPACITOR	B50V 1800pF-K
C 3F1	141P131050	CHIP CAPACITOR	B50V 3300pF-K
C 3F2	154P323060	CHIP CAPACITOR	SL50V 100pF-J
C 3317	141P131010	CHIP CAPACITOR	B50V 1500pF-K
C 3318	141P131010	CHIP CAPACITOR	B50V 1500pF-K
C 3383	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3384	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3385	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3386	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3398	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 3401	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3403	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3406	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3407	154P326000	CHIP CAPACITOR	SL50V 1000pF-J
C 3408	154P326000	CHIP CAPACITOR	SL50V 1000pF-J
C 3409	154P326000	CHIP CAPACITOR	SL50V 1000pF-J
C 3410	154P326000	CHIP CAPACITOR	SL50V 1000pF-J
C 3463	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3561	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3562	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3563	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3564	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3567	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 5B4	189P097020	C-LYTIC-DBL-LAYER	FYD0H473Z
○ C 6A0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 6A1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 6A2	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 6A4	154P333050	CHIP CAPACITOR	CH50V 100pF-J
○ C 6A5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6A6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 6A8	154P323060	CHIP CAPACITOR	SL50V 100pF-J
C 6B0	141P130090	CHIP CAPACITOR	B50V 1000pF-K
○ C 6B1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6C1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6C2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6C3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6C4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6C5	154P333050	CHIP CAPACITOR	CH50V 100pF-J
○ C 6C6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6C7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6C9	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 6D1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 6D2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 6D3	154P323080	CHIP CAPACITOR	SL50V 120pF-J
○ C 6D4	154P333050	CHIP CAPACITOR	CH50V 100pF-J
C 6D6	154P330060	CHIP CAPACITOR	CH50V 5pF-C
○ C 6D7	154P335090	CHIP CAPACITOR	CH50V 1000pF-J
C 6E0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 6E6	154P335010	CHIP CAPACITOR	CH50V 470pF-J

○ : NEW PARTS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○	C 6E7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6F1	154P335010	CHIP CAPACITOR	CH50V 470pF-J
○	C 6F2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6F4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6F5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6F6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6F7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6F8	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 6G0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6G1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6G2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6G3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6G4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6G7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6G8	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6G9	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6H1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6H2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6H4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6H5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6H6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6H7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6H8	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6J1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 6K0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6K3	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 6K4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6K5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6K6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6K8	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6L0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
	C 6L1	154P323060	CHIP CAPACITOR	SL50V 100pF-J
○	C 6L2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6L3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6P0	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6P1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6P2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6P4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6P5	154P332090	CHIP CAPACITOR	CH50V 56pF-J
	C 6P6	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 6P7	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6P8	154P332090	CHIP CAPACITOR	CH50V 56pF-J
	C 6P9	154P324000	CHIP CAPACITOR	SL50V 150pF-J
○	C 6Q1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6Q2	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
	C 6Q3	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
	C 6Q5	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 6Q6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6002	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 6003	154P333090	CHIP CAPACITOR	CH50V 150pF-J
○	C 6004	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6005	154P333090	CHIP CAPACITOR	CH50V 150pF-J
○	C 6006	154P335090	CHIP CAPACITOR	CH50V 1000pF-J
○	C 6007	154P333010	CHIP CAPACITOR	CH50V 68pF-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○	C 6010	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6011	141P139010	CHIP CAPACITOR	B25V 0.068MK
○	C 6014	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6016	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6017	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6020	141P139010	CHIP CAPACITOR	B25V 0.068MK
○	C 6021	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6022	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6024	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○	C 6025	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6026	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6027	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○	C 6028	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6029	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○	C 6030	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6031	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6032	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6033	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6034	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 6035	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6036	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 6037	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 6038	154P332090	CHIP CAPACITOR	CH50V 56pF-J
	C 6039	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○	C 6040	154P322080	CHIP CAPACITOR	SL50V 47pF-J
○	C 700	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 701	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 702	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○	C 704	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 705	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 707	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
	C 708	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
	C 709	141P136010	CHIP CAPACITOR	F25V/16V 0.47μF-Z
	C 710	141P130090	CHIP CAPACITOR	B50V 1000pF-K
	C 711	141P136010	CHIP CAPACITOR	F25V/16V 0.47μF-Z
	C 712	141P136010	CHIP CAPACITOR	F25V/16V 0.47μF-Z
	C 713	141P130090	CHIP CAPACITOR	B50V 1000pF-K
	C 714	141P136010	CHIP CAPACITOR	F25V/16V 0.47μF-Z
	C 715	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
	C 717	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
	C 720	154P327060	CHIP CAPACITOR	CH50V 4700pF-J
	C 723	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 724	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 728	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 729	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 730	154P332090	CHIP CAPACITOR	CH50V 56pF-J
○	C 731	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 732	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 734	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
	C 735	154P332090	CHIP CAPACITOR	CH50V 56pF-J
	C 736	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○	C 738	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 739	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 740	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○	C 741	141P132010	CHIP CAPACITOR	B50V 0.01μF-K

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
○ C 742	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 743	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
○ C 745	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 746	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 748	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 749	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 762	154P332070	CHIP CAPACITOR	CH50V 47pF-J
C 7A0	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7A1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7A2	154P324000	CHIP CAPACITOR	SL50V 150pF-J
C 7A3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7A4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7A5	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7A6	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7B0	154P330060	CHIP CAPACITOR	CH50V 5pF-C
C 7B1	154P332070	CHIP CAPACITOR	CH50V 47pF-J
C 7B2	154P323000	CHIP CAPACITOR	SL50V 56pF-J
C 7B4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7B5	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7B6	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7B7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7C0	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7C1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7C3	154P323000	CHIP CAPACITOR	SL50V 56pF-J
C 7C5	154P323000	CHIP CAPACITOR	SL50V 56pF-J
C 7C6	154P332090	CHIP CAPACITOR	CH50V 56pF-J
C 7C7	154P323060	CHIP CAPACITOR	SL50V 100pF-J
C 7C8	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7C9	154P324040	CHIP CAPACITOR	SL50V 220pF-J
C 7D3	154P324040	CHIP CAPACITOR	SL50V 220pF-J
C 7D4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7D6	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7D7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7E0	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7E4	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 7E5	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 7E7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7H5	154P321080	CHIP CAPACITOR	SL50V 18pF-J
C 7K0	154P324000	CHIP CAPACITOR	SL50V 150pF-J
C 7K1	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 7K4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7K5	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 7K7	154P322060	CHIP CAPACITOR	SL50V 39pF-J
○ C 916	185D060090	ELECTROLYTIC-C	H16V 8200μF-M
C 917	185D065020	DISP STATELECTROLYT	H25V 6800μF-M
VC501	202P109040	TRIMMER CAPACITOR	7.3pF-45pF
VC6D8	202P109040	TRIMMER CAPACITOR	7.3pF-45pF
VC6K1	202P109050	TRIMMER CAPACITOR	9.8pF-60pF
VC7A0	202P109030	TRIMMER CAPACITOR	5.5pF-30PF
VC7A1	202P109030	TRIMMER CAPACITOR	5.5pF-30PF
VC801	202P109020	TRIMMER CAPACITOR	4.2pF-20pF

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
SWITCHES			
S 200	431C073010	SLIDE SWITCH	EURO AV SELECT
○ S 803	431C079020	SLIDE SWITCH	S-VHS SWITCH
S 806	431C079040	SLIDE SWITCH	AV INPUT SELECT
○ S 809	431C079020	SLIDE SWITCH	FRONT/REAR SELECT
S 810	431C079010	SLIDE SWITCH	TARE REMAIN
S 811	431C079040	SLIDE SWITCH	METER SELECT
S 862	431C079040	SLIDE SWITCH	INTELLIGENT PICTURE
S 8A1	432P100040	KEY BOARD SWITCH	POWER
SW570	439P019010	MODE SELECT SWITCH	
SW571	439P020010	LIMIT SWITCH	
○ SW572	439P020020	LIMIT SWITCH	
MISCELLANEOUS			
○	295P087040	RF CONVERTER	MDLK6B453A
○	242D297010	IF CABLE	
○ CD AD	243C048080	CARD LEAD	13P
CJ AJ	243C048020	CARD LEAD	17P
○ CK SK	243C023030	CARD LEAD	
DC CC	243C061020	CARD LEAD	9P
○ DM CM	243C061050	CARD LEAD	23P
F 901	283D047010	FUSE	1A-T
F 902	283D047050	FUSE	2.5A-T
F 903	283D047050	FUSE	2.5A-T
○ J 201	451C096020	PIN JACK	YEL
○ J 202	449C087010	SOCKET DIN MINI	
○ J 203	451C096020	PIN JACK	YEL
○ J 204	449C087010	SOCKET DIN MINI	
○ J 3Z0	451C086090	PIN JACK	
○ J 3Z1	451C105080	PIN JACK	
○ J 3Z2	451C086090	PIN JACK	
○ J 3Z3	451C086010	PIN JACK	
○ J 3Z4	451C086090	PIN JACK	
○ J 3Z5	451C086010	PIN JACK	
J 3Z6	451C058010	CONNECTOR	
○ J 5A1	451C118050	PIN JACK	
K 3A0	287P020050	RELAY	
M 470	288P093020	CAPSTAN MOTOR	
M 570	288P088010	DRUM MOTOR	
M 571	288D025010	LOADING MOTOR	
T 370	460P060050	HEAD	
T 371	460P061020	FE HEAD	
TU101	295P060050	TUNER VIF PACK	VP-5D
○ V 801	253P068050	TUBE FLUOR	FIP12HM8A
X 501	285P084010	CRYSTAL RESONATOR	
X 6C0	285P011010	CRYSTAL RESONATOR	4.434MHz
X 7A0	285P115010	CRYSTAL RESONATOR	6.552
X 7A1	285P113010	CRYSTAL RESONATOR	
X 7A2	285P094010	CRYSTAL RESONATOR	
X 801	285P063040	CRYSTAL RESONATOR	4.194304MHz
X 802	285P054010	CRYSTAL RESONATOR	32.768kHz
Z 8A0	939P359010	PREAMP UNIT	

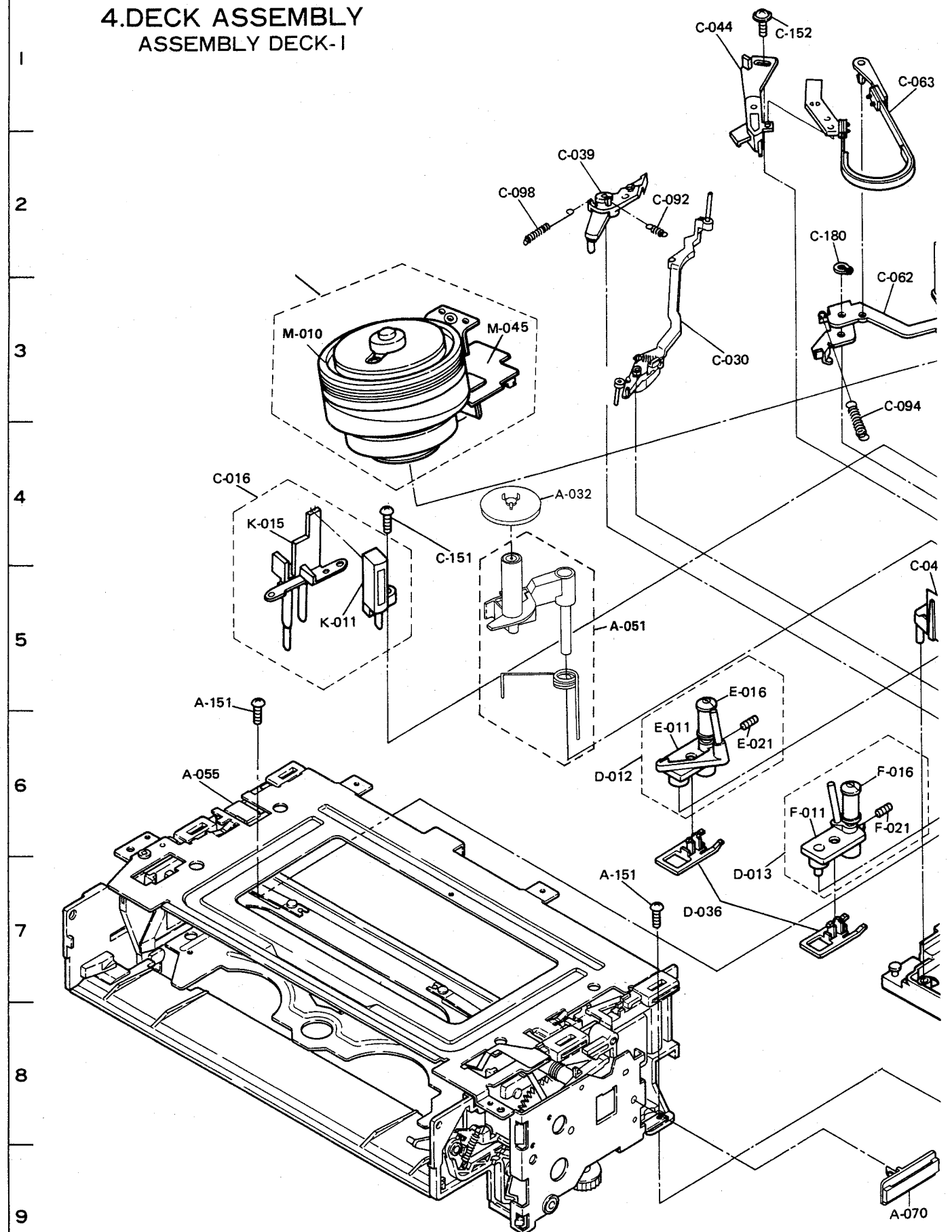
○ : NEW PARTS

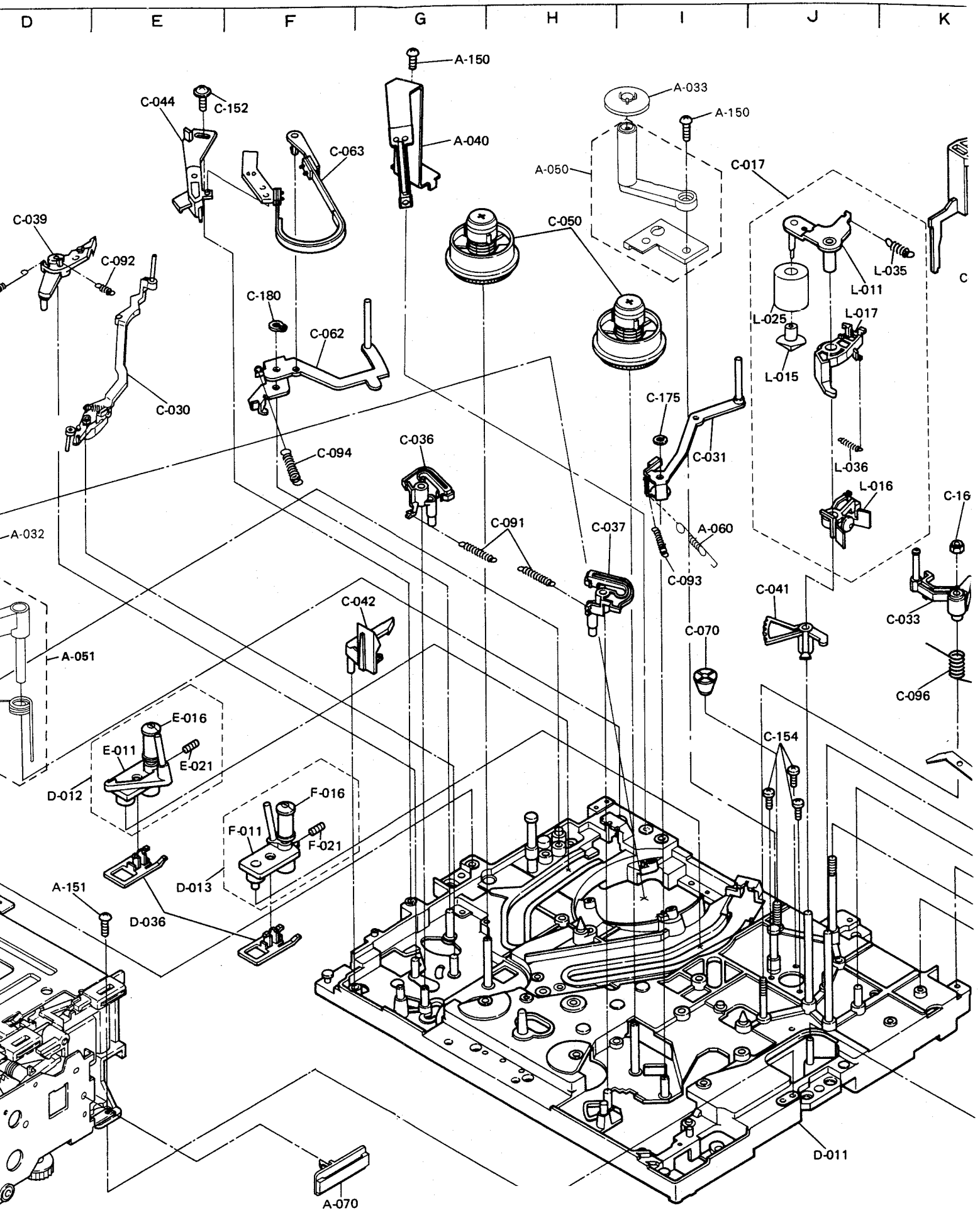
SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
PRINTED CIRCUIT BOARD ASSY'S			
○	928C638001	CONNECTOR PCB ASSY	
○	928B992001	CONTROL PCB ASSY	
○	928C442050	DB PCB ASSY	
○	928C510030	DECK PCB ASSY	
○	928B927011	HEAD-AMP PCB ASSY	
○	928B996001	Hi-Fi/NICAM PCB ASSY	
○	928C635001	JACK-F PCB ASSY	
○	928B995001	POWER PCB ASSY	
○	928C637001	REG PCB ASSY	
○	928B991001	SIGNAL PCB ASSY	
○	928B993001	TIMER/P-SW PCB ASSY	
○	928C636001	TU VIF PCB ASSY	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION

4.DECK ASSEMBLY

ASSEMBLY DECK-I

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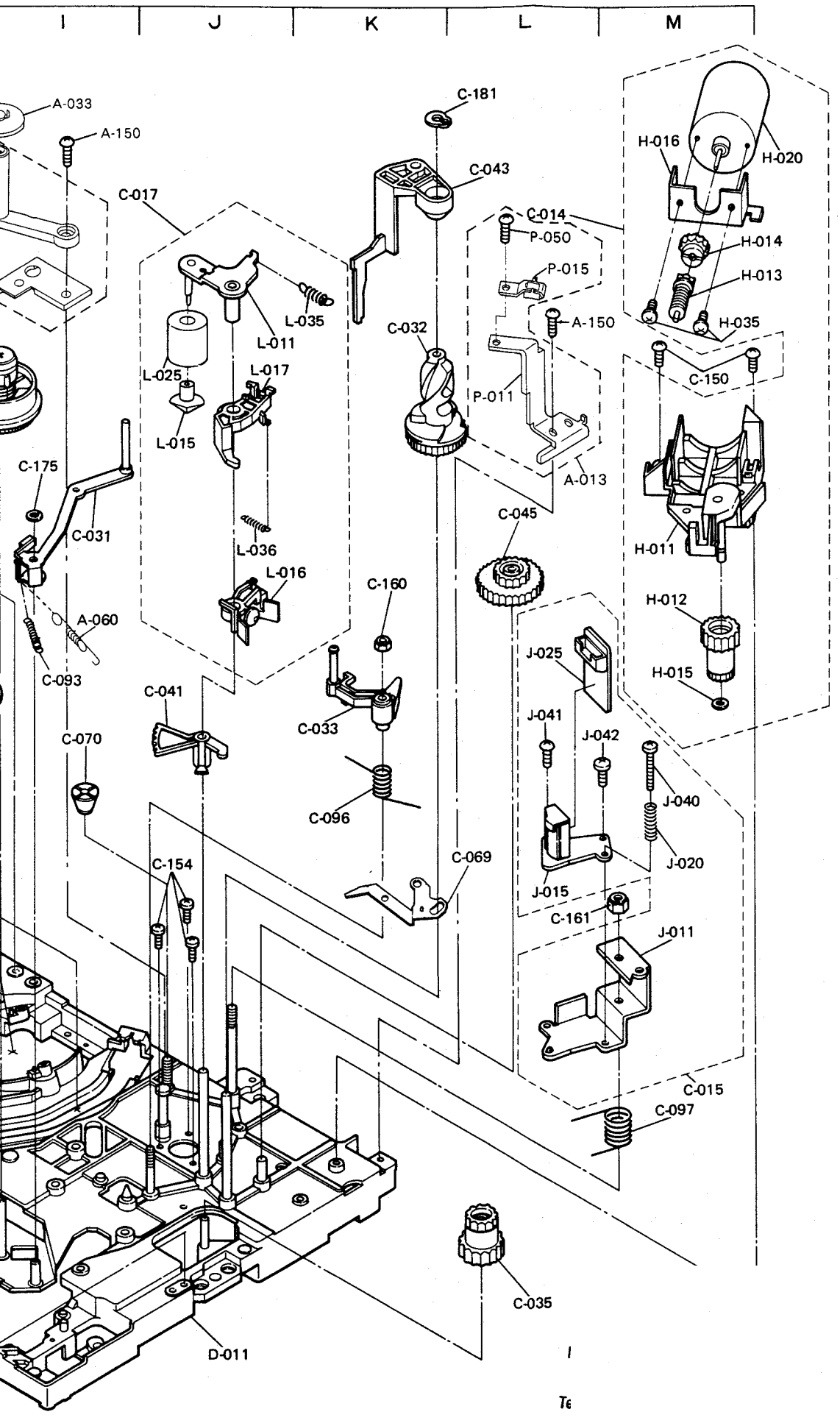


* Settelled Service Parts

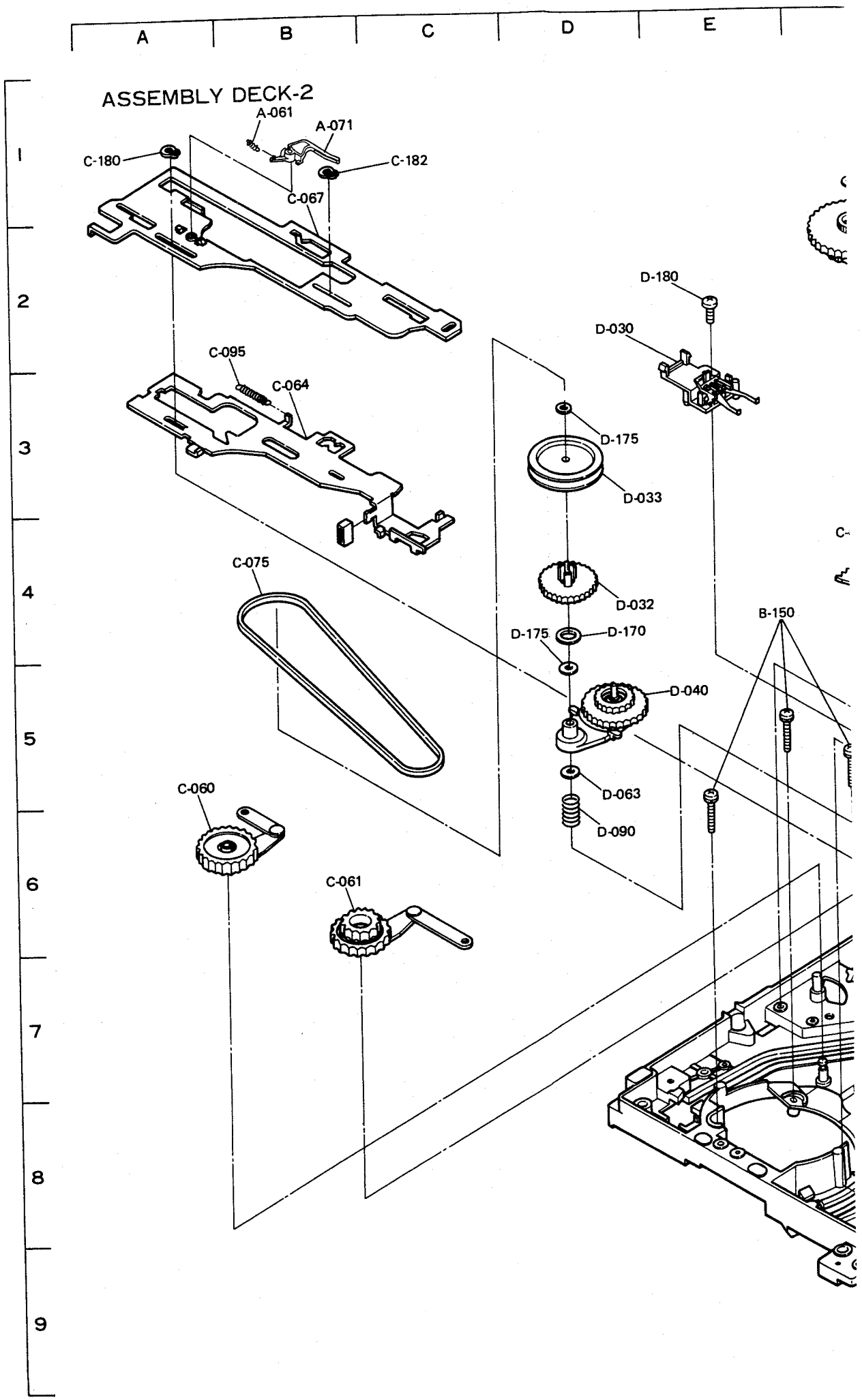
ITEM	PARTS No.	*	ADDF
B-015	948B277001	○	B-2
M-010	928B999021	○	B-3
M-045	288P088010	○	D-3
D-011	948A071020		J-9
D-012	948D018070	○	D-6
D-012	948D018080	○	D-6
D-012	948D018090	○	D-6
E-011	635B059010	○	E-6
E-011	635B059020	○	E-6
E-011	635B059030	○	E-6
E-016	522B031010	○	E-5
E-021	669D197020		E-6
D-013	948D019010	○	F-7
D-013	948D019020	○	F-7
D-013	948D019030	○	F-7
F-011	635B060010	○	F-6
F-011	635B060020	○	F-6
F-011	635B060030	○	F-6
F-016	522B031010	○	F-6
F-021	669D197020		F-6
D-036	621D522010	○	E-7
C-014	928D031010	○	L-2
H-011	641B313010		M-4
H-012	641C783010		M-4
H-013	641C801010		M-2
H-014	621D525010		M-2
H-015	552C007030	◯	M-4
H-016	596D157010		M-1
H-020	288D025010	○	M-1
H-035	650P300030		M-2
C-015	928D032030	○	M-7
J-011	592C760010		M-6
J-015	460P060050	○	L-6
J-020	570D593010		M-6
J-025	215C393010		L-4
J-040	650P261040		M-5
J-041	669D227010	○	L-5
J-042	669D206030		M-5
C-016	928D033010		B-4
K-011	460P061020	○	B-5
K-015	641C870010		B-4
C-017	948D020010	○	J-1
L-011	591B536010		J-2
L-015	621D523010	○	J-3
L-016	641C797010		J-4
L-017	641C798010		J-3
L-025	522D174010	○	J-2
L-035	572D314010	○	K-2
L-036	572D315010	○	J-4
C-030	641B368010	○	E-3
C-031	591B551010	○	I-3
C-032	641B314020	○	K-2
C-033	635B068010	○	K-5
C-035	641C782010	○	L-8
C-036	641C791010	○	G-3
C-037	641C792010	○	H-4
C-039	641C796010		D-2
C-041	641C991010	○	J-5

d Service Parts

PARTS No.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
948B277001	○	B-2	ASSY-DRUM		01
928B999021	○	B-3	ASSY-UPPER-DRUM		01
288P088010	○	D-3	MOTOR-DRUM	M570	01
948A071020		J-9	ASSY-MAIN-PLATE		01
948D018070	○	D-6	ASSY-TAPE-GUIDE-S		01
948D018080	○	D-6	ASSY-TAPE-GUIDE-S		01
948D018090	○	D-6	ASSY-TAPE-GUIDE-S		01
635B059010	○	E-6	TAPE-GUIDE-S		01
635B059020	○	E-6	TAPE-GUIDE-S		01
635B059030	○	E-6	TAPE-GUIDE-S		01
522B031010	○	E-5	GUIDE-ROLLER		01
669D197020		E-6	SET-SCREW-F	M3X0.5-4	01
948D019010	○	F-7	ASSY-TAPE-GUIDE-T		01
948D019020	○	F-7	ASSY-TAPE-GUIDE-T		01
948D019030	○	F-7	ASSY-TAPE-GUIDE-T		01
635B060010	○	F-6	TAPE-GUIDE-T		01
635B060020	○	F-6	TAPE-GUIDE-T		01
635B060030	○	F-6	TAPE-GUIDE-T		01
522B031010	○	F-6	GUIDE-ROLLER		01
669D197020		F-6	SET-SCREW-F	M3X0.5-4	01
621D522010	○	E-7	SLIDER		02
928D031010	○	L-2	ASSY-LOAD-MOTOR		01
641B313010		M-4	HOLDER-MOTOR		01
641C783010		M-4	GEAR-WHEEL		01
641C801010		M-2	GEAR-WORM		01
621D525010		M-2	COUPLING		01
552C007030	○	M-4	CUT-WASHER	2.5	01
596D157010		M-1	PLATE-HOLDER-M		01
288D025010	○	M-1	MOTOR-LOADING	M571	01
650P300030		M-2	SCREW-F-FE-PAN	M3X0.5-3	02
928D032030	○	M-7	ASSY-AC-HEAD		01
592C760010		M-6	ARM-AC		01
460P060050	○	L-6	HEAD-AC	T370	01
570D593010		M-6	SPRING-AC		01
215C393010		L-4	PCB-AC-F		01
650P261040		M-5	SCREW-F-FE-PAN	M2.6X0.45-14	01
669D227010	○	L-5	SCREW-TS	M2.6X6	01
669D206030		M-5	SCREW		01
928D033010		B-4	ASSY-FE-HEAD		01
460P061020	○	B-5	HEAD-FE	T371	01
641C870010		B-4	HOLDER-FE		01
948D020010	○	J-1	ASSY-ARM-PINCH		01
591B536010		J-2	ARM-PINCH		01
621D523010	○	J-3	CAP-ROLLER		01
641C797010		J-4	LEVER-CAM-PINCH		01
641C798010		J-3	LEVER-ARM-PINCH		01
522D174010	○	J-2	ROLLER-PINCH		01
572D314010	○	K-2	SPRING-PINCH		01
572D315010	○	J-4	SPRING-CAM-PINCH		01
641B368010	○	E-3	ARM-TENS-REG-S2		01
591B551010	○	I-3	ARM-TENS-REG-T		01
641B314020	○	K-2	CAM-PINCH		01
635B068010	○	K-5	ARM-TU-G		01
641C782010	○	L-8	GEAR-JOINT		01
641C791010	○	G-3	BRAKE-MAIN-S		01
641C792010	○	H-4	BRAKE-MAIN-T		01
641C796010		D-2	LEVER-TENS		01
641C991010	○	J-5	ARM-GEAR-TU-G2		01

* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
C-042	641C804010	○	G-5	LEVER-REC-SAFETY		01
C-043	641C806010		L-1	CAP-ARM-PINCH		01
C-044	641C861010		E-1	HOLDER-T-BAND		01
C-045	621D509010	○	L-3	GEAR-1		01
C-050	522C076020	○	H-2	UNIT-REEL-DISK		02
C-062	591B547010		F-3	ARM-TENSION		01
C-063	591B552010	○	F-1	BELT-TENS-BRAKE		01
C-069	592C930010		L-5	LEVER-TENS-TU		01
C-070	631D136010	○	I-5	NUT-TAPER		01
C-091	572D309010	○	H-4	SPRING-M-B		02
C-092	572D391010	○	E-2	SPRING-T-R-S2		01
C-093	572D390010	○	I-4	SPRING-T-R-T2		01
C-094	572D312010	○	F-3	SPRING-TENS		01
C-096	572D317010	○	K-5	SPRING-TU-G		01
C-097	572D318010	○	M-7	SPRING-ARM-A/C		01
C-098	572D328010	○	D-2	SPRING-REC-SAFETY		01
C-150	669D227010	○	M-3	SCREW-TS	M2.6X6	02
C-151	669D227030	○	C-4	SCREW-TS	M2.6X10	01
C-152	669D228010		E-1	SCREW-TS-SEMS	M2.6X6	01
C-154	669D285040		J-6	SCREW-TB-PAN	M2.6X8	03
C-160	674D081020	○	K-4	NUT-NYLON		01
C-161	674D100010	○	L-6	NUT-NYLON-S	M4X0.7	01
C-175	552C007030	○	I-3	CUT-WASHER	2.5	01
C-180	685C009010	○	F-2	GRIP-RING		01
C-181	685C009020	○	L-1	GRIP-RING		01
A-013	928D037001	○	L-3	ASSY-H/S-G		01
P-011	592C953010		L-3	HOLDER-H/S		01
P-015	299P052020	○	L-2	SENSOR-H		01
P-050	669D227090	○	L-2	SCREW-TS		01
A-032	596D256010		D-4	FLYWHEEL-IMP		01
A-033	596D256020		I-1	FLYWHEEL-IMP		01
A-040	299C027010	○	G-1	BRUSH		01
A-050	641B382010		H-1	UNIT-IMP-T		01
A-051	641B381010		D-5	UNIT-IMP-S2		01
A-055	590A256010	○	A-6	UNIT-F/L-F		01
A-060	572D401010		I-4	SPRING-RS		01
A-070	641C906010		F-9	HOLDER-CARD		01
A-150	669D227010	○	G-1 I-1 L-2	SCREW-TS	M2.6×6	03
A-151	669D227020	○	B-5 D-7	SCREW-TS	M2.6X8	02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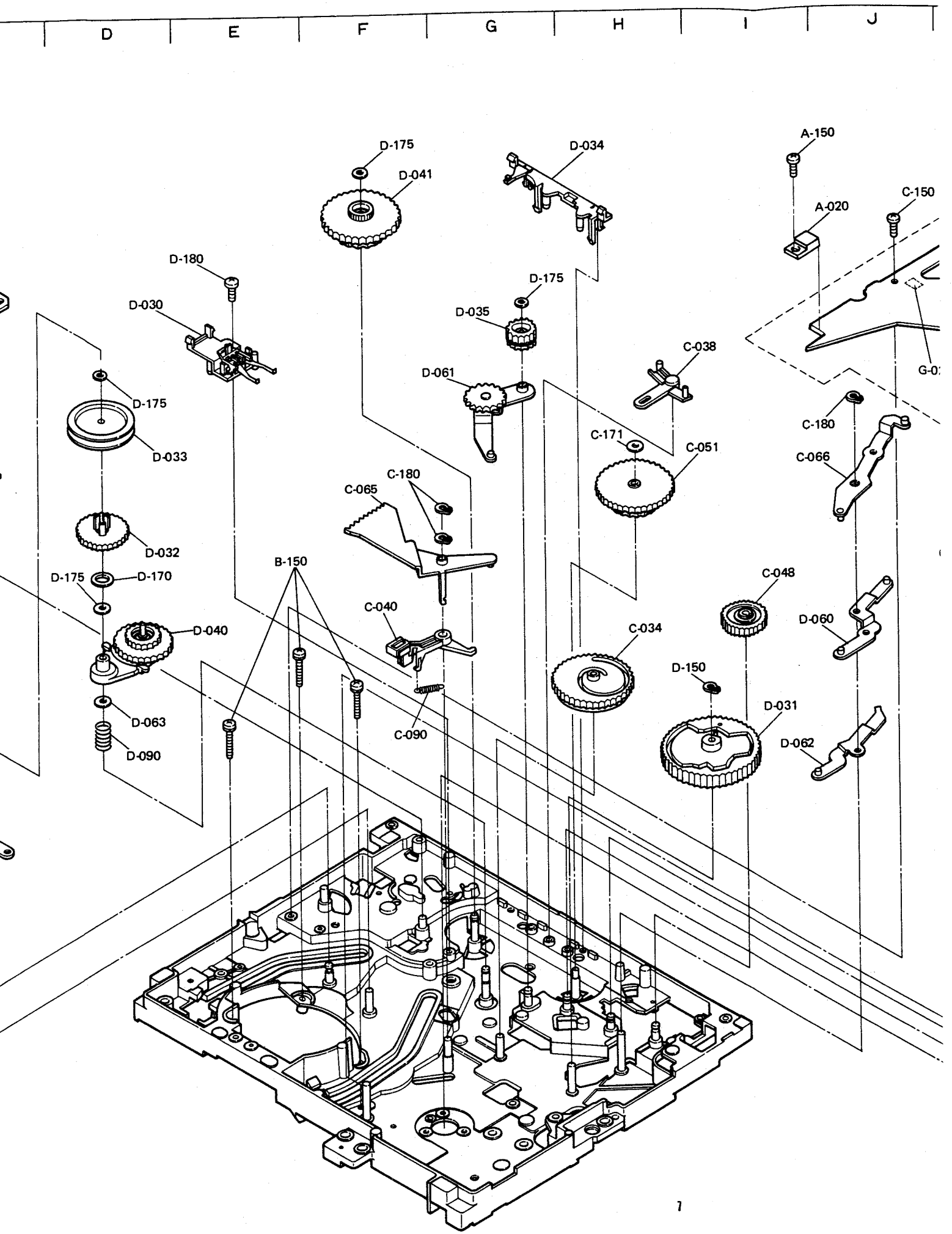
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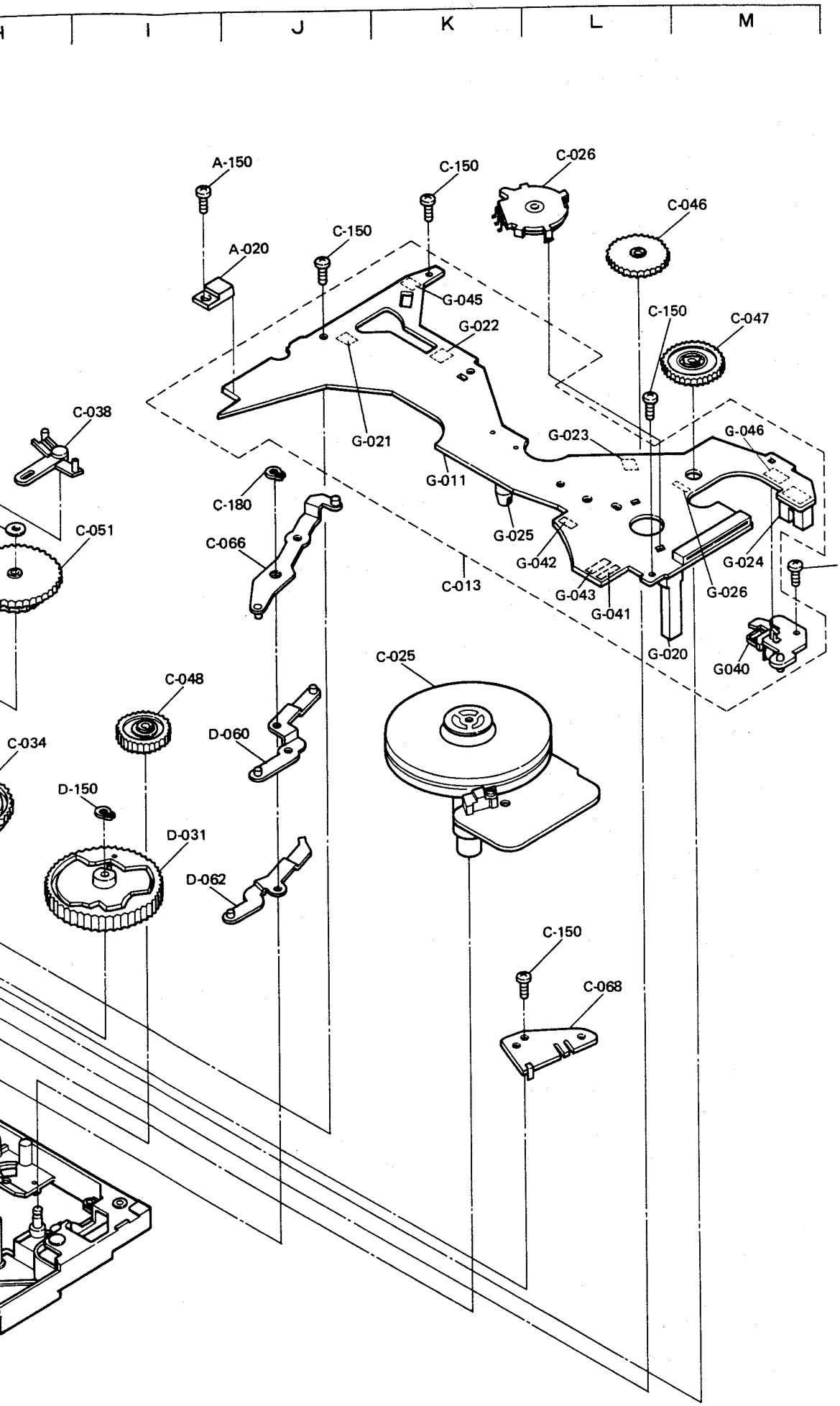

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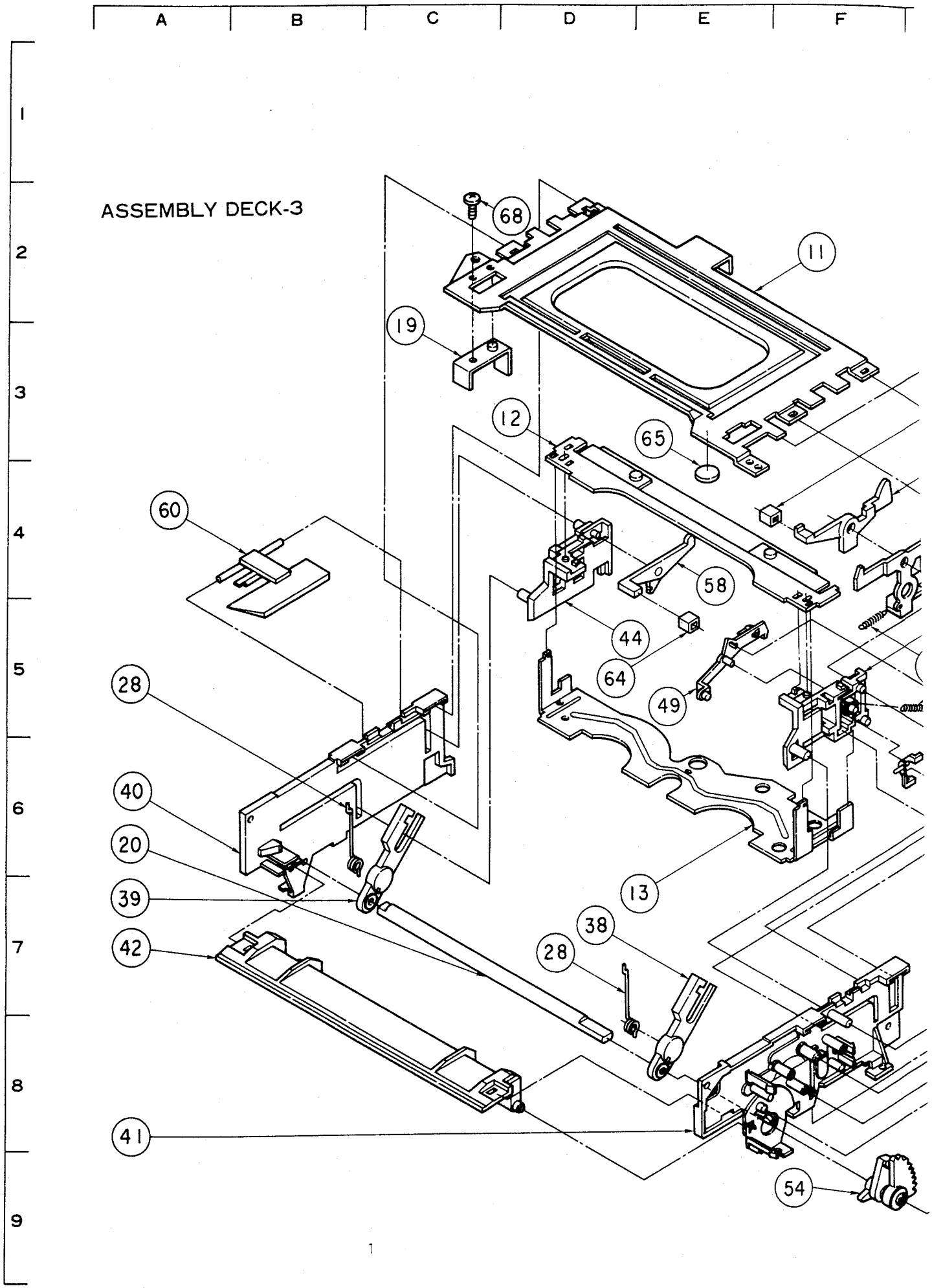
* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
B-150	669D200040		E-4		SCREW-SEMS	M2.6X0.45-10	03
D-030	641B310010	○	D-2		UNIT-LEVER-SHIFT		01
D-031	641B323010	○	I-5		CAM-MAIN-1		01
D-032	641C789020	○	D-4		PULLEY-GEAR		01
D-033	641C790010	○	D-3		PULLEY-BELT		01
D-034	641C815010		H-1		HOLDER-P-CAM		01
D-035	621D516010	○	G-2		GEAR-F/L-1		01
D-040	522C077020	○	E-5		UNIT-GEAR-IDLER		01
D-041	522C083010	○	F-1		UNIT-GEAR-REEL-S		01
D-060	591B559010		J-5		LEVER-C		01
D-061	591B567010	○	G-3		LEVER-F/L-ID		01
D-062	592C830010		I-6		LEVER-RS		01
D-063	596D057010	○	D-5		WASHER-R	T=0.3	01
D-090	572D306010	○	D-6		SPRING-SHIFT		01
D-150	685C009010	○	I-5		GRIP-RING		01
D-170	552C010040	○	D-4		WASHER-THRUST	6.7X12X0.13	01
D-175	552C007030	○	D-3	D-4	CUT-WASHER	2.5	04
			G-2	F-1			
D-180	669D227010	○	E-2		SCREW-TS	M2.6X6	01
C-013	928C510030	○	K-4		ASSY-PCB-DECK		01
G-011	240A651030		K-3		PCB-DECK		01
G-020	268P014020	○	L-4		TRASISTOR	Q571 PN205L-(NC)	01
G-021	268P014020	○	J-3		TRASISTOR	Q572 PN205L-(NC)	01
G-022	268P044010	○	K-2		PHOTO-INTERRUPTER	Q573 ON2270-(LJ)	01
G-023	268P044010	○	L-3		PHOTO-INTERRUPTER	Q574 ON2270-(LJ)	01
G-024	268P045010	○	M-4		PHOTO-INTERRUPTER	Q575 GP1L52V	01
G-025	264P307020	○	K-3		DIODE-LE	D570 GL-451	01
G-026	264P515010	○	M-4		DIODE	D571 MA165	01
G-040	299P124010	○	M-4		LATCH-MAGNET	L570	01
G-045	439P020010	○	K-2		SW-LIMIT	SW571	01
G-046	439P020020	○	M-3		SW-LIMIT	SW572	01
C-025	288P093020	○	K-4		MOTOR-CP	M470	01
C-026	439P019010	○	L-1		SW-MODE-SELECT-F	SW570	01
C-034	641B324010	○	H-5		CAM-MAIN-2		01
C-038	641C795010		I-3		LEVER-IDLER-S		01
C-040	641C800010	○	F-5		BRAKE-CP		01
C-046	621D517010	○	M-1		GEAR-F/L-2		01
C-047	621D518010	○	M-2		GEAR-F/L-3		01
C-048	621D519010	○	I-4		GEAR-F/L-4		01
C-051	522C078040	○	I-3		UNIT-GEAR-REEL		01
C-060	591B543010	○	A-5		ARM-LOAD-S		01
C-061	591B544010	○	B-6		ARM-LOAD-T		01
C-064	591B554010		B-3		PLATE-CAM-C		01
C-065	591B557010		F-4		ARM-GEAR-LOAD		01
C-066	591B558010		J-4		LEVER-B		01
C-067	592C949010		B-1		UNIT-PLATE-CAM-B3		01
C-068	596D186010		L-7		PLATE-SHIELD-F		01
C-075	521D062010	○	B-4		BELT-REEL		01
C-090	572D308020	○	F-6		SPRING-B-CP		01
C-095	572D313010	○	B-2		SPRING-CAM-C		01
C-150	669D227010	○	J-2	K-1	SCREW-TS	M2.6X6	05
			L-2	L-6			
			M-4				
C-171	552C006020	○	H-3		WASHER-THRUST	2.0X0.13	01
C-180	685C009010	○	A-1	F-4	GRIP-RING		04
			J-3				
C-182	552C009050		C-1		CUT-WASHER		01
A-020	260P438010	○	J-2		TRANSISTOR	Q971 2SD1273-Q	01
A-061	572D404010		B-1		SPRING-B-RS		01
A-071	641C928010		B-1		LEVER-B-RS		01
A-150	669D227010	○	J-1		SCREW-TS	M2.6X6	01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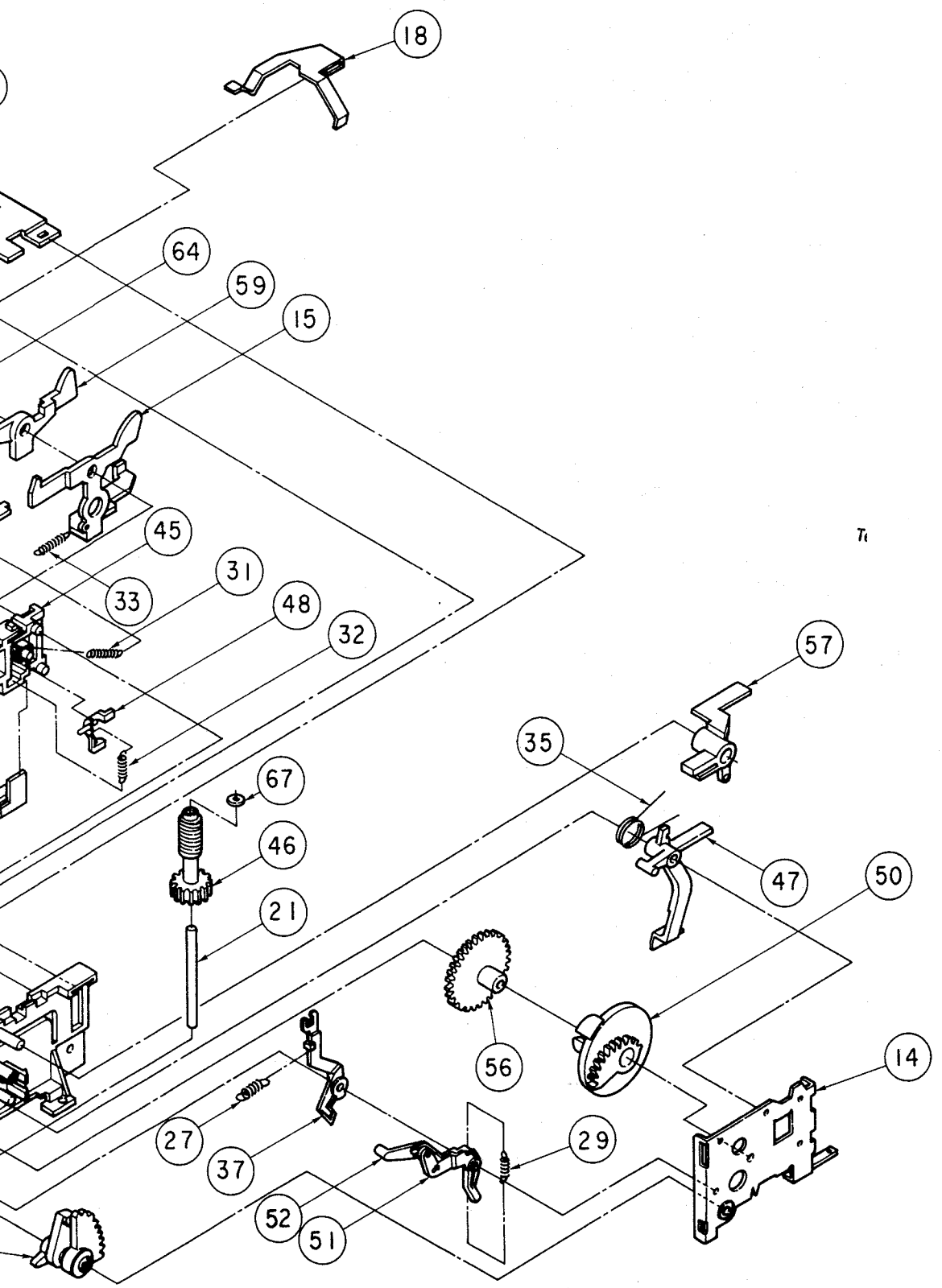

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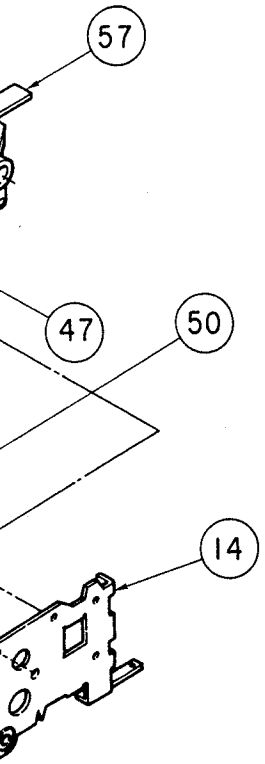
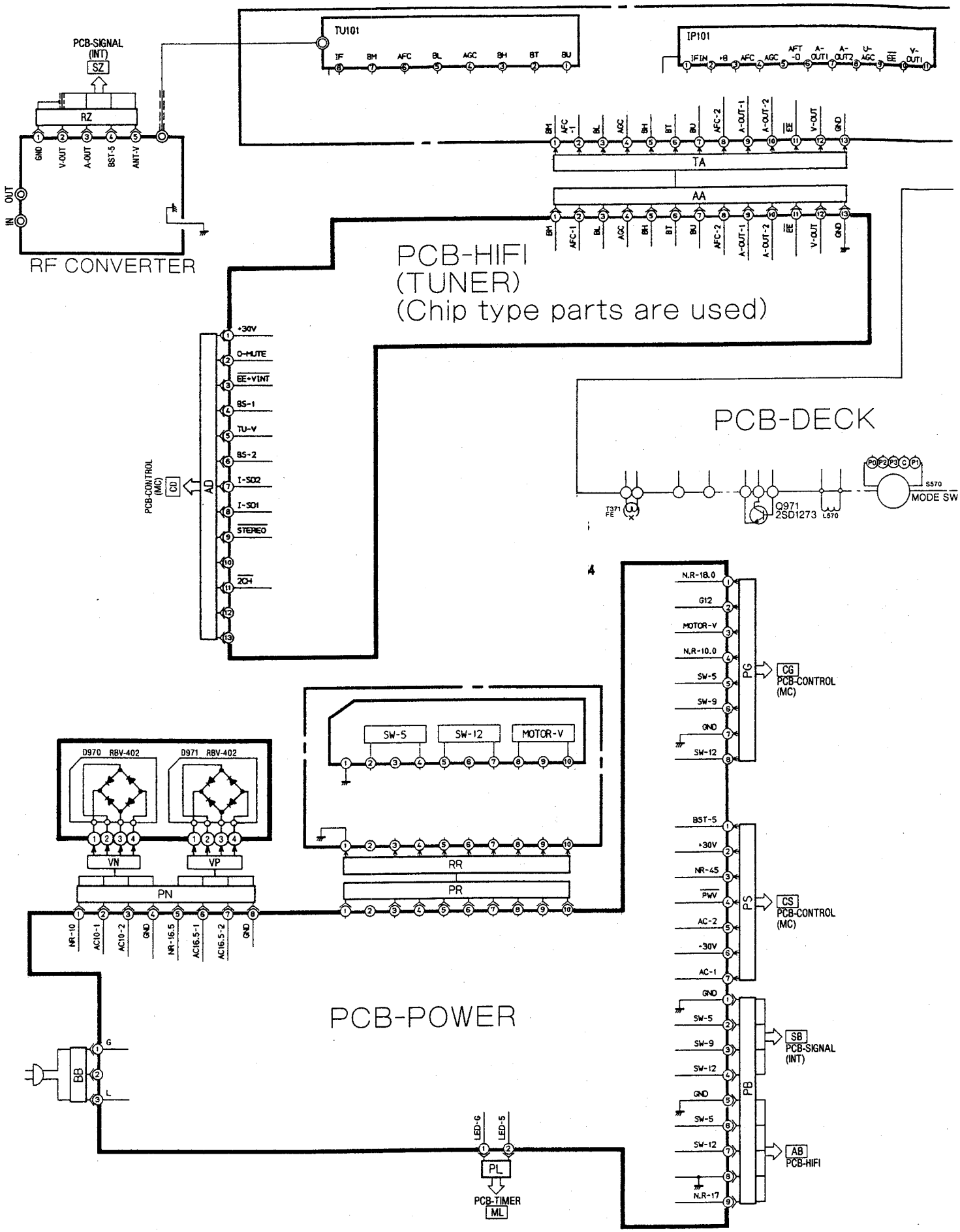


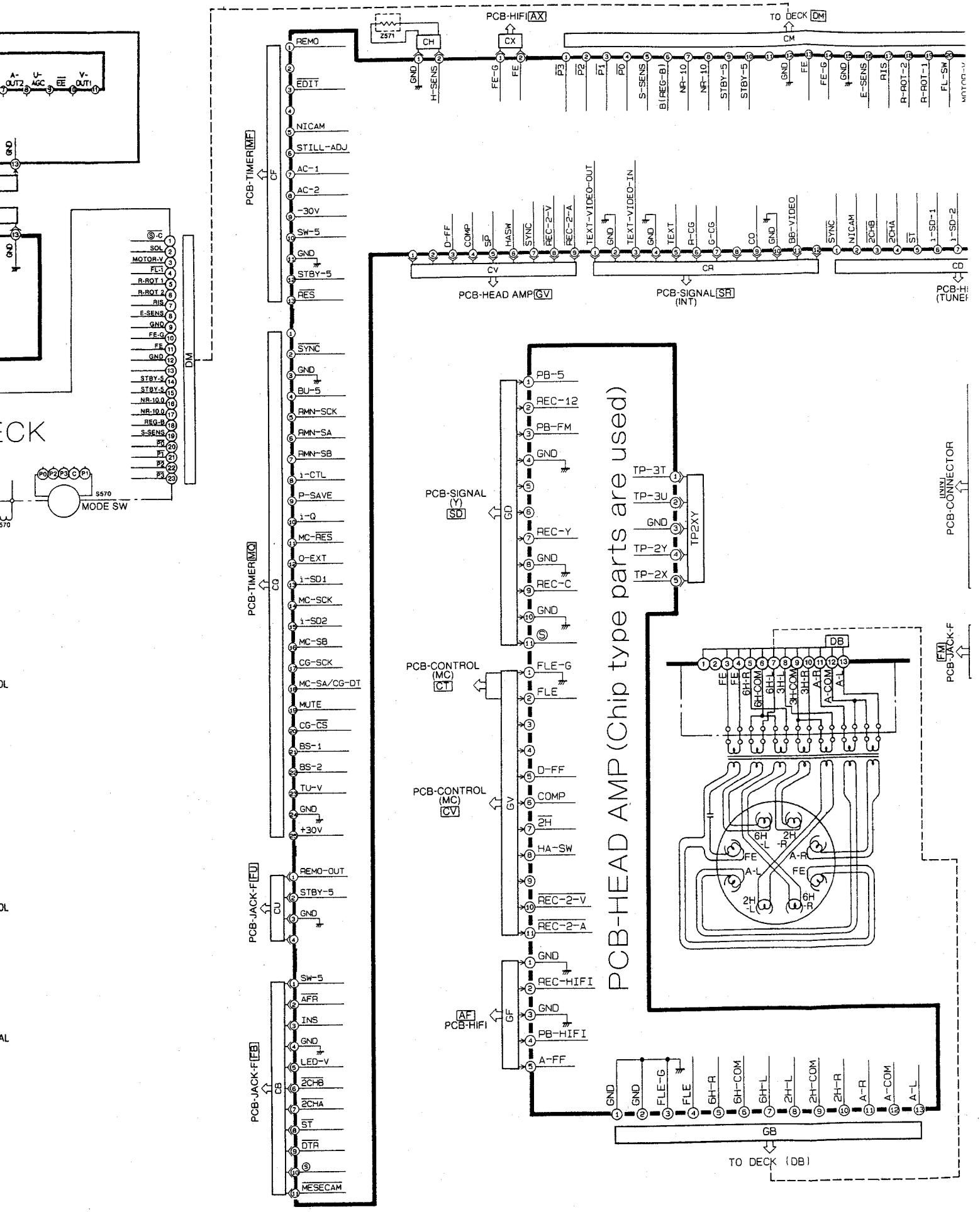
* Settelled Service Parts

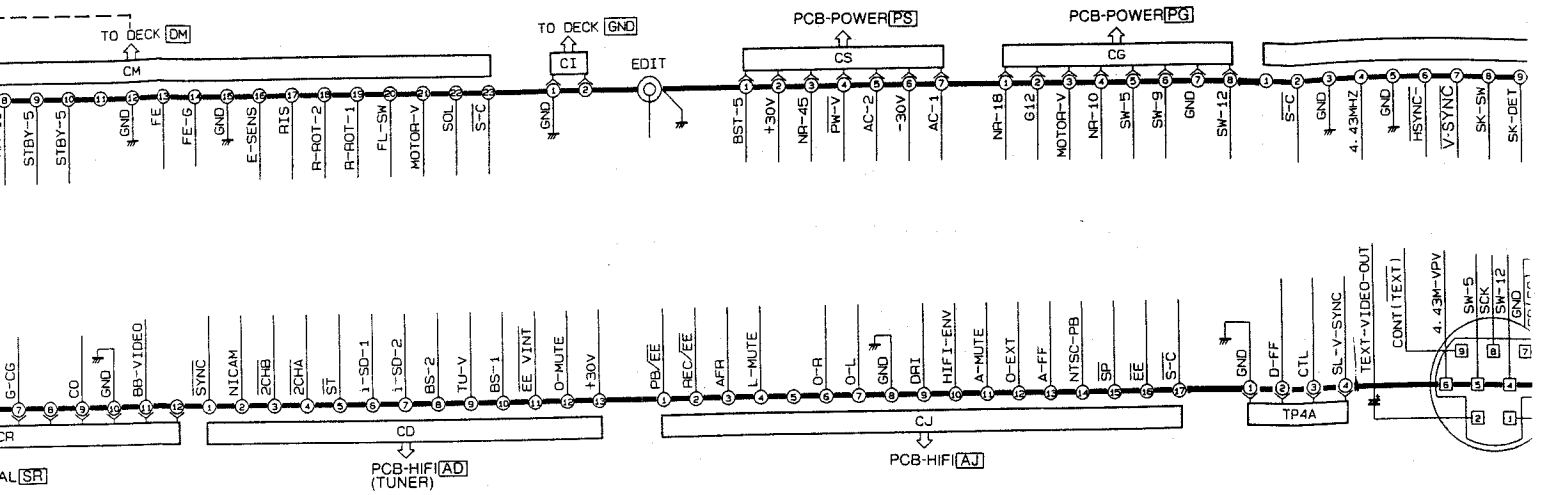
ITEM	PARTS No.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
11	591B545010		F-2	PLATE-ROOF		01
12	592C758010		D-3	PLATE-UPPER		01
13	591B546010		E-7	PLATE-BOTTOM		01
14	591B542010		K-8	PLATE-SIDE-TU		01
15	592C851010		H-3	LEVER-LOCK-FL		01
18	596D150010		H-2	PLATE-EARTH		01
19	596D217010		C-3	PLATE-GUARD		01
20	631D134010		A-6	SHAFT-FL		01
21	631D135010		H-7	SHAFT-WORM		01
27	572D300010	○	G-8	SPRING-FL-DOOR		01
28	572D301010	○	A-5 D-7	SPRING-FL		02
29	----					
31	572D304010		G-5	SPRING-OPENER-LID		01
32	572D305010		H-5	SPRING-JUT-FL		01
33	572D380010		G-5	SPRING-LEVER-LOCK		01
35	572D367010		I-6	SPRING-LEVER-SW		01
37	621D512010	○	G-8	ARM-FL-DOOR		01
38	641B315010	○	A-7	ARM-FL		01
39	641B315020	○	D-7	ARM-FL		01
40	641A110010		A-6	HOLDER-SIDE-SP		01
41	641A109010		A-8	HOLDER-SIDE-TU		01
42	641B306010		A-7	GUIDE-INSERT		01
44	641B309010		D-5	HOUSING-CASSETTE	SP	01
45	641B307010		G-5	HOUSING-CASSETTE	TU	01
46	621D513010	○	H-5	GEAR-WORM-FL		01
47	621D514010		K-7	LEVER-SW-FL		01
48	621D515010	○	H-5	JUT		01
49	641C794010		E-5	OPENER-LID-CAS		01
50	641C793010	○	K-7	GEAR-DRIVE		01
51	----					
52	----					
54	641C858010	○	F-9	ARM-LOCK		01
56	641C814010	○	I-8	GEAR-W-H-F/L		01
57	641C857010		K-5	LEVER-PICK-CAS		01
58	621D585010		E-4	LEVER-CAS-SP		01
59	621D586010		G-3	LEVER-CAS-TU		01
60	641C878010		A-4	STOPPER-SP-FL		01
64	642D494010		D-5 G-3	RUBBER-FL		02
65	640D664010		E-3	CUSHION		01
67	552C00104		H-6	WASHER-THRUST		01
68	---		D-2	SCREW 2.6-5		01

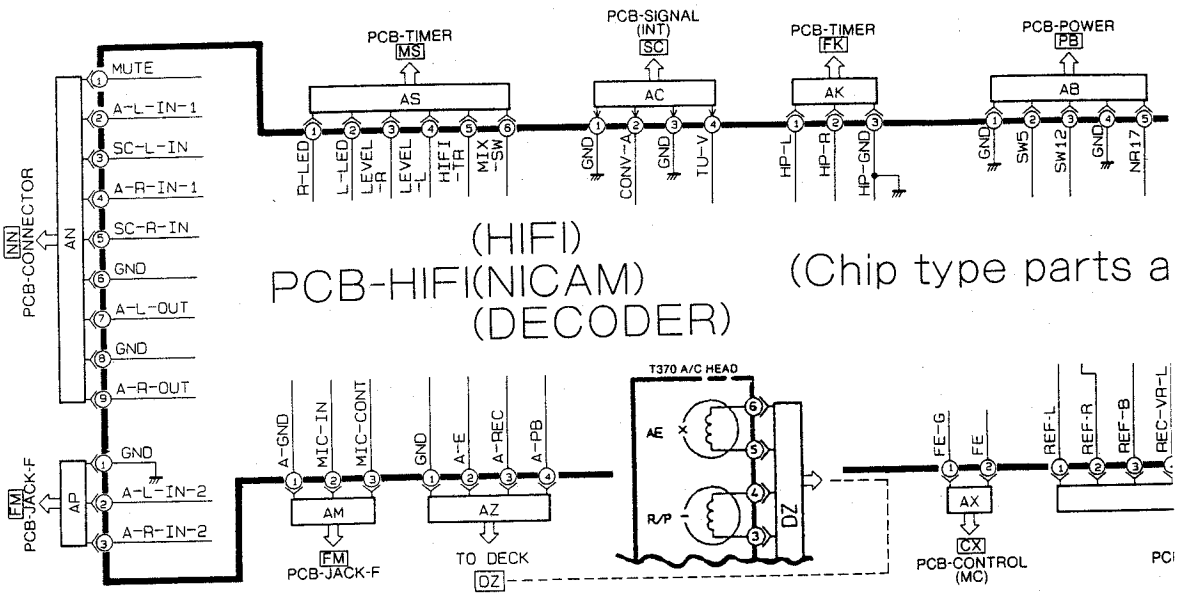
PCB-BLOC


PCB-SIGNAL (INT)
SZ
RZ
GND V-OUT A-OUT BST-5 ANT-V
IN OUT
RF CONVERTER
TU101
IF BM AFC BL AGC BH BT BU
IP101
IFIN +B AFC AGC AFT -D A-OUT1 A-OUT2 V-AGC EE V-OUT1
BH AFC-1 BL AGC BH BT BU AFC-2 A-OUT-1 A-OUT-2 EE V-OUT GND
TA
AA
PCB-HIFI
(TUNER)
(Chip type parts are used)
+30V
O-MUTE
EE+VINT
BS-1
TU-V
BS-2
I-SD2
I-SD1
STEREO
2CH
AD
PCB-CONTROL (MC)
CD
PCB-DECK
Q971 2SD1273
S570
MODE SW
D970 RBV-402
D971 RBV-402
VN
VP
PN
NR-10 AC10-1 AC10-2 GND NR-16.5 AC16.5-1 AC16.5-2 GND
SW-5
SW-12
MOTOR-V
RR
PR
PCB-POWER
N.R-18.0
G12
MOTOR-V
N.R-10.0
SW-5
SW-9
GND
SW-12
PG
CG
PCB-CONTROL (MC)
BST-5
+30V
NR-45
PWV
AC-2
-30V
AC-1
GND
PS
CS
PCB-CONTROL (MC)
SW-5
SW-9
SW-12
GND
SW-5
SW-12
N.R-17
PB
SB
PCB-SIGNAL (INT)
AB
PCB-HIFI
BB
G
L
LED-G
LED-5
PL
PCB-TIMER
ML

BLOCK-DIAGRAM

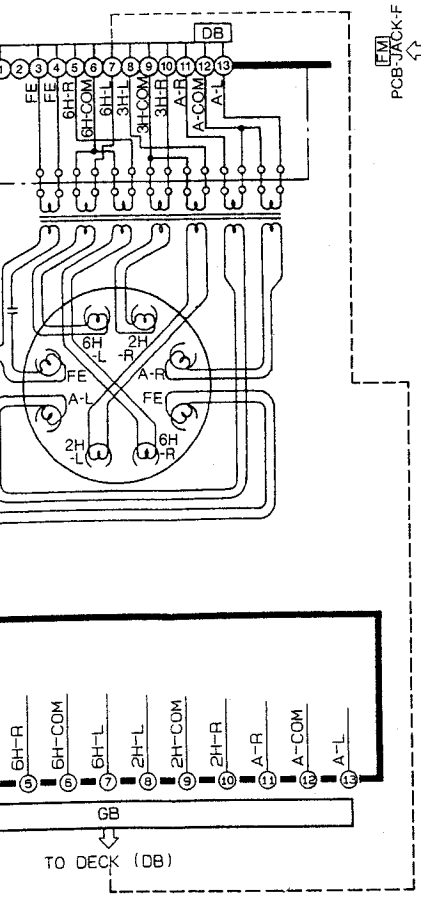


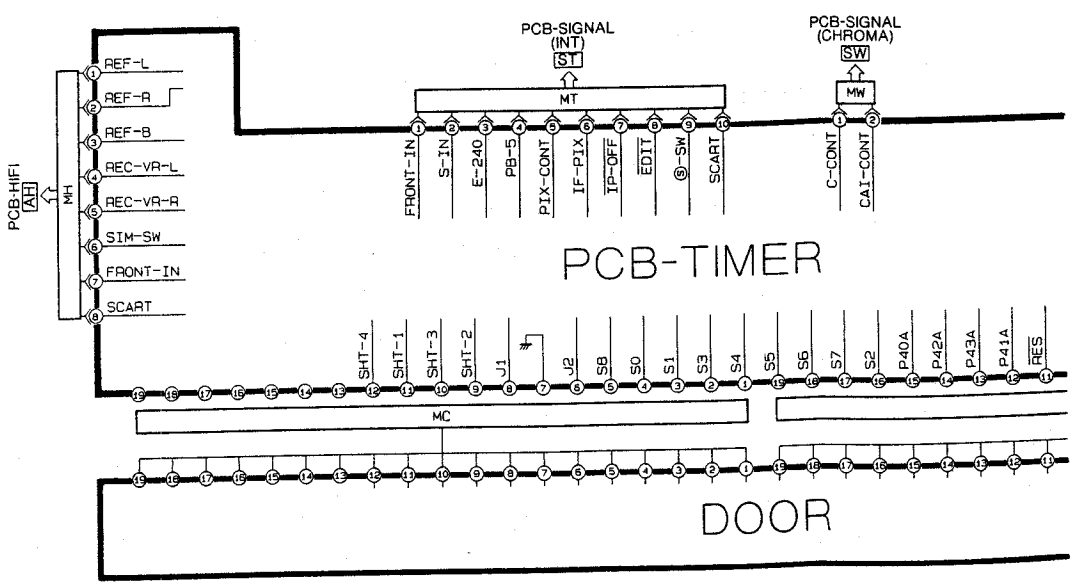


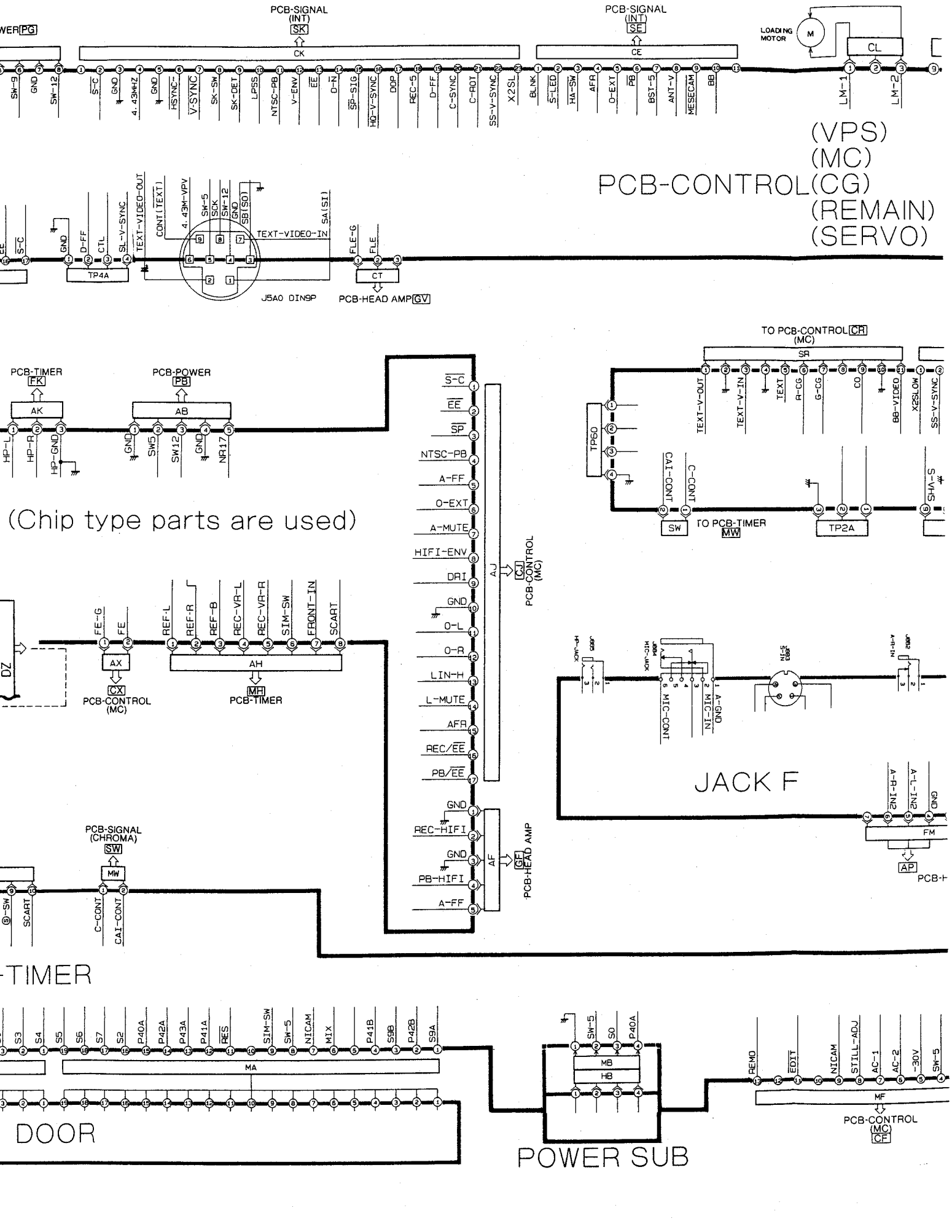


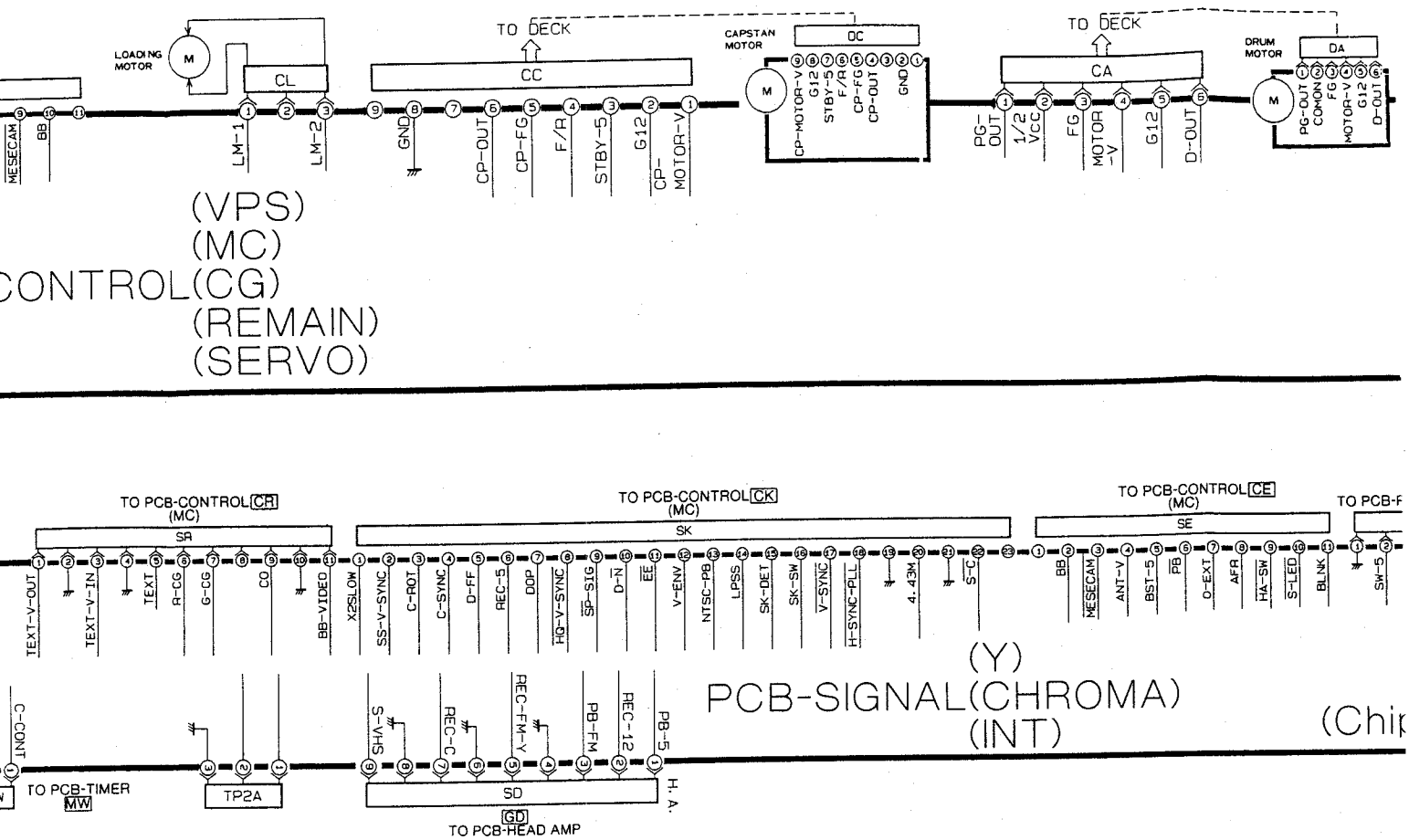
(HIFI)
PCB-HIFI(NICAM)
(DECODER)

(Chip type parts a

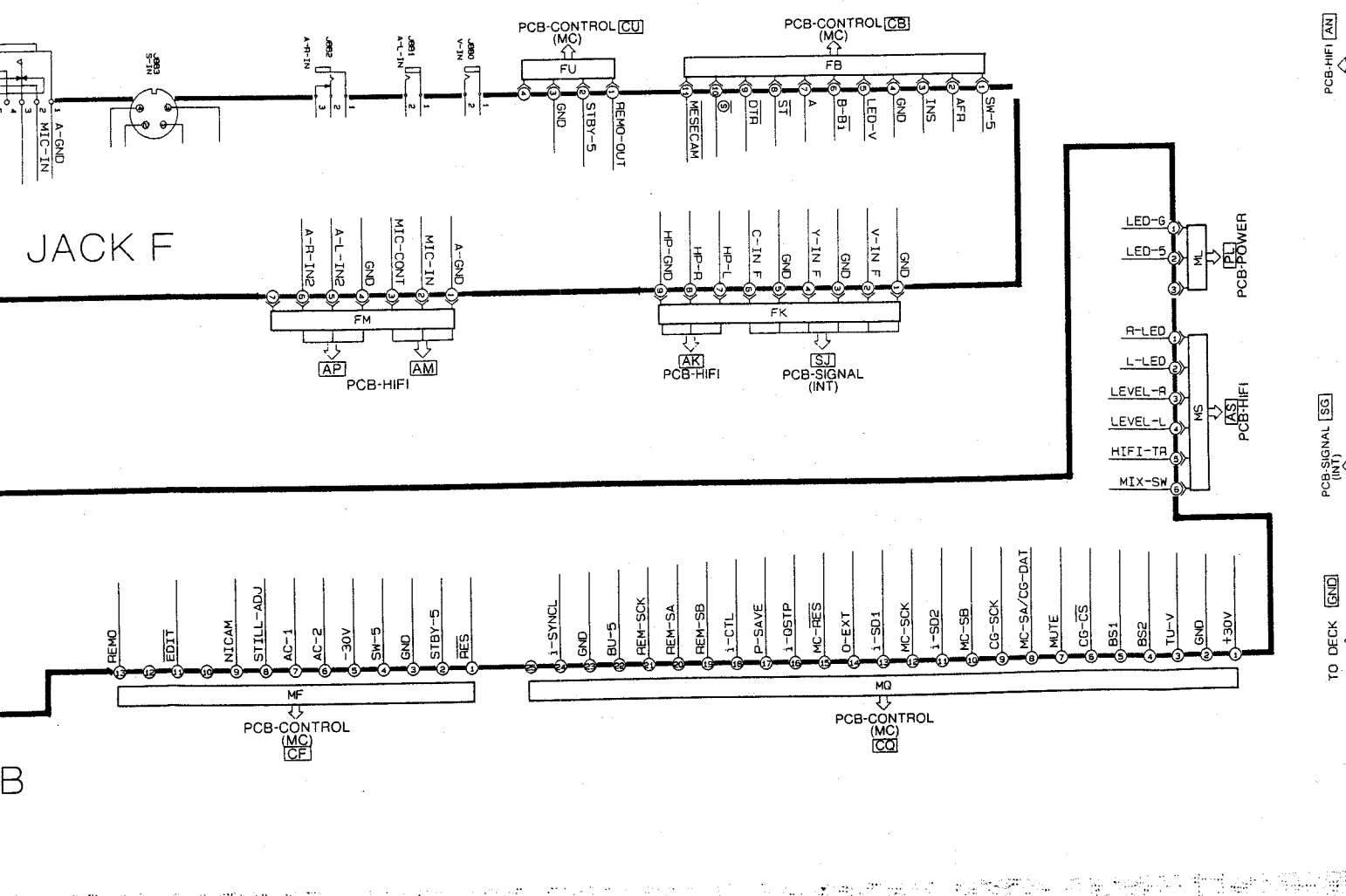


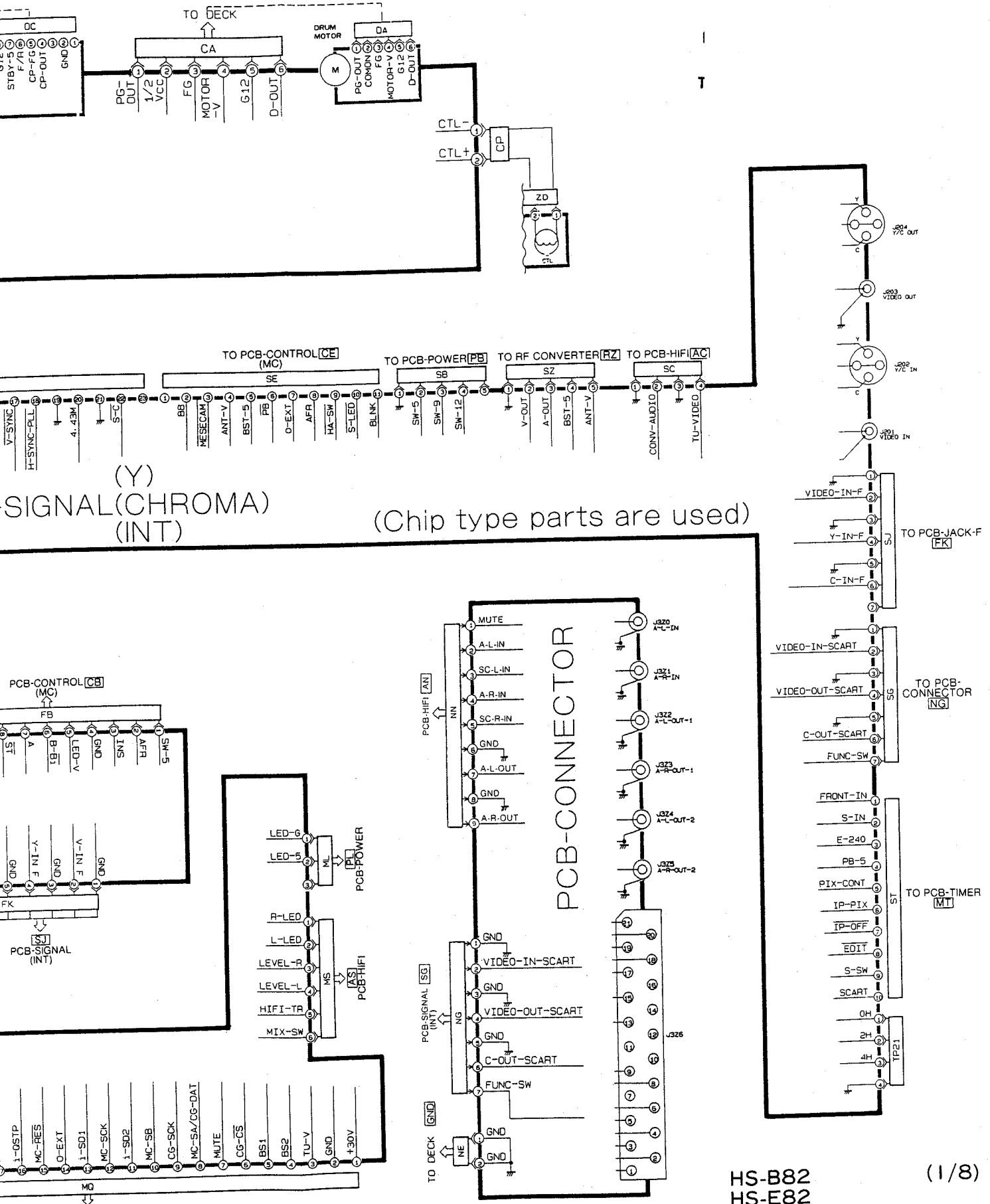



PCB-SIGNAL (INT) SK
PCB-SIGNAL (INT) SE
LOADING MOTOR
CL
LM-1
LM-2
(VPS)
(MC)
PCB-CONTROL(CG)
(REMAIN)
(SERVO)
TEXT-VIDEO-IN
TP4A
J5A0 DIN9P
PCB-HEAD AMP GV
CT
PCB-TIMER FK
PCB-POWER PB
(Chip type parts are used)
TO PCB-CONTROL CR (MC)
SR
TP60
TO PCB-TIMER MW
TP2A
PCB-CONTROL (MC) CJ
AJ
AF
PCB-HEAD AMP GF
AX
AH
PCB-CONTROL (MC) CX
PCB-TIMER MH
PCB-SIGNAL (CHROMA) SW
MW
JACK F
FM
AP
MA
DOOR
MB
HB
POWER SUB
MF
PCB-CONTROL (MC) CF


LOADING MOTOR
M
CL
LM-1
LM-2
TO DECK
CC
GND
CP-OUT
CP-FG
F/R
STBY-5
G12
CP-MOTOR-V
CAPSTAN MOTOR
DC
CP-MOTOR-V
G12
STBY-5
F/R
CP-FG
CP-OUT
GND
TO DECK
CA
PG-OUT
1/2 VCC
FG
MOTOR -V
G12
D-OUT
DRUM MOTOR
DA
PG-OUT
COMMON
FG
MOTOR-V
G12
D-OUT
MESECAM
BB
(VPS)
(MC)
CONTROL(CG)
(REMAIN)
(SERVO)

TO PCB-CONTROL CH (MC)
SR
TEXT-V-OUT
TEXT-V-IN
TEXT
R-CG
G-CG
CO
BB-VIDEO
TO PCB-CONTROL CK (MC)
SK
XSLOW
SS-V-SYNC
C-ROT
C-SYNC
D-FF
REC-5
DOP
HQ-V-SYNC
SP-SIG
D-N
EE
V-ENV
NTSC-PB
LPSS
SK-DET
SK-SW
V-SYNC
H-SYNC-PLL
4.43M
S-C
TO PCB-CONTROL CE (MC)
SE
BB
MESECAM
ANT-V
BST-5
PB
D-EXT
AFR
HA-SW
S-LED
BLNK
TO PCB-F
SW-5
(Y)
PCB-SIGNAL(CHROMA)
(INT)
(Chip
C-CONT
TO PCB-TIMER
MW
TP2A
S-V-SHS
REC-C
REC-FM-V
PB-FM
REC-12
PB-5
H.A.
SD
GD
TO PCB-HEAD AMP


PCB-CONTROL CU (MC)
FU
GND
STBY-5
REMO-OUT
PCB-CONTROL CB (MC)
FB
MESECAM
OTR
ST
A
B-BT
LED-V
GND
INS
AFR
SW-5
PCB-HIFI AN
A-GND
MIC-IN
JACK F
A-R-IN2
A-L-IN2
GND
MIC-CONT
MIC-IN
A-GND
FM
AP
AM
PCB-HIFI
HP-GND
HP-R
HP-L
C-IN F
GND
V-IN F
GND
V-IN F
GND
FK
AK
PCB-HIFI
SJ
PCB-SIGNAL (INT)
LED-G
LED-5
ML
PL
PCB-POWER
R-LED
L-LED
LEVEL-R
LEVEL-L
HIFI-TR
MIX-SW
MS
AS
PCB-HIFI
PCB-SIGNAL (INT) SG
REMO
EDIT
NICAM
STILL-ADJ
AC-1
AC-2
-30V
SW-5
GND
STBY-5
RES
i-SYNCL
GND
BU-5
REM-SCK
REM-SA
REM-SB
i-CTL
P-SAVE
i-OSTP
MC-RES
D-EXT
i-SD1
MC-SCK
i-SD2
MC-SB
CG-SCK
MC-SA/CG-DAT
MUTE
CG-CS
BS1
BS2
TU-V
GND
+30V
MF
PCB-CONTROL (MC) CF
MQ
PCB-CONTROL (MC) CQ
TO DECK GND



HS-B82 (1/8)
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)

SCHEMATIC DIAGRAM

NOTE 1:

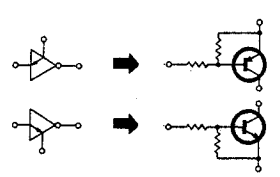
1. DC voltages were measured from points indicated to the circuit ground with a digital voltmeter.
2. The voltages parenthesised are on SP recording mode. While those without parenthesised on SP play back mode.

NOTE 2:

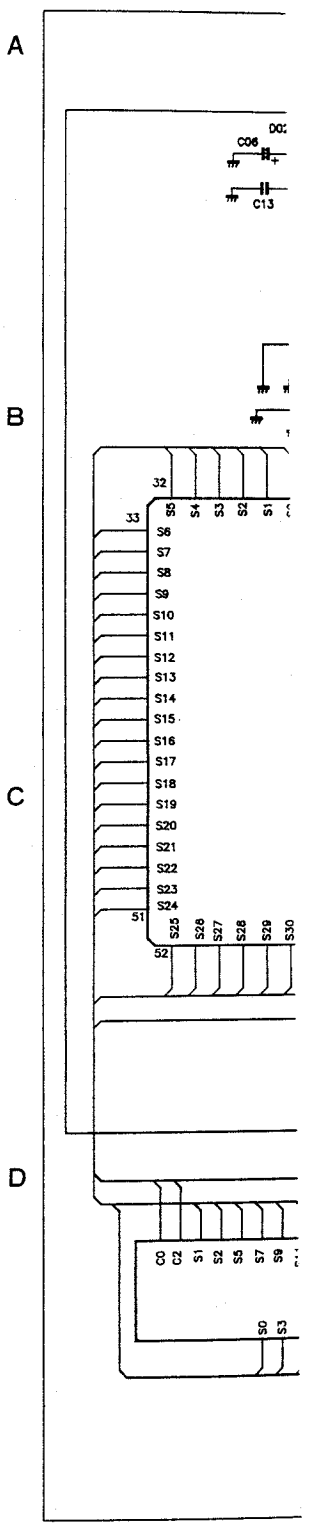
1. The unit of resistance "ohm" entirely omitted.
   Accordingly, K = 1000 ohms
   M = 1000K ohms.
2. The wattage of resistor, not specifically designated, is 1/4 watt except CHIP resistors.
3. Resistors, not specifically designated, are carbon resistors except CHIP resistors.
4. The marks of resistors are as follows.
   - CE : Cemented resistor
   - MB : Metal oxide film resistor (type B)
   - (S) : Fixed composition resistors
   - (W) : Wire wound resistor
   - (M) : Metal film resistor
5. The tolerance of resistor value, not specifically designated, is: ±5%, K = ±10% M = ±20%
6. The unit of capacitance, not specifically designated, is:
   a) μF, for numbers less than 1
   b) PF, for numbers more than 1
7. Capacitors, not specifically designated are Ceramic capacitors except electrolytic capacitors.
8. The marks of capacitors are as follows:
   - ALM : Aluminus electrolytic capacitor
   - MF : Polyester capacitor
   - PP : Polypropylene film capacitor
   - TAN : Tantalum capacitor
   - SC : Semiconductor Ceramic Capacitors
   - TF : Twin film capacitor
   - NP : Non polarized electrolytic capacitor
   - ⏚ : Electrolytic capacitor
9. The DC working voltage of capacitor, not specifically designated is: 50V
10. The tolerance of capacitor value, not specifically designated is: ±10%
    and J = ±5% K = ±10% M = ±20% P = $^{+100\%}_{-\ 0\%}$
    C = ±0.25PF D = ±0.5PF F = ±1PF Z = $^{+80\%}_{-20\%}$ N=±30%
11. Ceramic capacitors with the marks RH, UJ, SL, etc. are temperature compensating types.

SPECIFIC SYMBOL

Zener Diode	Crystal unit
Varicap	LE Diode
Posistor	Photo Diode
Thermistor	Ceramic filter
Fusible Resistor	



This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.



ed to the cir-

mode.
ack mode.

gnated, is 1/4

rbon resistors

lly designated,

ated, is:

mic capacitors

ors

tor

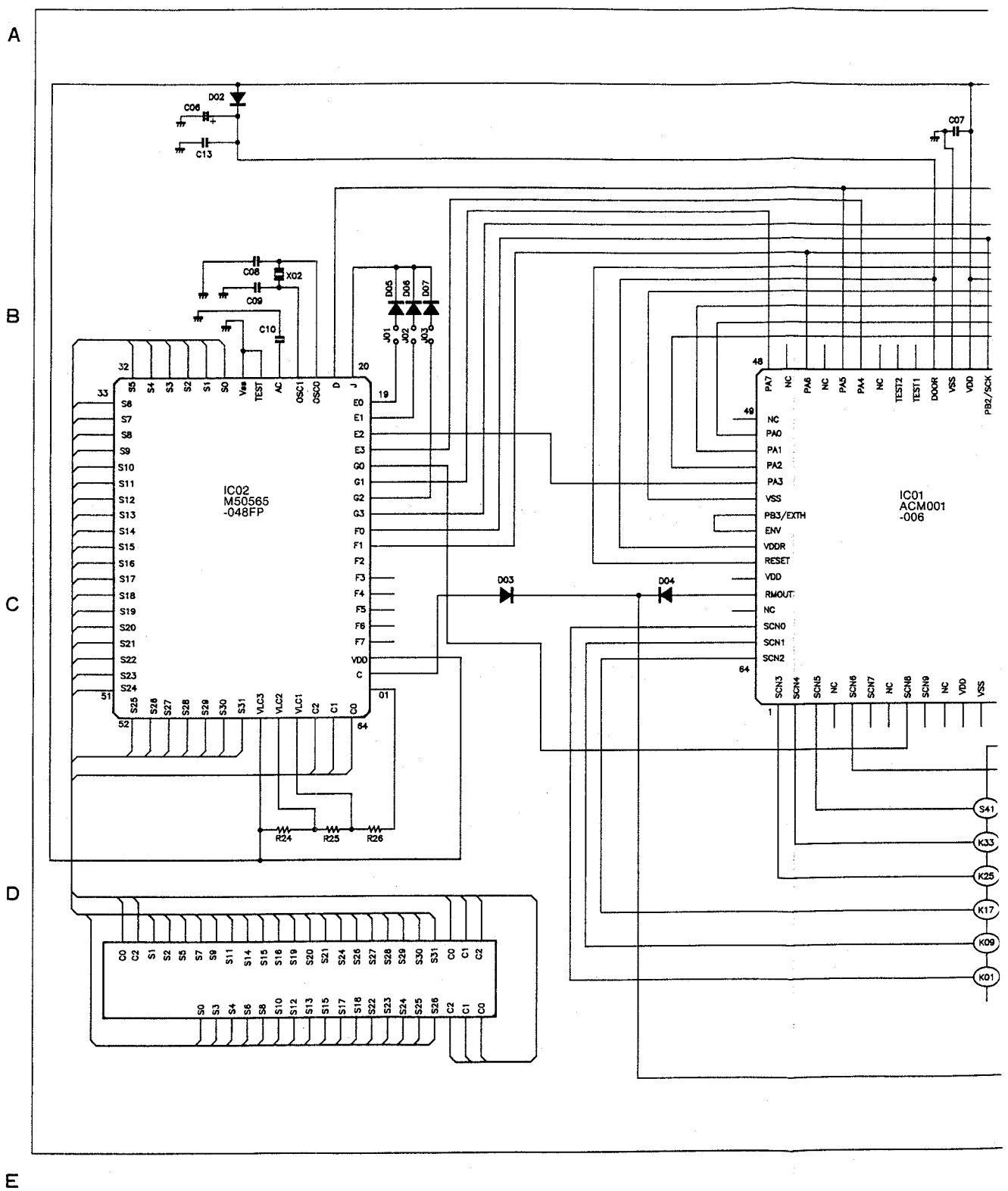
cifically desig-

lly designated

-80% N=±30%
-20%
., etc. are tem-

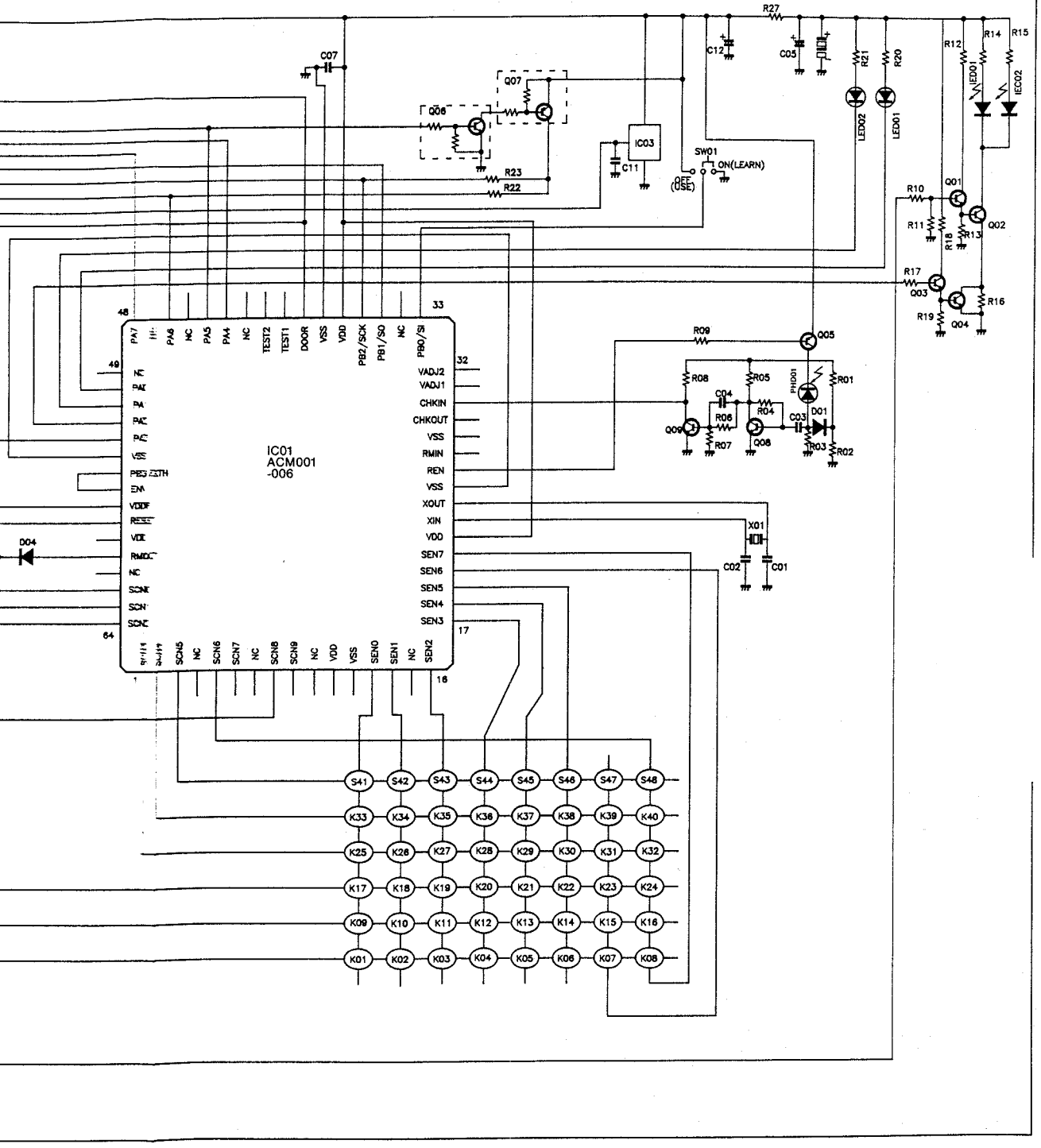
unit
de
Diode
c filter

s may be subject
rovement.



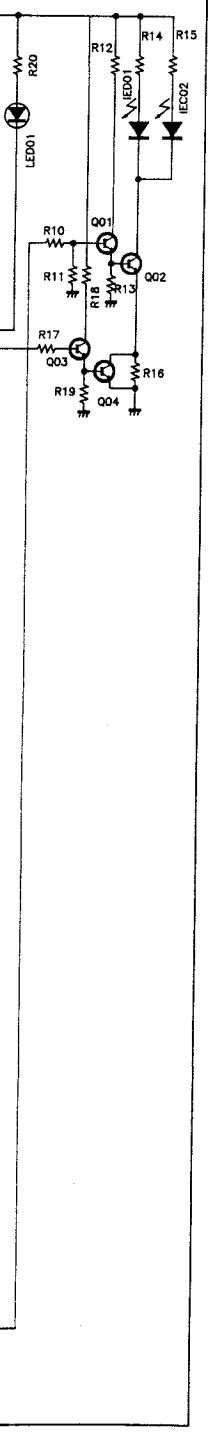
3 4 5 6

TRANSMITTER REMOTE CONTROL



6 7 8 9

EMOTE CONTROL

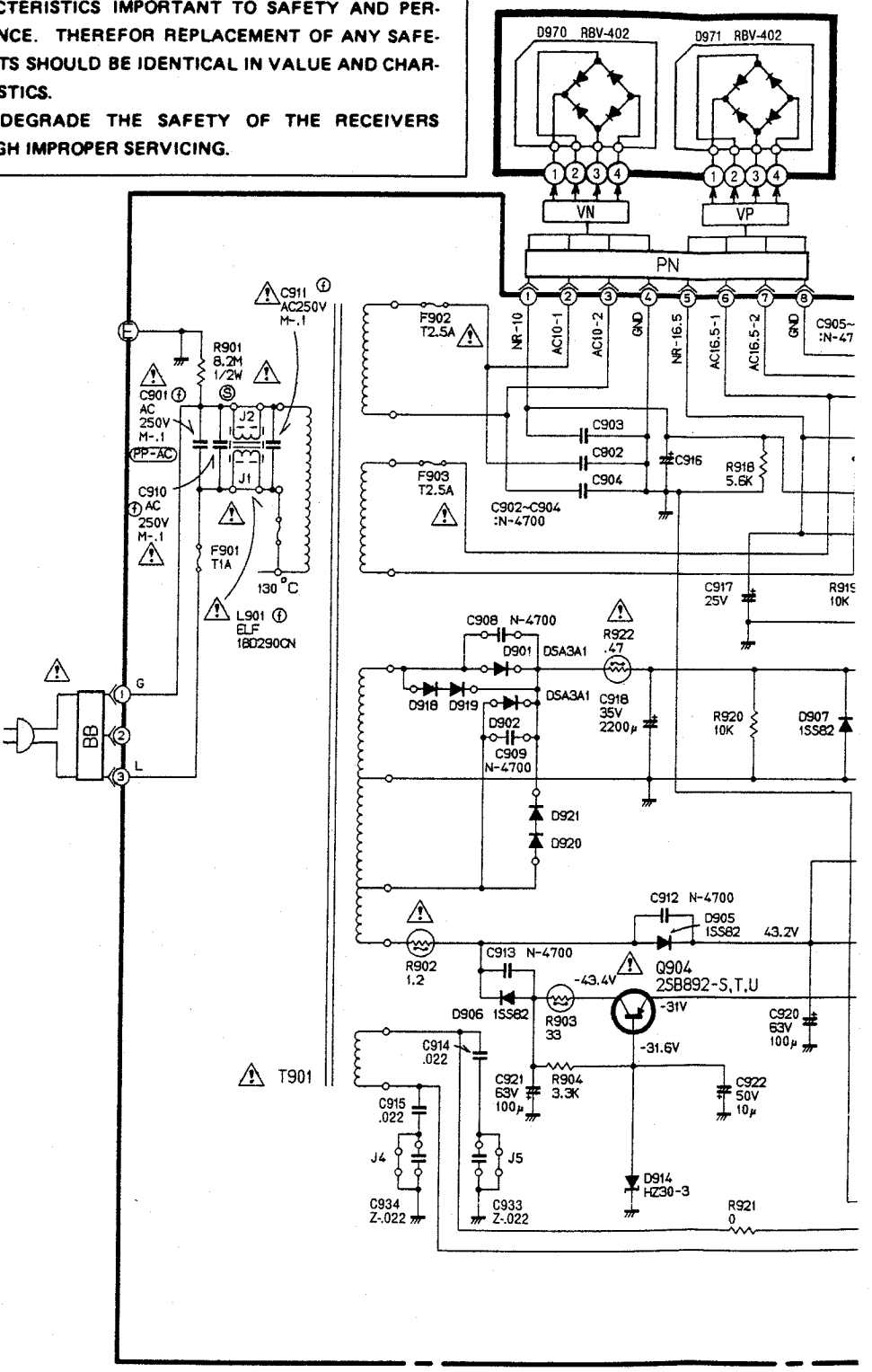


⚠

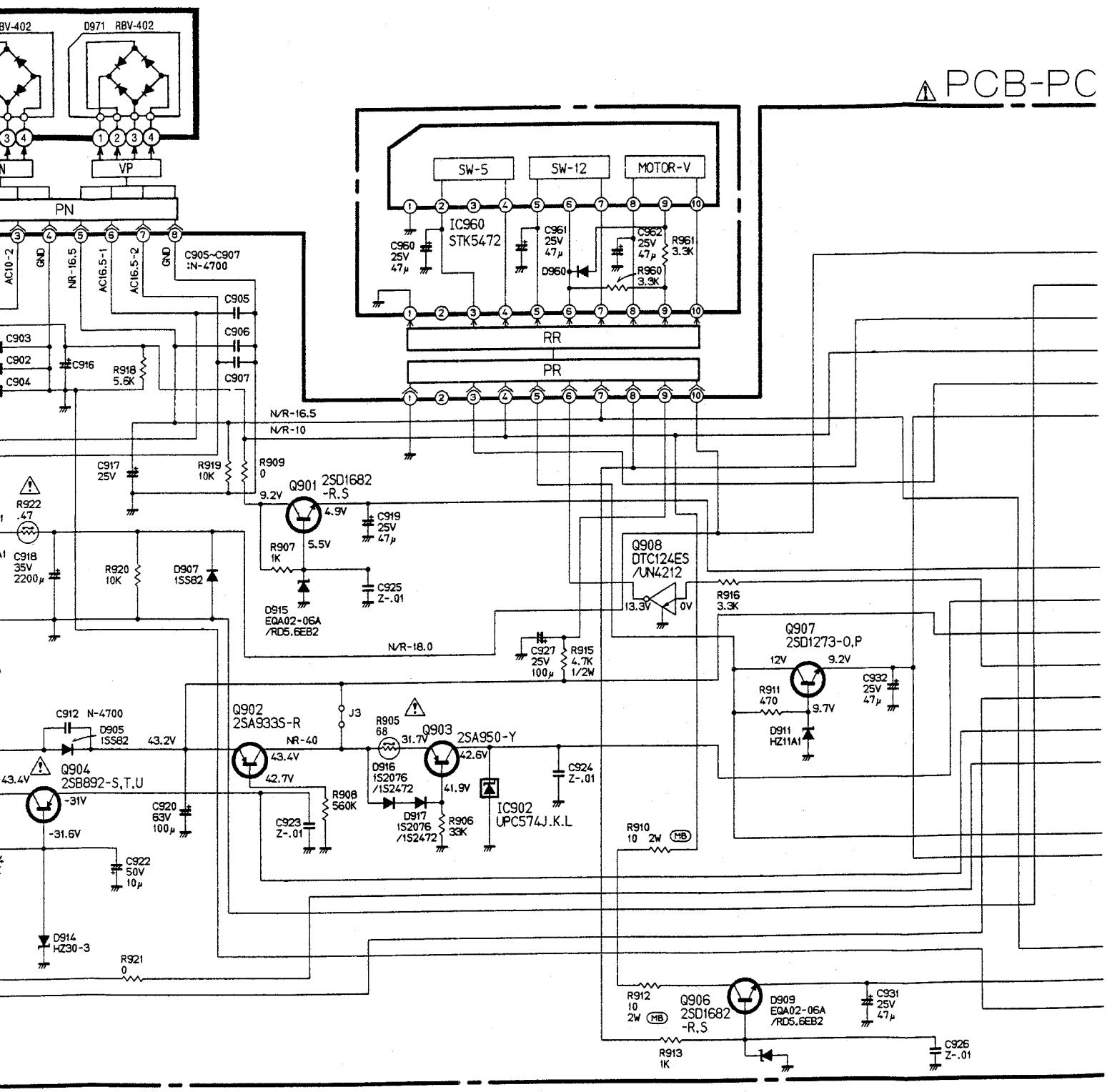
SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFOR REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS.

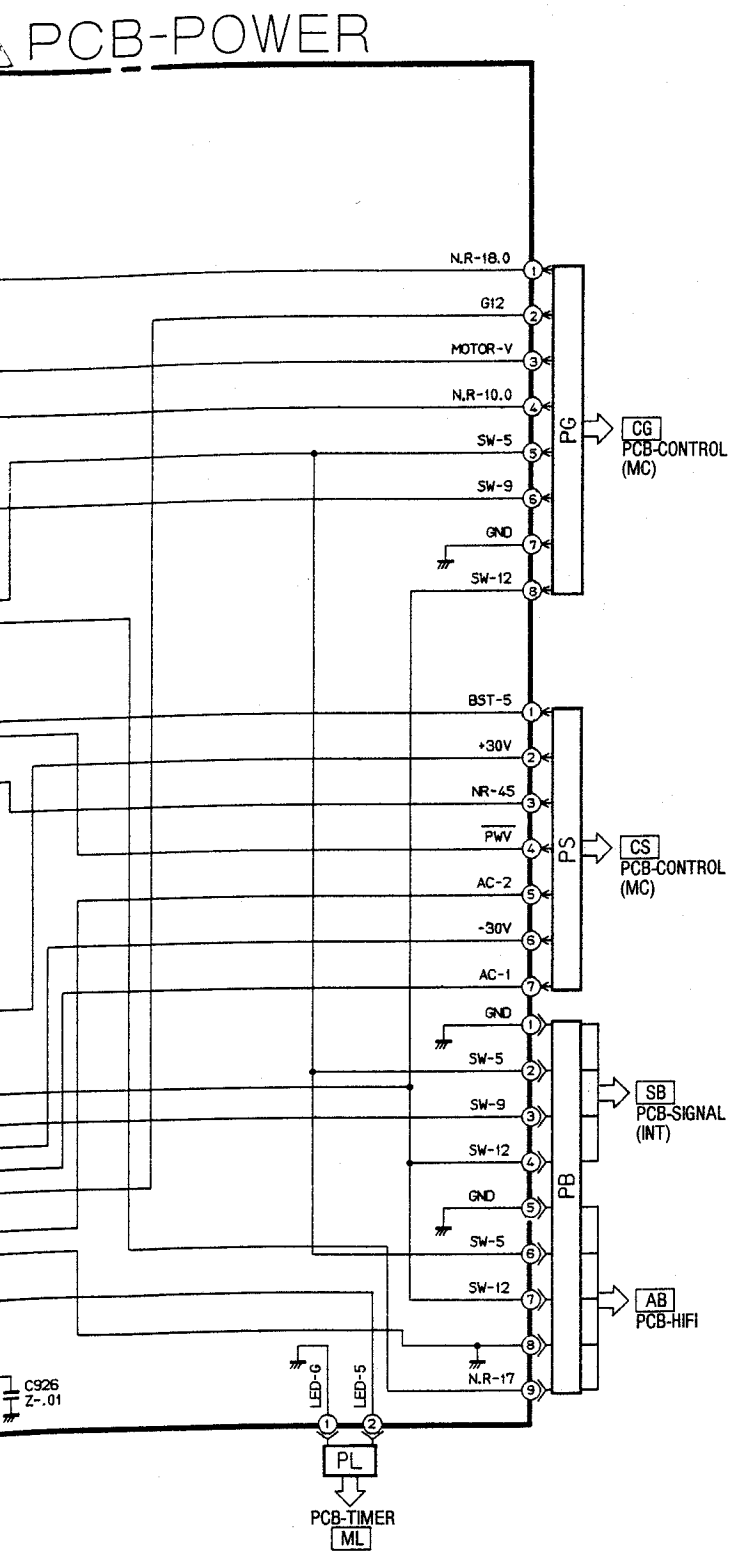
DON'T DEGRADE THE SAFETY OF THE RECEIVERS THROUGH IMPROPER SERVICING.

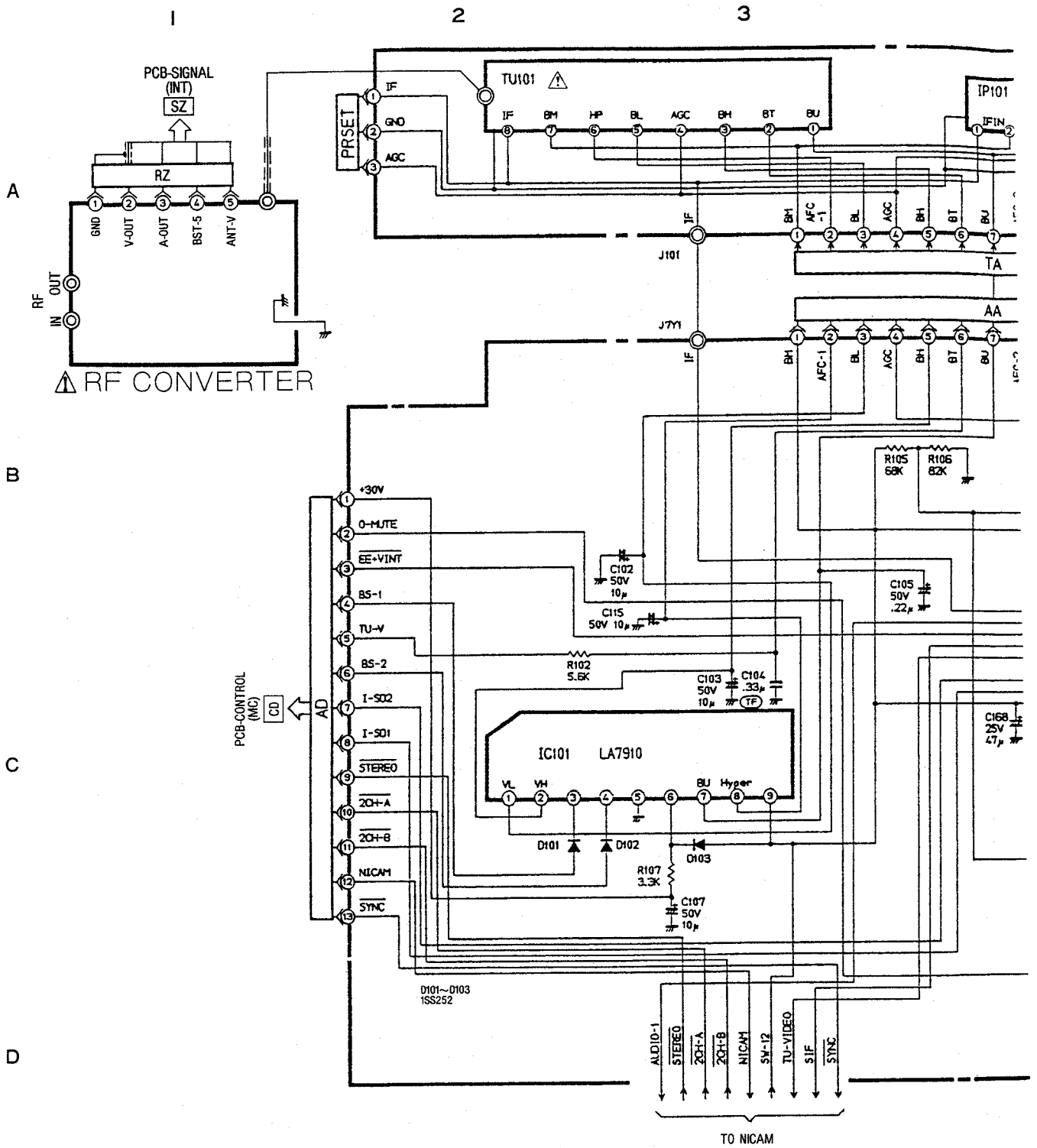


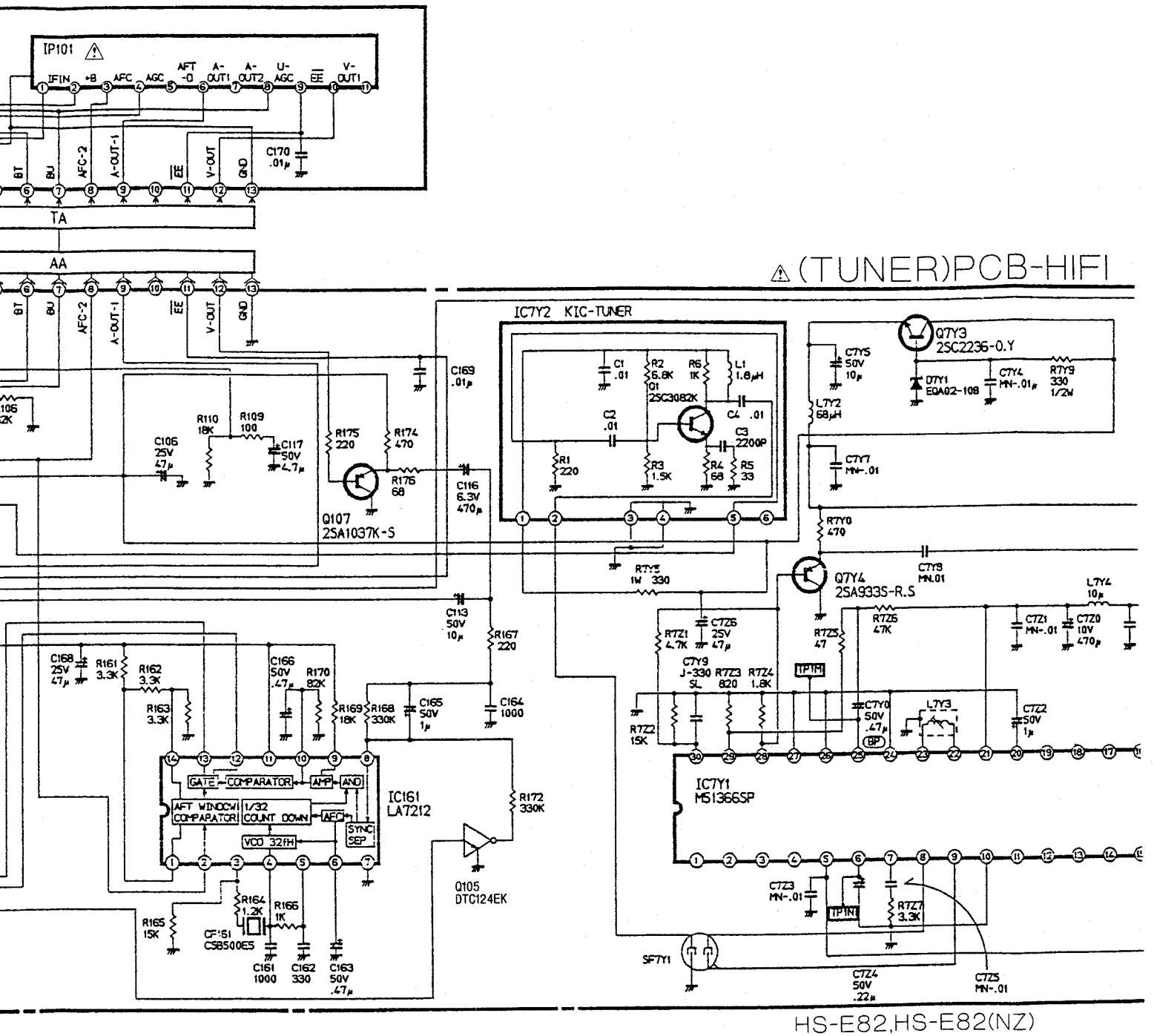
SYMBOL NO. / MODELS	L901	J1	J2	C910	C911	C901	J3	Q902	R908	R905	D901	D9
HS-B82,E82(IR)	×	○	○	×	×	×	×	○	○	68	×	
HS-E82,E82(A)(Y)(NZ)	×	○	○	×	×	×	○	×	×	68	×	
HS-E82(G)	○	×	×	○	○	×	○	×	×	68	×	



	Q902	R908	R905	D901	D902	D918	D919	D920	D921	J4	J5	C933	C934	C908	C909	C915	C914
	○	○	68	×	×	○	○	○	○	×	×	○	○	×	×	0.022	0.022
	×	×	68	×	×	○	○	○	○	○	○	×	×	×	×	0.01	0.01
	×	×	68	×	×	○	○	○	○	○	○	×	×	×	×	0.01	0.01

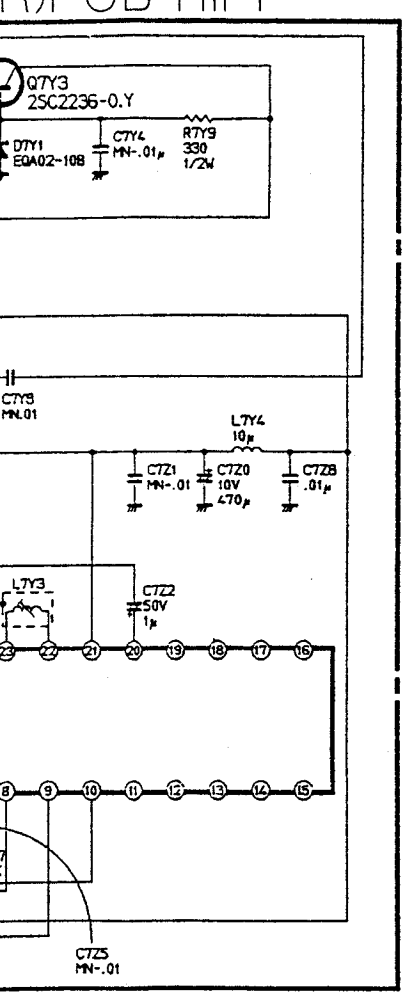

PCB-POWER
N.R-18.0
G12
MOTOR-V
N.R-10.0
SW-5
SW-9
GND
SW-12
PG
CG
PCB-CONTROL
(MC)
BST-5
+30V
NR-45
PWV
AC-2
-30V
AC-1
PS
CS
PCB-CONTROL
(MC)
GND
SW-5
SW-9
SW-12
GND
SW-5
SW-12
N.R-17
PB
SB
PCB-SIGNAL
(INT)
AB
PCB-HIFI
C926
Z-.01
LED-G
LED-5
PL
PCB-TIMER
ML

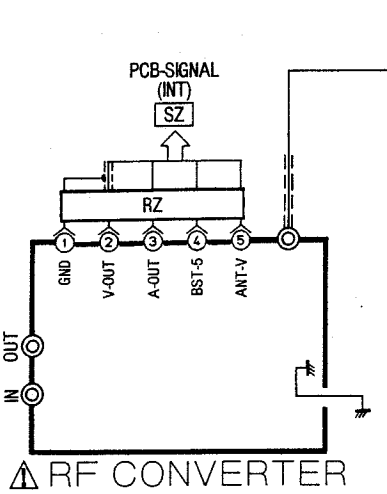

1
2
3
A
B
C
D
E
PCB-SIGNAL (INT)
SZ
RZ
GND
V-OUT
A-OUT
BST-5
ANT-V
RF OUT
IN
RF CONVERTER
PRSET
IF
GND
AGC
TU101
IP101
IFIN
J101
J7Y1
TA
AA
R105 68K
R106 82K
+30V
0-MUTE
EE+VINT
BS-1
TU-V
BS-2
I-SD2
I-SD1
STEREO
2CH-A
2CH-B
NICAM
SYNC
PCB-CONTROL (MC)
CD
AD
C102 50V 10µ
C115 50V 10µ
C105 50V .22µ
R102 5.6K
C103 50V 10µ
C104 .33µ
IC101 LA7910
D101
D102
D103
R107 3.3K
C107 50V 10µ
C168 25V 47µ
D101~D103 1SS252
AUDIO-1
STEREO
2CH-A
2CH-B
NICAM
SW-12
TU-VIDEO
SIF
SYNC
TO NICAM

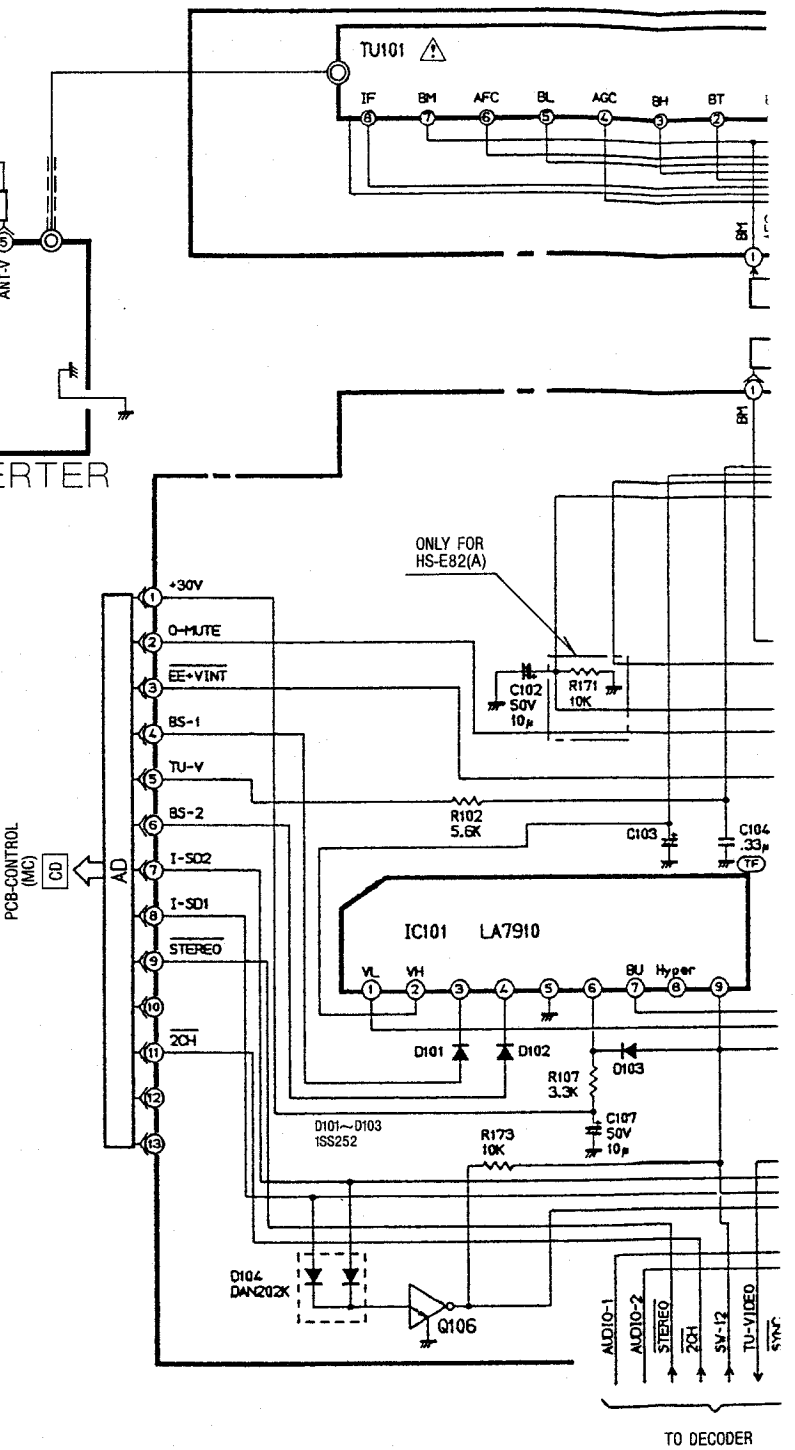


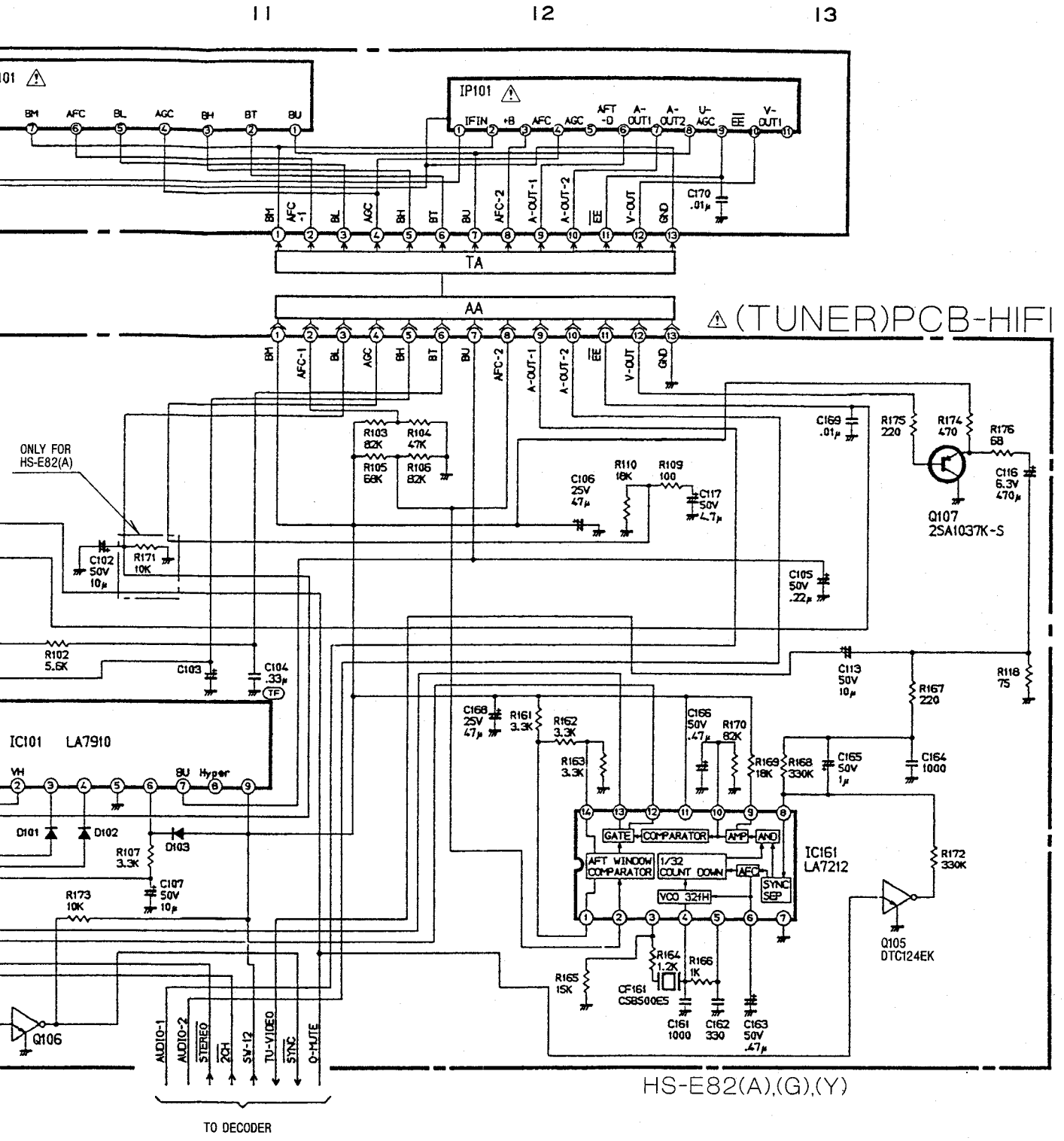
HS-E82,HS-E82(NZ)

7 8 9 10 11

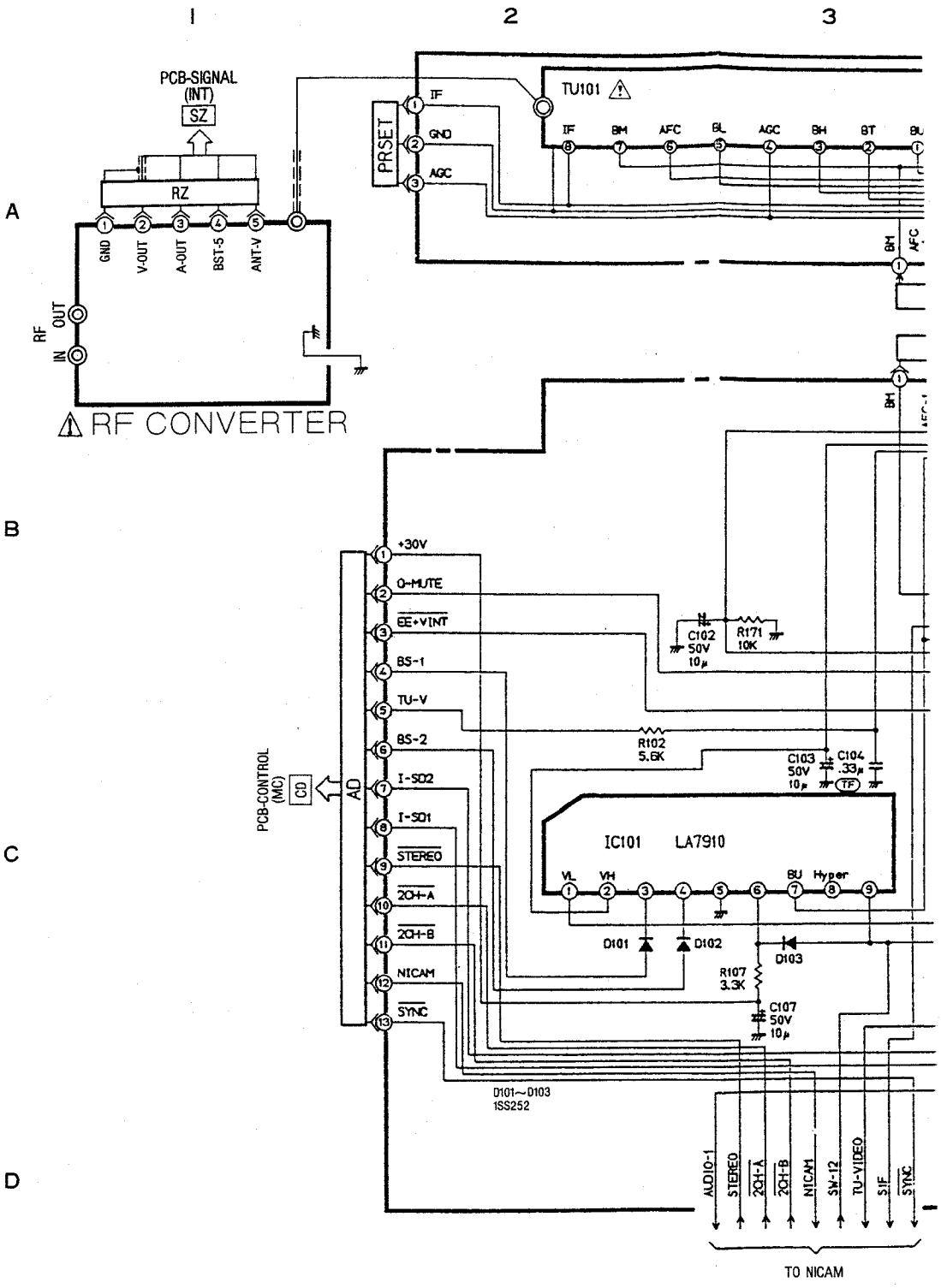

R)PCB-HIFI
Q7Y3
2SC2236-0.Y
D7Y1
EQA02-108
C7Y4
MN-.01μ
R7Y9
330
1/2W
C7Y3
MN.01
L7Y4
10μ
C7Z1
MN-.01
C7Z0
10V
470μ
C7Z8
.01μ
L7Y3
C7Z2
50V
1μ
C7Z5
MN-.01
S-E82(NZ)

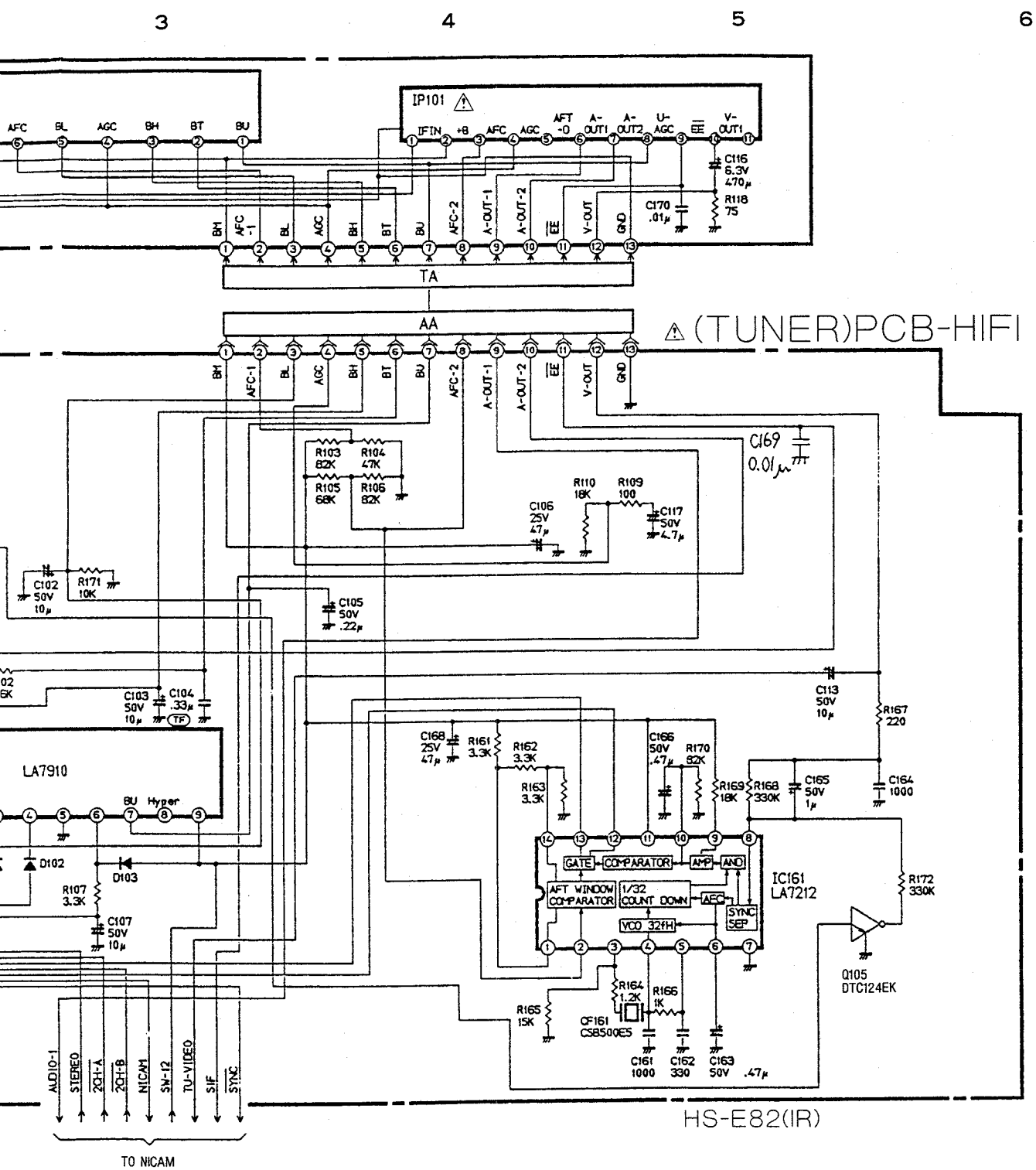

PCB-SIGNAL
(INT)
SZ
RZ
GND
V-OUT
A-OUT
BST-5
ANT-V
OUT
IN
⚠ RF CONVERTER

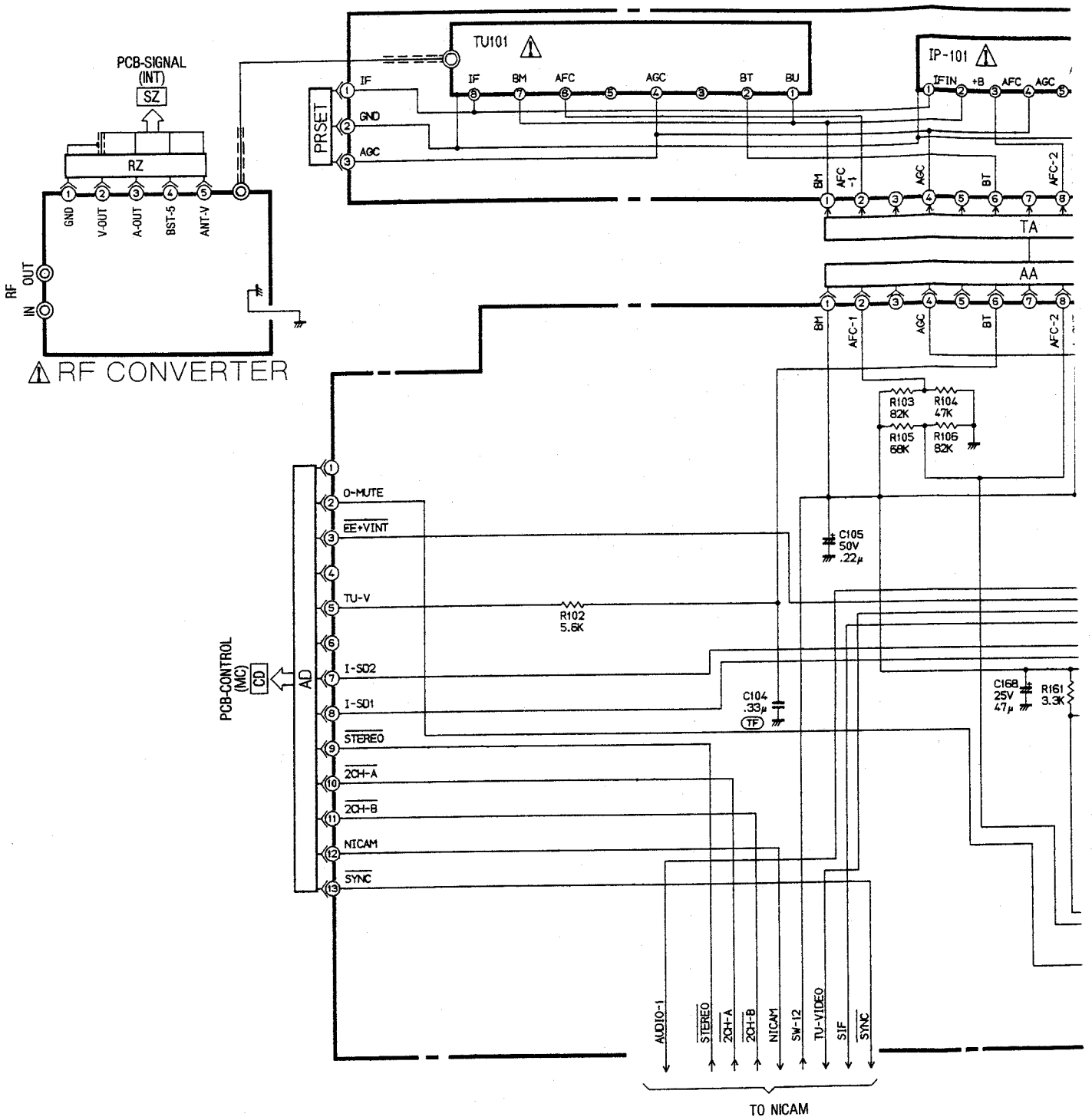

TU101
IF
BM
AFC
BL
AGC
BH
BT
ONLY FOR
HS-E82(A)
+30V
O-MUTE
EE+VINT
BS-1
TU-V
BS-2
I-SO2
I-SD1
STEREO
2CH
PCB-CONTROL
(MC)
CD
AD
C102
50V
10μ
R171
10K
R102
5.6K
C103
C104
.33μ
IC101 LA7910
VL
VH
BU
Hyper
D101
D102
D103
R107
3.3K
C107
50V
10μ
D101~D103
1SS252
R173
10K
D104
DAN202K
Q106
AUDIO-1
AUDIO-2
STEREO
2CH
SW-12
TU-VIDEO
TO DECODER



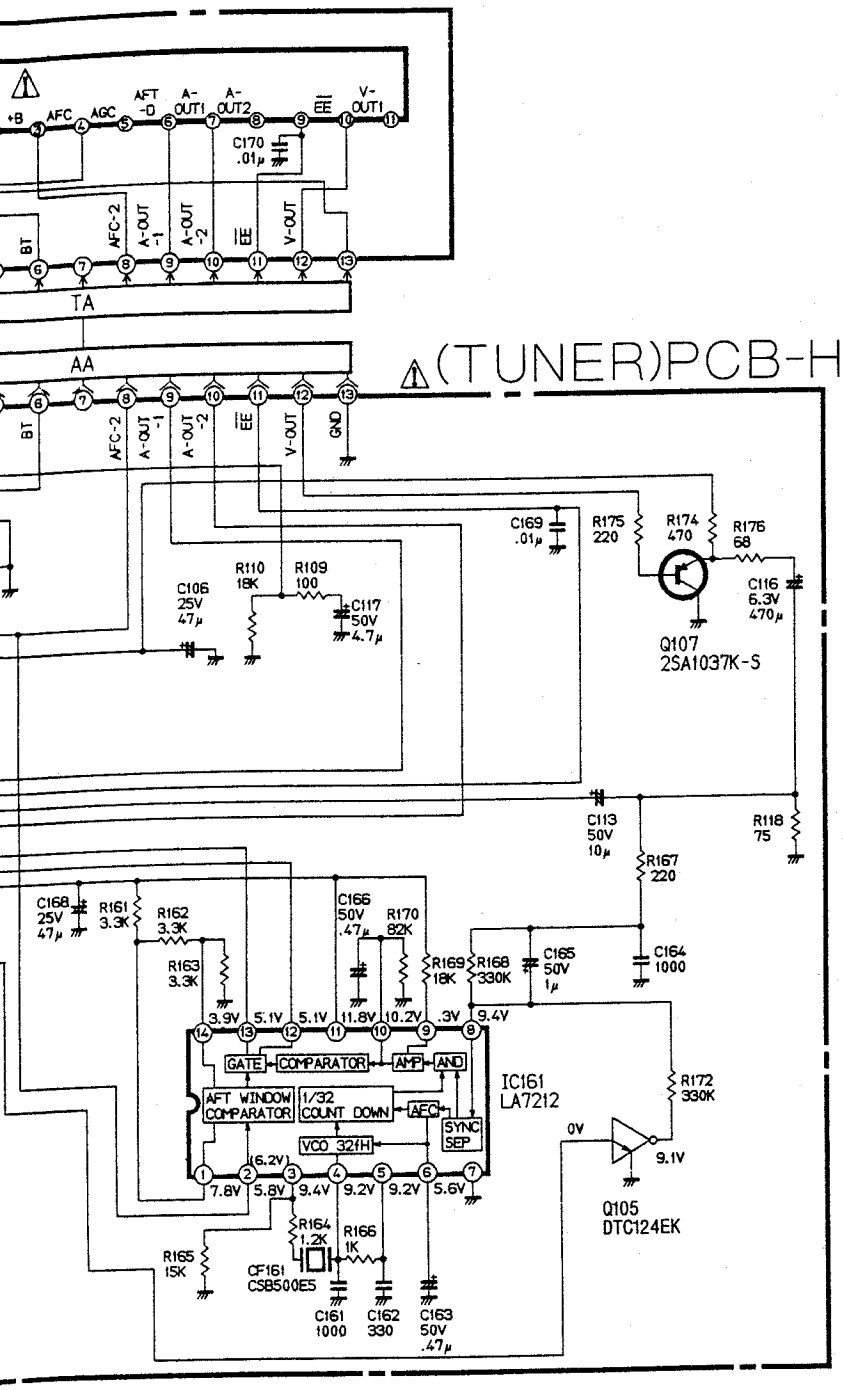
HS-B82 (2/8)
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)


1
2
3
A
B
C
D
E
PCB-SIGNAL
(INT)
SZ
RZ
GND
V-OUT
A-OUT
BST-S
ANT-V
RF OUT
IN
RF CONVERTER
PRSET
IF
GND
AGC
TU101
IF
BM
AFC
BL
AGC
BH
BT
BU
+30V
0-MUTE
EE+VINT
BS-1
TU-V
BS-2
I-SD2
I-SD1
STEREO
2CH-A
2CH-B
NICAM
SYNC
PCB-CONTROL
(MC)
CD
AD
C102
50V
10μ
R171
10K
R102
5.6K
C103
50V
10μ
C104
.33μ
(TF)
IC101 LA7910
VL
VH
BU
Hyper
D101
D102
D103
R107
3.3K
C107
50V
10μ
D101~D103
1SS252
AUDIO-1
STEREO
2CH-A
2CH-B
NICAM
SW-12
TU-VIDEO
SIF
SYNC
TO NICAM

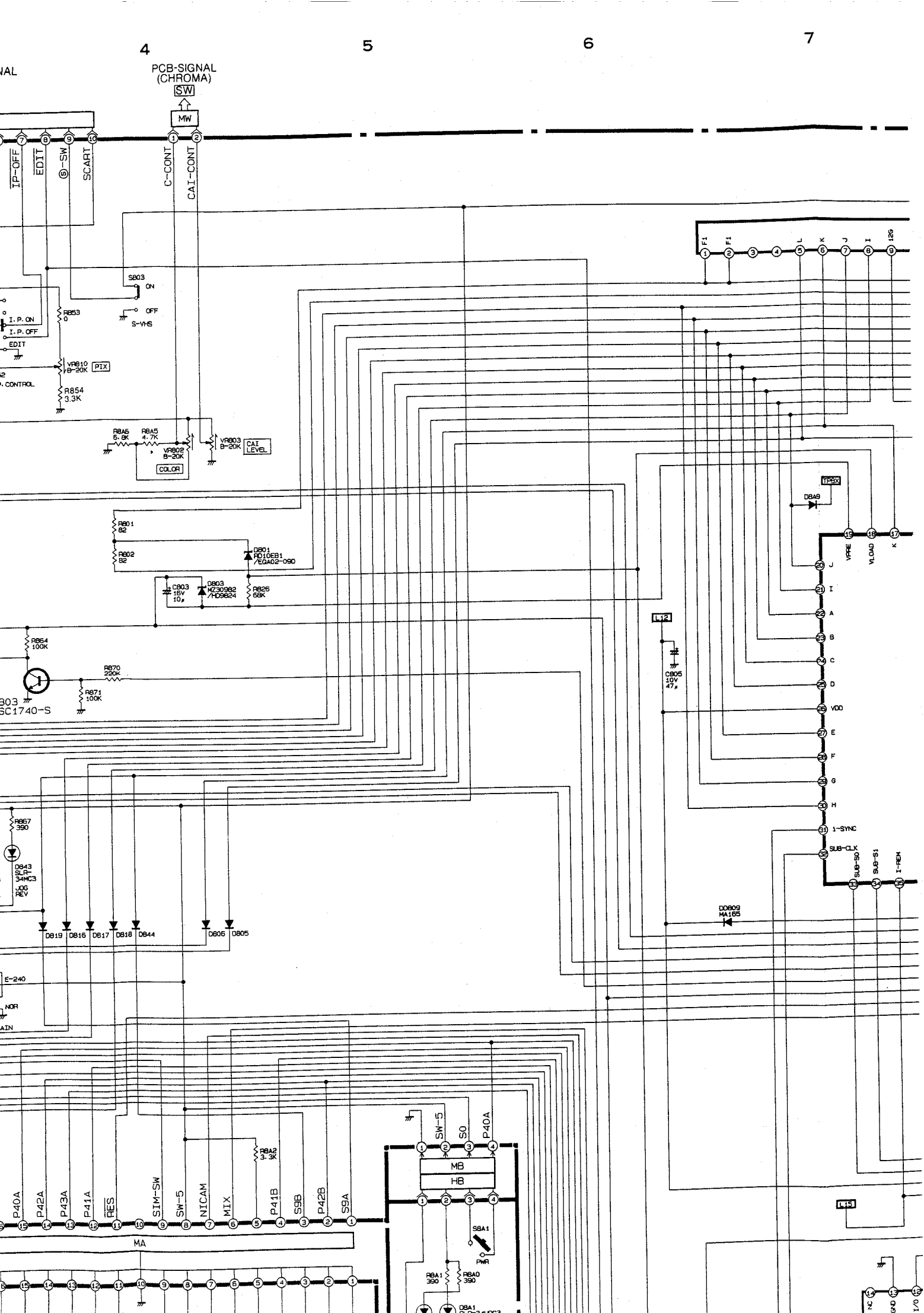

3
4
5
6
IP101
IFIN
+B
AFC
AGC
AFT -0
A-OUT1
A-OUT2
U-AGC
EE
V-OUT1
C116 6.3V 470µ
C170 .01µ
R118 75
BH
AFC -1
BL
AGC
BH
BT
BU
AFC-2
A-OUT-1
A-OUT-2
EE
V-OUT
GND
TA
AA
△(TUNER)PCB-HIFI
C169 0.01µ
R103 82K
R104 47K
R105 68K
R106 82K
R110 18K
R109 100
C106 25V 47µ
C117 50V 4.7µ
C102 50V 10µ
R171 10K
C105 50V .22µ
C103 50V 10µ
C104 .33µ
TF
C113 50V 10µ
R167 220
LA7910
BU
Hyper
C168 25V 47µ
R161 3.3K
R162 3.3K
R163 3.3K
C166 50V .47µ
R170 82K
R169 18K
R168 330K
C165 50V 1µ
C164 1000
D102
D103
R107 3.3K
C107 50V 10µ
GATE
COMPARATOR
AMP
AND
AFT WINDOW COMPARATOR
1/32 COUNT DOWN
AFC
SYNC SEP
VCO 32fH
IC161 LA7212
R172 330K
Q105 DTC124EK
R164 1.2K
R166 1K
R165 15K
CF161 CS8500E5
C161 1000
C162 330
C163 50V .47µ
ALDIO-1
STEREO
2CH-A
2CH-B
NICAM
SW-12
TU-VIDEO
SIF
SYNC
TO NICAM
HS-E82(IR)
RF OUT
IN
GND
△F

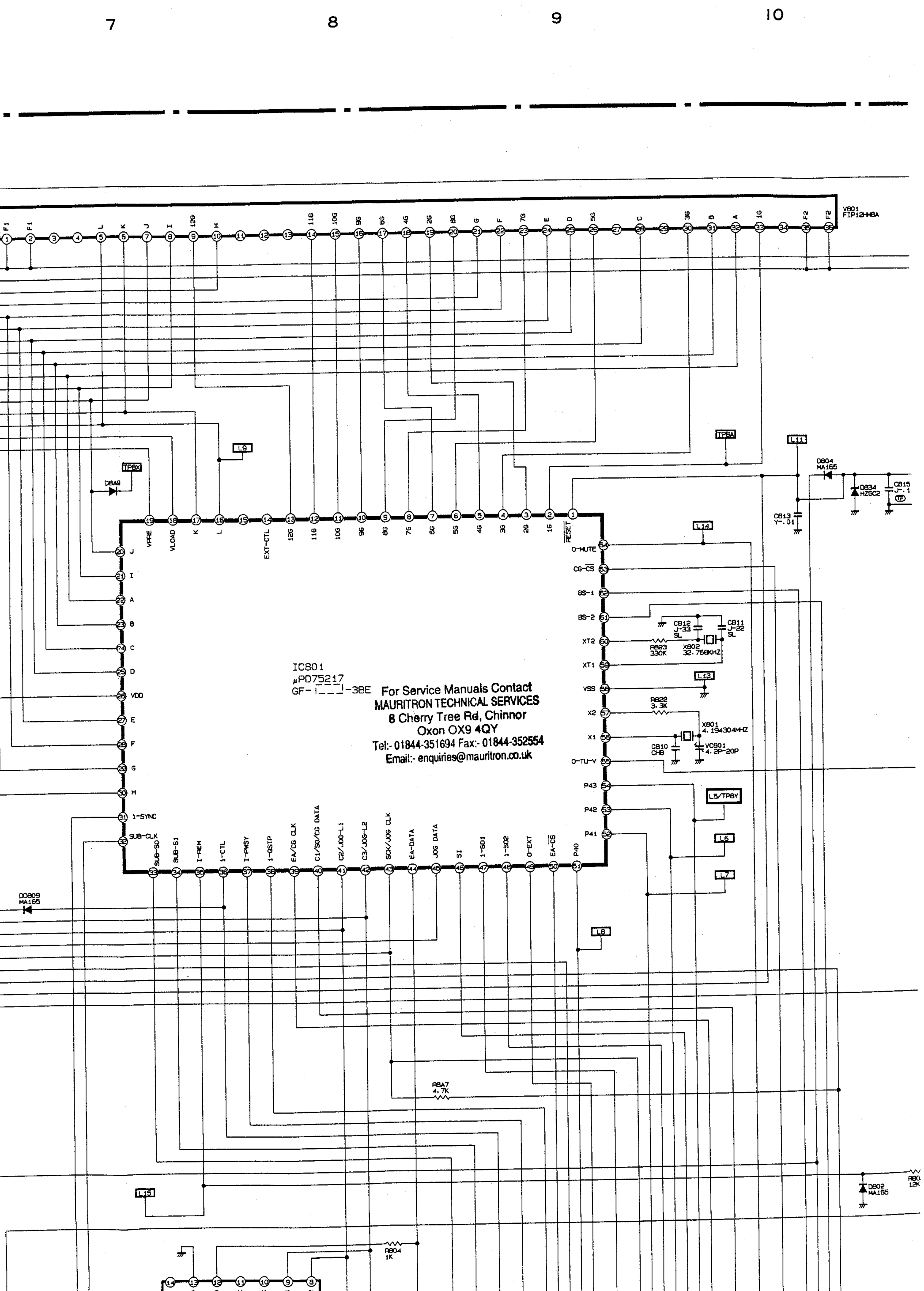

6
7
8
9
10
PCB-SIGNAL
(INT)
SZ
RZ
GND
V-OUT
A-OUT
BST-5
ANT-V
RF OUT
IN
RF CONVERTER
TU101
IF
BM
AFC
AGC
BT
BU
PRSET
GND
AGC
IP-101
IFIN
+B
AFC
AGC
BM
AFC-1
AGC
BT
AFC-2
TA
AA
R103
82K
R104
47K
R105
68K
R106
82K
C105
50V
.22μ
R102
5.6K
C104
.33μ
TF
C168
25V
47μ
R161
3.3K
PCB-CONTROL
(MC)
CD
AD
0-MUTE
EE+VINT
TU-V
I-SD2
I-SD1
STEREO
2CH-A
2CH-B
NICAM
SYNC
AUDIO-1
STEREO
2CH-A
2CH-B
NICAM
SW-12
TU-VIDEO
SIF
SYNC
TO NICAM

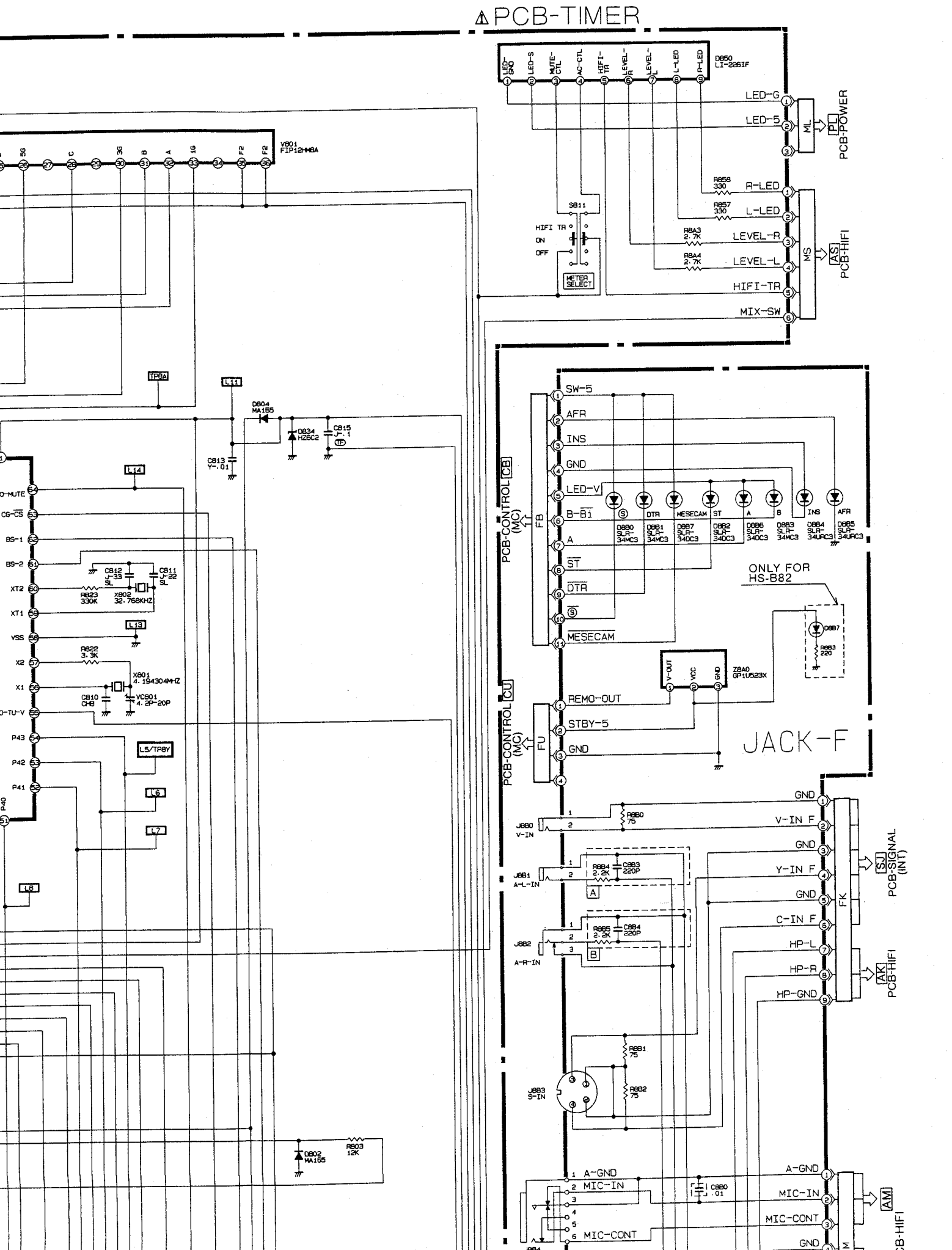
10 11 12 13

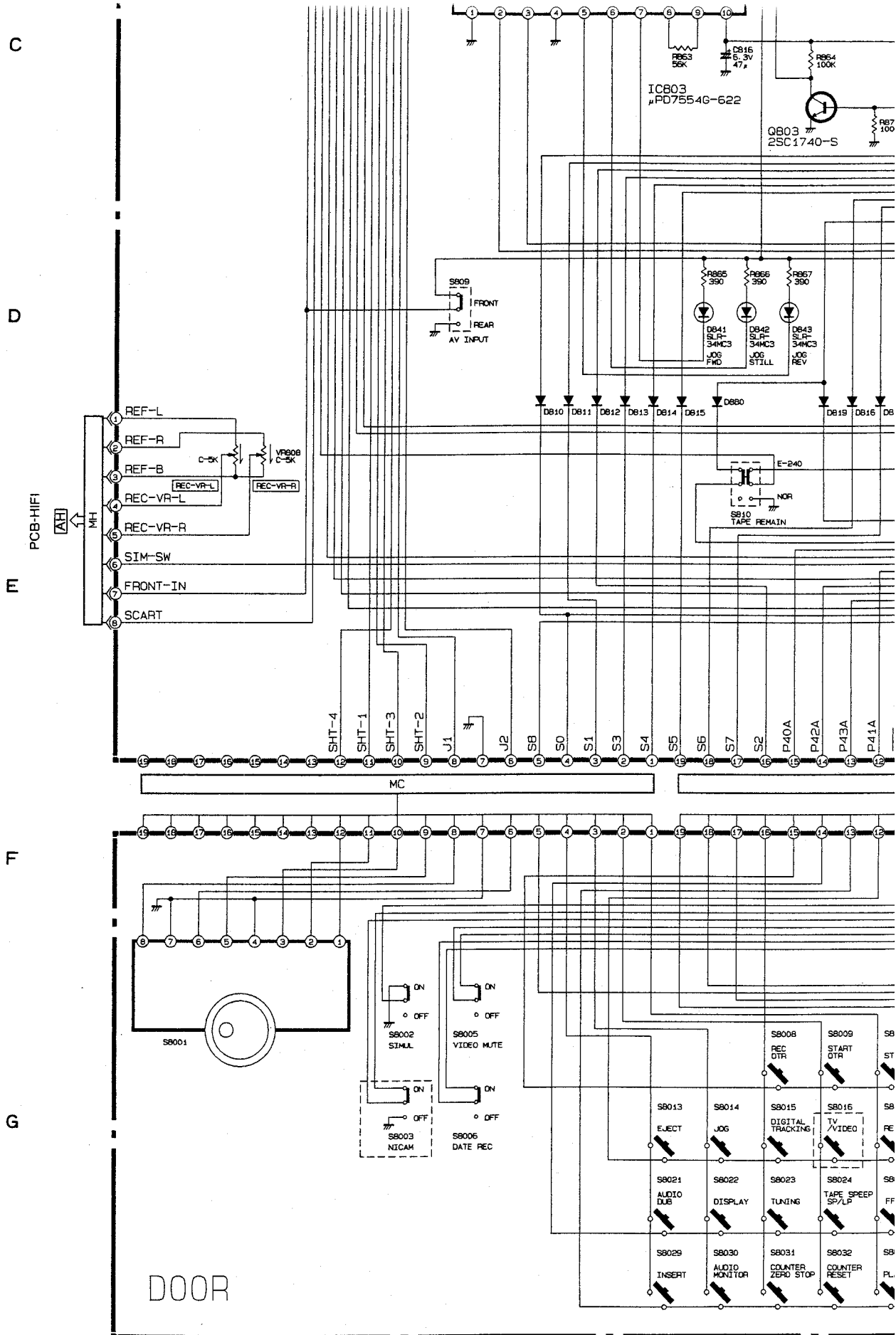


HS-B82


4
5
6
7
PCB-SIGNAL
(CHROMA)
SW
MW
IP-OFF
EDIT
SCART
C-CONT
CAI-CONT
S803
ON
OFF
S-VHS
R853
I.P.ON
I.P.OFF
EDIT
VR810
PIX
R854
3.3K
R8A5
6.8K
R8A5
4.7K
VR802
COLOR
VR803
CAI
LEVEL
R801
R802
D801
R803
R825
68K
R864
100K
R870
220K
R871
100K
SC1740-S
R867
390
D843
D819
D816
D817
D818
D844
D805
D806
E-240
NOR
P40A
P42A
P43A
P41A
RES
SIM-SW
SW-5
NICAM
MIX
P41B
S9B
P42B
S9A
R8A2
3.3K
MA
SW-5
SO
P40A
MB
HB
S8A1
PWR
R8A1
390
R8A0
390
D8A1
D8A9
TP-8X
VRRE
VLOAD
K
J
I
A
B
C
D
VDD
E
F
G
H
1-SYNC
SUB-CLK
SUB-SO
SUB-SI
I-REM
L12
C805
10V
47μ
DD809
MA165
L15


7
8
9
10
V801
FIP12-MBA
IC801
μPD75217
GF-[ ]-3BE
RESET
O-MUTE
CG-CS
BS-1
BS-2
XT2
XT1
VSS
X2
X1
O-TU-V
P43
P42
P41
P40
EA-CS
O-EXT
1-SO2
1-SO1
SI
JOG DATA
EA-DATA
SCK/JOG CLK
C3/JOG-L2
C2/JOG-L1
C1/SO/CG DATA
EA/CG CLK
1-QSTP
I-PWSY
1-CTL
I-REM
SUB-S1
SUB-SO
SUB-CLK
1-SYNC
VDD
VPRE
VLOAD
EXT-CTL
C812 J-33 SL
C811 J-22 SL
R823 330K
X802 32.768KHZ
R822 3.3K
X801 4.194304MHZ
C810 CH8
VC801 4.2P-20P
D804 MA165
D834 HZ6C2
C815 J-.1
C813 Y-.01
D8A9
TP8X
TP8A
L9
L11
L13
L14
L5/TP8Y
L6
L7
L8
L15
D0809 MA165
R8A7 4.7K
R804 1K
D802 MA165
R80 12K

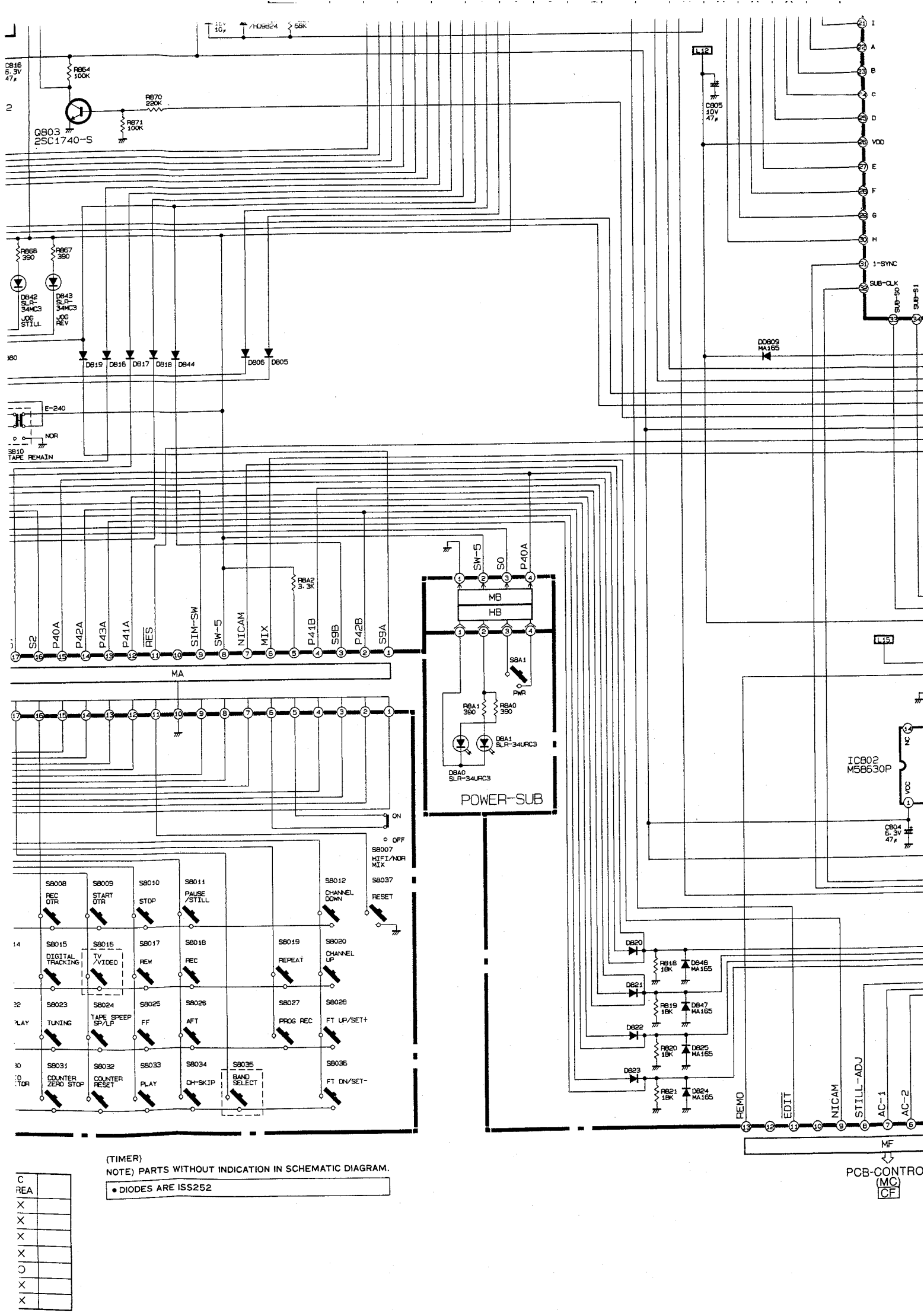

⚠PCB-TIMER
D850 LI-2261F
LED-G
LED-S
MUTE-CTL
AC-CTL
HIFI-TR
LEVEL-R
LEVEL-L
L-LED
R-LED
ML
PL
PCB-POWER
R858 330 R-LED
R857 330 L-LED
RBA3 2.7K LEVEL-R
RBA4 2.7K LEVEL-L
HIFI-TR
MIX-SW
MS
AS
PCB-HIFI
S811
HIFI TR
ON
OFF
METER SELECT
V801 FIP12M8A
TP8A
L11
D804 MA165
D834 HZ6C2
C815 Y-.1
C813 Y-.01
L14
L13
L5/TP8Y
L6
L7
L8
C812 J-33 SL
C811 J-22 SL
R823 330K
X802 32.768KHZ
R822 3.3K
X801 4.194304MHZ
C810 CH8
VC801 4.2P-20P
D802 MA165
R803 12K
PCB-CONTROL (MC) CB
FB
SW-5
AFR
INS
GND
LED-V
B-B1
A
ST
DTR
MESECAM
D880 SLR-34MC3
D881 SLR-34MC3
D887 SLR-340C3
D882 SLR-340C3
D886 SLR-340C3
D883 SLR-34MC3
D884 SLR-340RC3
D885 SLR-340RC3
ONLY FOR HS-B82
D887
R883 220
Z8A0 GP1U523X
PCB-CONTROL (MC) CU
FU
REMO-OUT
STBY-5
GND
JACK-F
J880 V-IN
R880 75
J881 A-L-IN
R884 2.2K
C883 220P
J882 A-R-IN
R885 2.2K
C884 220P
J883 S-IN
R881 75
R882 75
FK
GND
V-IN F
Y-IN F
C-IN F
HP-L
HP-R
HP-GND
SJ
PCB-SIGNAL (INT)
AK
PCB-HIFI
A-GND
MIC-IN
MIC-CONT
C880 .01
AM
PCB-HIFI



TIMER

SYMBOL NO. / MODELS	D8A2	D8A3	D8A7	S8003	S8016	S8035	D8B6	D8B7	A AREA	B AREA	C8B0	L8B0	L8B1	C AREA	
HS-B82	○	×	○	○	×	×	○	×	×	×	×	×	×	×	
HS-E82(Y)	×	×	×	×	×	○	×	○	×	×	×	×	×	×	
HS-E82(1R)	×	×	○	○	×	○	○	×	×	×	×	×	×	×	
HS-E82	×	○	×	○	×	○	○	○	×	×	×	×	×	×	
HS-E82(G)	×	×	×	×	×	○	×	○	○	○	○	○	○	○	
HS-E82(A)	×	×	×	×	○	○	×	×	×	×	×	×	×	×	
HS-E82(NZ)	×	×	×	○	×	○	○	×	×	×	×	×	×	×	

(TIMER)
NOTE) PA
• DIODES

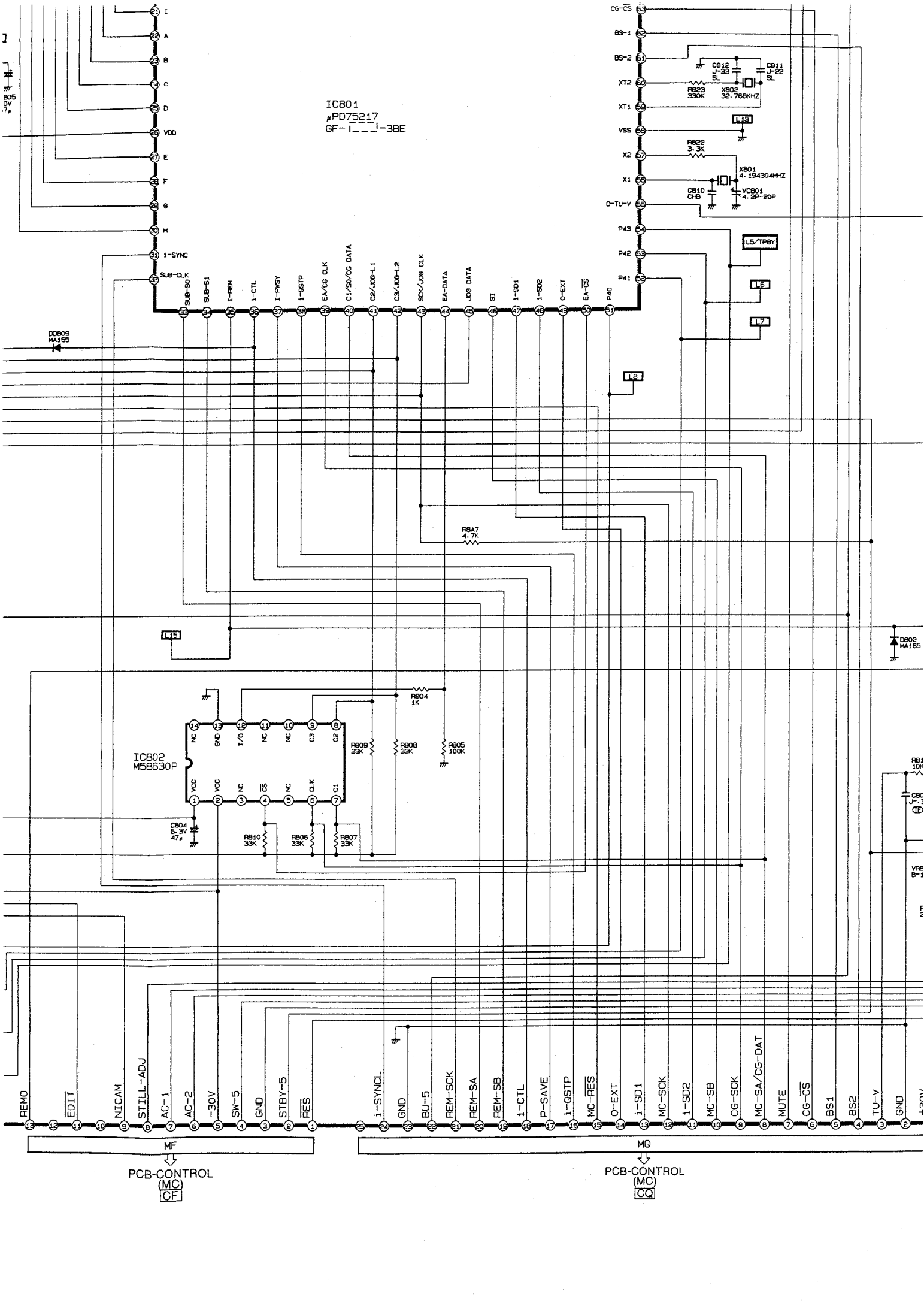


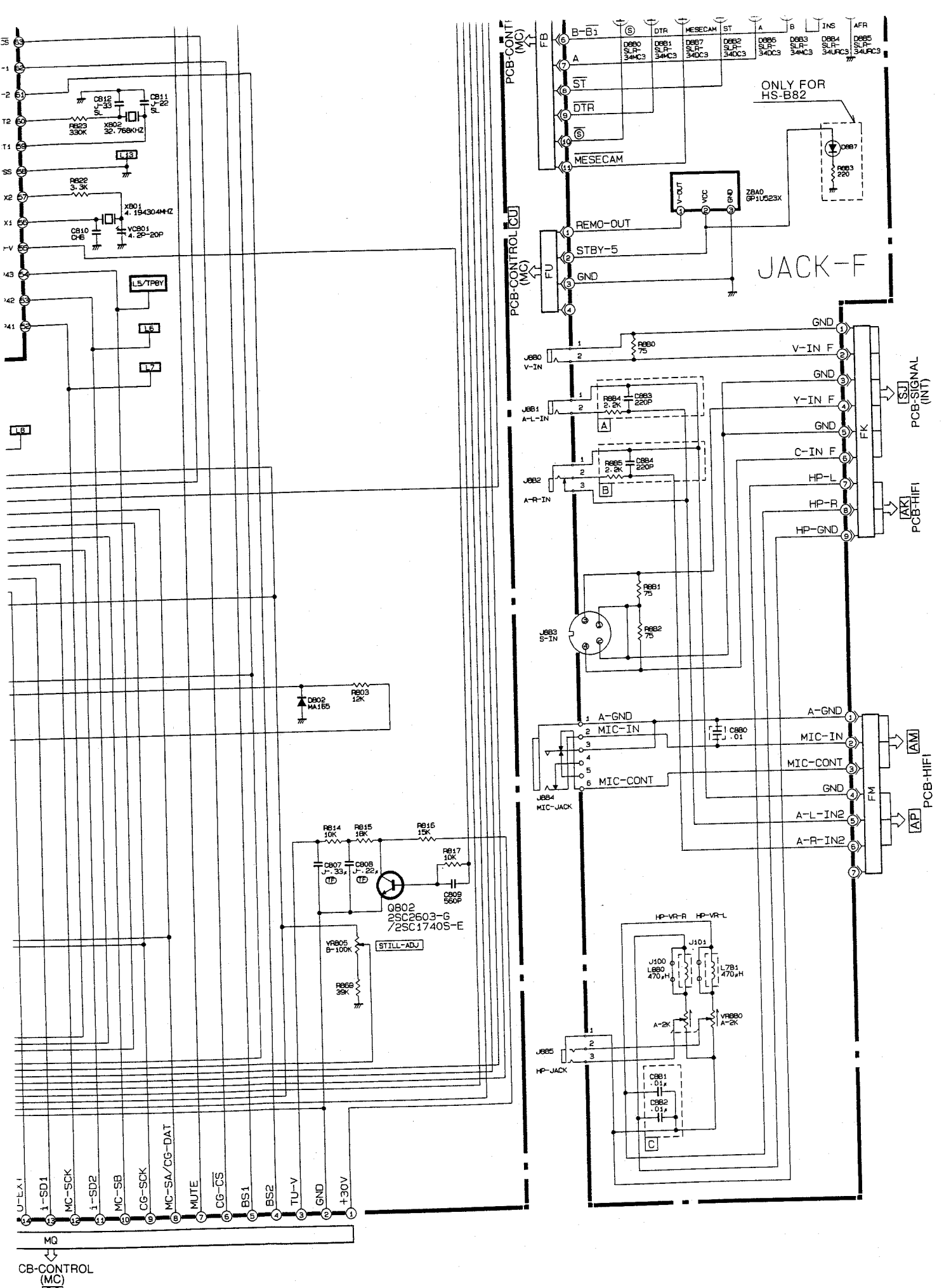
(TIMER)

NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

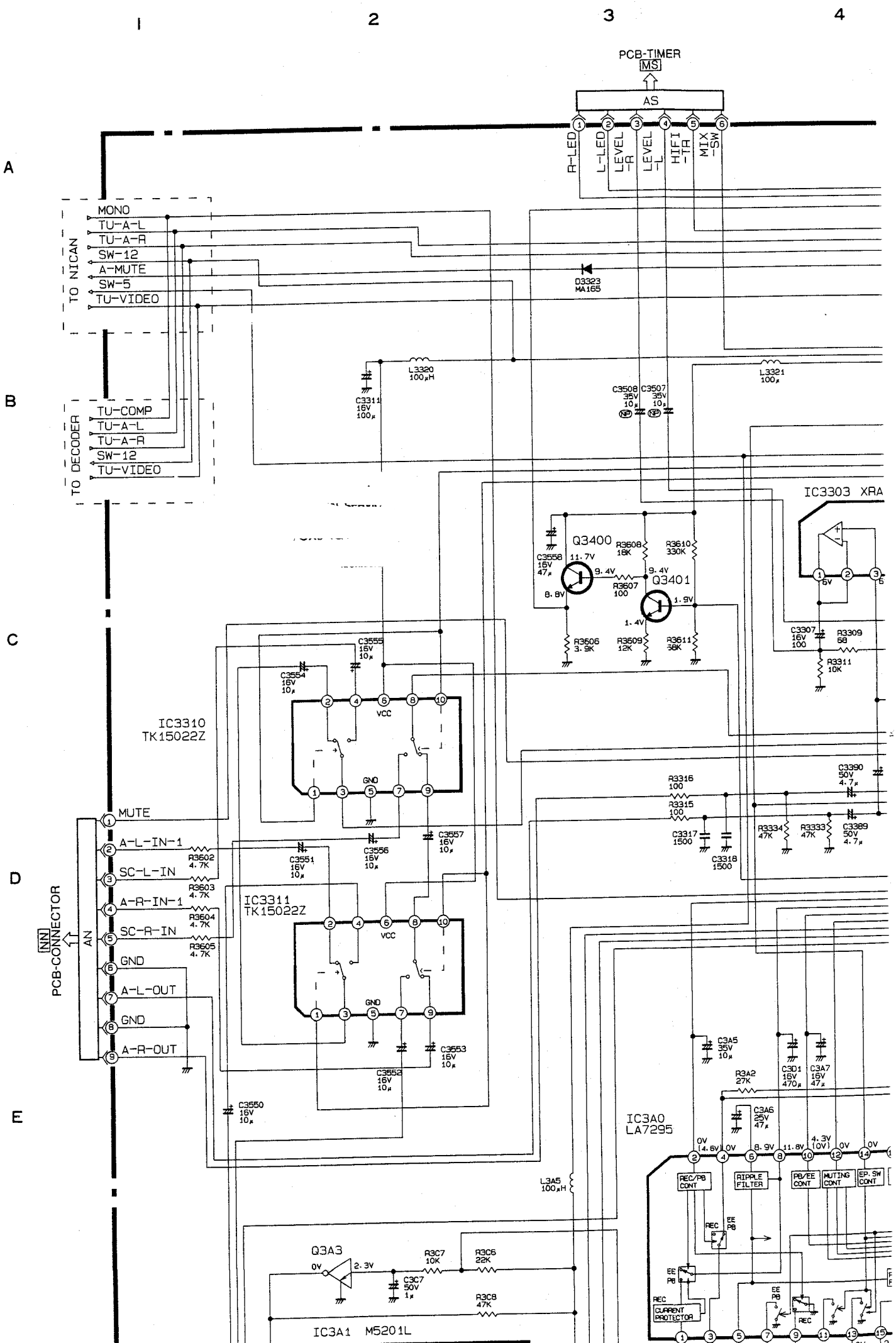
• DIODES ARE ISS252

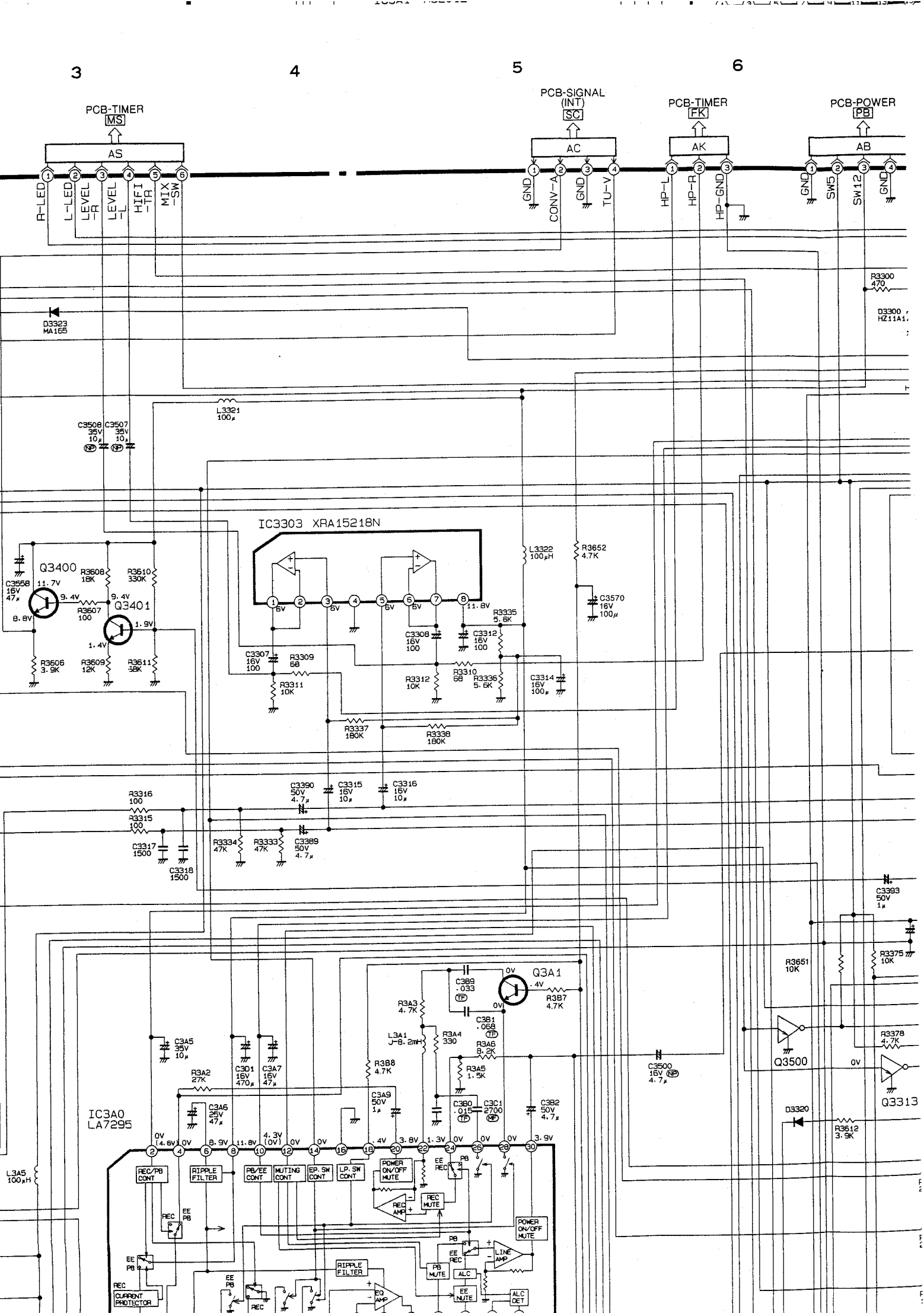
C	
REA	
X	
X	
X	
X	
○	
X	
X	

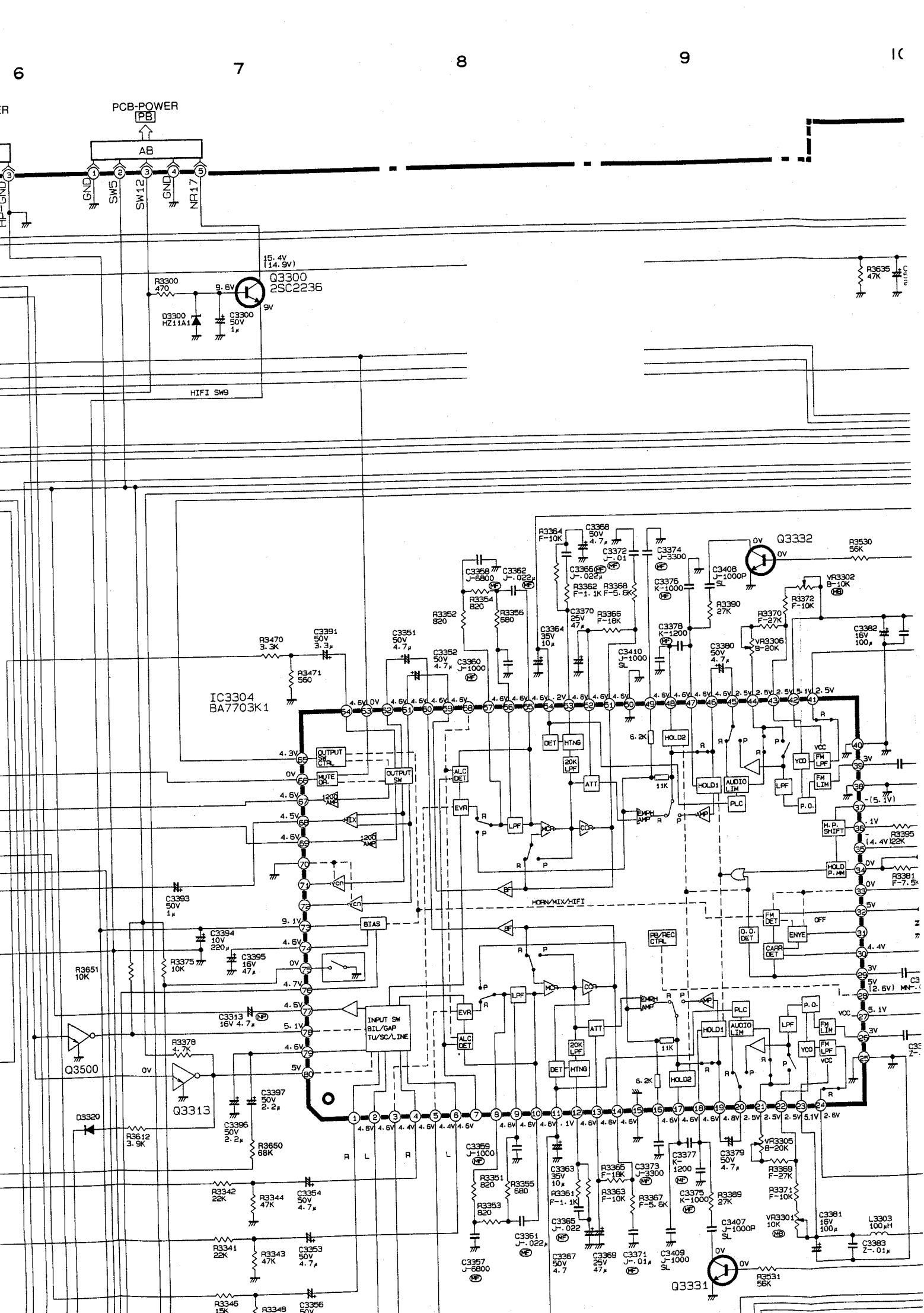

IC801
μPD75217
GF-[illegible]-3BE
I
A
B
C
D
VDD
E
F
G
H
1-SYNC
SUB-CLK
SUB-S0
SUB-S1
I-REM
I-CTL
I-PWSY
I-QSTP
EA/CG CLK
C1/S0/CG DATA
C2/JOG-L1
C3/JOG-L2
SCK/JOG CLK
EA-DATA
JOG DATA
SI
I-SD1
I-SD2
O-EXT
EA-CS
P40
P41
P42
P43
O-TU-V
X1
X2
VSS
XT1
XT2
BS-2
BS-1
CG-CS
C812 33P
C811 22P
R823 330K
X802 32.768KHZ
R822 3.3K
X801 4.194304MHZ
C810 CH
VC801 4.2P-20P
L13
L5/TPBY
L6
L7
L8
DD809 MA165
R8A7 4.7K
L15
D802 MA165
IC802 M58630P
NC
GND
I/O
NC
NC
C3
C2
VCC
VCC
NC
CS
NC
CLK
C1
R804 1K
R809 39K
R808 39K
R805 100K
C804 6.3V 47μ
R810 33K
R806 39K
R807 33K
REMO
EDIT
NICAM
STILL-ADJ
AC-1
AC-2
-30V
SW-5
GND
STBY-5
RES
i-SYNCL
GND
BU-5
REM-SCK
REM-SA
REM-SB
i-CTL
P-SAVE
i-QSTP
MC-RES
O-EXT
i-SD1
MC-SCK
i-SD2
MC-SB
CG-SCK
MC-SA/CG-DAT
MUTE
CG-CS
BS1
BS2
TU-V
GND
MF
PCB-CONTROL (MC) CF
MQ
PCB-CONTROL (MC) CQ

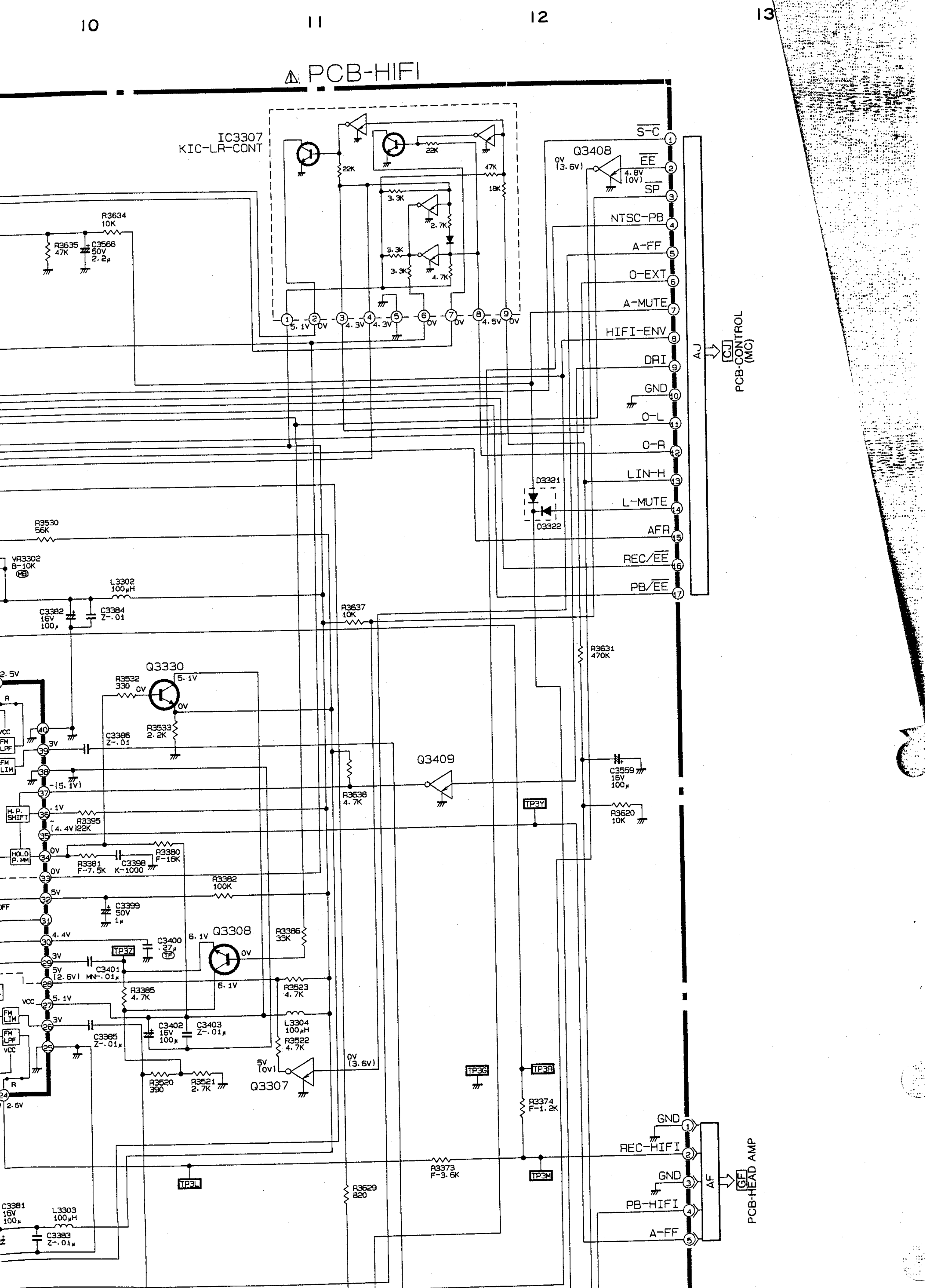


HS-B82 (3/8)
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)

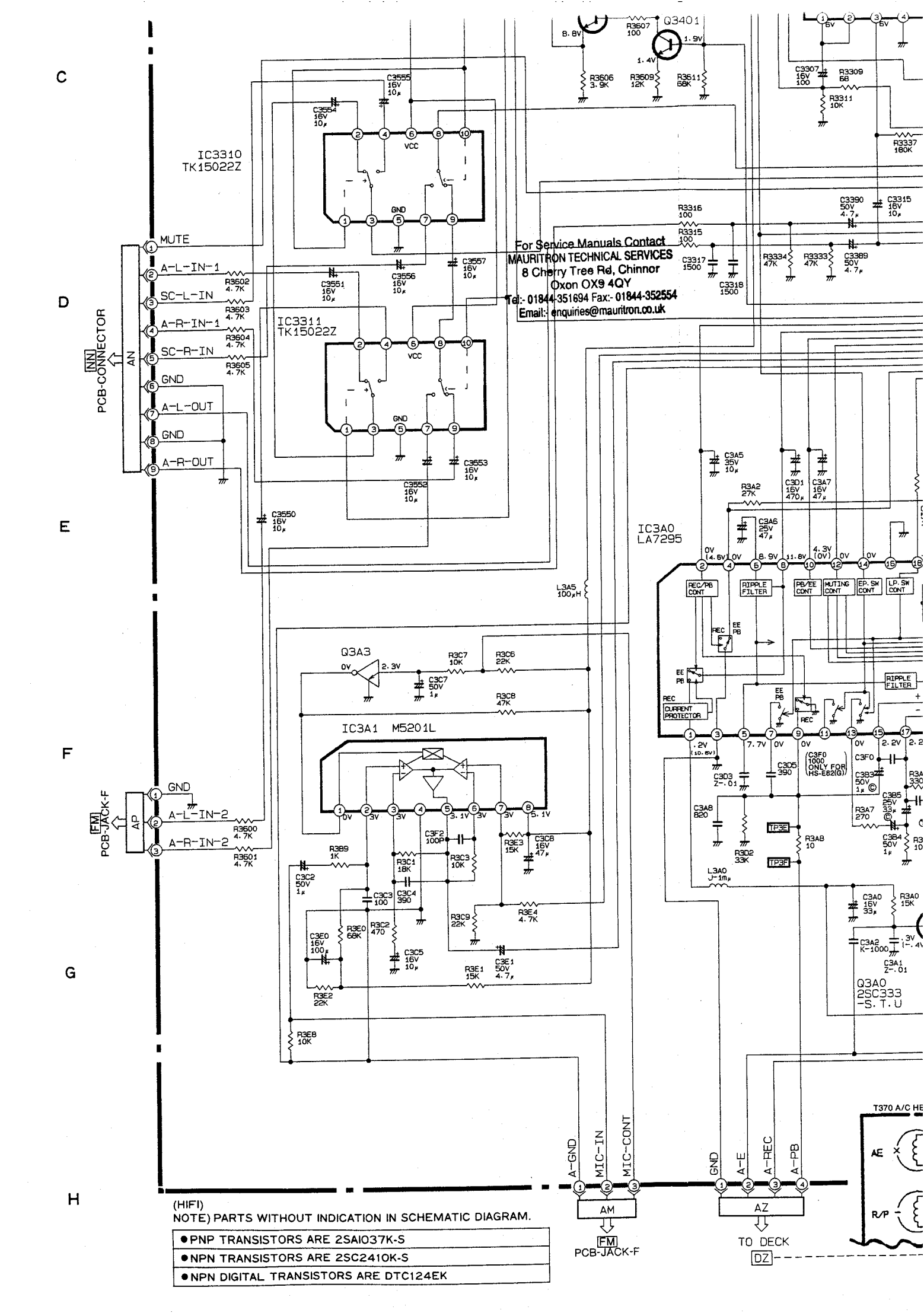

1
2
3
4
A
B
C
D
E
PCB-TIMER
MS
AS
R-LED
L-LED
LEVEL -R
LEVEL -L
HIFI -TR
MIX -SW
TO NICAN
MONO
TU-A-L
TU-A-R
SW-12
A-MUTE
SW-5
TU-VIDEO
TO DECODER
TU-COMP
TU-A-L
TU-A-R
SW-12
TU-VIDEO
D3323
MA165
L3320
100μH
L3321
100μ
C3311
16V
100μ
C3508
35V
10μ
C3507
35V
10μ
IC3303 XRA
Q3400
Q3401
R3608
18K
R3610
330K
R3607
100
R3606
3.9K
R3609
12K
R3611
68K
C3558
16V
47μ
11.7V
9.4V
8.8V
1.9V
1.4V
C3307
16V
100
R3309
68
R3311
10K
IC3310
TK15022Z
IC3311
TK15022Z
VCC
GND
C3555
16V
10μ
C3554
16V
10μ
C3551
16V
10μ
C3556
16V
10μ
C3557
16V
10μ
C3553
16V
10μ
C3552
16V
10μ
C3550
16V
10μ
MUTE
A-L-IN-1
SC-L-IN
A-R-IN-1
SC-R-IN
GND
A-L-OUT
GND
A-R-OUT
R3602
4.7K
R3603
4.7K
R3604
4.7K
R3605
4.7K
PCB-CONNECTOR
NN
AN
R3316
100
R3315
100
C3317
1500
C3318
1500
R3334
47K
R3333
47K
C3389
50V
4.7μ
C3390
50V
4.7μ
IC3A0
LA7295
C3A5
35V
10μ
R3A2
27K
C3D1
16V
470μ
C3A7
16V
47μ
C3A6
25V
47μ
L3A5
100μH
REC/PB CONT
RIPPLE FILTER
PB/EE CONT
MUTING CONT
EP. SW CONT
REC
EE
PB
CURRENT PROTECTOR
Q3A3
R3C7
10K
R3C6
22K
R3C8
47K
C3C7
50V
1μ
IC3A1 M5201L


3
4
5
6
PCB-TIMER
MS
AS
R-LED
L-LED
LEVEL -R
LEVEL -L
HIFI -TR
MIX -SW
PCB-SIGNAL (INT)
SC
AC
GND
CONV-A
GND
TU-V
PCB-TIMER
FK
AK
HP-L
HP-R
HP-GND
PCB-POWER
PB
AB
GND
SW5
SW12
GND
D3323 MA165
L3321 100μ
C3508 35V 10μ NP
C3507 35V 10μ NP
R3300 470
D3300 HZ11A1
IC3303 XRA15218N
Q3400
Q3401
R3608 18K
R3610 330K
R3607 100
R3606 3.9K
R3609 12K
R3611 68K
C3558 16V 47μ
L3322 100μH
R3652 4.7K
C3570 16V 100μ
R3335 5.6K
C3308 16V 100
C3312 16V 100
C3307 16V 100
R3309 68
R3311 10K
R3312 10K
R3310 68
R3336 5.6K
C3314 16V 100μ
R3337 180K
R3338 180K
R3316 100
R3315 100
C3317 1500
C3318 1500
R3334 47K
R3333 47K
C3390 50V 4.7μ
C3315 16V 10μ
C3316 16V 10μ
C3389 50V 4.7μ
C3393 50V 1μ
R3651 10K
R3375 10K
Q3500
C3500 16V NP 4.7μ
R3378 4.7K
Q3313
D3320
R3612 3.9K
Q3A1
C3B9 .033 TP
R3A3 4.7K
R3B7 4.7K
C3B1 .068 TP
L3A1 J-8.2mH
R3A4 330
R3A6 8.2K
R3A5 1.5K
R3B8 4.7K
C3A9 50V 1μ
C3B0 .015 TP
C3C1 2700 MF
C3B2 50V 4.7μ
C3A5 35V 10μ
C3A6 25V 47μ
C3D1 16V 470μ
C3A7 16V 47μ
R3A2 27K
IC3A0 LA7295
REC/PB CONT
RIPPLE FILTER
PB/EE CONT
MUTING CONT
EP. SW CONT
LP. SW CONT
POWER ON/OFF MUTE
REC MUTE
REC AMP
EE REC
PB
REC
EE PB
CURRENT PROTECTOR
EQ AMP
LINE AMP
PB MUTE
ALC
EE MUTE
ALC DET
L3A5 100μH


6
7
8
9
PCB-POWER
PB
AB
GND
SW5
SW12
GND
NR17
15.4V (14.9V)
Q3300 2SC2236
R3300 470
9.6V
9V
D3300 HZ11A1
C3300 50V 1μ
HIFI SW9
R3635 47K
IC3304 BA7703K1
R3470 3.3K
C3391 50V 3.3μ
R3471 560
C3351 50V 4.7μ
C3352 50V 4.7μ
C3360 J-1000
R3352 820
R3354 820
R3356 680
C3358 J-6800
C3362 J-.022μ
R3364 F-10K
C3368 50V 4.7μ
C3372 J-.01
C3366 J-.022μ
R3362 F-1.1K
R3368 F-5.6K
C3370 25V 47μ
R3366 F-18K
C3364 35V 10μ
C3374 J-3300
C3376 K-1000
C3378 K-1200
C3410 J-1000 SL
C3408 J-1000P SL
R3390 27K
C3380 50V 4.7μ
Q3332
R3530 56K
VR3302 B-10K
R3372 F-10K
R3370 F-27K
VR3306 B-20K
C3382 16V 100μ
OUTPUT SW CTRL
MUTE ON
OUTPUT SW
ALC DET
EVR
LPF
MCP
CCP
ATT
20K LPF
DET
HTNG
HOLD2
HOLD1
AUDIO LIM
PLC
P.O.
YCO
FM LPF
FM LIM
VCC
M.P. SHIFT
R3395 122K
HOLD P.MM
R3381 F-7.5K
FM DET
O.D. DET
CARR DET
ENVE
OFF
PB/REC CTRL
HORN/MIX/HIFI
BIAS
INPUT SW BIL/GAP TU/SC/LINE
C3393 50V 1μ
C3394 10V 220μ
C3395 16V 47μ
R3375 10K
R3651 10K
C3313 16V 4.7μ
R3378 4.7K
Q3500
Q3313
D3320
R3612 3.9K
C3396 50V 2.2μ
C3397 50V 2.2μ
R3650 68K
R3342 22K
R3344 47K
C3354 50V 4.7μ
R3341 22K
R3343 47K
C3353 50V 4.7μ
R3346 15K
R3348
C3356 50V
C3359 J-1000
R3351 820
R3355 680
R3353 820
C3361 J-.022μ
C3357 J-6800
C3363 35V 10μ
R3361 F-1.1K
C3365 J-.022
C3367 50V 4.7
R3365 F-18K
C3373 J-3300
R3363 F-10K
R3367 F-5.6K
C3369 25V 47μ
C3371 J-.01μ
C3377 K-1200
C3375 K-1000
C3409 J-1000 SL
C3379 50V 4.7μ
R3389 27K
C3407 J-1000P SL
VR3305 B-20K
R3369 F-27K
R3371 F-10K
VR3301 10K
C3381 16V 100μ
L3303 100μH
C3383 Z-.01μ
Q3331
R3531 56K
R L R L

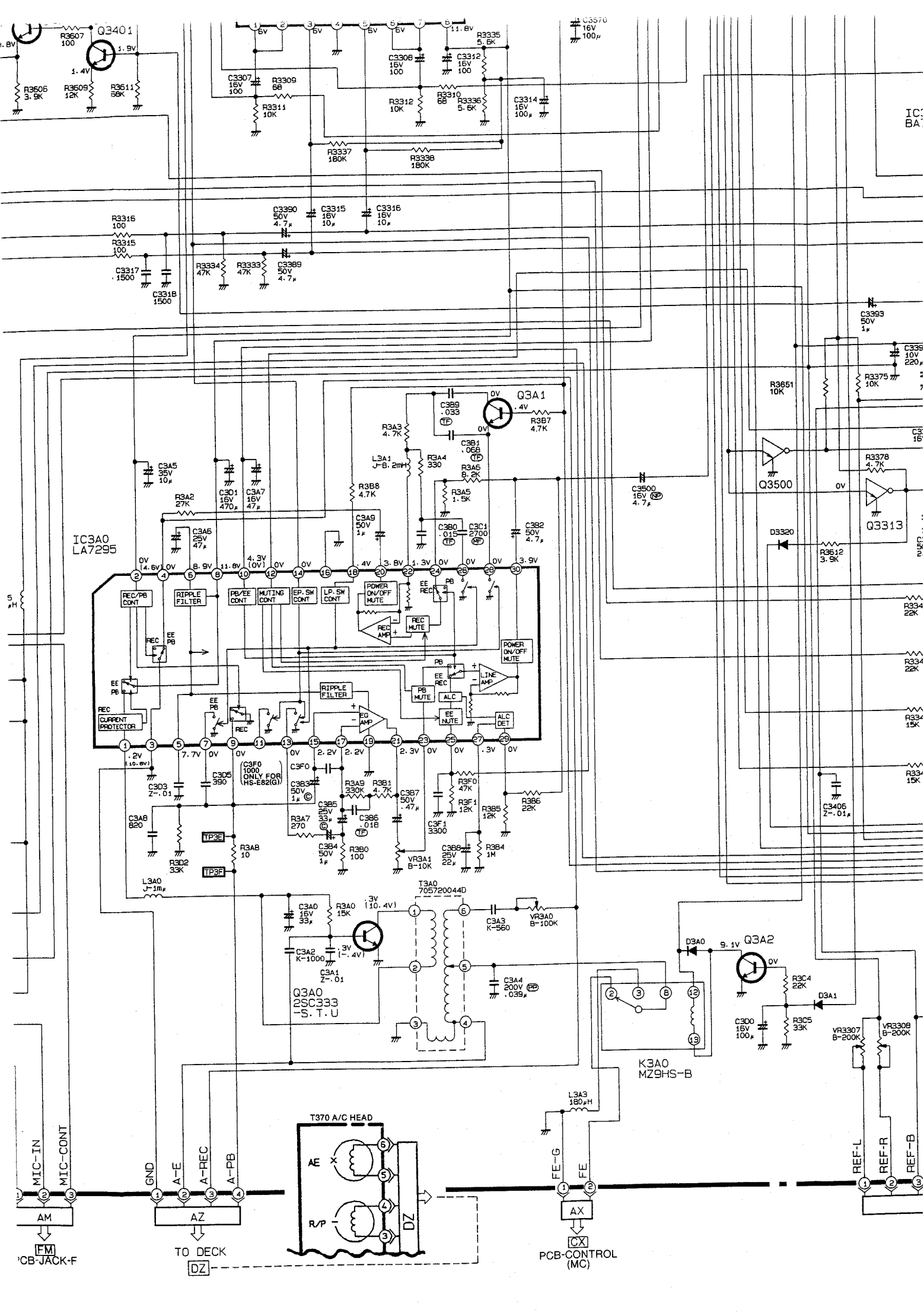


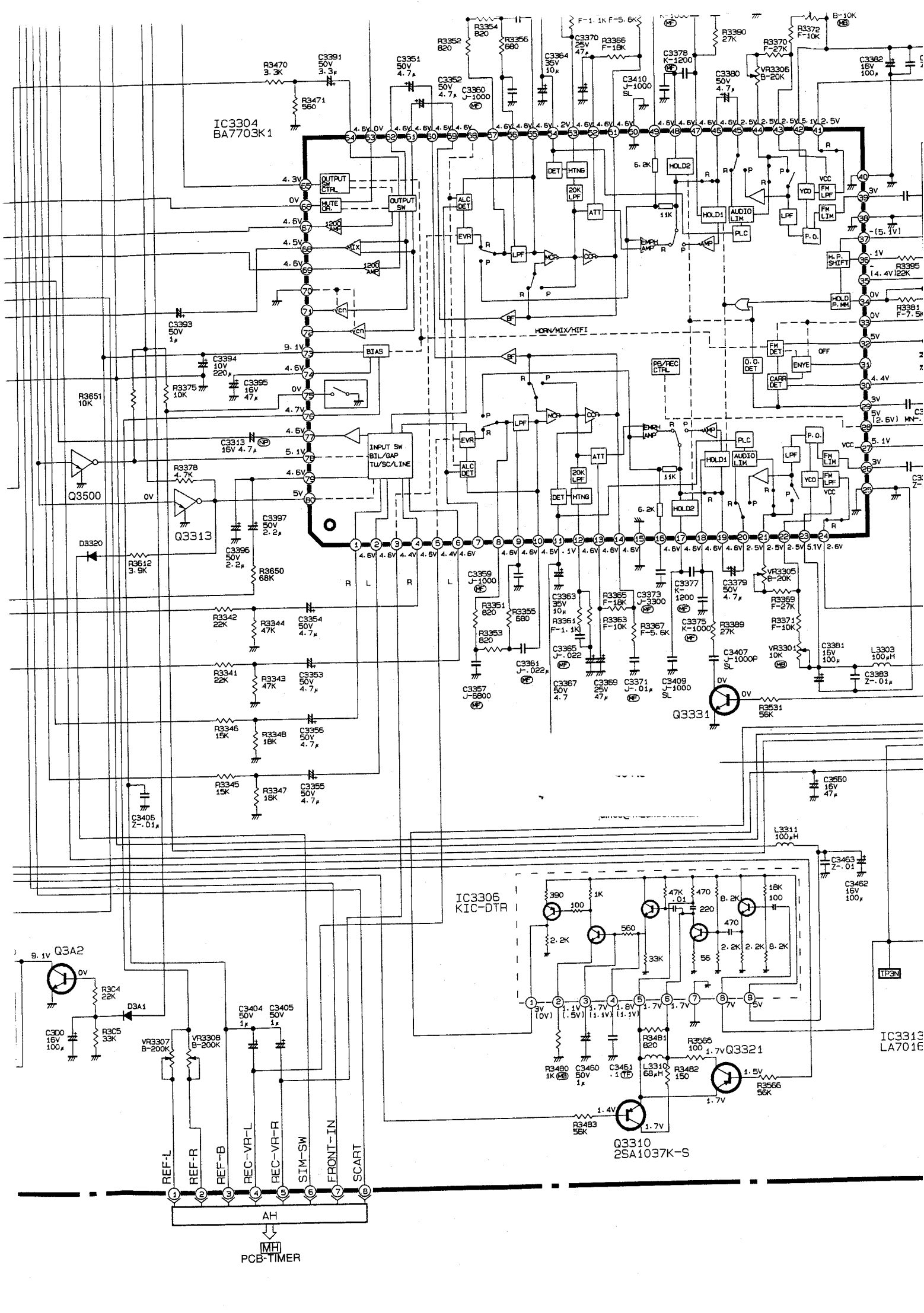
10
11
12
13
PCB-HIFI
IC3307
KIC-LR-CONT
Q3408
S-C
EE
SP
NTSC-PB
A-FF
O-EXT
A-MUTE
HIFI-ENV
DRI
GND
O-L
O-R
LIN-H
L-MUTE
AFR
REC/EE
PB/EE
AJ
CJ
PCB-CONTROL
(MC)
R3634 10K
R3635 47K
C3566 50V 2.2μ
R3530 56K
VR3302 B-10K
L3302 100μH
C3382 16V 100μ
C3384 Z-.01
R3637 10K
D3321
D3322
R3631 470K
Q3330
R3532 330
R3533 2.2K
C3386 Z-.01
Q3409
R3638 4.7K
C3559 16V 100μ
R3620 10K
TP3Y
H.P. SHIFT
R3395 22K
HOLD P.MM
R3381 F-7.5K
C3398 K-1000
R3380 F-16K
R3382 100K
C3399 50V 1μ
R3386 33K
Q3308
C3400 .27μ
TP3Z
C3401 MN-.01μ
R3385 4.7K
R3523 4.7K
C3402 16V 100μ
C3403 Z-.01μ
L3304 100μH
R3522 4.7K
C3385 Z-.01μ
R3520 390
R3521 2.7K
Q3307
TP3G
TP3R
R3374 F-1.2K
R3373 F-3.6K
TP3L
TP3M
R3629 820
C3381 16V 100μ
L3303 100μH
C3383 Z-.01μ
GND
REC-HIFI
GND
PB-HIFI
A-FF
AF
GF
PCB-HEAD AMP

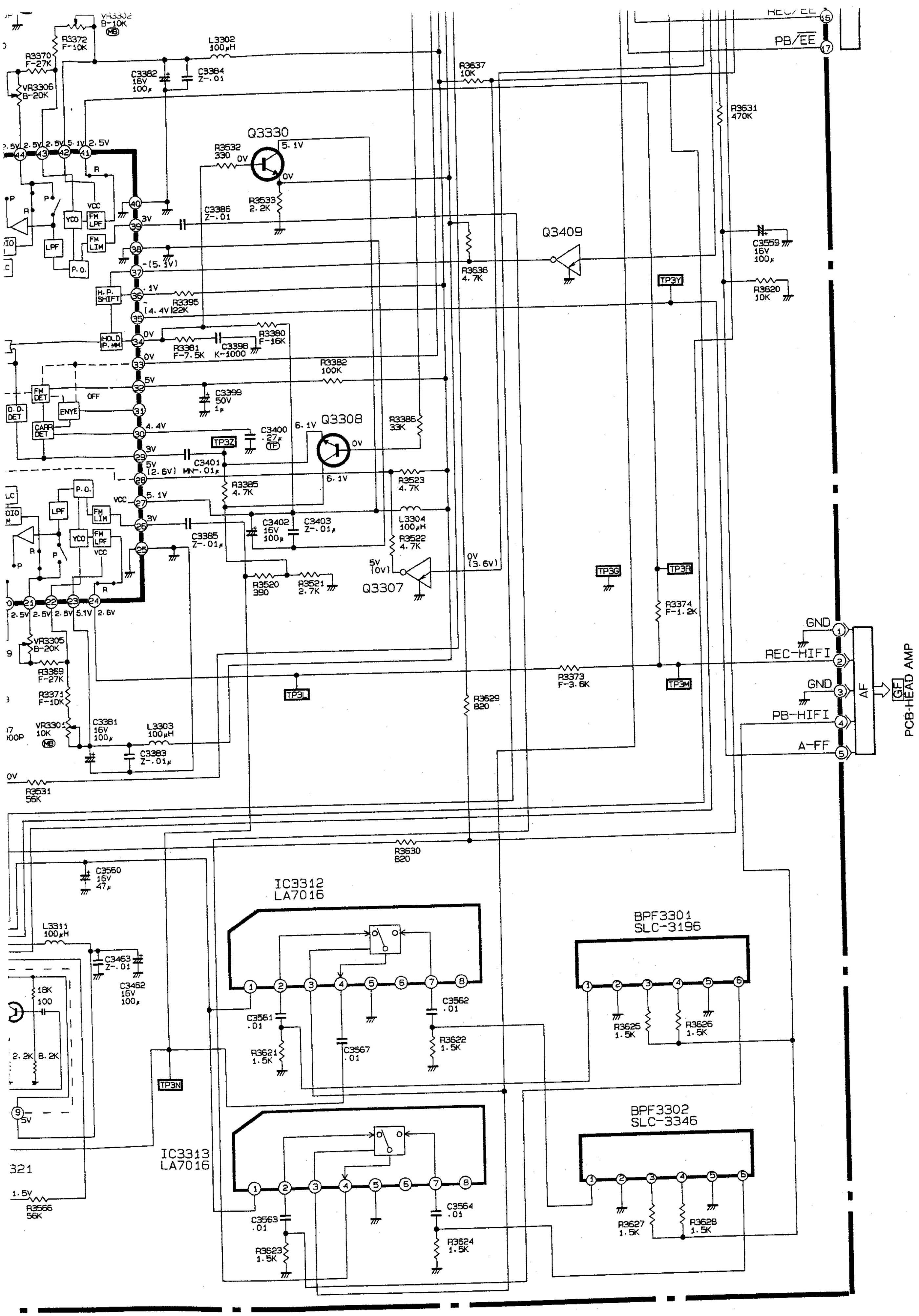


(HIFI)
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

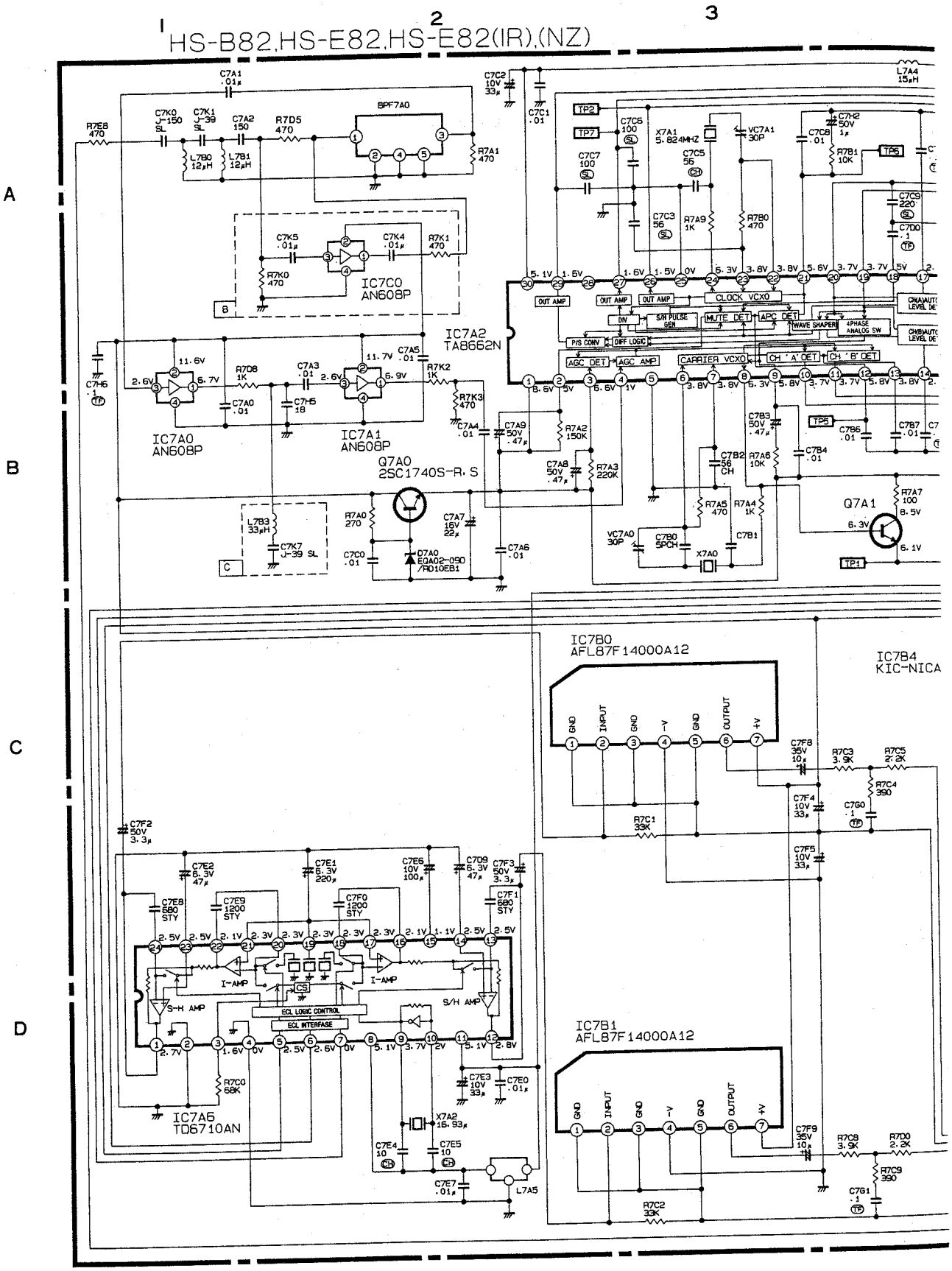
● PNP TRANSISTORS ARE 2SAI037K-S
● NPN TRANSISTORS ARE 2SC2410K-S
● NPN DIGITAL TRANSISTORS ARE DTC124EK


IC3A0
LA7295
Q3401
Q3A1
Q3500
Q3313
Q3A2
Q3A0
2SC333
-S.T.U
T3A0
705720044D
K3A0
MZ9HS-B
REC/PB CONT
RIPPLE FILTER
PB/EE CONT
MUTING CONT
EP.SW CONT
LP.SW CONT
POWER ON/OFF MUTE
REC AMP
REC MUTE
PB MUTE
EE MUTE
LINE AMP
EQ AMP
ALC
ALC DET
CURRENT PROTECTOR
T370 A/C HEAD
AE
R/P
DZ
MIC-IN
MIC-CONT
GND
A-E
A-REC
A-PB
FE-G
FE
REF-L
REF-R
REF-B
AM
FM
AZ
TO DECK
DZ
AX
CX
PCB-CONTROL
(MC)
PCB-JACK-F


IC3304
BA7703K1
IC3306
KIC-DTR
IC3313
LA7016
Q3500
Q3313
Q3331
Q3321
Q3310
2SA1037K-S
Q3A2
INPUT SW
BIL/GAP
TU/SC/LINE
OUTPUT SW CTRL
MUTE OR
OUTPUT SW
BIAS
HORN/MIX/HIFI
PB/REC CTRL
REF-L
REF-R
REF-B
REC-VR-L
REC-VR-R
SIM-SW
FRONT-IN
SCART
AH
MH
PCB-TIMER

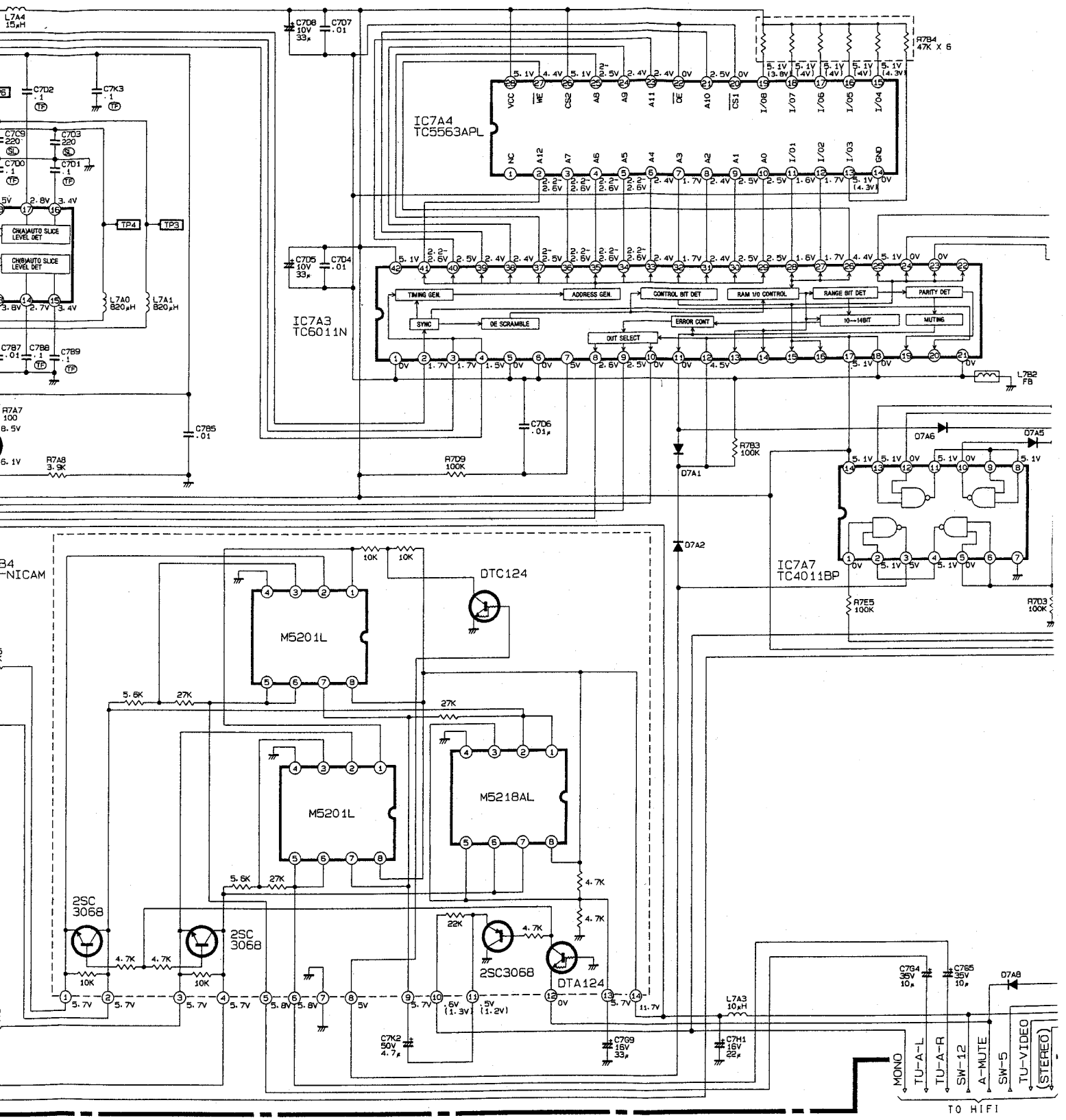


REC/EE
PB/EE
VR3302 B-10K
R3372 F-10K
L3302 100μH
R3370 F-27K
C3382 16V 100μ
C3384 Z-.01
R3637 10K
VR3306 B-20K
R3631 470K
Q3330
R3532 330
R3533 2.2K
C3386 Z-.01
Q3409
C3559 16V 100μ
R3636 4.7K
TP3Y
R3620 10K
H.P. SHIFT
R3395 22K
HOLD P.MM
R3381 F-7.5K
C3398 K-1000
R3380 F-16K
R3382 100K
FM DET
ENYE
C3399 50V 1μ
D.O. DET
CARR DET
R3386 33K
Q3308
C3400 27μ
TP3Z
C3401 MN-.01μ
R3523 4.7K
R3385 4.7K
L3304 100μH
C3402 16V 100μ
C3403 Z-.01μ
R3522 4.7K
C3385 Z-.01μ
Q3307
TP3G
TP3R
R3520 390
R3521 2.7K
R3374 F-1.2K
VR3305 B-20K
R3369 F-27K
R3371 F-10K
GND
REC-HIFI
PB-HIFI
A-FF
AF
GF
PCB-HEAD AMP
R3373 F-3.6K
TP3L
TP3M
R3629 820
VR3301 10K
C3381 16V 100μ
L3303 100μH
C3383 Z-.01μ
R3531 56K
R3630 820
C3560 16V 47μ
IC3312 LA7016
BPF3301 SLC-3196
L3311 100μH
C3463 Z-.01
C3462 16V 100μ
C3561 .01
C3562 .01
R3621 1.5K
C3567 .01
R3622 1.5K
R3625 1.5K
R3626 1.5K
TP3N
BPF3302 SLC-3346
IC3313 LA7016
R3566 56K
C3563 .01
C3564 .01
R3623 1.5K
R3624 1.5K
R3627 1.5K
R3628 1.5K



NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

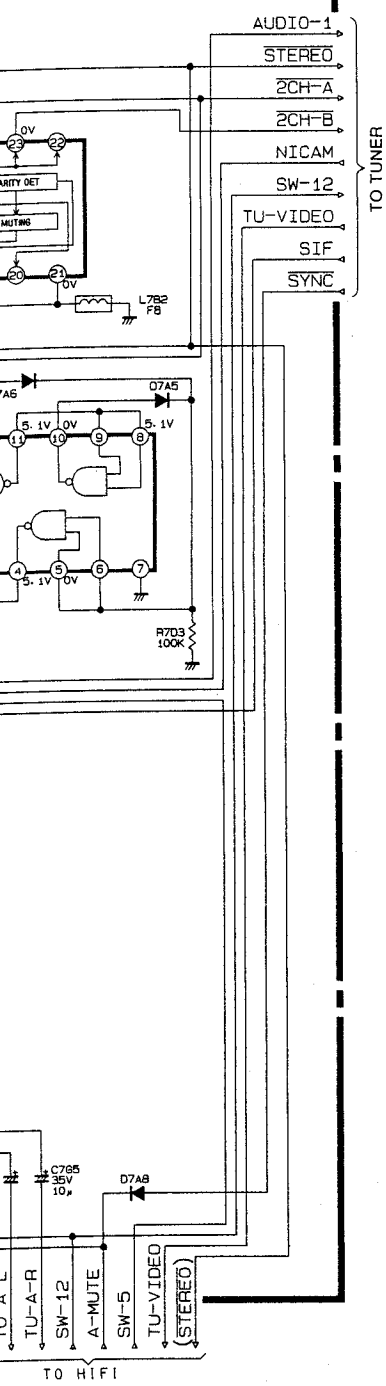
- DIODES ARE DAN202K

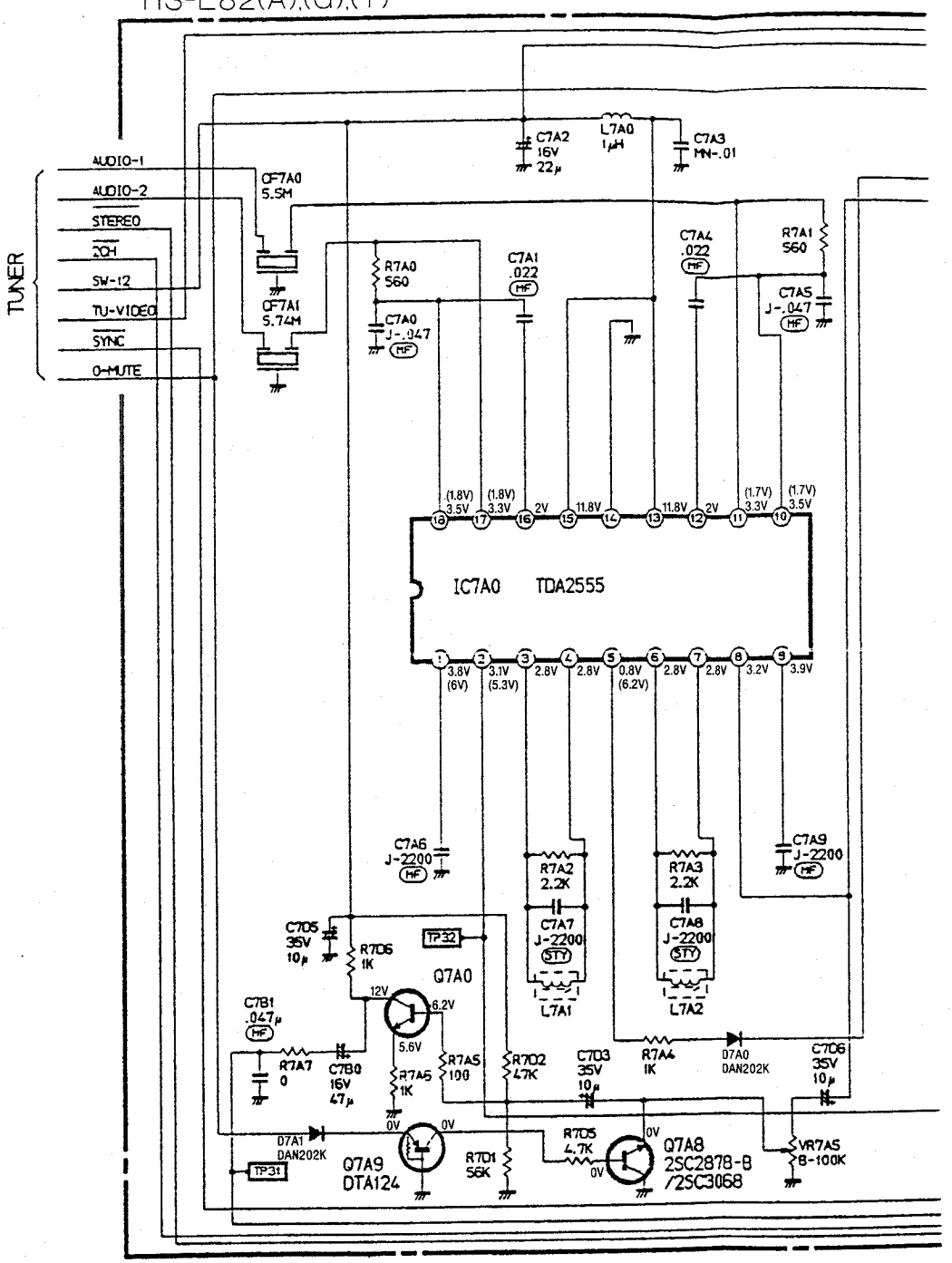


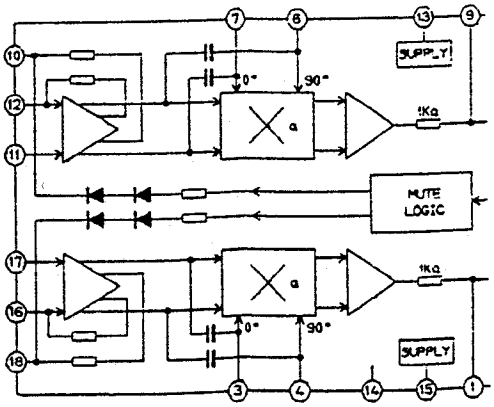
SYMBOL NO. / MODELS	BPF7A0	X7A0	C7B1	R7D5	B	C	C7B2	R7K3	R4	R9
HS-E82(NZ)	2080	5.85MHz	18CH	○	×	×	56CH	680	3.9K	3.9K
HS-E82	2080	5.85MHz	18CH	○	×	×	56CH	680	5.6K	5.6K
HS-B82,HS-E82(IR)	2110	6.552MHz	47CH	×	○	○	56SL	180	5.6K	5.6K

NICAM)PCB-HIFI⚠

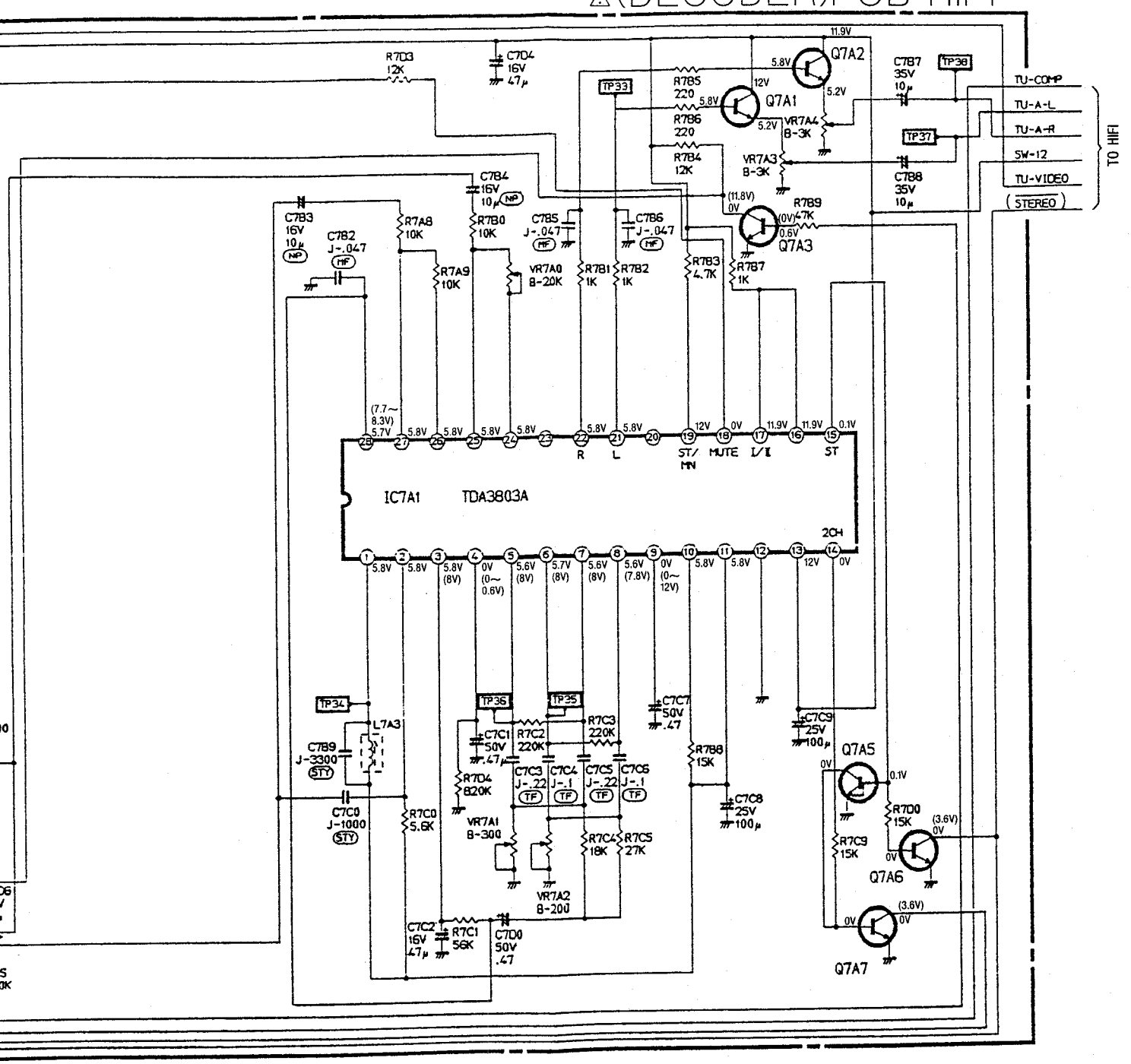
HS-E82(A),(G),(Y)

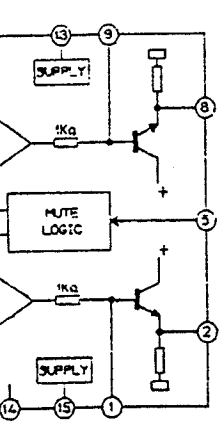


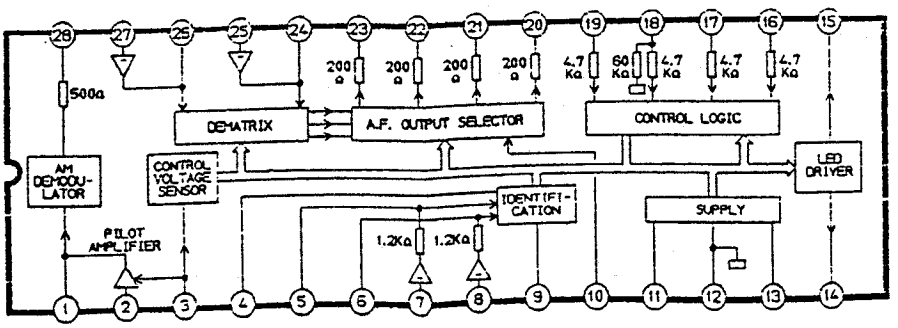




IC7A0 TDA2555



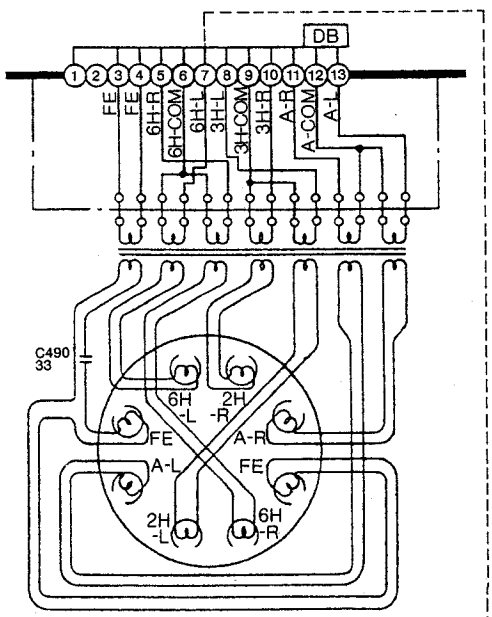


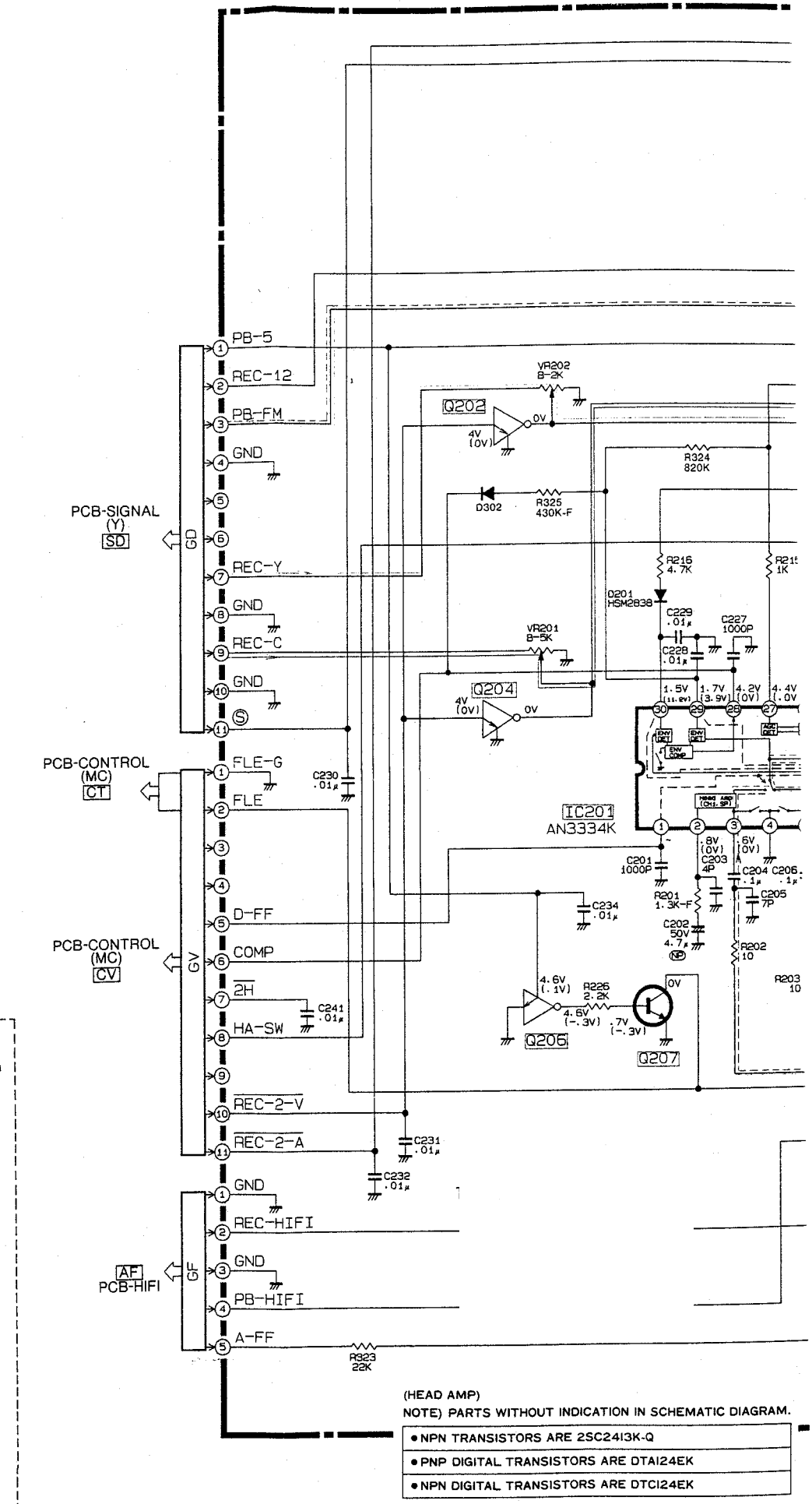


IC7A1 TDA3803A

HS-B82 (4/8)
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)

⚠PCB-HEAD AMP



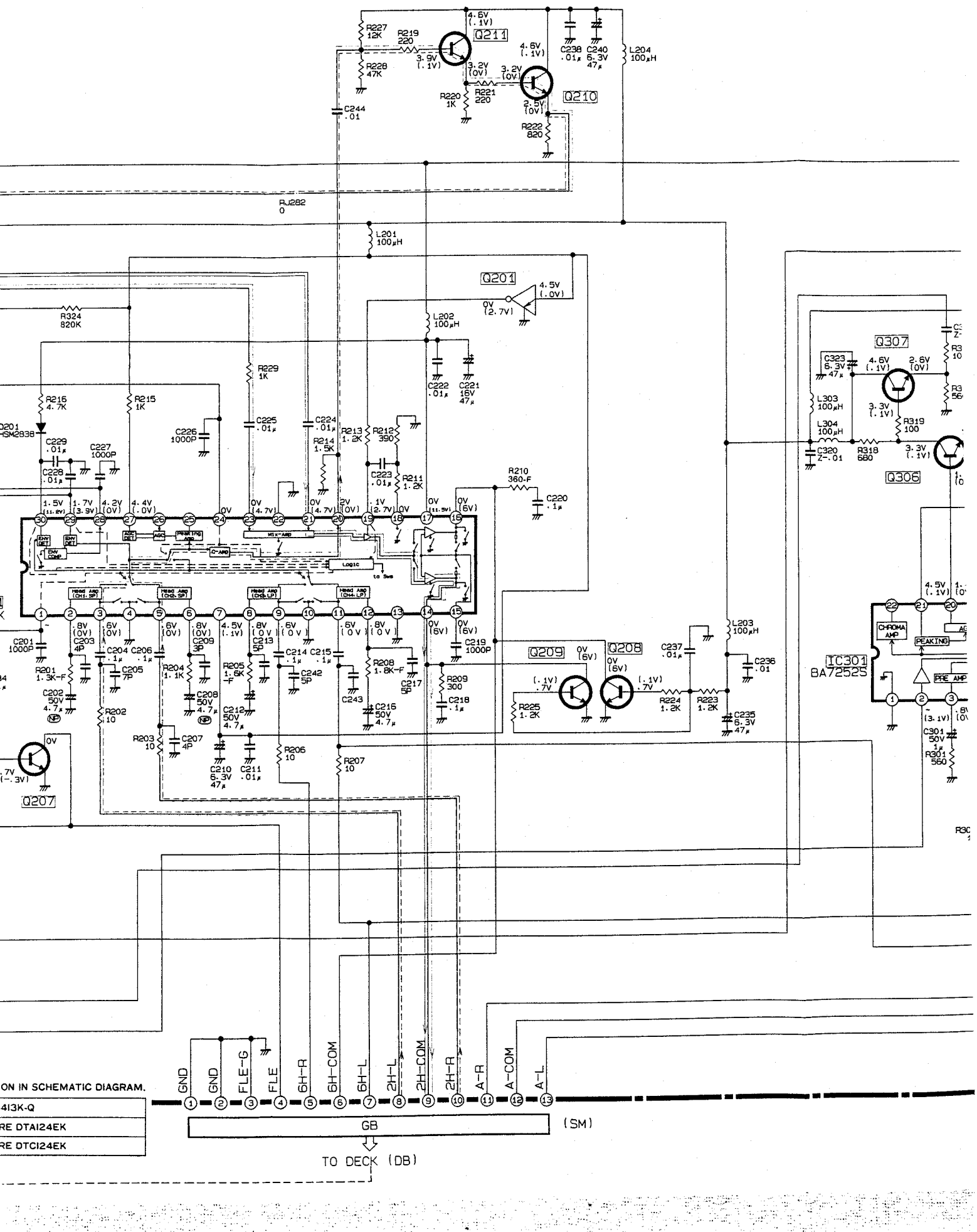


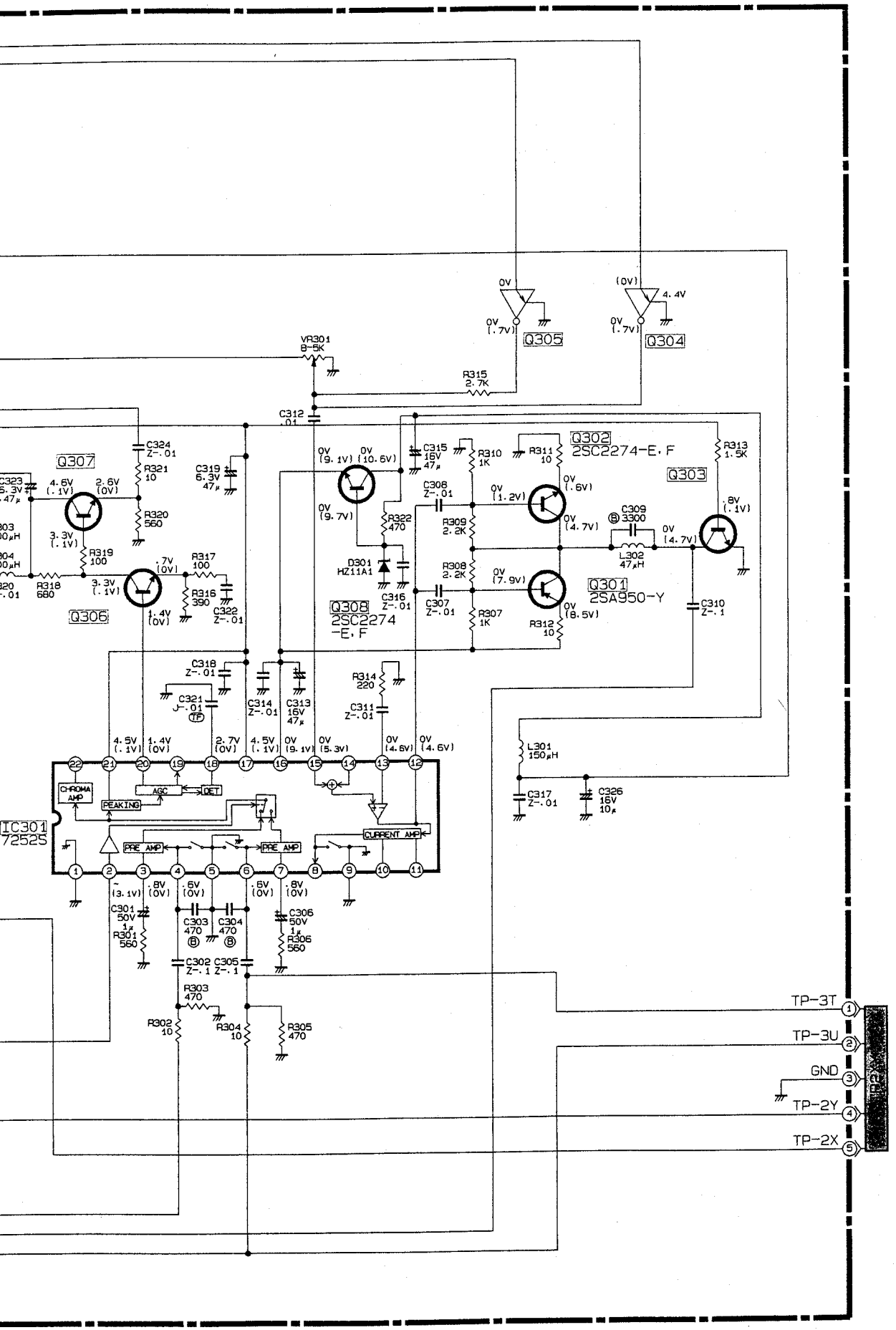
(HEAD AMP)

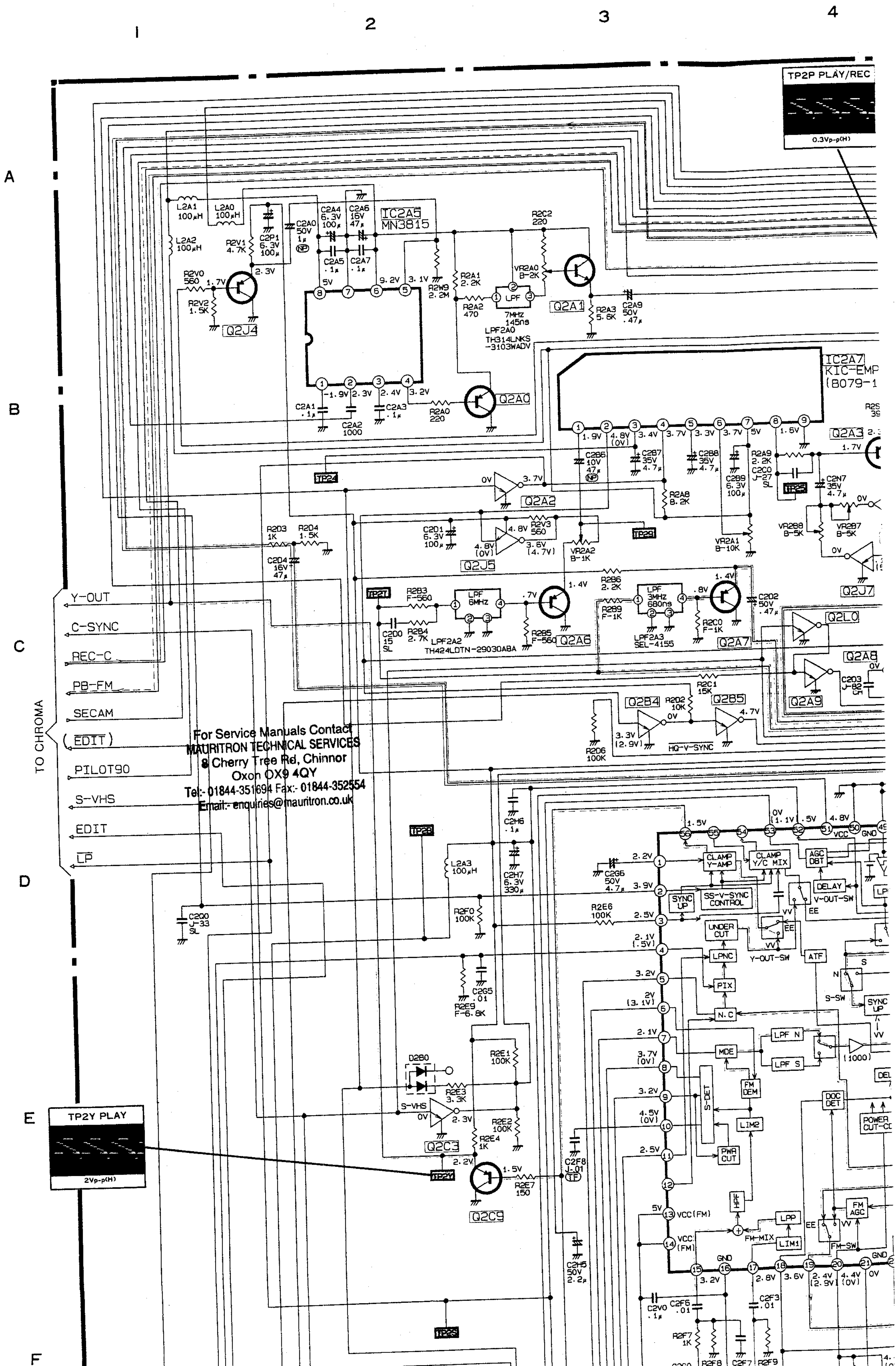
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

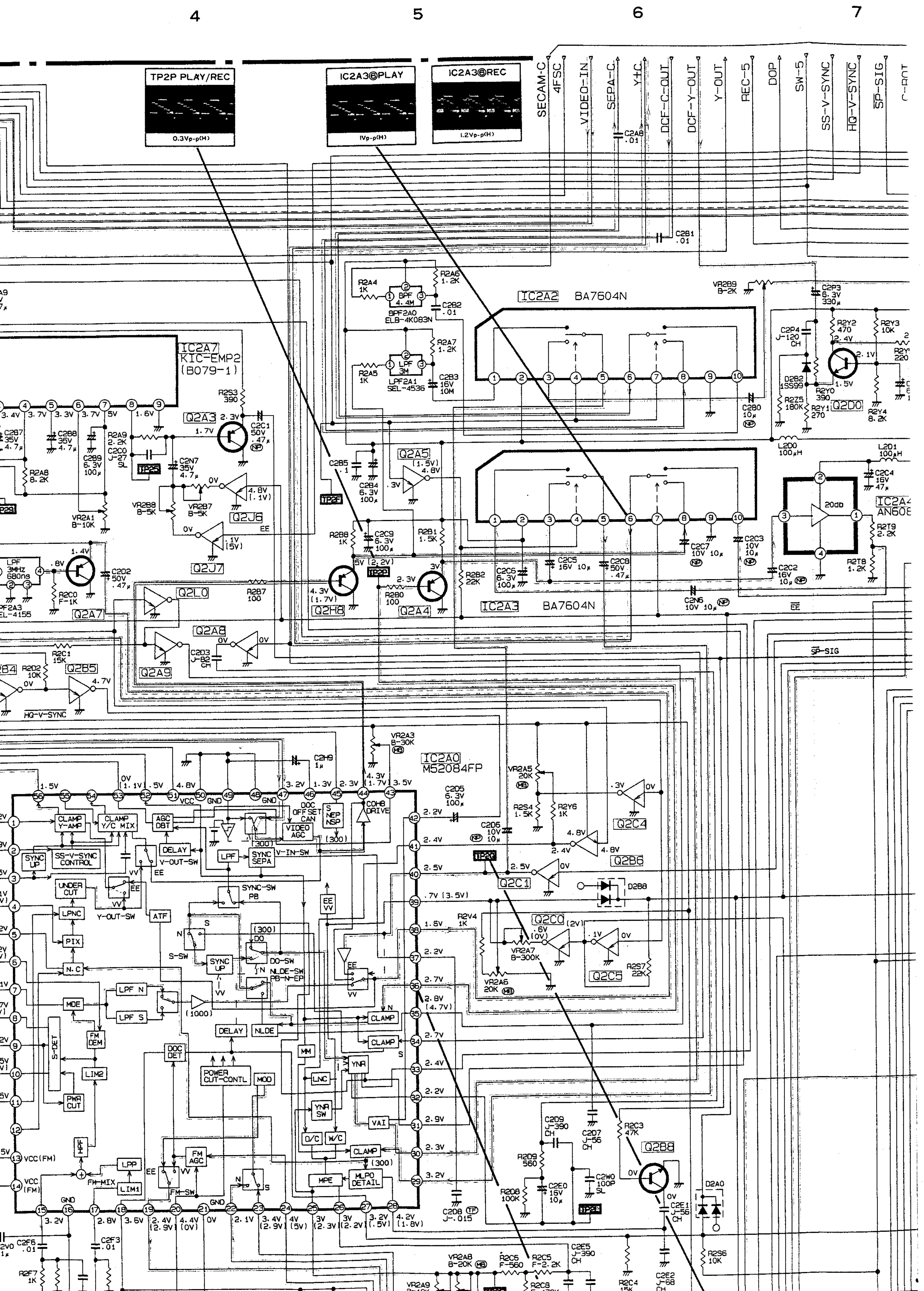
- NPN TRANSISTORS ARE 2SC2413K-Q
- PNP DIGITAL TRANSISTORS ARE DTA124EK
- NPN DIGITAL TRANSISTORS ARE DTC124EK

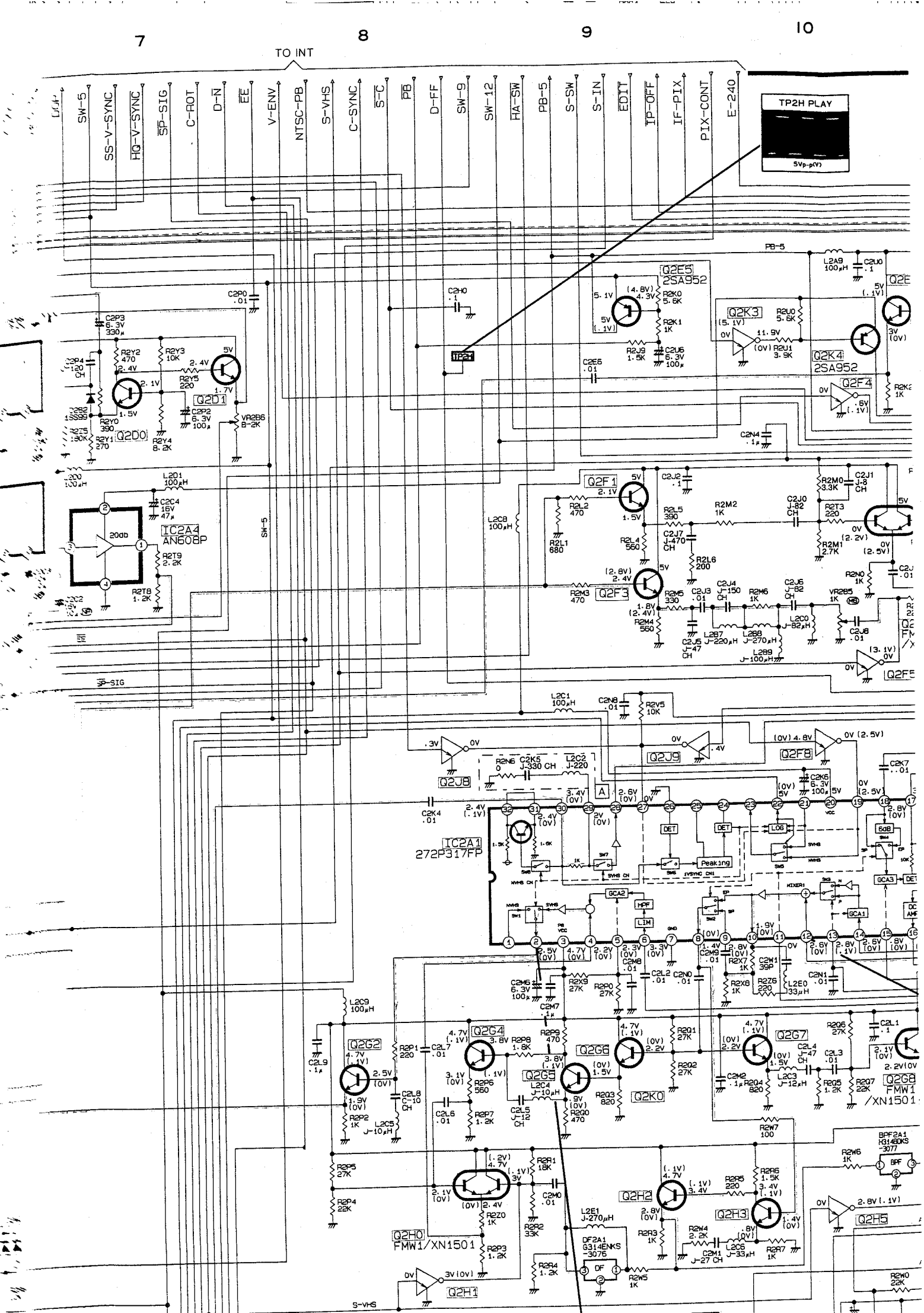
MP

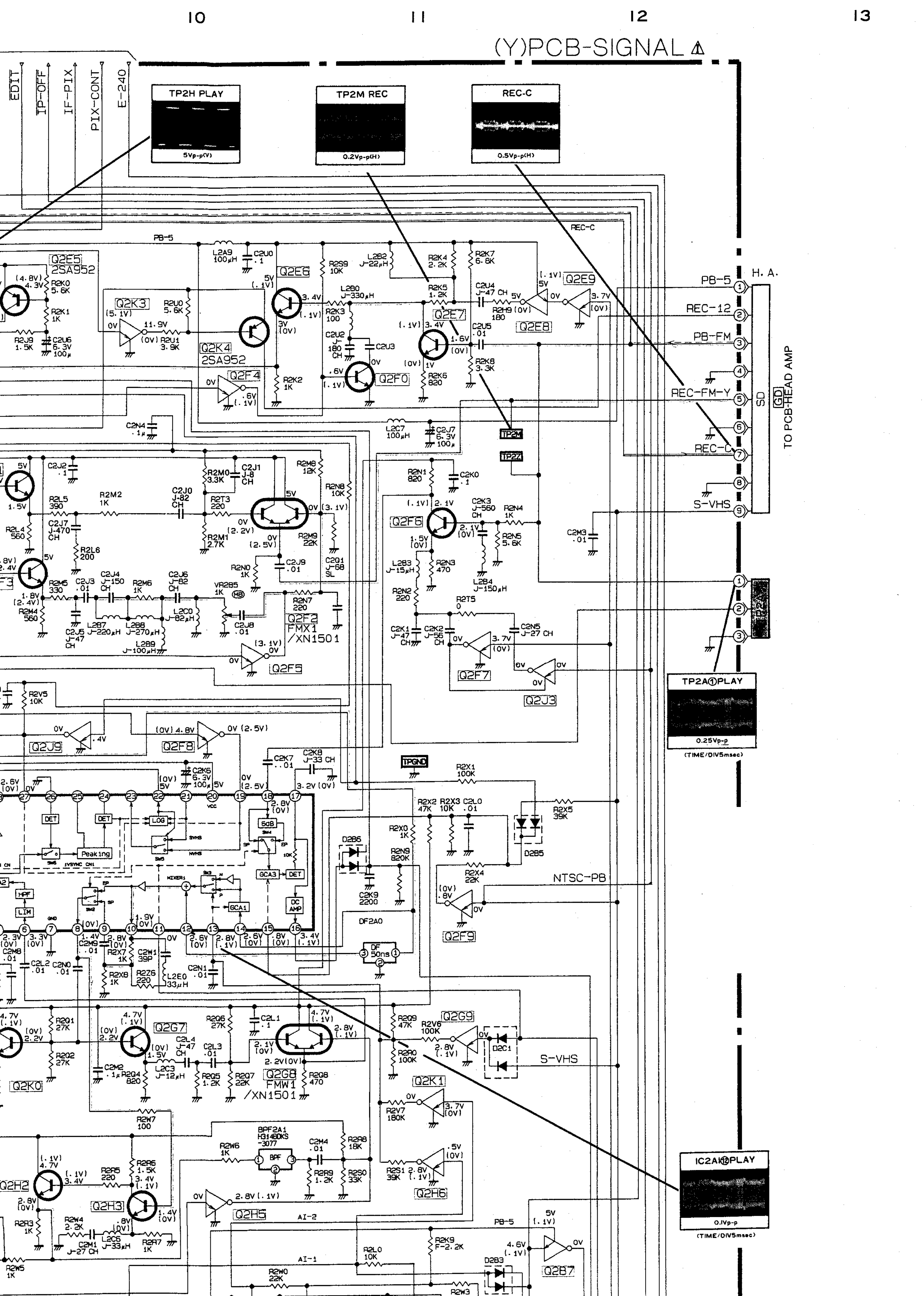

Q211
Q210
Q201
Q207
Q209
Q208
Q307
Q306
IC301
BA7252S
R227 12K
R219 220
R228 47K
R220 1K
R221 220
R222 820
C244 .01
C238 .01μ
C240 6.3V 47μ
L204 100μH
RJ282 0
L201 100μH
L202 100μH
L203 100μH
L303 100μH
L304 100μH
R324 820K
R229 1K
R216 4.7K
R215 1K
R214 1.5K
R213 1.2K
R212 390
R211 1.2K
R210 360-F
C220 .1μ
C222 .01μ
C221 16V 47μ
C225 .01μ
C224 .01μ
C226 1000P
C229 .01μ
C227 1000P
C228 .01μ
C223 .01μ
C323 6.3V 47μ
C320 Z-.01
R319 100
R318 680
C201 1000P
C203 4P
C204 .1μ
C206 .1μ
C205 7P
C209 3P
C208 50V 4.7μ
C202 50V 4.7μ
R201 1.3K-F
R204 1.1K
R205 1.6K-F
C213 5P
C214 .1μ
C215 .1μ
C242 5P
C243
C216 50V 4.7μ
R208 1.8K-F
C217 5P
R209 300
C218 .1μ
C219 1000P
R202 10
R203 10
C207 4P
C210 6.3V 47μ
C211 .01μ
R206 10
R207 10
C237 .01μ
C236 .01
C235 6.3V 47μ
R225 1.2K
R224 1.2K
R223 1.2K
C301 50V 1μ
R301 560
CHROMA AMP
PEAKING
PRE AMP
GND
GND
FLE-G
FLE
6H-R
6H-COM
6H-L
2H-L
2H-COM
2H-R
A-R
A-COM
A-L
GB
(SM)
TO DECK (DB)
ON IN SCHEMATIC DIAGRAM.
4I3K-Q
RE DTAI24EK
RE DTCI24EK


Q305
Q304
VR301
B-5K
R315
2.7K
C312
.01
Q307
Q306
Q302
2SC2274-E, F
Q303
Q301
2SA950-Y
Q308
2SC2274
-E, F
D301
HZ11A1
L302
47μH
L301
150μH
C310
Z-.1
C317
Z-.01
C326
16V
10μ
CHROMA AMP
AGC
DET
PEAKING
PRE AMP
PRE AMP
CURRENT AMP
IC301
7252S
TP-3T
TP-3U
GND
TP-2Y
TP-2X
CN301

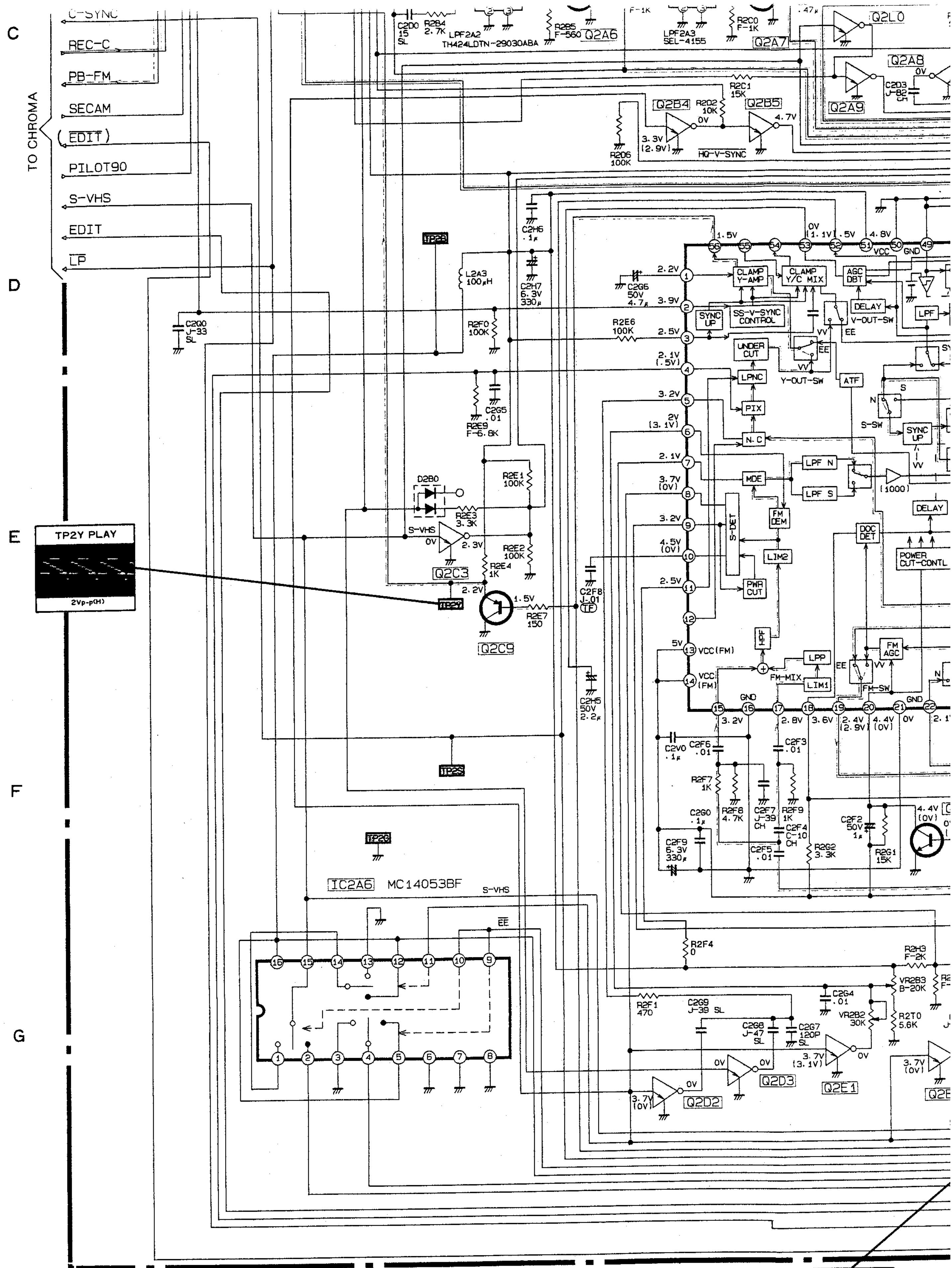

TP2P PLAY/REC
0.3Vp-p(H)
IC2A5
MN3815
IC2A7
KIC-EMP
(B079-1
LPF2A0
TH314LNKS
-3103WADV
LPF2A2
TH424LDTN-29030ABA
LPF2A3
SEL-4155
Q2J4
Q2A0
Q2A1
Q2A2
Q2J5
Q2A6
Q2A7
Q2A3
Q2J7
Q2L0
Q2A8
Q2A9
Q2B4
Q2B5
Q2C3
Q2C9
HQ-V-SYNC
TO CHROMA
Y-OUT
C-SYNC
REC-C
PB-FM
SECAM
(EDIT)
PILOT90
S-VHS
EDIT
LP
TP2Y PLAY
2Vp-p(H)
CLAMP Y-AMP
CLAMP Y/C MIX
AGC DET
DELAY
SYNC UP
SS-V-SYNC CONTROL
V-OUT-SW
UNDER CUT
Y-OUT-SW
LPNC
ATF
PIX
S-SW
N.C
LPF N
LPF S
MDE
FM DEM
S-DET
LIM2
DOC DET
POWER CUT-CO
PWR CUT
HPF
LPP
LIM1
FM-MIX
FM AGC
FM-SW
VCC(FM)
GND


4
5
6
7
TP2P PLAY/REC
0.3Vp-p(H)
IC2A3⑥PLAY
1Vp-p(H)
IC2A3⑥REC
1.2Vp-p(H)
SECAM-C
4FSC
VIDEO-IN
SEPA-C
Y+C
DCF-C-OUT
DCF-Y-OUT
Y-OUT
REC-5
DOP
SW-5
SS-V-SYNC
HQ-V-SYNC
SP-SIG
C2A8 .01
C2B1 .01
R2A4 1K
BPF 4.4M
BPF2A0 ELB-4K083N
R2A6 1.2K
C2B2 .01
R2A7 1.2K
LPF 3M
R2A5 1K
LPF2A1 SEL-4536
C2B3 16V 10M
IC2A2 BA7604N
VR2B9 B-2K
C2P3 6.3V 330μ
C2P4 J-120 CH
R2Y2 470
R2Y3 10K
D2B2 1SS99
R2Z5 180K
R2Y0 390
R2Y1 270
Q2D0
R2Y4 8.2K
C2B0 10μ
L200 100μH
L2D1 100μH
C2C4 16V 47μ
IC2A7 KIC-EMP2 (B079-1)
R2S3 390
Q2A3
C2C1 50V .47μ
C2B7 35V 4.7μ
C2B8 35V 4.7μ
C2B9 6.3V 100μ
R2A9 2.2K
C2C0 J-27 SL
TP25
C2N7 35V 4.7μ
R2A8 8.2K
VR2A1 B-10K
VR2B8 B-5K
VR2B7 B-5K
Q2J6
Q2J7
C2B5 .1
C2B4 6.3V 100μ
TP2F
Q2A5
R2B8 1K
C2C9 6.3V 100μ
R2B1 1.5K
TP2P
R2B2 22K
IC2A3 BA7604N
C2C5 16V 10μ
C2C6 6.3V 100μ
C2C8 50V .47μ
C2C7 10V 10μ
C2C3 10V 10μ
C2C2 16V 10μ
C2N6 10V 10μ
IC2A4 AN608
20db
R2T9 2.2K
R2T8 1.2K
LPF 3MHz 680ns
PF2A3 SEL-4155
R2C0 F-1K
C2O2 50V .47μ
Q2A7
Q2L0
R2B7 100
Q2H8
R2B0 100
Q2A4
Q2A8
C2D3 J-82 CH
Q2A9
R2C1 15K
R2D2 10K
Q2B5
HQ-V-SYNC
SP-SIG
VR2A3 B-30K
C2H9 1μ
IC2A0 M52084FP
VR2A5 20K
R2S4 1.5K
R2Y6 1K
Q2C4
C2D5 6.3V 100μ
C2D6 10V 10μ
Q2B6
TP2Q
Q2C1
D2B8
Q2C0
VR2A7 B-300K
R2V4 1K
VR2A6 20K
R2S7 22K
Q2C5
CLAMP Y-AMP
CLAMP Y/C MIX
AGC DET
VIDEO AGC
DOC OFFSET CAN
S NEP NSP
COMB DRIVE
SYNC UP
SS-V-SYNC CONTROL
DELAY
V-OUT-SW
LPF
SYNC SEPA
V-IN-SW
UNDER CUT
Y-OUT-SW
LPNC
ATF
SYNC-SW PB
PIX
S-SW
N.C
SYNC UP
DO-SW
NLDE-SW PB-N-EP
LPF N
LPF S
MDE
FM DEM
S-DET
DELAY
NLDE
CLAMP
DOC DET
POWER CUT-CONTL
MOD
MM
YNR
LNC
YNR SW
VAI
D/C
W/C
CLAMP
LIM2
PWR CUT
HPF
LPF
FM AGC
FM-MIX
LIM1
FM-SW
MPE
MLPO DETAIL
VCC(FM)
GND
C2D9 J-390 CH
C2D7 J-56 CH
R2C3 47K
Q2B8
R2D9 560
C2E0 16V 10μ
C2W0 100P SL
TP2E
R2D8 100K
C2D8 J-.015
D2A0
C2E1 J-56 CH
R2S6 10K
C2E5 J-390 CH
VR2A8 B-20K
R2C6 F-560
R2C5 F-2.2K
R2C4 15K
C2E2 J-68 CH
C2F6 .01
C2F3 .01
R2F7 1K

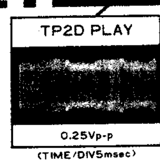

7
8
9
10
TO INT
SW-5
SS-V-SYNC
HQ-V-SYNC
SP-SIG
C-ROT
D-N
EE
V-ENV
NTSC-PB
S-VHS
C-SYNC
S-C
PB
D-FF
SW-9
SW-12
HA-SW
PB-5
S-SW
S-IN
EDIT
TP-OFF
IF-PIX
PIX-CONT
E-240
TP2H PLAY
5Vp-p(V)
TP2H
Q2E5 2SA952
Q2K3
Q2K4 2SA952
Q2F4
Q2D0
Q2D1
IC2A4 AN608P
Q2F1
Q2F3
Q2F5
Q2J8
Q2J9
Q2F8
IC2A1 272P317FP
Q2G2
Q2G4
Q2G5
Q2G6
Q2K0
Q2G7
Q2G8 FMW1 /XN1501
Q2H0 FMW1/XN1501
Q2H1
Q2H2
Q2H3
Q2H5
BPF2A1 H3148DKS -3077
DF2A1 G314ENKS -3076
SP-SIG
S-VHS



10
11
12
13
(Y)PCB-SIGNAL
EDIT
TP-OFF
IF-PIX
PIX-CONT
E-240
TP2H PLAY
5Vp-p(V)
TP2M REC
0.2Vp-p(H)
REC-C
0.5Vp-p(H)
PB-5
REC-C
Q2E5
2SA952
Q2K3
Q2K4
2SA952
Q2E6
Q2F4
Q2F0
Q2E7
Q2E8
Q2E9
H. A.
PB-5
REC-12
PB-FM
REC-FM-Y
REC-C
S-VHS
SD
TO PCB-HEAD AMP
TP2M
TP2Z
Q2F6
Q2F2
FMX1
/XN1501
Q2F5
Q2F7
Q2J3
TP2A①PLAY
0.25Vp-p
(TIME/DIV5msec)
Q2J9
Q2F8
TPGND
D2B6
D2B5
NTSC-PB
Q2F9
DF2A0
DF
50ns
Q2G7
Q2G8
FMW1
/XN1501
Q2G9
D2C1
S-VHS
Q2K0
Q2K1
BPF2A1
H314BDKS
-3077
BPF
Q2H2
Q2H3
Q2H5
Q2H6
AI-2
AI-1
PB-5
Q2B7
D2B3
IC2A⑫PLAY
0.1Vp-p
(TIME/DIV5msec)



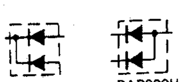
C
D
E
F
G
H
TO CHROMA
C-SYNC
REC-C
PB-FM
SECAM
(EDIT)
PILOT90
S-VHS
EDIT
LP
TP2Y PLAY
2Vp-p(H)
TP2B
TP2Y
TP2S
TP2G
Q2A6
Q2A7
Q2A8
Q2A9
Q2B4
Q2B5
Q2L0
Q2C3
Q2C9
Q2D2
Q2D3
Q2E1
HQ-V-SYNC
LPF2A2 TH424LDTN-29030ABA
LPF2A3 SEL-4155
D2B0
IC2A6 MC14053BF
CLAMP Y-AMP
CLAMP Y/C MIX
AGC DET
DELAY
V-OUT-SW
LPF
SYNC UP
SS-V-SYNC CONTROL
UNDER CUT
LPNC
Y-OUT-SW
ATF
PIX
N.C
S-SW
LPF N
LPF S
MDE
FM DEM
S-DET
LIM2
PWR CUT
DOC DET
POWER CUT-CONTL
HPF
LPP
LIM1
FM-MIX
FM AGC
FM-SW
VCC(FM)
GND



(Y)

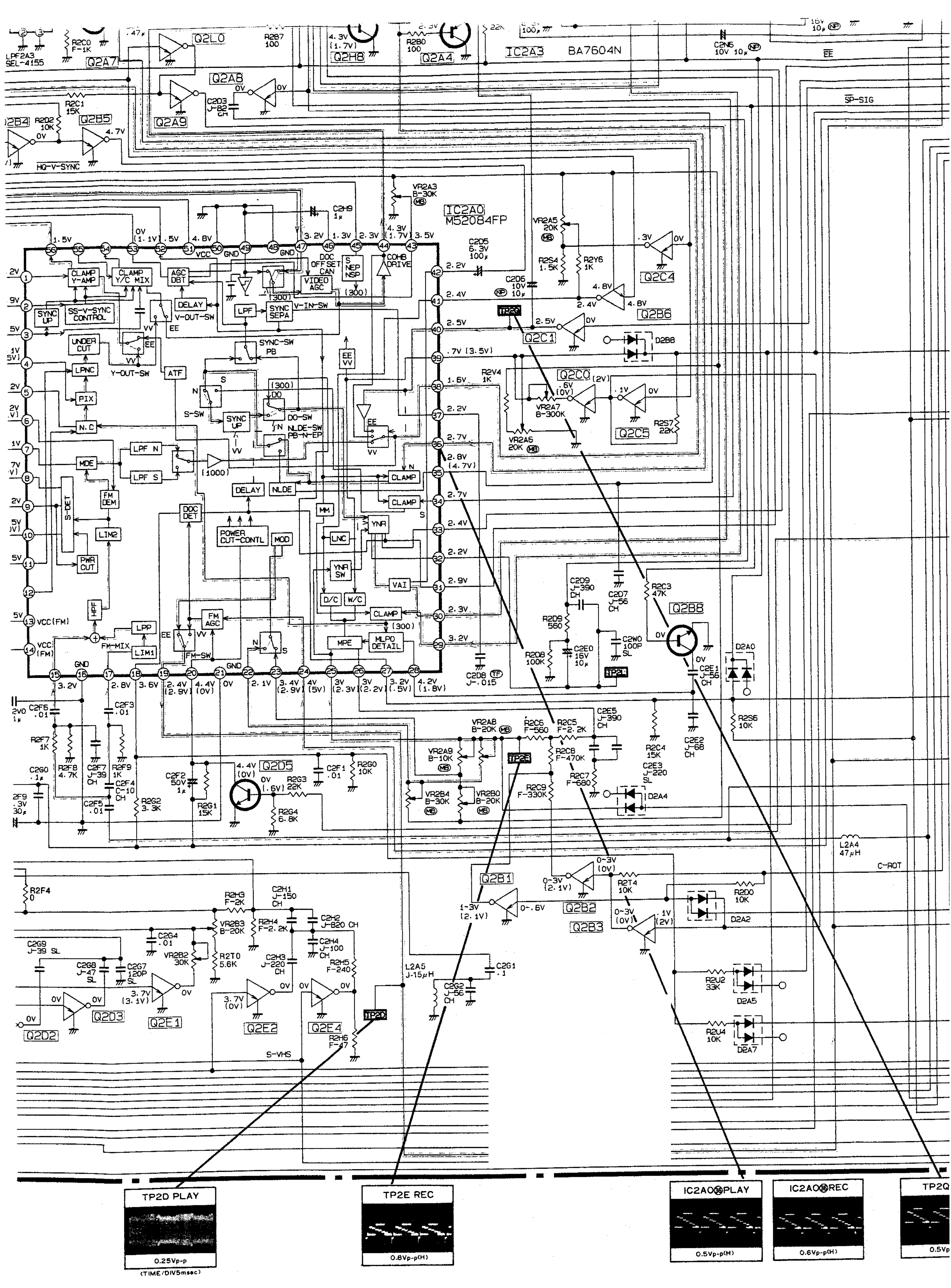
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

• PNP TRANSISTORS ARE 2SA1576-R
• NPN TRANSISTORS ARE 2SC4081-R
• PNP DIGITAL TRANSISTORS ARE DTA124EU
• NPN DIGITAL TRANSISTORS ARE DTC124EU

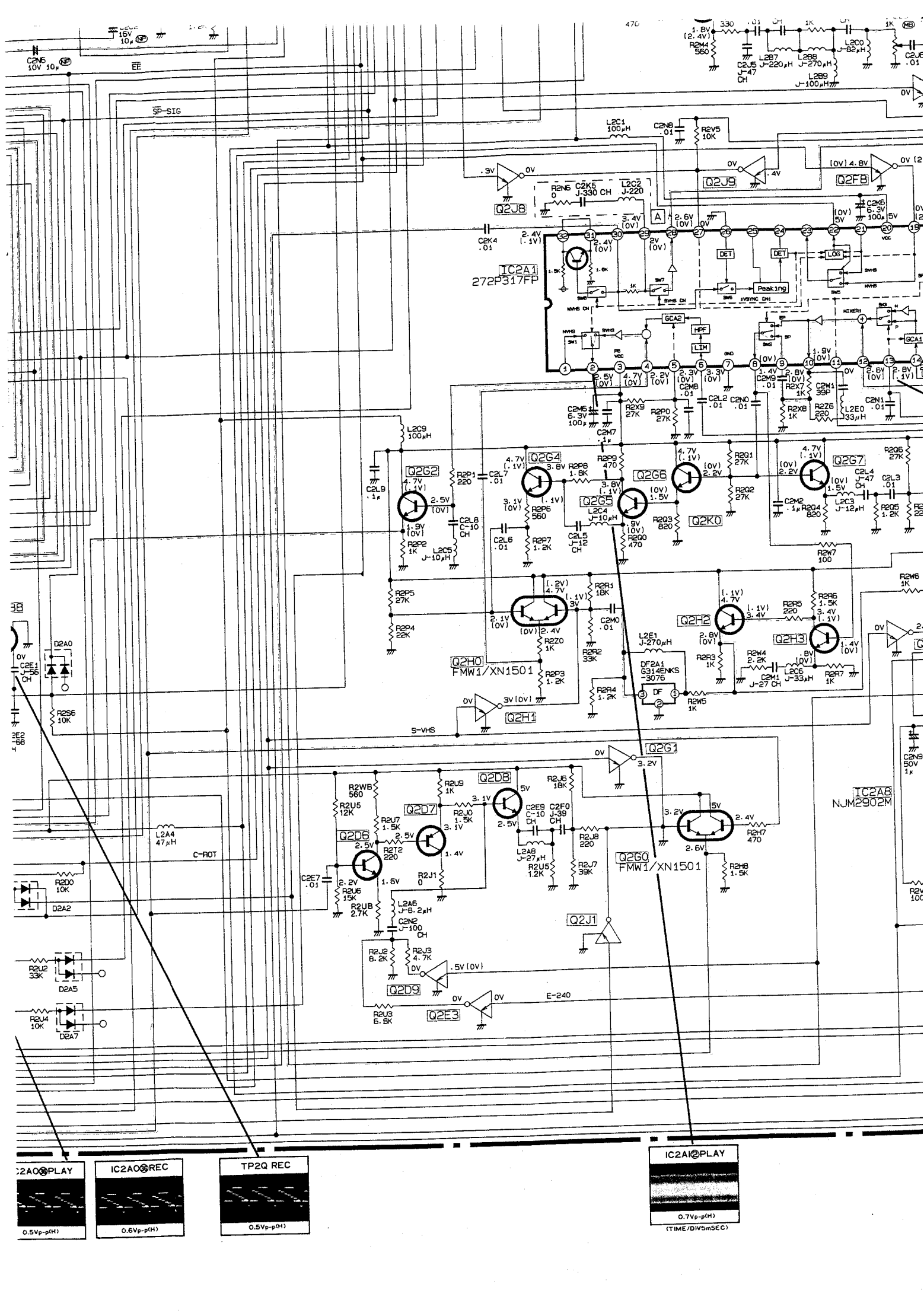


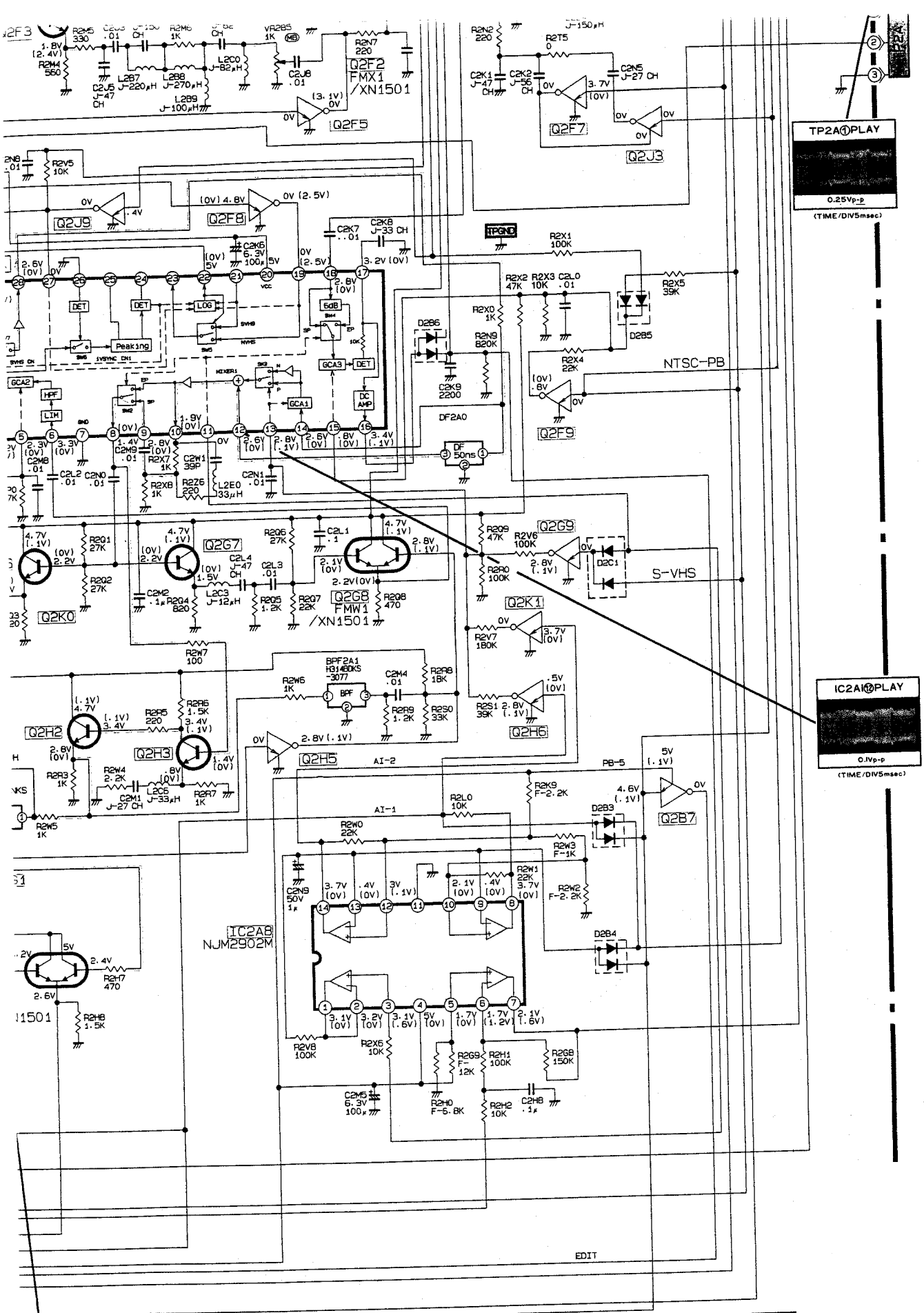
DAN202U /MA142WK

DAP202U /MA142WA

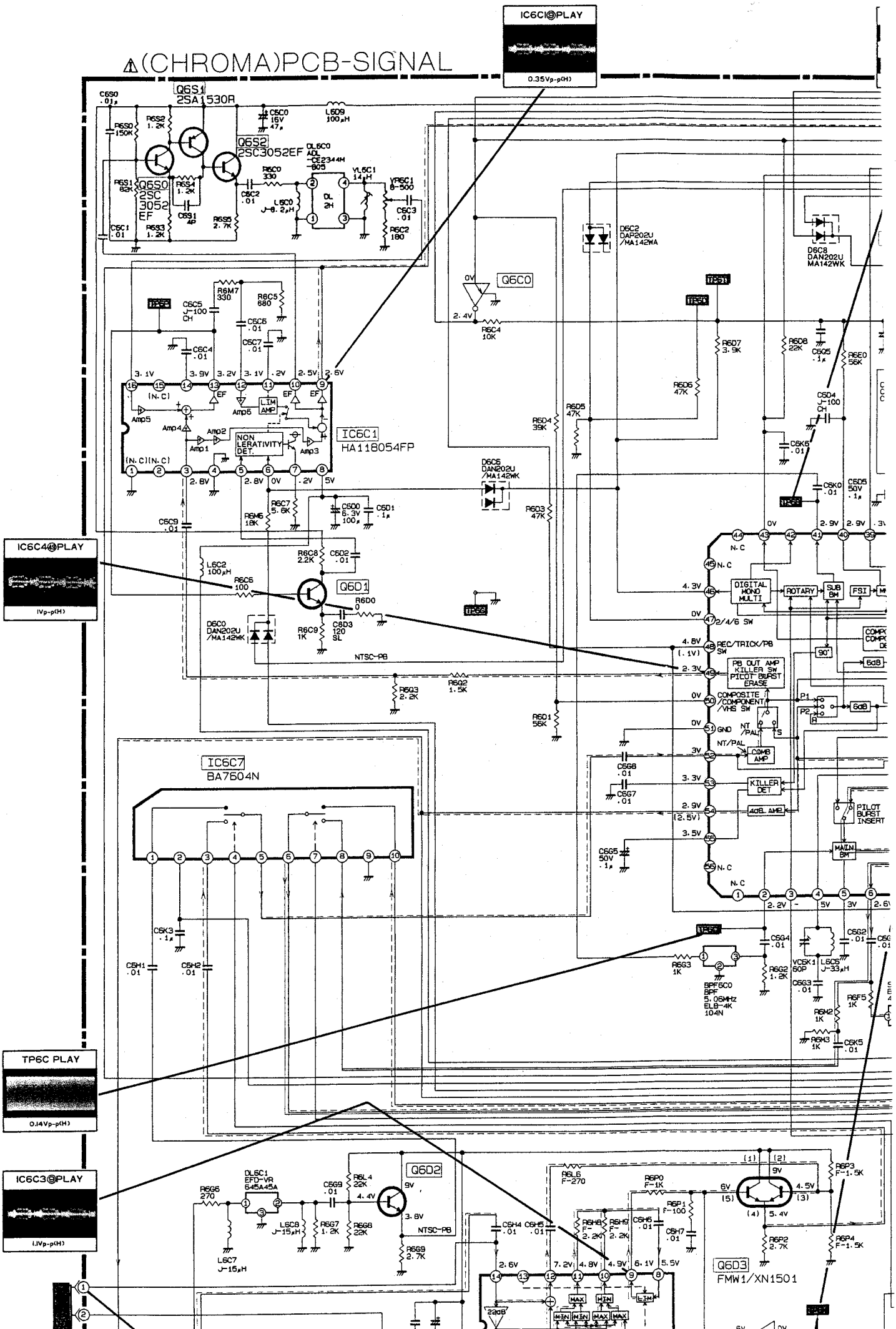


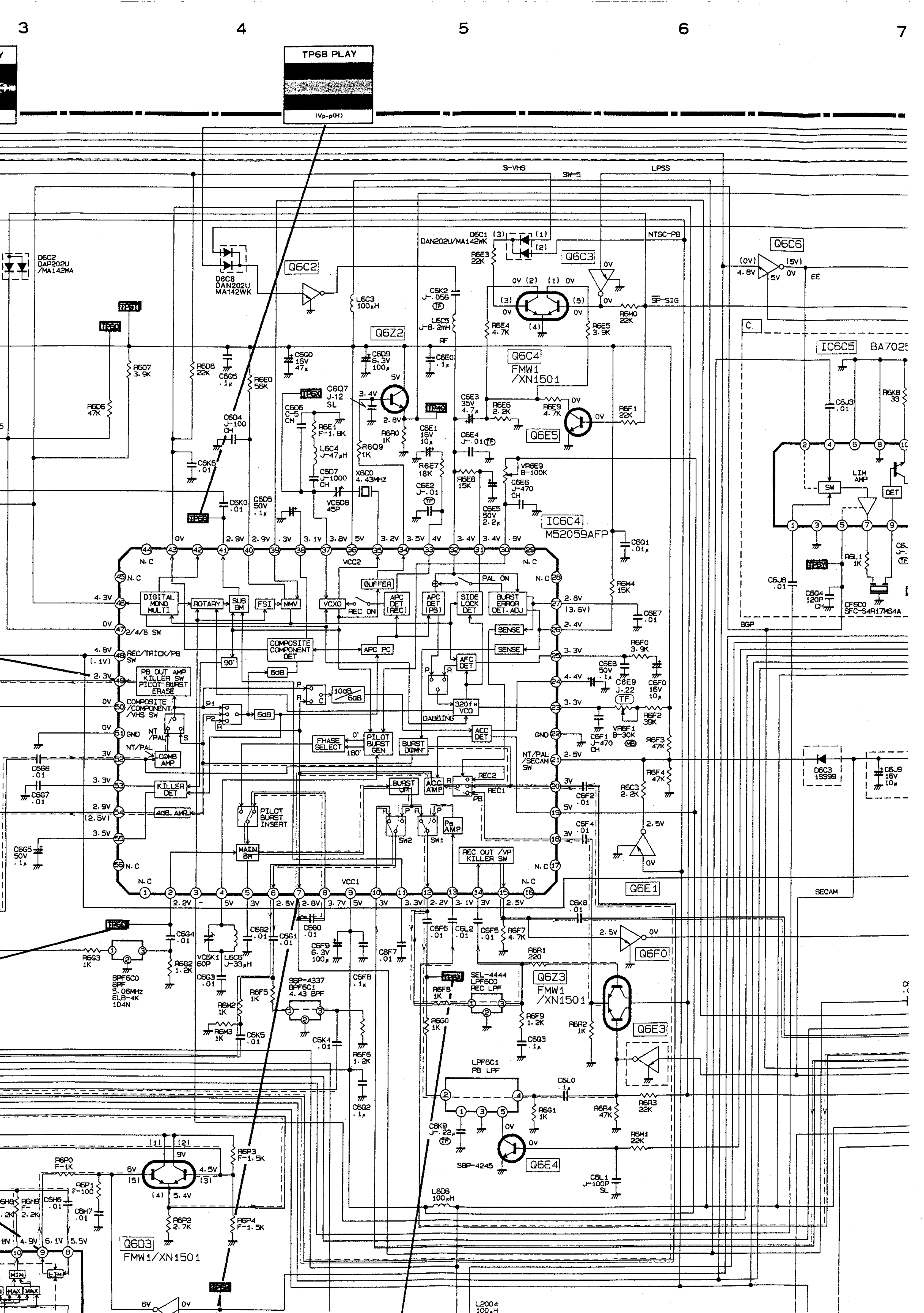
IC2A0
M52084FP
IC2A3
BA7604N
LPF2A3
SEL-4155
Q2L0
Q2A7
Q2A8
Q2A9
Q2B4
Q2B5
Q2H8
Q2A4
HQ-V-SYNC
SP-SIG
EE
VR2A3
B-30K
VR2A5
20K
CLAMP
Y-AMP
CLAMP
Y/C MIX
AGC
DBT
VIDEO
AGC
DOC
OFF SET
CAN
S
NEP
NSP
COHB
DRIVE
SYNC
UP
SS-V-SYNC
CONTROL
DELAY
V-OUT-SW
LPF
SYNC
SEPA
V-IN-SW
UNDER
CUT
LPNC
Y-OUT-SW
ATF
SYNC-SW
PB
EE
VV
PIX
N.C
S-SW
SYNC
UP
DO-SW
NLDE-SW
PB-N-EP
MDE
LPF N
LPF S
FM
DEM
S-DET
LIM2
PWR
CUT
DELAY
NLDE
CLAMP
CLAMP
DOC
DET
POWER
CUT-CONTL
MOD
MM
LNC
YNR
YNR
SW
VAI
D/C
W/C
CLAMP
HPF
LPP
LIM1
FM-MIX
FM
AGC
FM-SW
MPE
MLPO
DETAIL
VCC(FM)
GND
Q2C4
Q2B6
Q2C1
Q2C0
Q2C5
D2B8
VR2A7
B-300K
VR2A6
20K
R2S7
22K
Q2B8
R2C3
47K
D2A0
C2E1
J-56
CH
R2S6
10K
TP2Q
TP2L
VR2A8
B-20K
VR2A9
B-10K
VR2B4
B-30K
VR2B0
B-20K
TP2E
R2C6
F-560
R2C5
F-2.2K
R2C8
F-470K
R2C7
F-680
R2C9
F-330K
D2A4
Q2D5
Q2B1
Q2B2
Q2B3
D2A2
L2A4
47μH
C-ROT
R2D0
10K
D2A5
D2A7
R2U2
33K
R2U4
10K
VR2B3
B-20K
VR2B2
30K
Q2D2
Q2D3
Q2E1
Q2E2
Q2E4
TP2D
R2H6
F-47
S-VHS
L2A5
J-15μH
TP2D PLAY
0.25Vp-p
(TIME/DIV5msec)
TP2E REC
0.8Vp-p(H)
IC2A0㊱PLAY
0.5Vp-p(H)
IC2A0㊱REC
0.6Vp-p(H)
TP2Q
0.5Vp

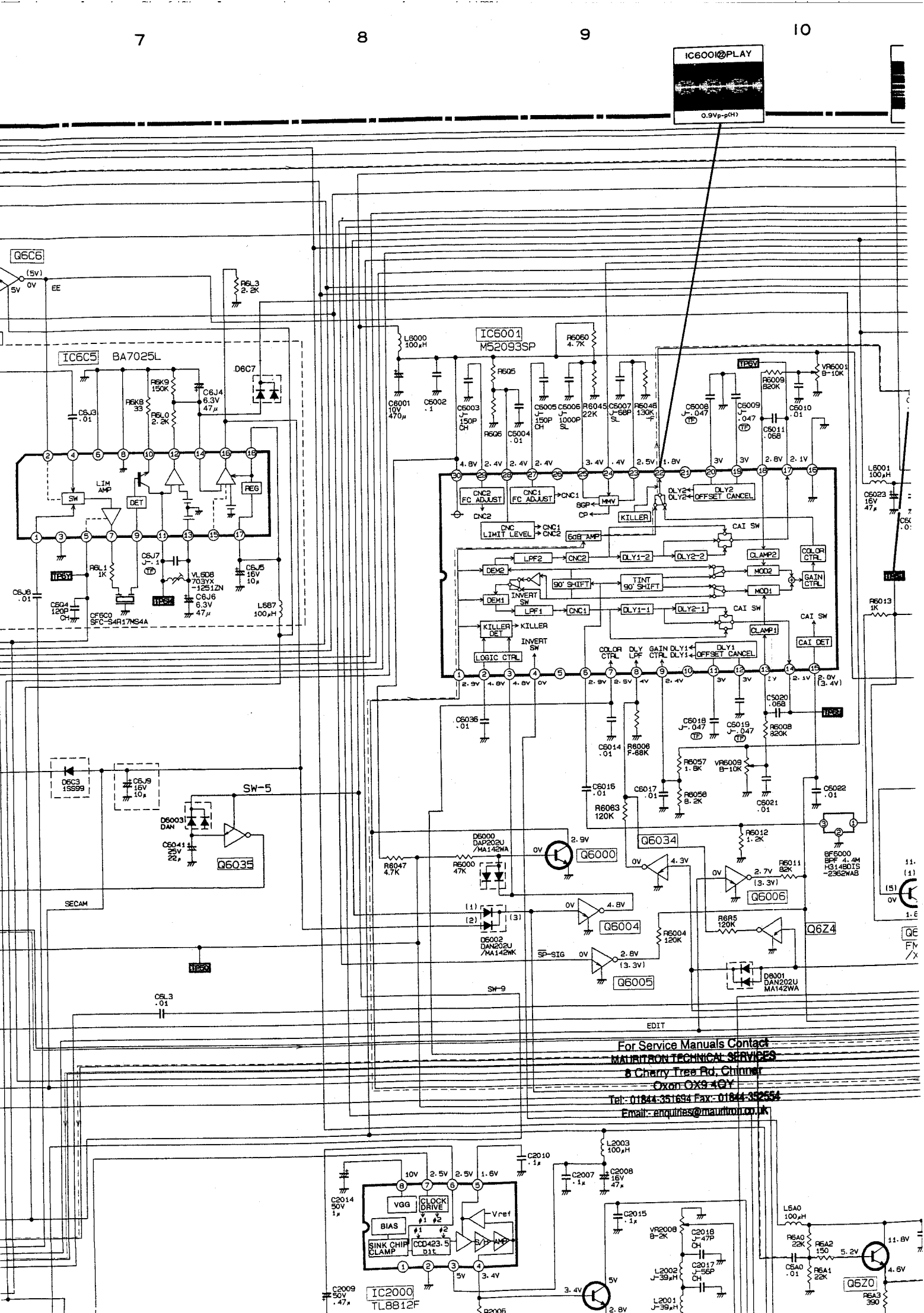

IC2A1
272P317FP
Q2J8
Q2J9
Q2FB
Q2G2
Q2G4
Q2G5
Q2G6
Q2K0
Q2G7
Q2H0
FMW1/XN1501
Q2H1
Q2H2
Q2H3
Q2G1
Q2D8
Q2D7
Q2D6
Q2G0
FMW1/XN1501
Q2J1
Q2D9
Q2E3
IC2A8
NJM2902M
S-VHS
C-ROT
E-240
D2A0
D2A2
D2A5
D2A7
IC2A0 PLAY
0.5Vp-p(H)
IC2A0 REC
0.6Vp-p(H)
TP2Q REC
0.5Vp-p(H)
IC2A1 PLAY
0.7Vp-p(H)
(TIME/DIV5mSEC)

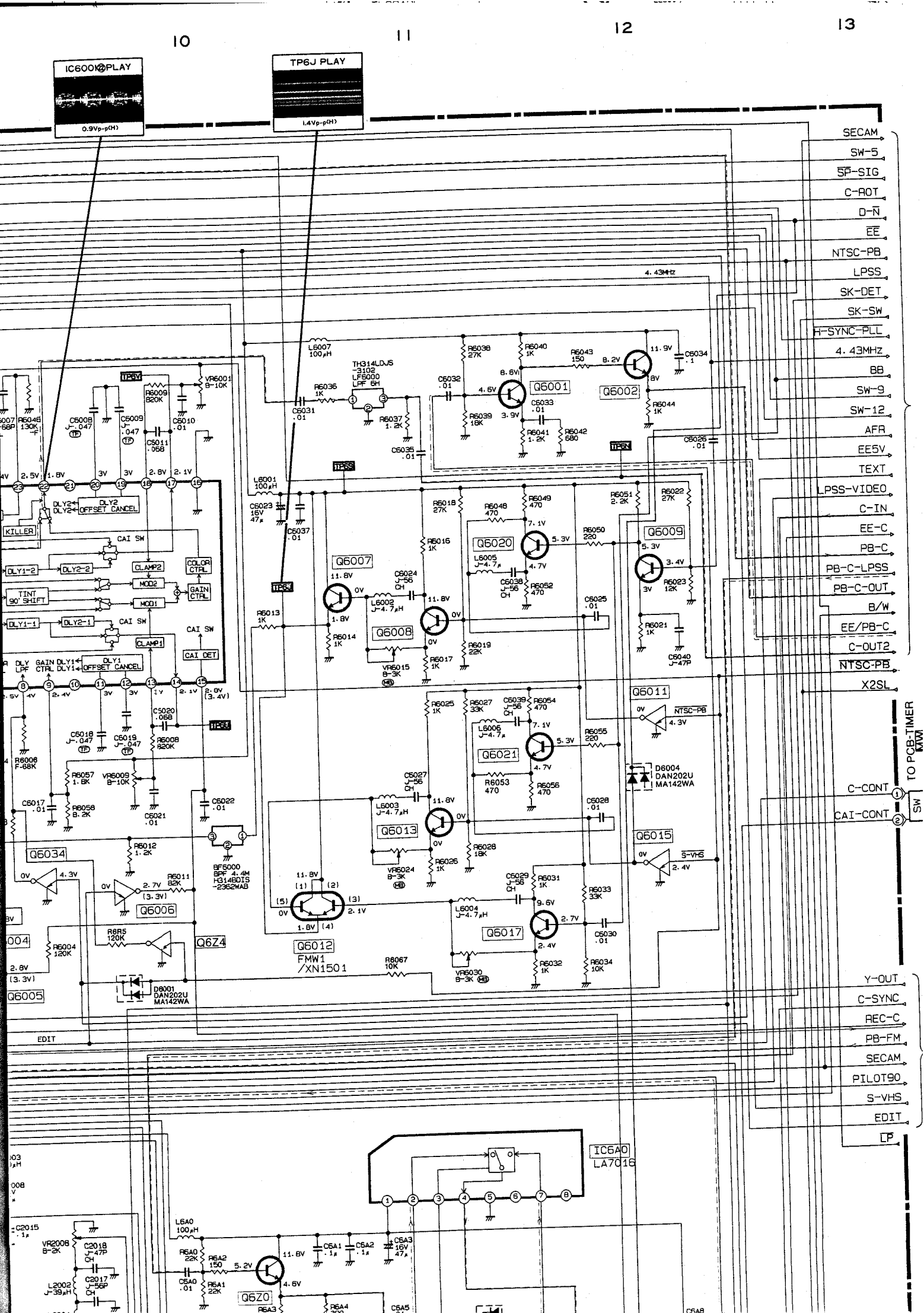


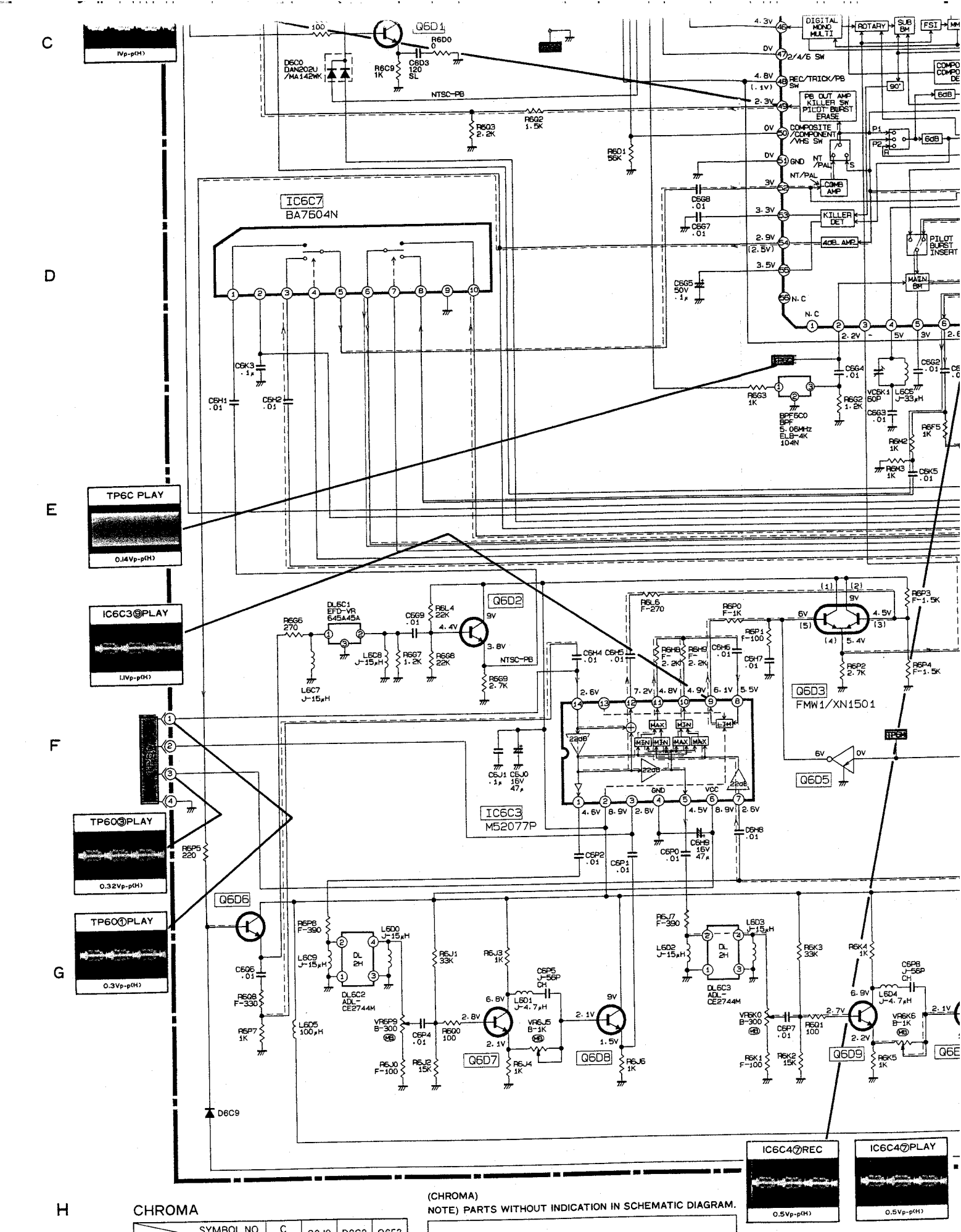
HS-B82 (5/8)
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)


1
2
3
4
A
B
C
D
E
F
⚠(CHROMA)PCB-SIGNAL
IC6C1 PLAY
0.35Vp-p(H)
Q6S1
2SA1530R
Q6S2
2SC3052EF
Q6S0
2SC 3052 EF
Q6C0
IC6C1
HA118054FP
NON LERATIVITY DET.
LIM AMP
IC6C4 PLAY
IVp-p(H)
Q6D1
NTSC-PB
IC6C7
BA7604N
TP6C PLAY
0.14Vp-p(H)
IC6C3 PLAY
1.1Vp-p(H)
Q6D2
Q6D3
FMW1/XN1501
DIGITAL MONO MULTI
ROTARY
SUB BM
FSI
REC/TRICK/PB SW
PB OUT AMP KILLER SW PICOT BURST ERASE
COMPOSITE /COMPONENT /VHS SW
COMB AMP
KILLER DET
PILOT BURST INSERT
MAIN BM
BPF6C0 BPF 5.06MHz ELB-4K 104N


3
4
5
6
7
TP6B PLAY
1Vp-p(H)
S-VHS
SW-5
LPSS
NTSC-PB
D6C2 DAP202U /MA142WA
D6C8 DAN202U MA142WK
D6C1 DAN202U/MA142WK
Q6C2
Q6C3
Q6C4 FMW1 /XN1501
Q6C5
Q6C6
Q6E5
Q6Z2
SP-SIG
EE
IC6C5 BA7025
IC6C4 M52059AFP
DIGITAL MONO MULTI
ROTARY
SUB BM
FSI
MMV
VCXO
REC ON
APC DET (REC)
APC DET (PB)
SIDE LOCK DET
BURST ERROR DET. ADJ
BUFFER
PAL ON
SENSE
COMPOSITE COMPONENT DET
APC PC
AFC DET
2/4/6 SW
REC/TRICK/PB SW
PB OUT AMP KILLER SW PILOT BURST ERASE
COMPOSITE /COMPONENT /VHS SW
NT/PAL
COMB AMP
KILLER DET
4dB. AMP
PILOT BURST INSERT
MAIN BM
10dB/6dB
6dB
90°
PHASE SELECT
PILOT BURST GEN
BURST DOWN
320fH VCO
DABBING
ACC DET
NT/PAL /SECAM SW
BURST UP
ACC AMP
REC2
REC1
SW2
SW1
Pa AMP
REC OUT /VP KILLER SW
VCC1
VCC2
LIM AMP
SW
DET
CF6C0 SFC-S4R17MS4A
BGP
SECAM
D6C3 1SS99
Q6E1
Q6F0
Q6Z3 FMW1 /XN1501
Q6E3
Q6E4
Q6D3 FMW1/XN1501
SEL-4444 LPF6C0 REC LPF
SBP-4337 BPF6C1 4.43 BPF
BPF6C0 BPF 5.06MHz ELB-4K 104N
LPF6C1 PB LPF
SBP-4245
X6C0 4.43MHz
VR6E9 B-100K
VR6F1 B-30K
L6D6 100μH
L2004 100μH
MIN
MAX
LIM


7
8
9
10
IC6001②PLAY
0.9Vp-p(H)
Q6C6
(5V)
5V
0V
EE
R6L3
2.2K
IC6C5
BA7025L
D6C7
C6J3
.01
R6K8
33
R6K9
150K
R6L0
2.2K
C6J4
6.3V
47μ
LIM AMP
SW
DET
REG
R6L1
1K
C6J7
.1
VL6D8
703YX
-12512ZN
C6J5
16V
10μ
C6J6
.01
C6G4
120P
CH
CF6C0
SFC-S4R17MS4A
L6B7
100μH
IC6001
M52093SP
L6000
100μH
C6001
10V
470μ
C6002
.1
R6060
4.7K
R6005
C6003
150P
CH
R6006
C6004
.01
C6005
150P
CH
C6006
1000P
SL
R6045
22K
C6007
68P
SL
R6046
130K
F
C6008
.047
C6009
.047
VR6001
B-10K
R6009
820K
C6010
.01
C6011
.068
L6001
100μH
C6023
16V
47μ
CNC2
FC ADJUST
CNC1
FC ADJUST
CNC1
8GP
MMV
CP
KILLER
DLY2
OFFSET CANCEL
CNC
LIMIT LEVEL
6dB AMP
CAI SW
LPF2
CNC2
DLY1-2
DLY2-2
CLAMP2
COLOR CTRL
DEM2
MOD2
90° SHIFT
TINT
90° SHIFT
MOD1
GAIN CTRL
DEM1
INVERT SW
LPF1
CNC1
DLY1-1
DLY2-1
CAI SW
KILLER DET
KILLER
CLAMP1
CAI SW
INVERT SW
LOGIC CTRL
COLOR CTRL
DLY LPF
GAIN CTRL
DLY1
OFFSET CANCEL
CAI DET
R6013
1K
C6036
.01
C6014
.01
R6008
F-68K
C6018
.047
C6019
.047
C5020
.068
R6008
820K
R6057
1.8K
VR6009
B-10K
C6015
.01
C6017
.01
R6058
8.2K
C5021
.01
C5022
.01
R6063
120K
R6012
1.2K
BF6000
BPF 4.4M
H314B0IS
-2362WAB
D6C3
1SS99
C6J9
16V
10μ
SW-5
D6003
DAN
C6041
25V
22μ
Q6035
SECAM
D6000
DAP202U
/MA142WA
R6047
4.7K
R6000
47K
Q6000
Q6034
Q6006
R6011
82K
D6002
DAN202U
/MA142WK
Q6004
R6004
120K
R6R5
120K
Q6Z4
SP-SIG
Q6005
D6001
DAN202U
MA142WA
SW-9
EDIT
C6L3
.01
L2003
100μH
C2010
.1μ
C2007
.1μ
C2008
16V
47μ
C2014
50V
1μ
VGG
CLOCK DRIVE
BIAS
SINK CHIP CLAMP
CCD423.5 Bit
Vref
S/H AMP
C2015
.1μ
VR2008
B-2K
C2018
47P
CH
C2017
56P
CH
L2002
39μH
L2001
39μH
IC2000
TL8812F
C2009
50V
.47μ
L6A0
100μH
R6A0
22K
R6A2
150
C6A0
.01
R6A1
22K
Q6Z0
R6A3
390
11.8V
5.2V
4.6V
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@maurition.co.uk


10
11
12
13
IC6001②PLAY
0.9Vp-p(H)
TP6J PLAY
1.4Vp-p(H)
SECAM
SW-5
SP-SIG
C-ROT
D-N
EE
NTSC-PB
LPSS
SK-DET
SK-SW
H-SYNC-PLL
4.43MHz
BB
SW-9
SW-12
AFR
EE5V
TEXT
LPSS-VIDEO
C-IN
EE-C
PB-C
PB-C-LPSS
PB-C-OUT
B/W
EE/PB-C
C-OUT2
NTSC-PB
X2SL
TO PCB-TIMER
C-CONT
CAI-CONT
Y-OUT
C-SYNC
REC-C
PB-FM
SECAM
PILOT90
S-VHS
EDIT
LP
4.43MHz
L6007 100μH
TH314LDJS -3102 LF6000 LPF 6H
L6001 100μH
L6002 J-4.7μH
L6003 J-4.7μH
L6004 J-4.7μH
L6005 J-4.7μ
L6006 J-4.7μ
Q6001
Q6002
Q6007
Q6008
Q6009
Q6011
Q6012 FMW1 /XN1501
Q6013
Q6015
Q6017
Q6020
Q6021
Q6034
Q6006
Q6005
Q6Z4
Q6Z0
D6001 DAN202U MA142WA
D6004 DAN202U MA142WA
BF6000 BPF 4.4M H314BDIS -2362WAB
IC6A0 LA7016
KILLER
CAI SW
CLAMP2
CLAMP1
MOD2
MOD1
COLOR CTRL
GAIN CTRL
TINT 90° SHIFT
DLY2 OFFSET CANCEL
DLY1 OFFSET CANCEL
CAI DET
EDIT
S-VHS
NTSC-PB



H

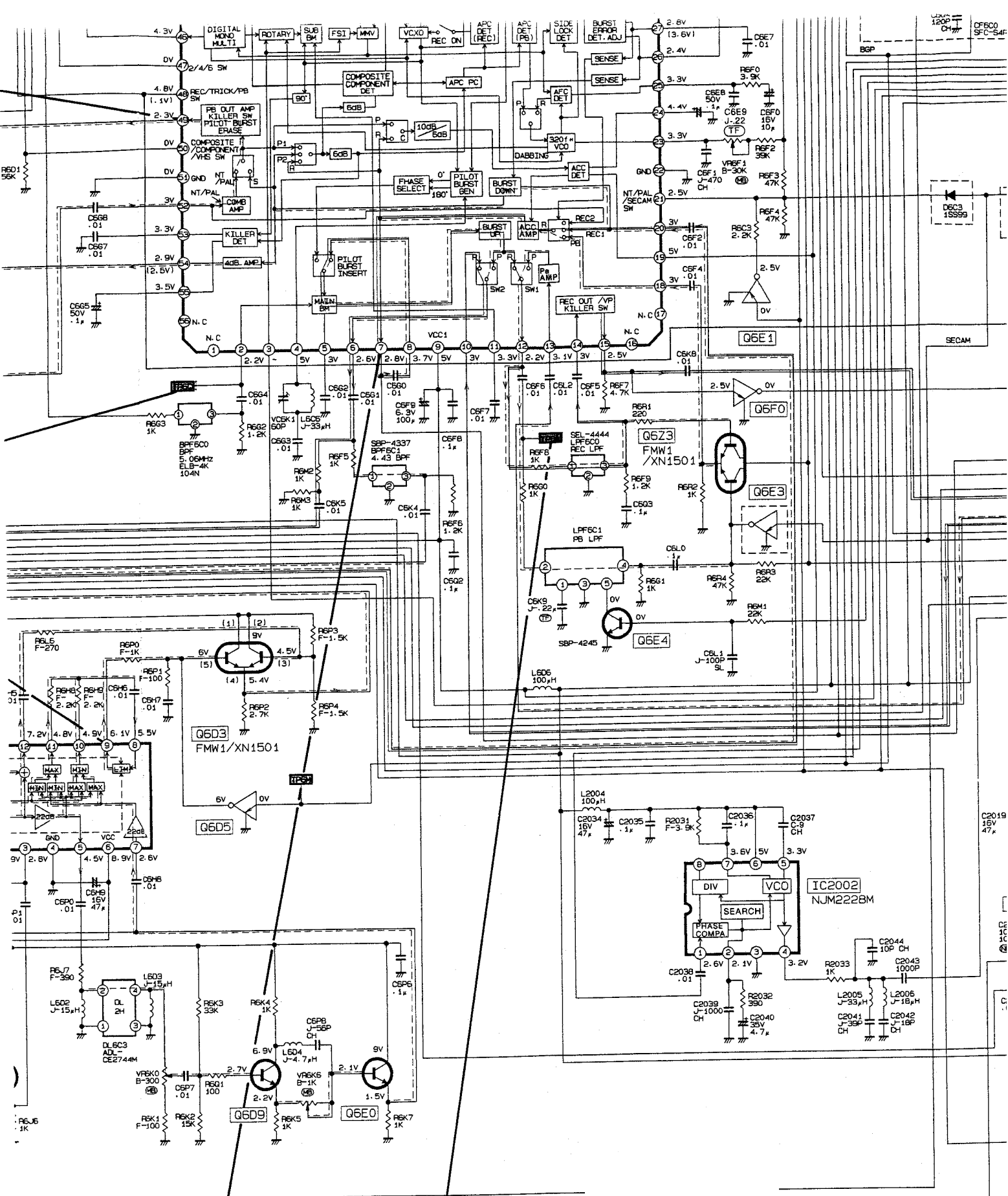
CHROMA

SYMBOL NO. / MODELS	C AREA	C6J9	D6C3	Q6E3
HS-E82(A)(IR)(NZ),HS-B82	×	×	×	×
HS-E82,HS-E82(Y)	○	○	○	○
HS-E82(G)	○	○	○	○

(CHROMA)

NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

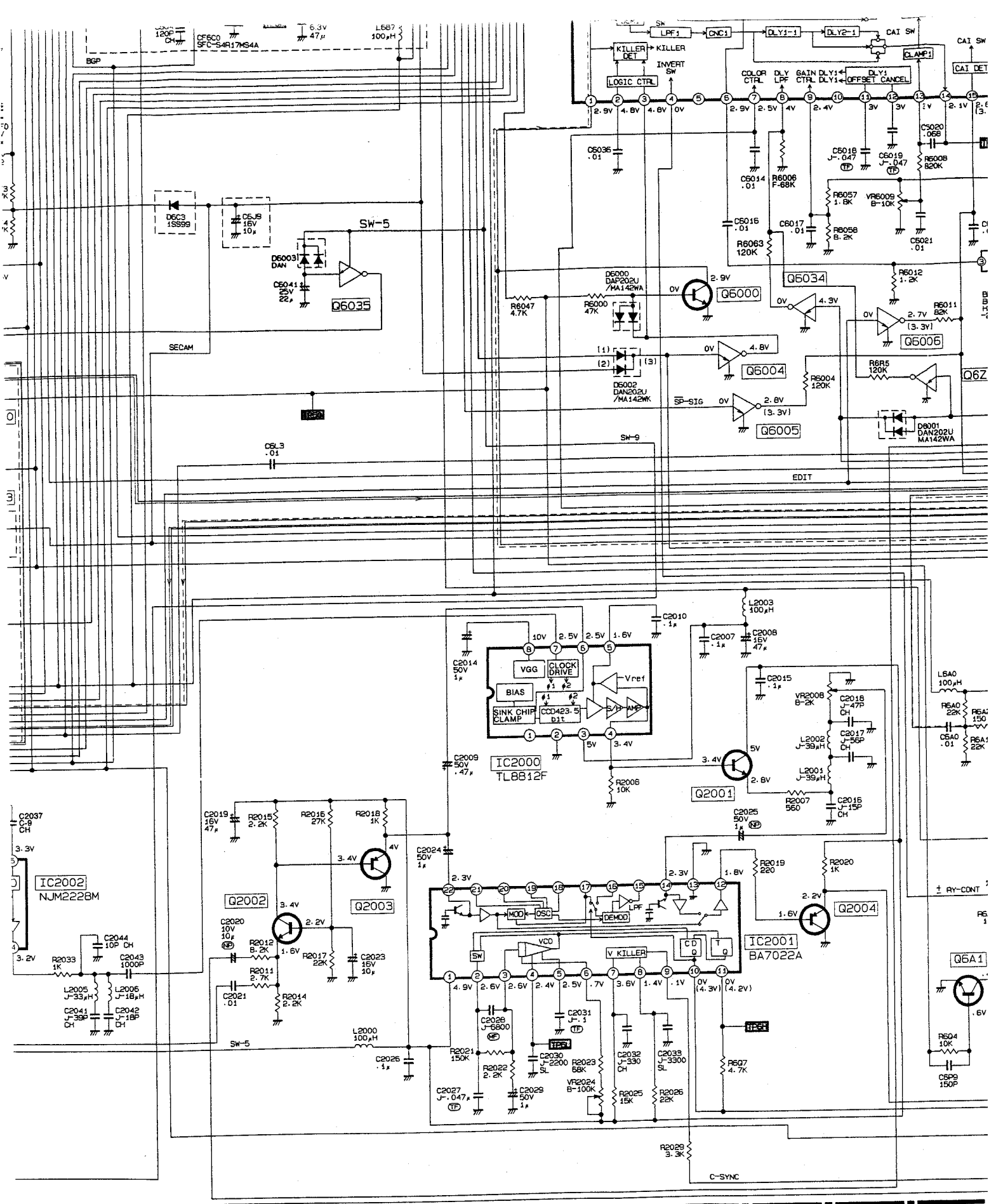
- PNP TRANSISTORS ARE 2SA1576-Ra
- NPN TRANSISTORS ARE 2SC4081-Ra
- PNP DIGITAL TRANSISTORS ARE DTA124EU
- NPN DIGITAL TRANSISTORS ARE DTC124EU

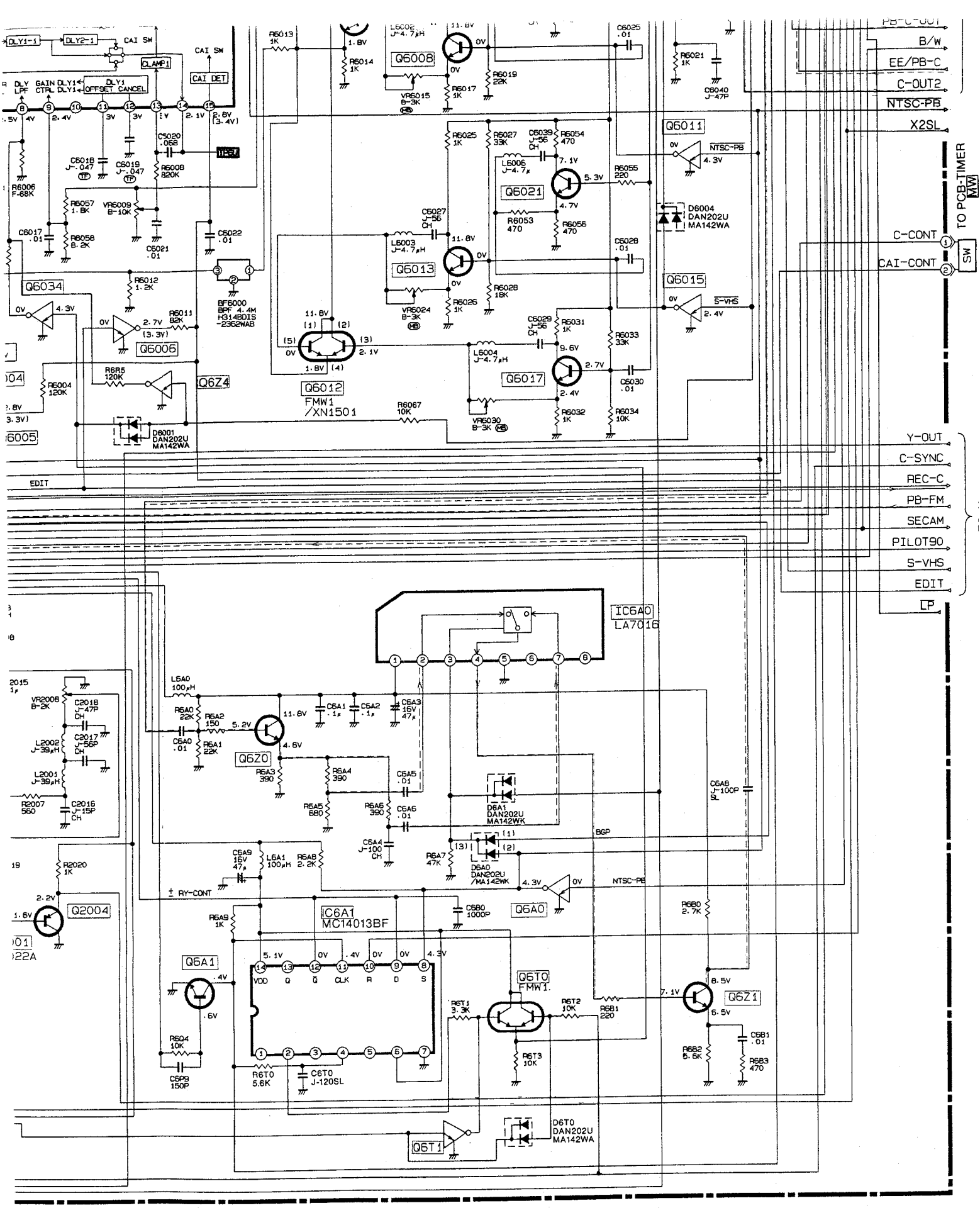


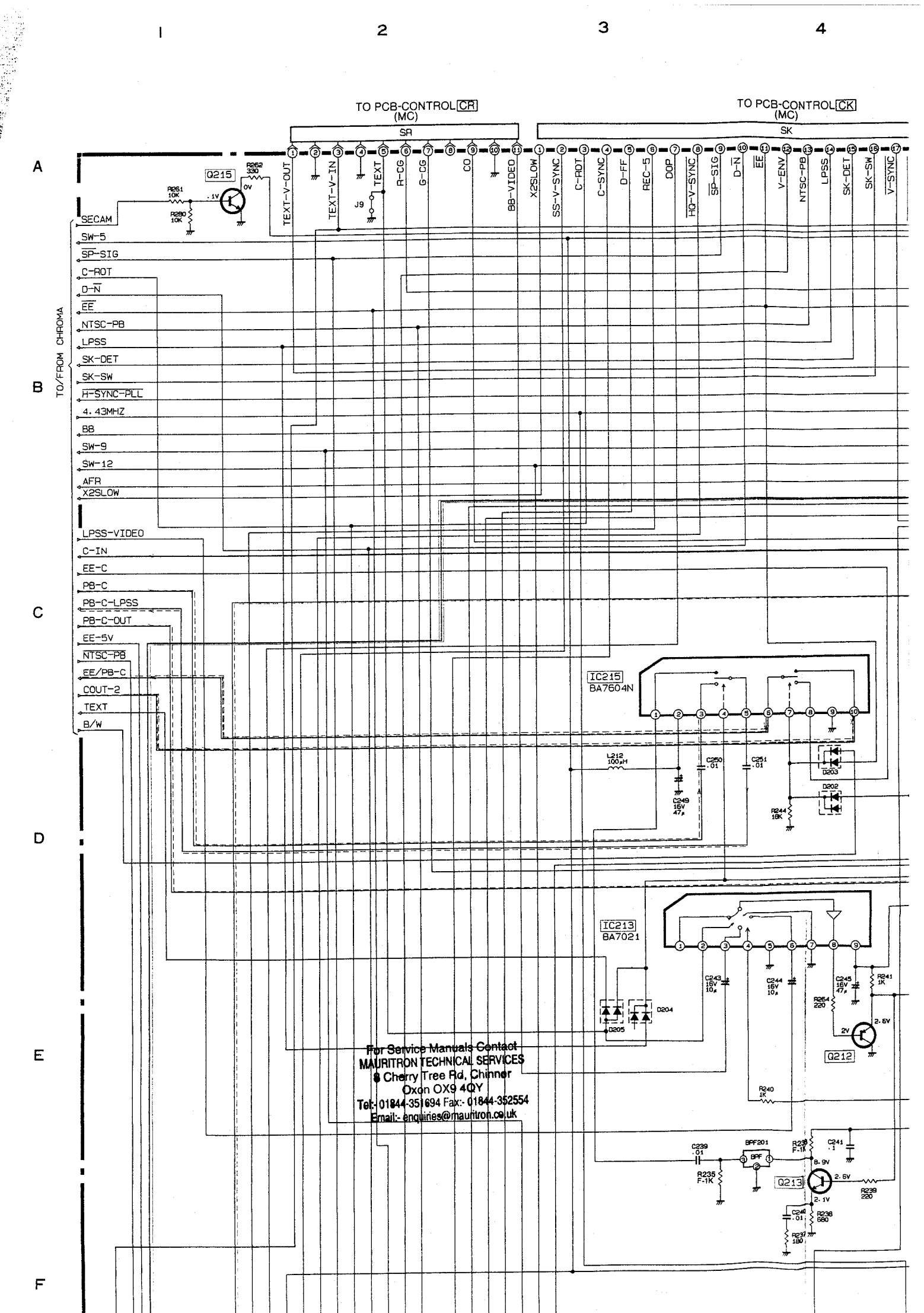
SCHEMATIC DIAGRAM.

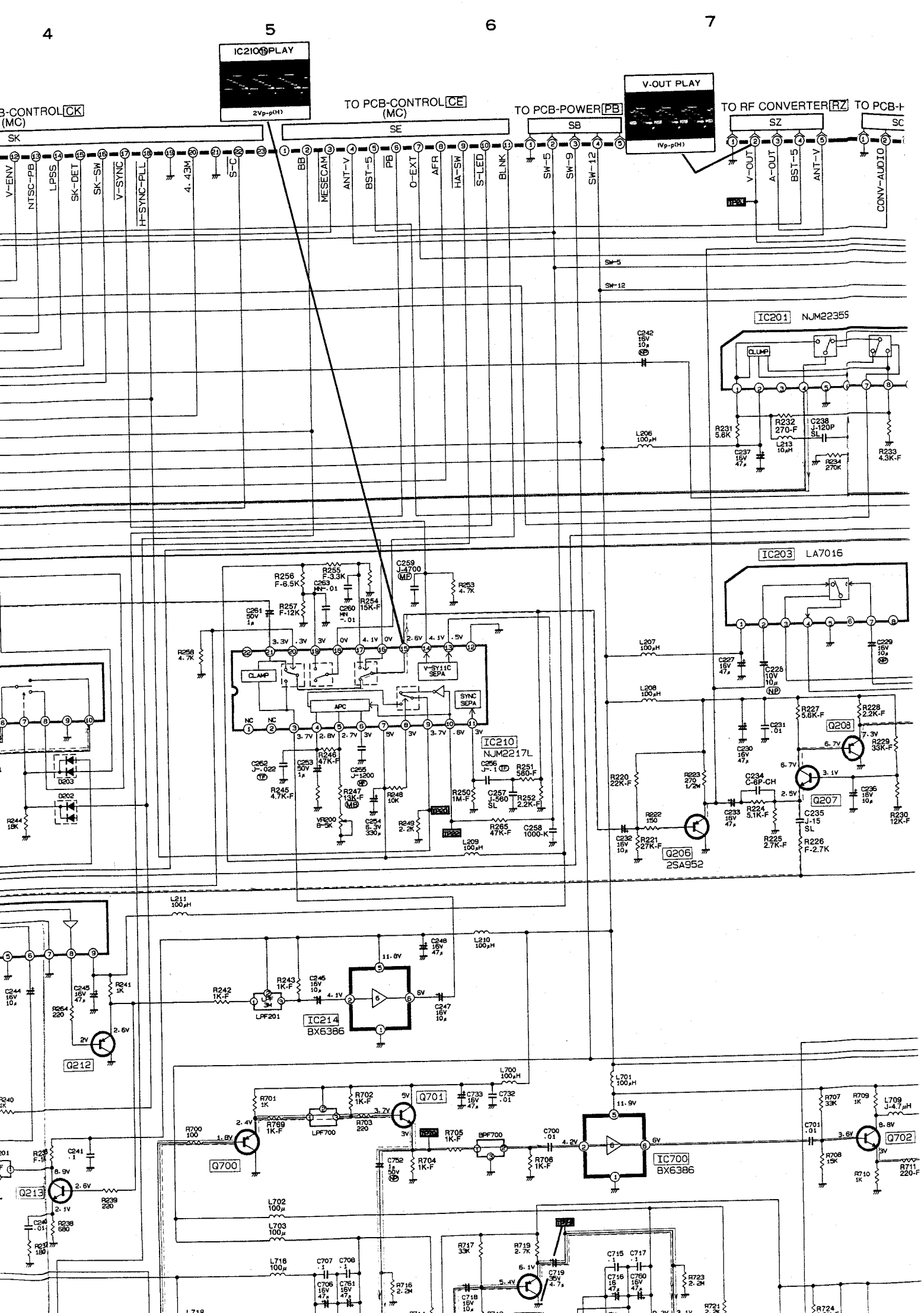
\124EU

:124EU


IC2000
TL8812F
IC2001
BA7022A
IC2002
NJM2228M
Q2001
Q2002
Q2003
Q2004
Q6000
Q6004
Q6005
Q6006
Q6034
Q6035
SW-5
SW-9
SECAM
EDIT
C-SYNC
VGG
CLOCK DRIVE
BIAS
SINK CHIP CLAMP
CCD423.5 bit
Vref
S/H AMP
VCO
MOD
OSC
DEMOD
LPF
V KILLER
LOGIC CTRL
KILLER DET
INVERT SW
OFFSET CANCEL
CLAMP1
SP-SIG
D6000 DAP202U /MA142WA
D6001 DAN202U MA142WA
D6002 DAN202U /MA142WK
D6003 DAN
D6C3 1SS99
CF6C0 SFC-S4R17MS4A
BGP


DLY1-1
DLY2-1
CAI SW
CLAMP1
CAI DET
DLY LPF
GAIN CTRL
DLY1 OFFSET CANCEL
Q6008
Q6011
Q6021
Q6013
Q6015
Q6034
Q6006
Q6Z4
Q6012
FMW1
/XN1501
Q6017
D6004
DAN202U
MA142WA
D6001
DAN202U
MA142WA
BF6000
BPF 4.4M
H314B01S
-2362WAB
NTSC-PB
S-VHS
EDIT
B/W
EE/PB-C
C-OUT2
NTSC-PB
X2SL
TO PCB-TIMER
C-CONT
CAI-CONT
SW
Y-OUT
C-SYNC
REC-C
PB-FM
SECAM
PILOT90
S-VHS
EDIT
LP
IC6A0
LA7016
Q6Z0
D6A1
DAN202U
MA142WK
D6A0
DAN202U
/MA142WK
BGP
NTSC-PB
Q6A0
IC6A1
MC14013BF
Q6A1
Q6T0
FMW1
Q6Z1
Q6T1
D6T0
DAN202U
MA142WA
Q2004
R-Y-CONT




4
5
6
7
IC210 PLAY
2Vp-p(H)
V-OUT PLAY
1Vp-p(H)
TO PCB-CONTROL CK (MC)
TO PCB-CONTROL CE (MC)
TO PCB-POWER PB
TO RF CONVERTER RZ
TO PCB-I
SK
SE
SB
SZ
SC
V-ENV
NTSC-PB
LPSS
SK-DET
SK-SW
V-SYNC
H-SYNC-PLL
4.43M
S-C
BB
MESECAM
ANT-V
BST-5
PB
O-EXT
AFR
HA-SW
S-LED
BLNK
SW-5
SW-9
SW-12
V-OUT
A-OUT
BST-5
ANT-V
CONV-AUDIO
IC201 NJM2235S
CLAMP
IC203 LA7016
IC210 NJM2217L
V-SY11C SEPA
SYNC SEPA
APC
IC214 BX6386
IC700 BX6386
Q205 2SA952
Q206 2SA952
Q207
Q208
Q212
Q213
Q700
Q701
Q702
LPF201
LPF700
BPF700
D202
D203

8 9 10 11

(INT)

MODELS \ SYMBOL NO.	C225	C242
HS-B82	○	×
HS-E82,E82(A)(Y)(IR)(NZ)	○	×
HS-E82(G)	×	○

(INT

CONVERTER RZ TO PCB-HIFI AC

SZ SC

A-OUT BST-5 ANT-V CONV-AUDIO TU-VIDEO

TU-VIDEO 1.2Vp-p (H)

C205 C-6P CH

R204 330-F R203 270-F

SW-12

C201 NJM2235S

R232 270-F C238 J-120P SL L213 10μH R234 270K R233 4.3K-F

IC200 BA7021

IC217 LA7016

IC216 BA7604N

IC202 BA7604N

C203 LA7016

Q200 Q205 Q204 Q208 Q207 Q202 Q203 2SA952 Q216 Q209 Q210 Q702 Q703 Q716 Q717

R211 220 R212 820 1/4W R210 220 L214 100μH

L203 100μH L201 100μH L202 100μH L204 100μH L205 100μH L706 100μH L705 100μH

C223 16V 10μ C222 16V 47μ C213 16V 47μ C214 16V 10μ C216 .01 C217 16V 10μ C218 16V 10μ C215 47μ C219 .01

R266 270K R213 10K R217 1K R218 220 C225 16V 10μ C224 .01 C226 6.3V 47μ

R227 5.6K-F R228 2.2K-F R229 33K-F C236 16V 10μ C235 J-15 SL R226 F-2.7K R230 12K-F

C229 16V 10μ C231 .01

R216 270 1/2W C220 16V 47μ C221 63V 470μ R214 75 R215 220

0200 R219 12K

R707 33K R709 1K L709 J-4.7μH C702 J-56P CH C703 16V 47μ C704 .01 C701 .01 R708 15K R710 1K R711 220-F C705 .01 R712 1K

DL-700 ADL-CE2744M L713 J-15μH L712 J-15μH R747 390F

R750 33K R753 1K C737 16V 47μ C736 .1 L714 4.7μH C735 560 R751 100 C734 .01 R748 100F R749 15K R752 1K VR704 B-1K R754 1K C738 .01 VR707 B-300 BPF702 C739 .01 R760 1K R761 1K

R759 2.2K-F C740 .01 C741 .01 R758 2.2K-F

IC705

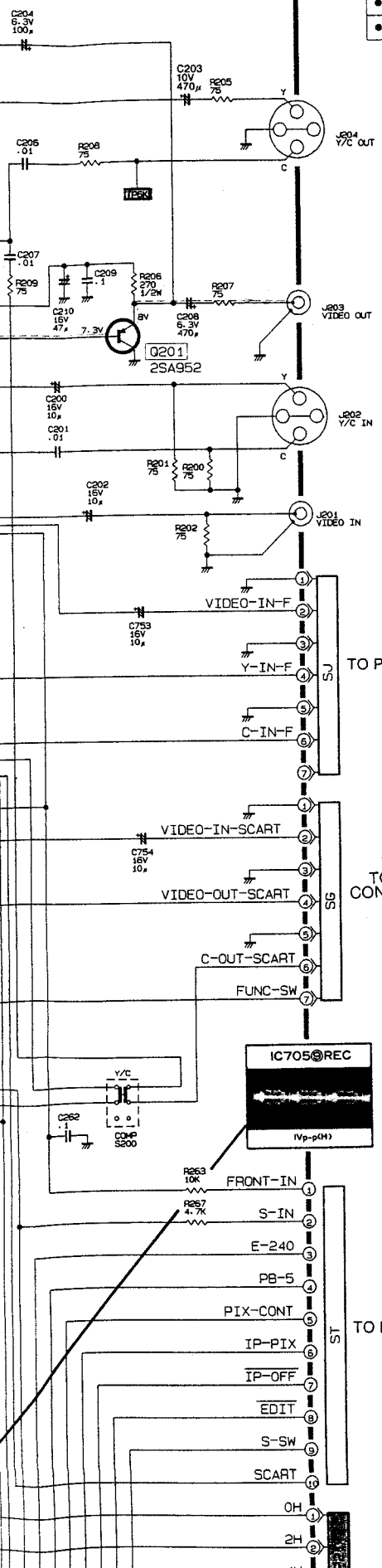
T)PCB-SIGNAL ⚠

(INT)
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

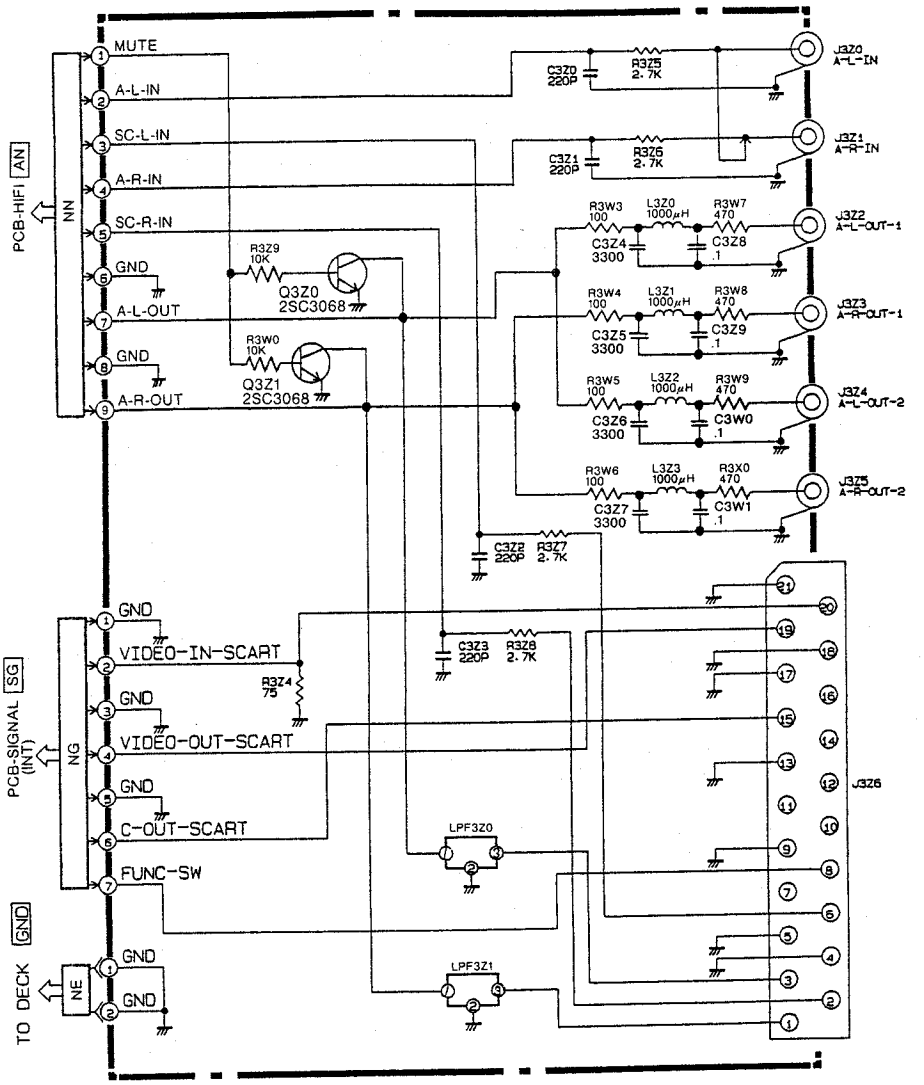
- ●PNP TRANSISTORS ARE 2SAI576-R
- ●NPN TRANSISTORS ARE 2SC4081-R
- ●PNP DIGITAL TRANSISTORS ARE DTAI24EU
- ●NPN DIGITAL TRANSISTORS ARE DTCI24EU

DAN202U /MA142WK

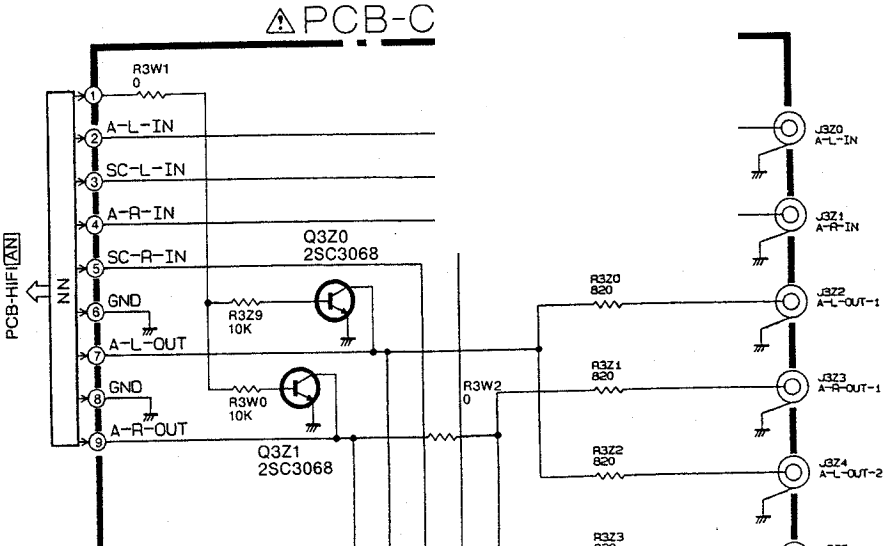
DAP202U /MA142WA

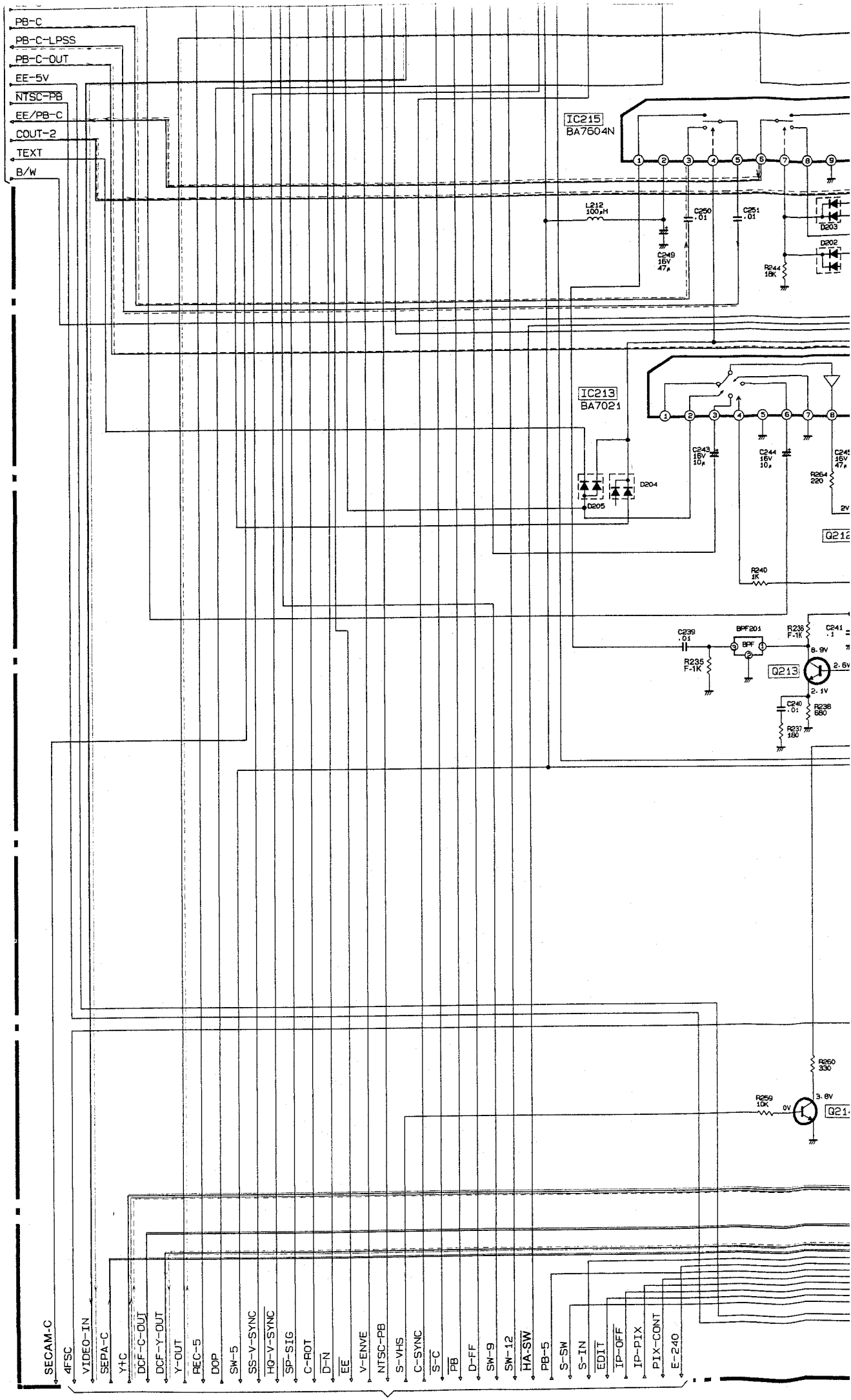


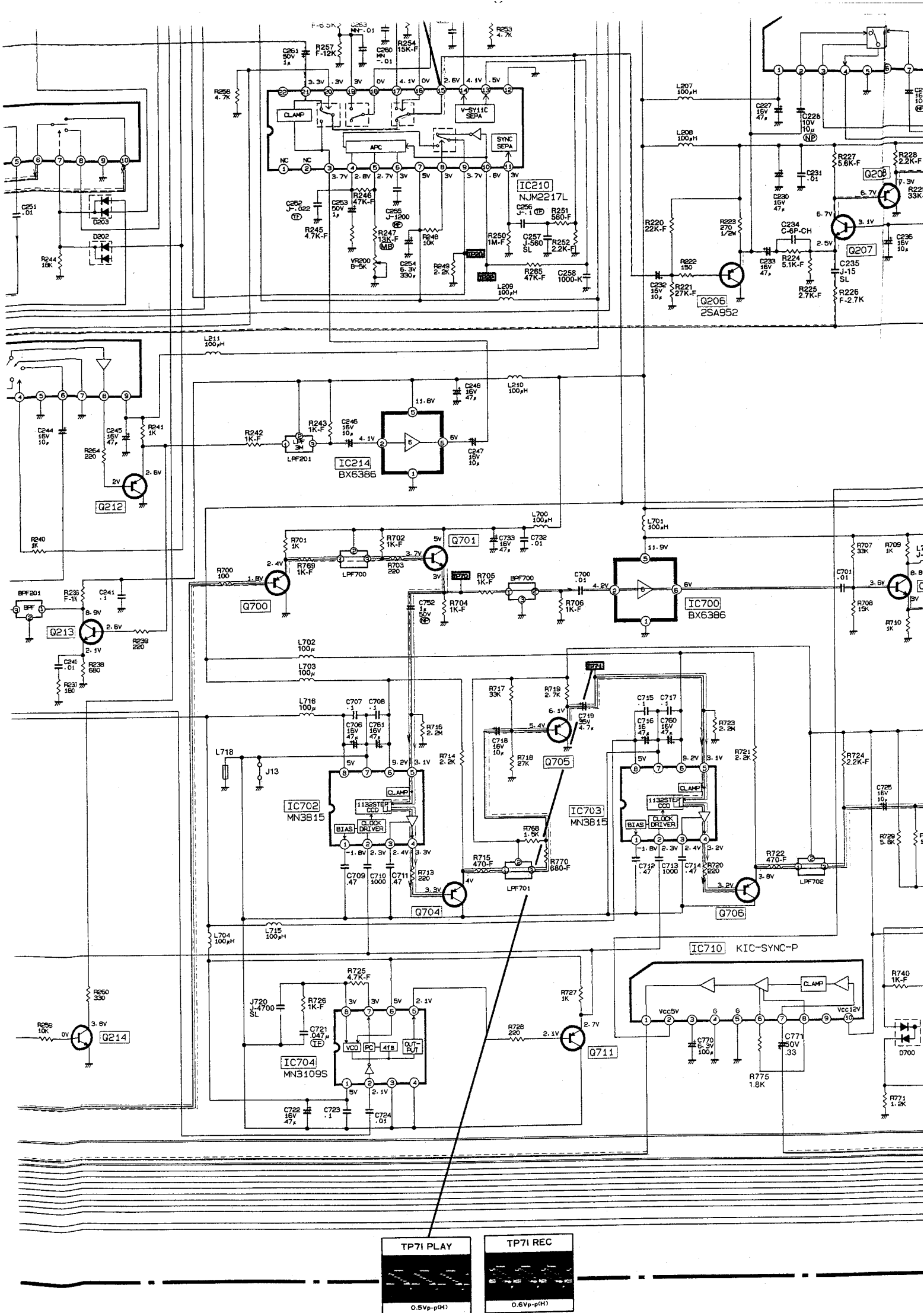
⚠PCB-CONNECTOR (ONLY FOR HS-E82(G))

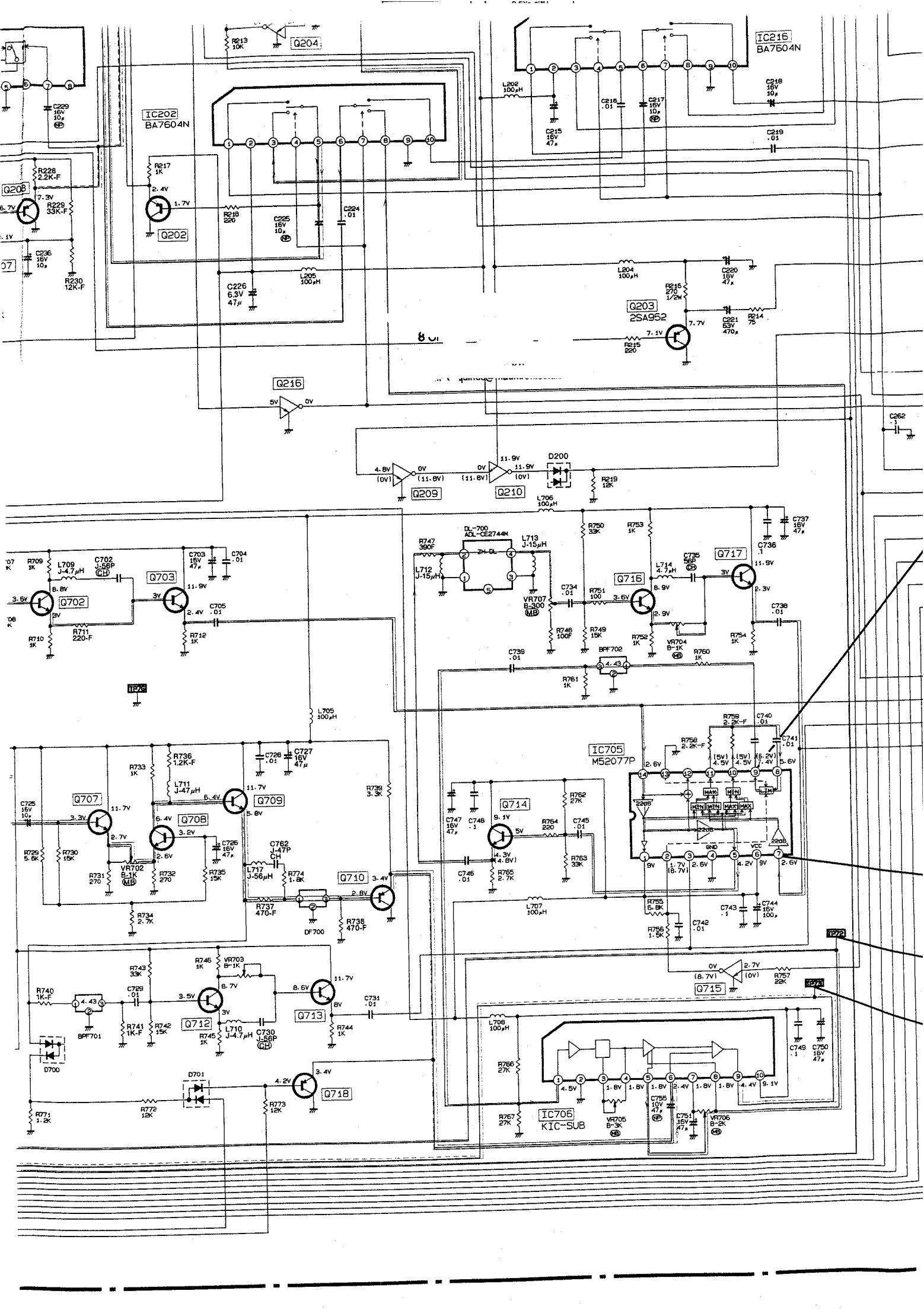


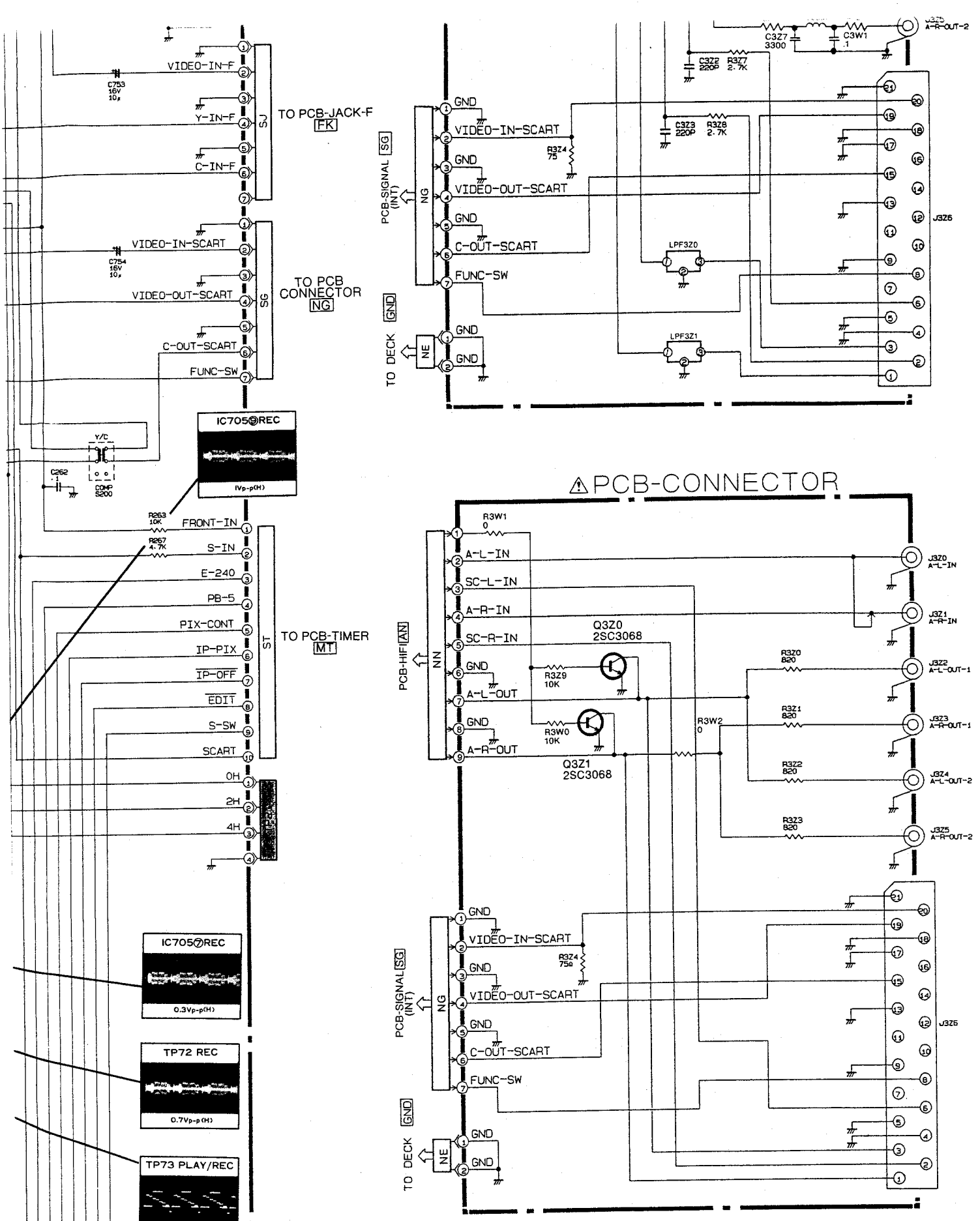
⚠PCB-C



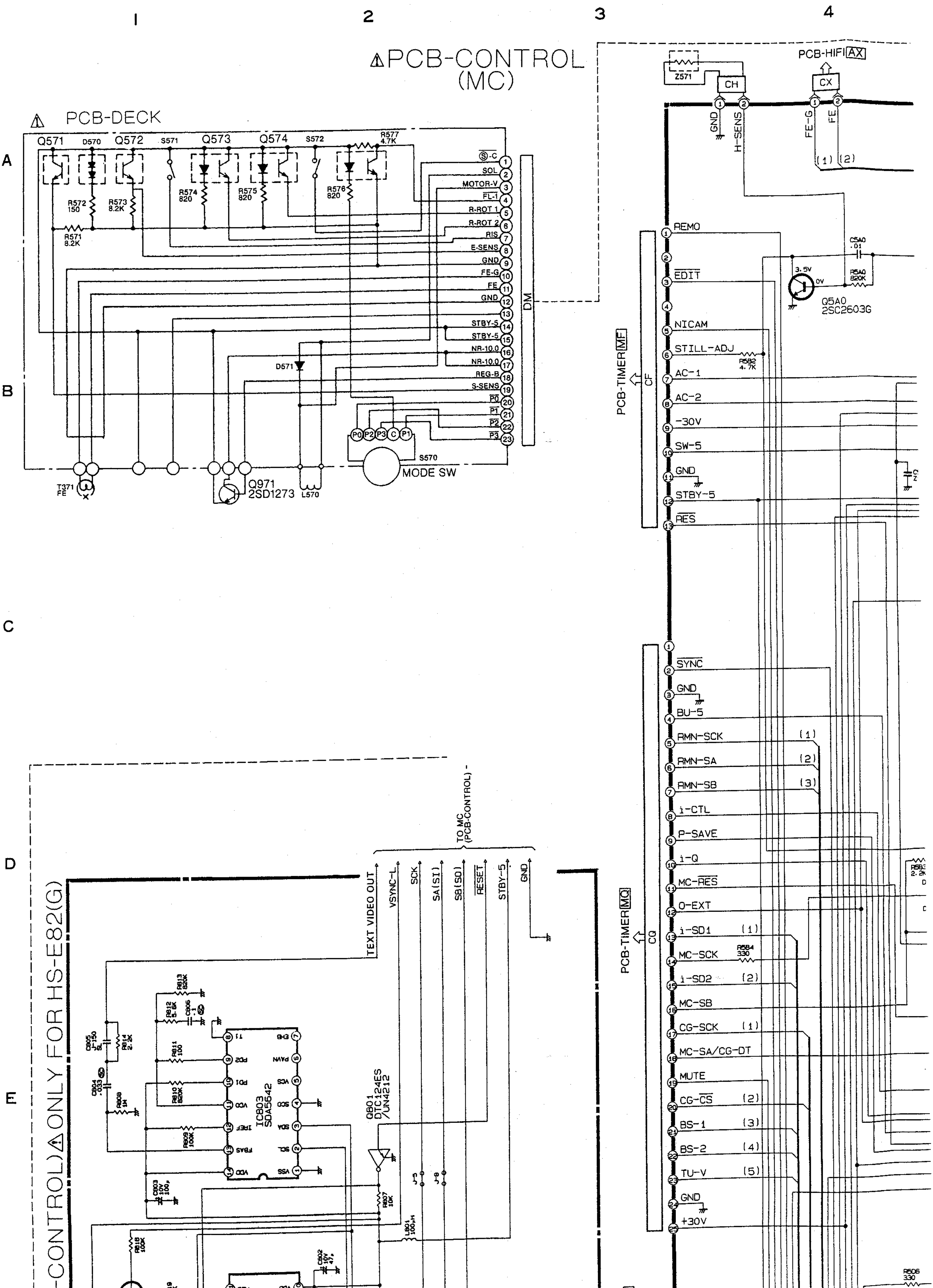

PB-C
PB-C-LPSS
PB-C-OUT
EE-5V
NTSC-PB
EE/PB-C
COUT-2
TEXT
B/W
IC215
BA7604N
L212
100μH
C250
.01
C251
.01
C249
16V
47μ
D203
D202
R244
15K
IC213
BA7021
C243
16V
10μ
C244
16V
10μ
C245
16V
47μ
R264
220
2V
D204
D205
Q212
R240
1K
C239
.01
BPF201
BPF
R238
F-1K
C241
.1
8.9V
2.6V
R235
F-1K
Q213
2.1V
C240
.01
R238
680
R237
180
R260
330
R259
10K
0V
3.8V
Q21
SECAM-C
4FSC
VIDEO-IN
SEPA-C
Y+C
DCF-C-OUT
DCF-Y-OUT
Y-OUT
REC-5
DOP
SW-5
SS-V-SYNC
HG-V-SYNC
SP-SIG
C-ROT
D-N
EE
V-ENVE
NTSC-PB
S-VHS
C-SYNC
S-C
PB
D-FF
SW-9
SW-12
HA-SW
PB-5
S-SW
S-IN
EDIT
IP-OFF
IP-PIX
PIX-CONT
E-240
TO/FROM Y


IC210
NJM2217L
IC214
BX6386
IC700
BX6386
IC702
MN3815
IC703
MN3815
IC704
MN3109S
IC710
KIC-SYNC-P
Q206
2SA952
Q207
Q208
Q212
Q213
Q214
Q700
Q701
Q704
Q705
Q706
Q711
TP71 PLAY
0.5Vp-p(H)
TP71 REC
0.6Vp-p(H)

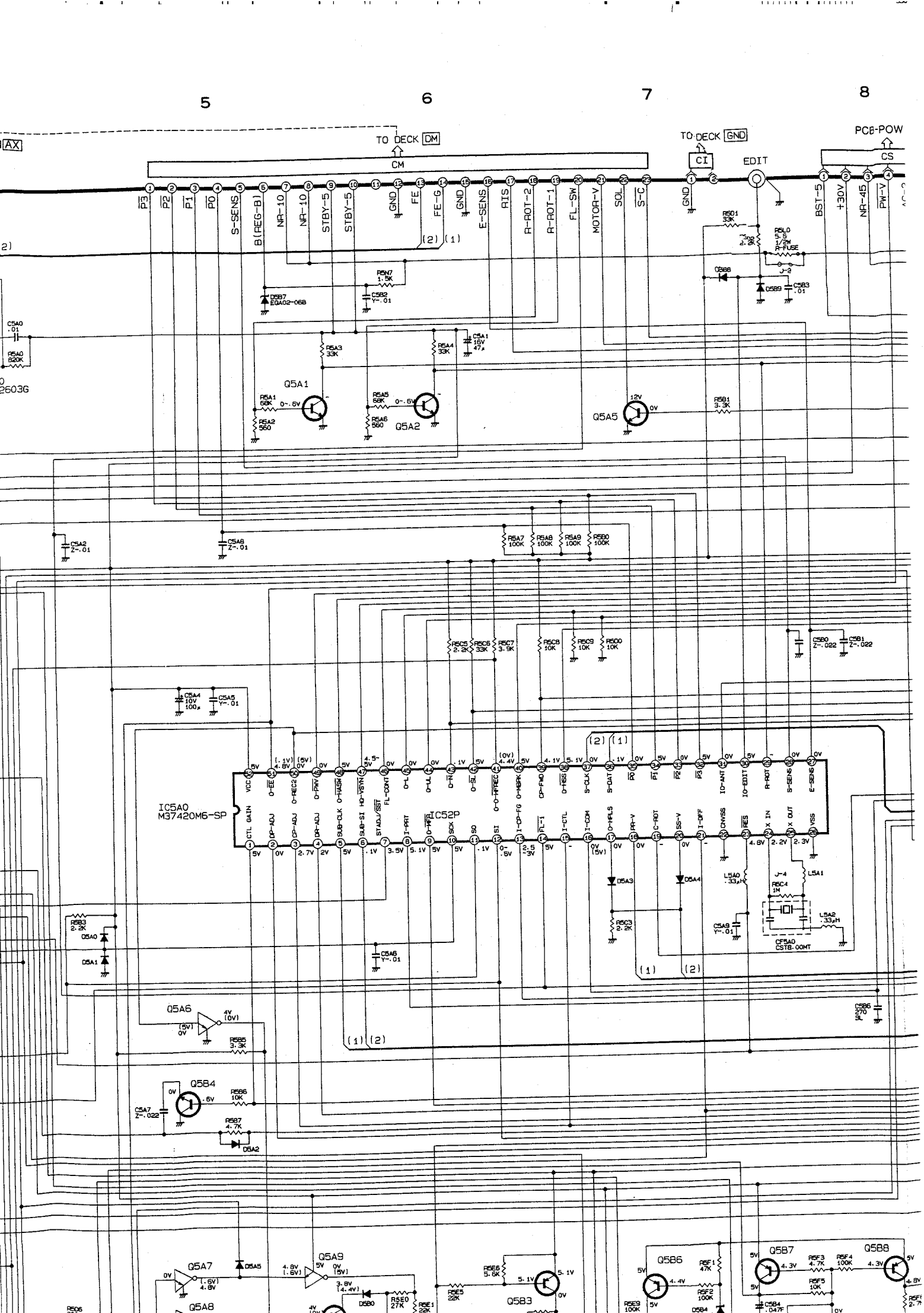

IC216
BA7604N
IC202
BA7604N
Q204
Q202
Q208
Q203
2SA952
Q216
Q209
Q210
D200
Q702
Q703
Q716
Q717
Q707
Q708
Q709
Q710
Q712
Q713
Q714
Q715
Q718
IC705
M52077P
IC706
KIC-SUB
DL-700
ADL-CE2744N
BPF702
BPF701
DF700
D700
D701
VR702
B-1K
VR703
B-1K
VR704
B-1K
VR705
B-3K
VR706
B-2K
VR707
B-300
TP75
TP72
TP73

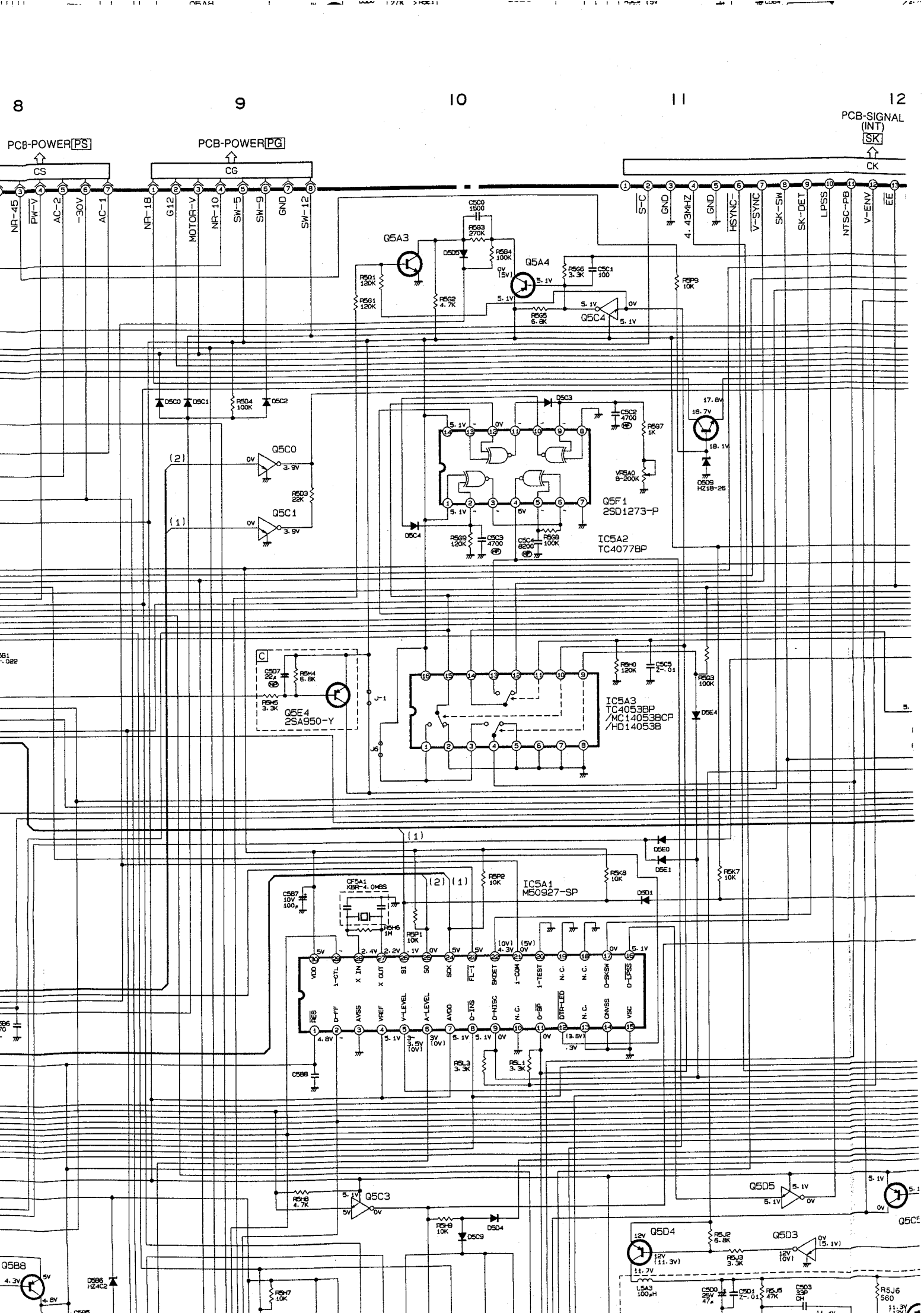


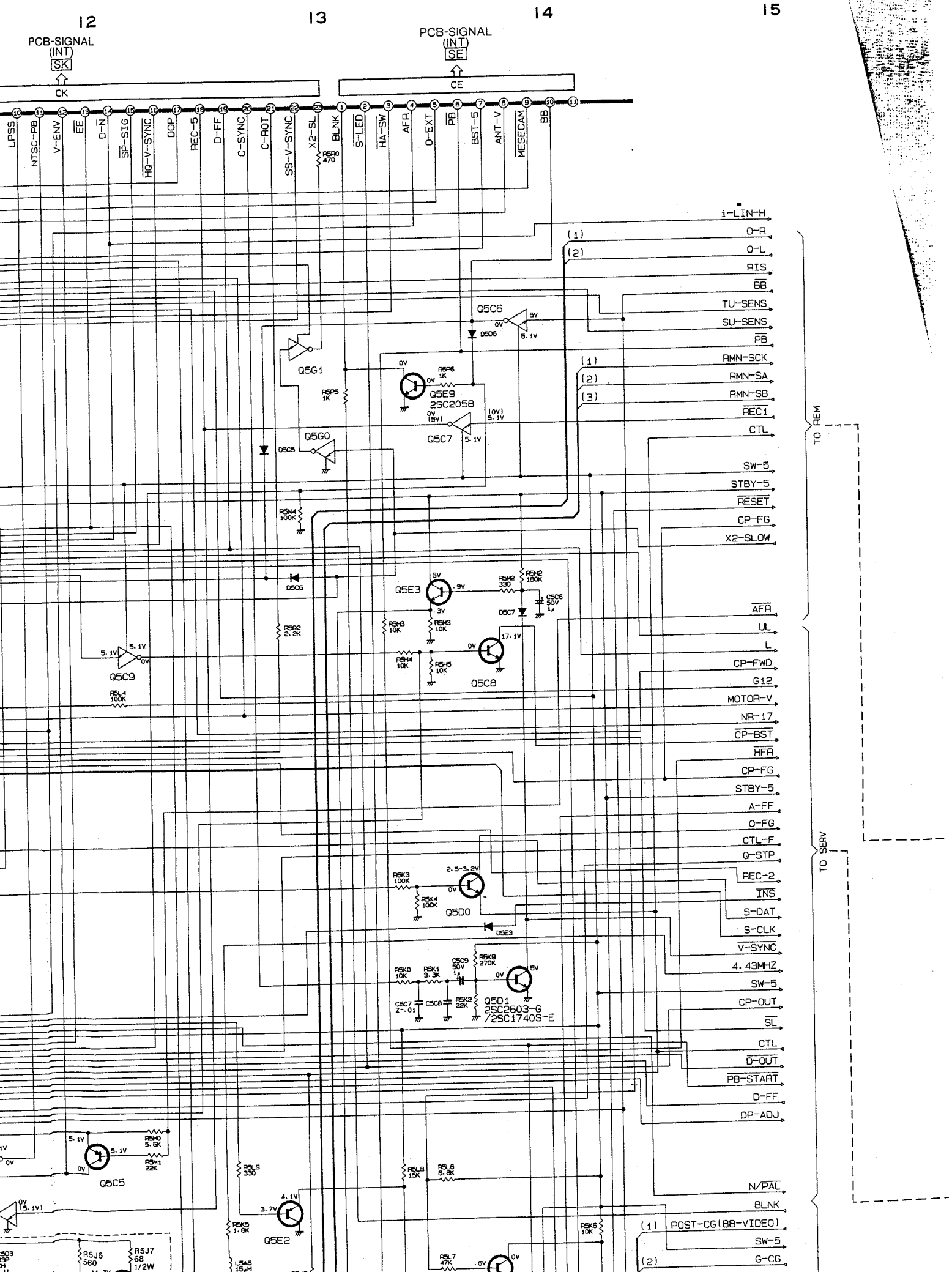
HS-B82 (6/8)
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)

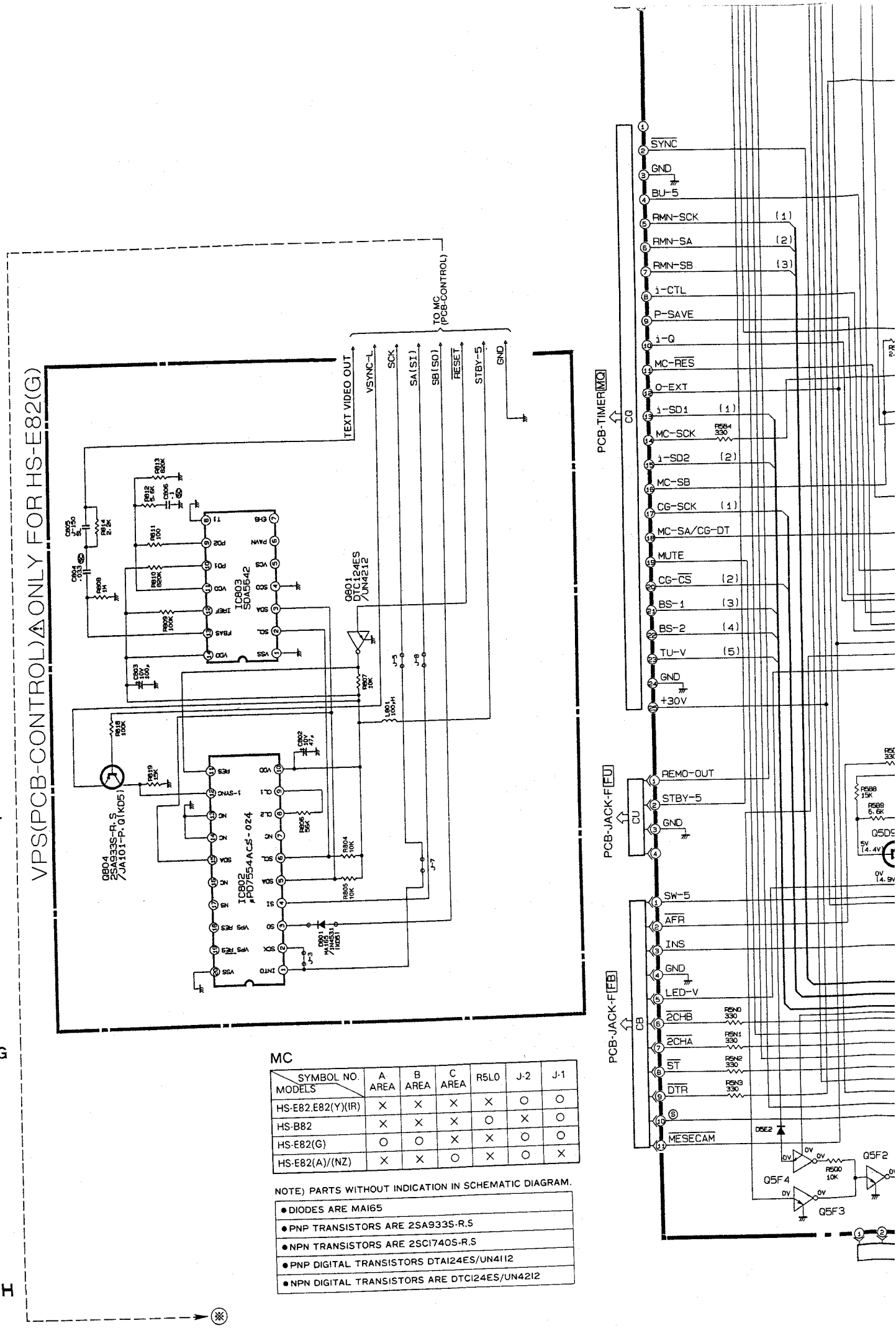


1
2
3
4
⚠PCB-CONTROL (MC)
⚠ PCB-DECK
Q571 D570 Q572 S571 Q573 Q574 S572
R577 4.7K
R572 150
R573 8.2K
R574 820
R575 820
R576 820
R571 8.2K
S-C
SOL
MOTOR-V
FL-1
R-ROT 1
R-ROT 2
RIS
E-SENS
GND
FE-G
FE
GND
STBY-5
STBY-5
NR-10.0
NR-10.0
REG-B
S-SENS
P0
P1
P2
P3
DM
D571
S570
MODE SW
T371 FE
Q971 2SD1273
L570
A
B
C
D
E
PCB-HIFI AX
Z571
CH
CX
GND
H-SENS
FE-G
FE
C5A0 .01
Q5A0 2SC2603G
R5A0 820K
PCB-TIMER MF
CF
REMO
EDIT
NICAM
STILL-ADJ
R582 4.7K
AC-1
AC-2
-30V
SW-5
GND
STBY-5
RES
PCB-TIMER MQ
CQ
SYNC
GND
BU-5
RMN-SCK
RMN-SA
RMN-SB
i-CTL
P-SAVE
i-Q
MC-RES
O-EXT
i-SD1
MC-SCK
R584 330
i-SD2
MC-SB
CG-SCK
MC-SA/CG-DT
MUTE
CG-CS
BS-1
BS-2
TU-V
GND
+30V
TO MC (PCB-CONTROL)
TEXT VIDEO OUT
VSYNC-L
SCK
SA(SI)
SB(SO)
RESET
STBY-5
GND
-CONTROL) ⚠ ONLY FOR HS-E82(G)
IC803 SDA5642
Q801 DTC124ES /UN4212
R807 10K
L801 100.H
R808 1M
R809 100K
R810 820K
R811 100
R812 5.6K
R813 820K
R814 2.2K
R816 100K
C803 10V 100
C804 .033
C805 SL 150
C806 .1
C802 10V 47
J-5
J-8
R506 330


5
6
7
8
TO DECK DM
TO DECK GND
PCB-POW
CM
CI
EDIT
CS
P3
P2
P1
P0
S-SENS
B(REG-B)
NR-10
NR-10
STBY-5
STBY-5
GND
FE
FE-G
GND
E-SENS
RIS
R-ROT-2
R-ROT-1
FL-SW
MOTOR-V
SOL
S-C
GND
BST-5
+30V
NR-45
PW-V
IC5A0
M37420M6-SP
IC52P
Q5A1
Q5A2
Q5A5
Q5A6
Q5A7
Q5A8
Q5A9
Q5B3
Q5B4
Q5B6
Q5B7
Q5B8
Q584
D5A0
D5A1
D5A2
D5A3
D5A4
D5A5
D5B0
D5B6
D5B7
D5B8
D5B9
CF5A0
CST8.00MT


8
9
10
11
12
PCB-POWER PS
PCB-POWER PG
PCB-SIGNAL (INT) SK
CS
CG
CK
NR-45
PW-V
AC-2
-30V
AC-1
NR-18
G12
MOTOR-V
NR-10
SW-5
SW-9
GND
SW-12
S-C
GND
4.43MHZ
GND
HSYNC-
V-SYNC
SK-SW
SK-DET
LPSS
NTSC-PB
V-ENV
EE
Q5A3
Q5A4
Q5C4
Q5C0
Q5C1
Q5F1
2SD1273-P
IC5A2
TC4077BP
IC5A3
TC4053BP
/MC14053BCP
/HD14053B
Q5E4
2SA950-Y
IC5A1
M50927-SP
Q5C3
Q5D5
Q5D4
Q5D3
Q5B8


12
13
14
15
PCB-SIGNAL (INT) SK
CK
PCB-SIGNAL (INT) SE
CE
LPSS
NTSC-PB
V-ENV
EE
D-N
SP-SIG
HQ-V-SYNC
DOP
REC-5
D-FF
C-SYNC
C-ROT
SS-V-SYNC
X2-SL
BLNK
S-LED
HA-SW
AFR
O-EXT
PB
BST-5
ANT-V
MESECAM
BB
R5R0 470
i-LIN-H
O-R
O-L
RIS
BB
TU-SENS
SU-SENS
PB
RMN-SCK
RMN-SA
RMN-SB
REC1
CTL
SW-5
STBY-5
RESET
CP-FG
X2-SLOW
AFR
UL
L
CP-FWD
G12
MOTOR-V
NR-17
CP-BST
HFR
CP-FG
STBY-5
A-FF
O-FG
CTL-F
Q-STP
REC-2
INS
S-DAT
S-CLK
V-SYNC
4.43MHZ
SW-5
CP-OUT
SL
CTL
D-OUT
PB-START
D-FF
DP-ADJ
N/PAL
BLNK
POST-CG(BB-VIDEO)
SW-5
G-CG
TO REM
TO SERV
Q5C6
D5D6
Q5G1
Q5E9 2SC2058
Q5C7
Q5G0
D5C5
R5P6 1K
R5P5 1K
R5N4 100K
Q5E3
R5H2 330
R5H2 180K
C5C6 50V 1μ
D5C7
R5H3 10K
R5H4 10K
R5H5 10K
Q5C8
R5Q2 2.2K
Q5C9
R5L4 100K
R5K3 100K
R5K4 100K
Q5D0
D5E3
R5K0 10K
R5K1 3.3K
C5C9 50V 1μ
R5K9 270K
C5C7 Z-.01
C5C8
R5K2 22K
Q5D1 2SC2603-G /2SC1740S-E
Q5C5
R5M0 5.6K
R5M1 22K
R5L9 330
Q5E2
R5K5 1.8K
L5A6 15μH
R5J6 560
R5J7 68 1/2W
R5L8 15K
R5L6 6.8K
R5K6 10K
R5L7 47K

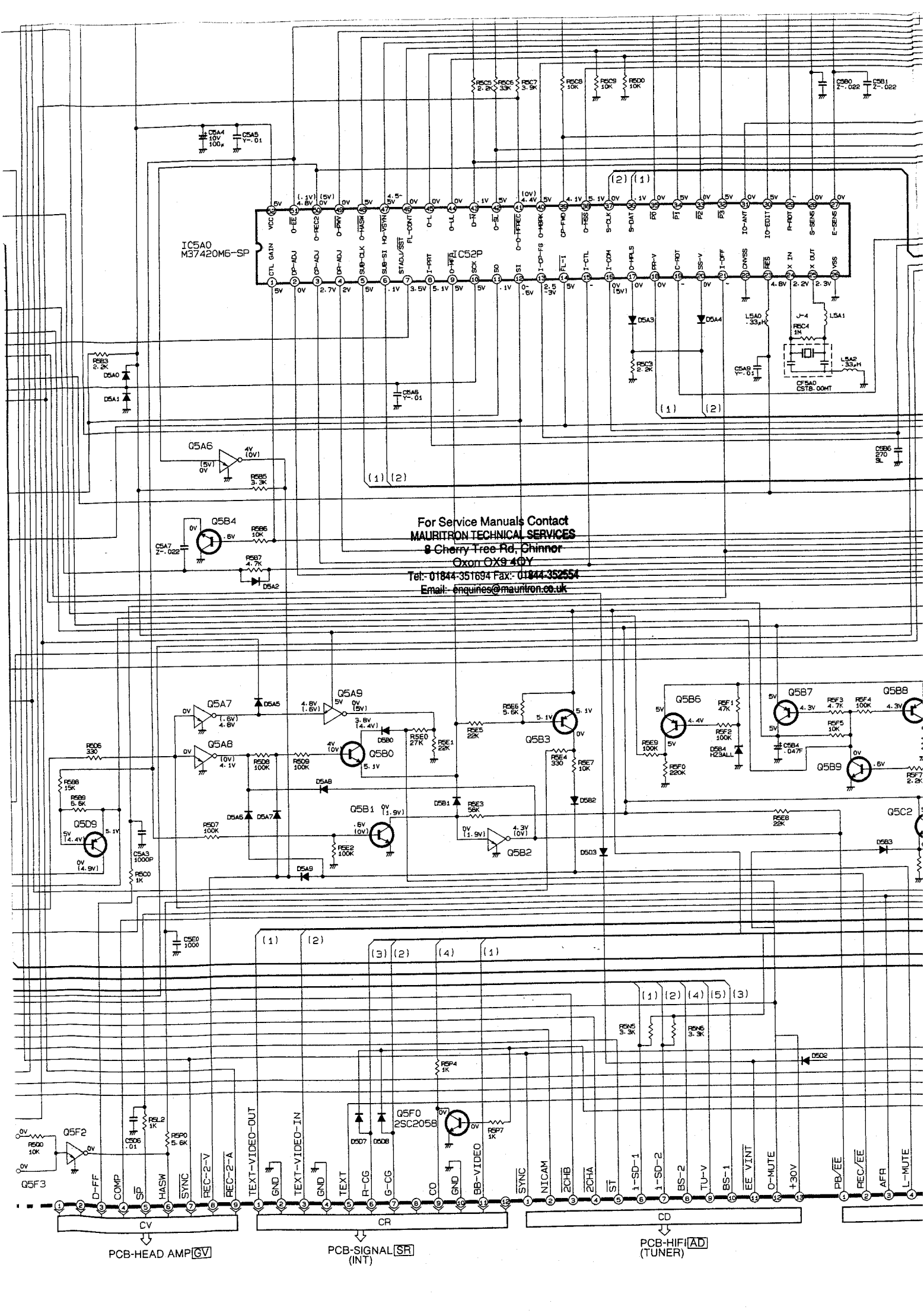


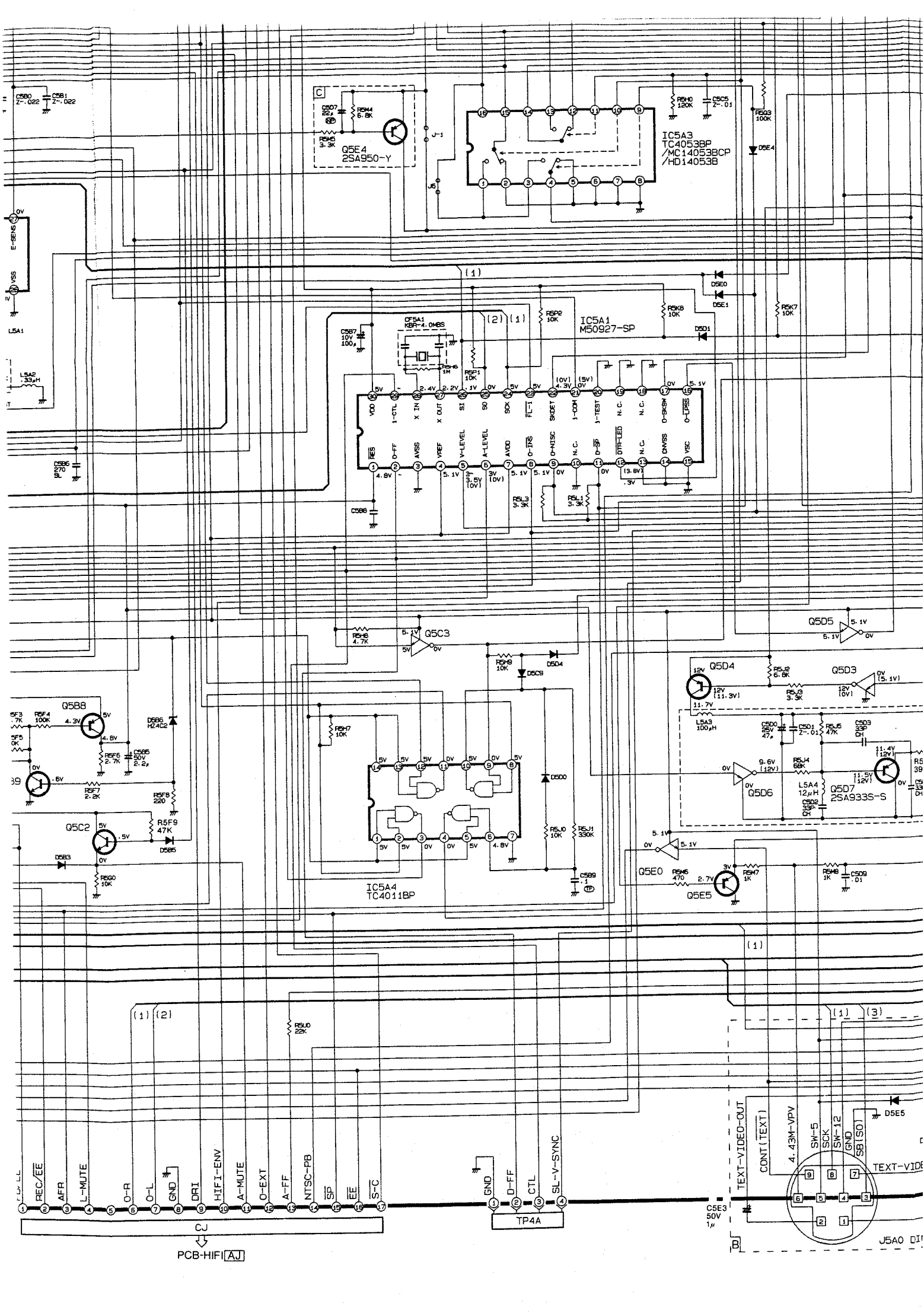
MC

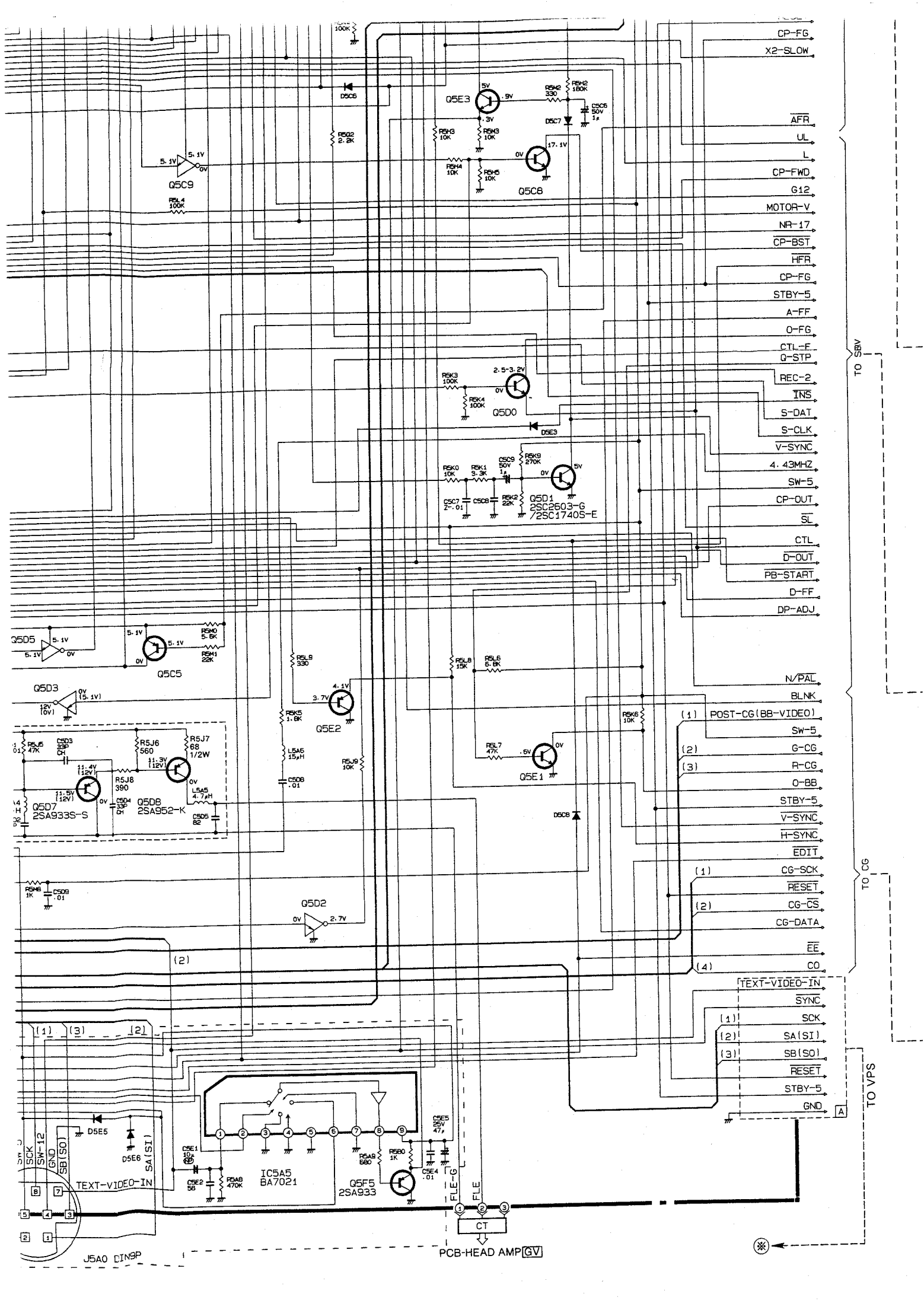
SYMBOL NO. / MODELS	A AREA	B AREA	C AREA	R5L0	J-2	J-1
HS-E82,E82(Y)(IR)	×	×	×	×	○	○
HS-B82	×	×	×	○	×	○
HS-E82(G)	○	○	×	×	○	○
HS-E82(A)/(NZ)	×	×	○	×	○	×

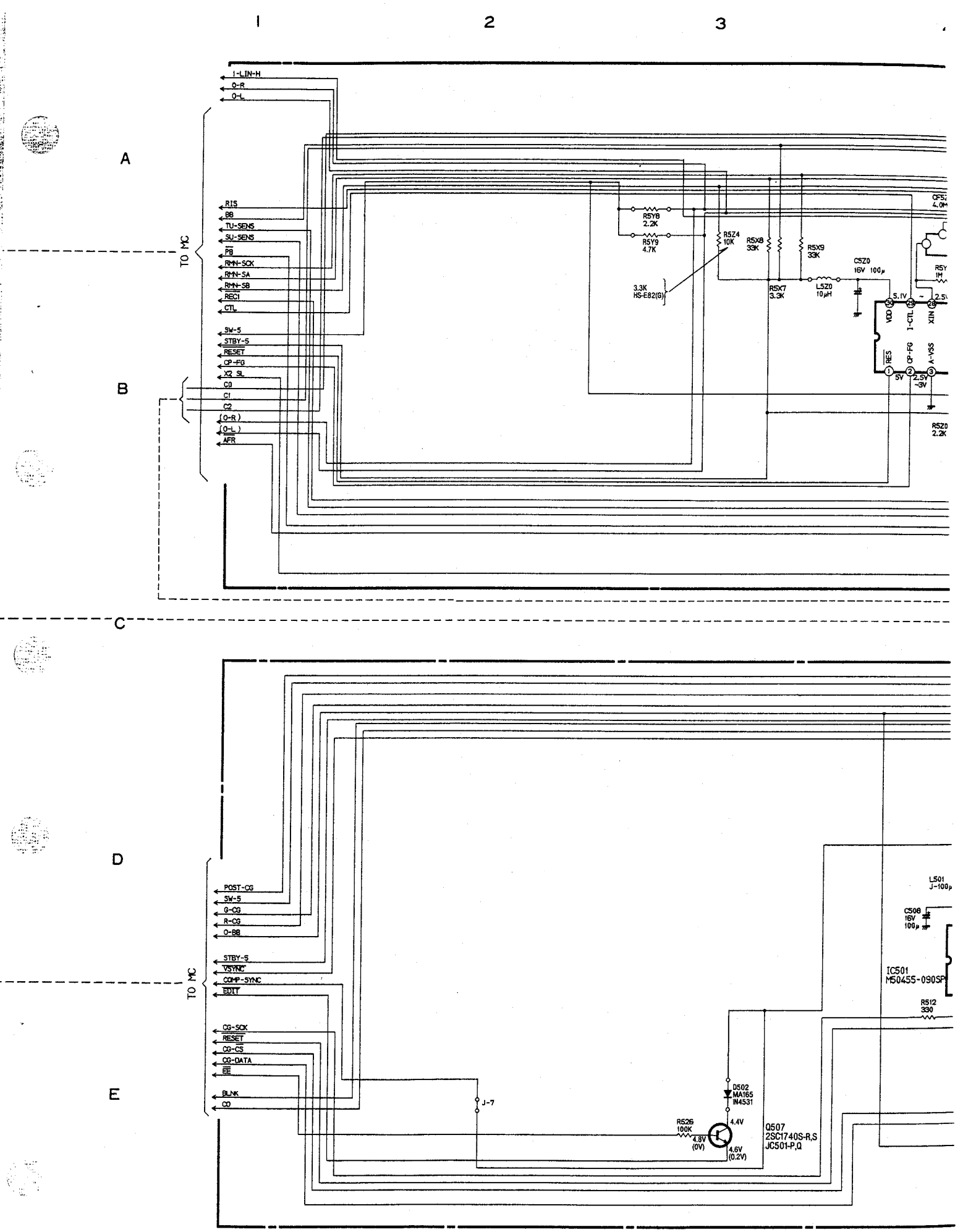
NOTE) PARTS WITHOUT INDICATION IN SCHEMATIC DIAGRAM.

- ● DIODES ARE MA165
- ● PNP TRANSISTORS ARE 2SA933S-R,S
- ● NPN TRANSISTORS ARE 2SC1740S-R,S
- ● PNP DIGITAL TRANSISTORS DTA124ES/UN4112
- ● NPN DIGITAL TRANSISTORS ARE DTC124ES/UN4212



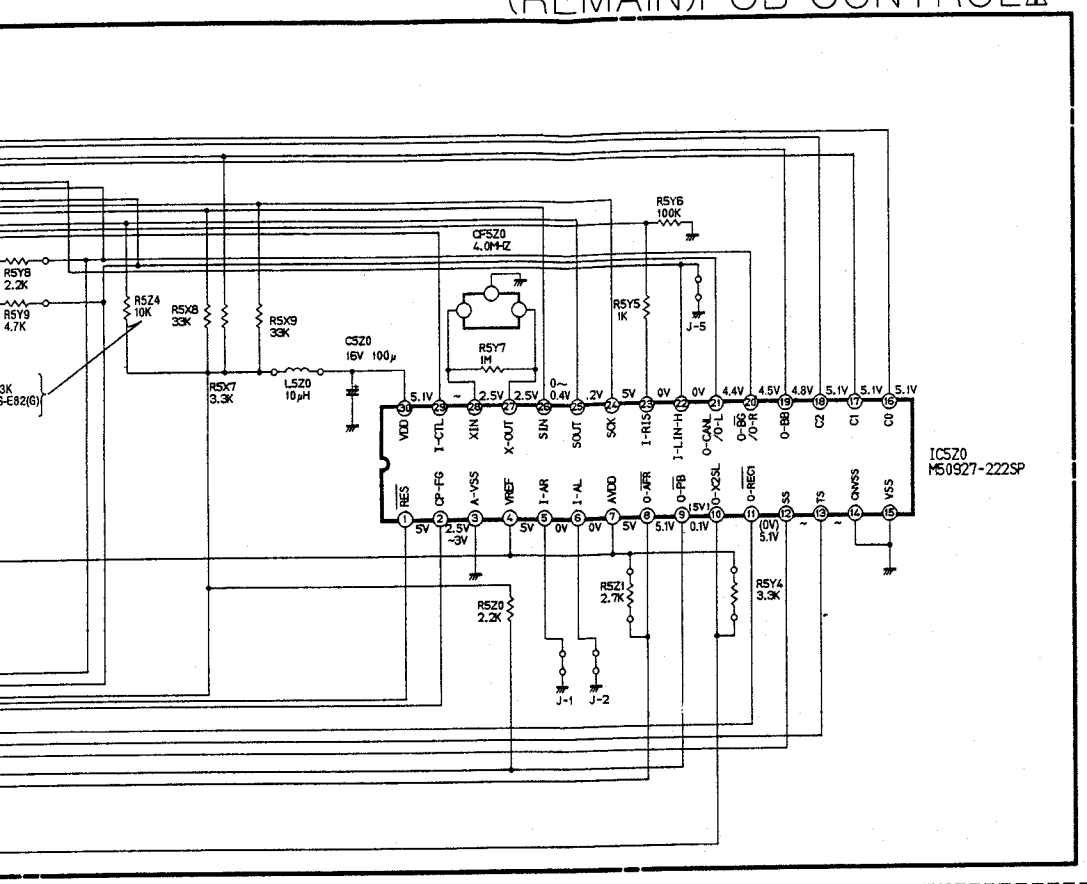

IC5A3
TC40538P
/MC14053BCP
/HD14053B
Q5E4
2SA950-Y
IC5A1
M50927-SP
IC5A4
TC4011BP
Q5D5
Q5D4
Q5D3
Q5D6
Q5D7
2SA933S-S
Q5E0
Q5E5
Q5C3
Q5C2
Q5B8
CJ
PCB-HIFI AJ
TP4A
J5A0 DI
REC/EE
AFR
L-MUTE
O-R
O-L
GND
DRI
HIFI-ENV
A-MUTE
O-EXT
A-FF
NTSC-PB
SP
EE
S-C
SL-V-SYNC
CTL
D-FF
TEXT-VIDEO-OUT
CONT(TEXT)
4.43M-VPV
SW-5
SCK
SW-12
GND
SB(SO)


CP-FG
X2-SLOW
AFR
UL
L
CP-FWD
G12
MOTOR-V
NR-17
CP-BST
HFR
CP-FG
STBY-5
A-FF
O-FG
CTL-E
Q-STP
REC-2
INS
S-DAT
S-CLK
V-SYNC
4.43MHZ
SW-5
CP-OUT
SL
CTL
D-OUT
PB-START
D-FF
DP-ADJ
TO SBV
N/PAL
BLNK
(1) POST-CG(BB-VIDEO)
SW-5
(2) G-CG
(3) R-CG
O-BB
STBY-5
V-SYNC
H-SYNC
EDIT
(1) CG-SCK
RESET
(2) CG-CS
CG-DATA
EE
(4) CO
TO CG
TEXT-VIDEO-IN
SYNC
(1) SCK
(2) SA(SI)
(3) SB(SO)
RESET
STBY-5
GND
TO VPS
Q5C9
Q5E3
Q5C8
Q5D0
Q5D1
2SC2603-G
/2SC1740S-E
Q5C5
Q5D5
Q5D3
Q5E2
Q5E1
Q5D7
2SA933S-S
Q5D8
2SA952-K
Q5D2
IC5A5
BA7021
Q5F5
2SA933
TEXT-VIDEO-IN
SCK
SW-12
GND
SB(SO)
SA(SI)
FLE-G
FLE
CT
PCB-HEAD AMP GV
J5A0 DIN9P

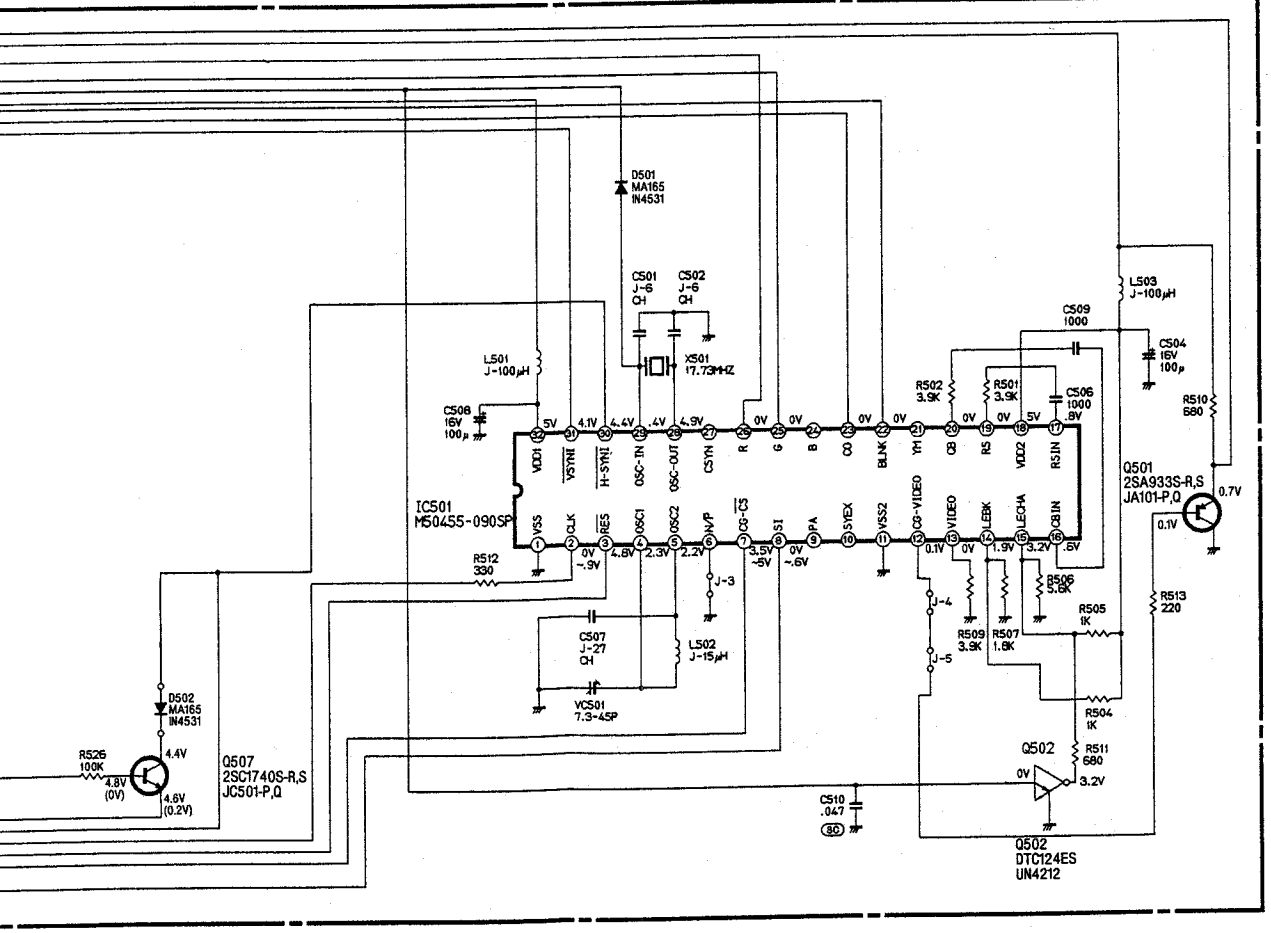

1
2
3
A
B
C
D
E
I-LIN-H
O-R
O-L
TO MC
RIS
BB
TU-SENS
SU-SENS
PB
RMN-SCK
RMN-SA
RMN-SB
REC1
CTL
SW-5
STBY-5
RESET
OP-FG
X2 SL
C0
C1
C2
(O-R)
(O-L)
AFR
R5Y8 2.2K
R5Y9 4.7K
R5Z4 10K
R5X8 33K
R5X9 33K
R5X7 3.3K
3.3K HS-E82(G)
C5Z0 16V 100μ
L5Z0 10μH
R5Y 1M
R5Z0 2.2K
VDD
I-CTL
XIN
RES
OP-FG
A-VSS
5V
2.5V ~3V
POST-CG
SW-5
G-CG
R-CG
O-BB
STBY-5
VSYNC
COMP-SYNC
EDIT
CG-SCK
RESET
CG-CS
CG-DATA
EE
BLNK
CO
J-7
D502 MA165 IN4531
R526 100K
4.8V (0V)
4.4V
4.6V (0.2V)
Q507 2SC1740S-R,S JC501-P,Q
L501 J-100μ
C508 16V 100μ
IC501 M50455-090SP
R512 330

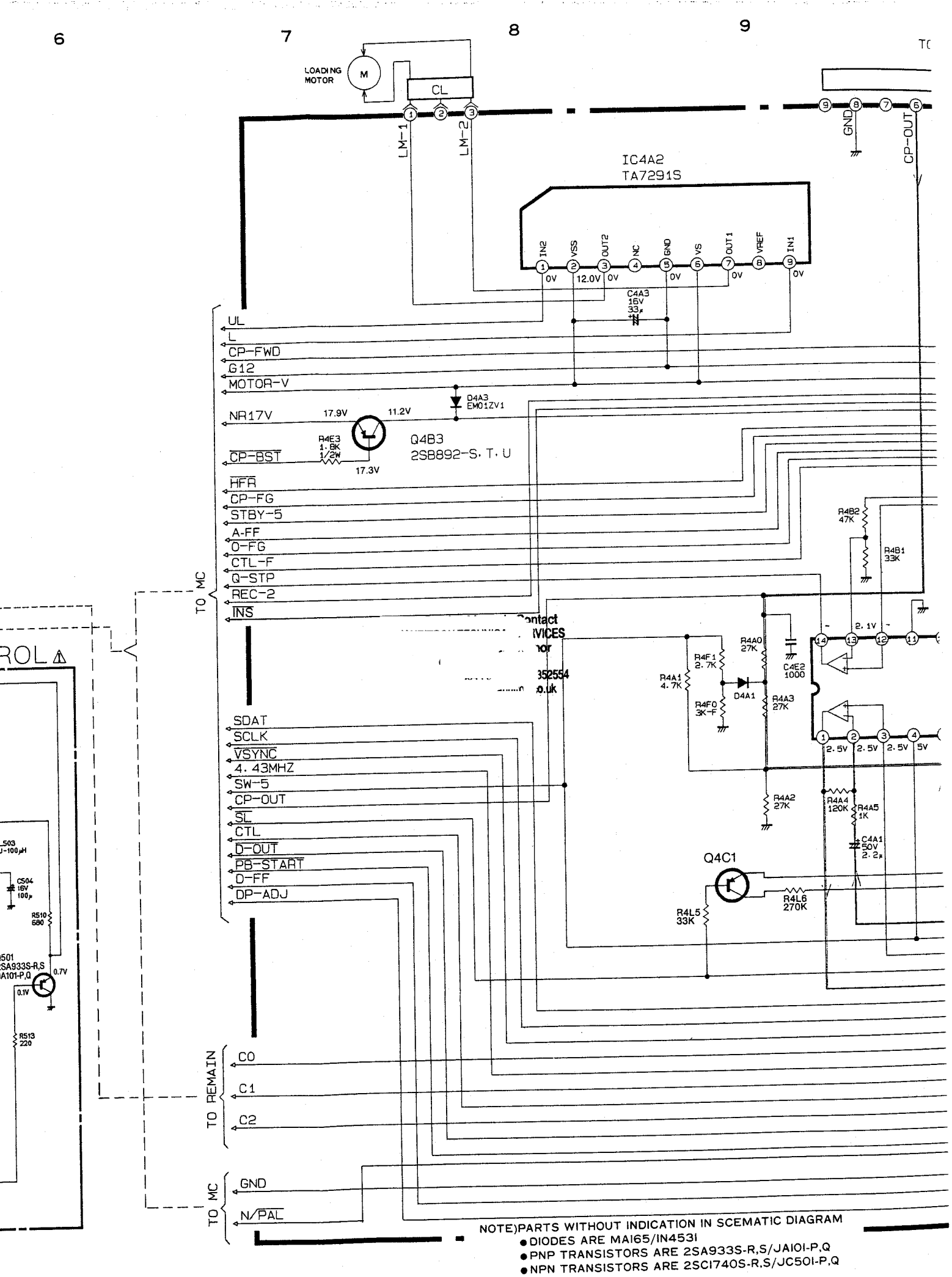
3 4 5 6

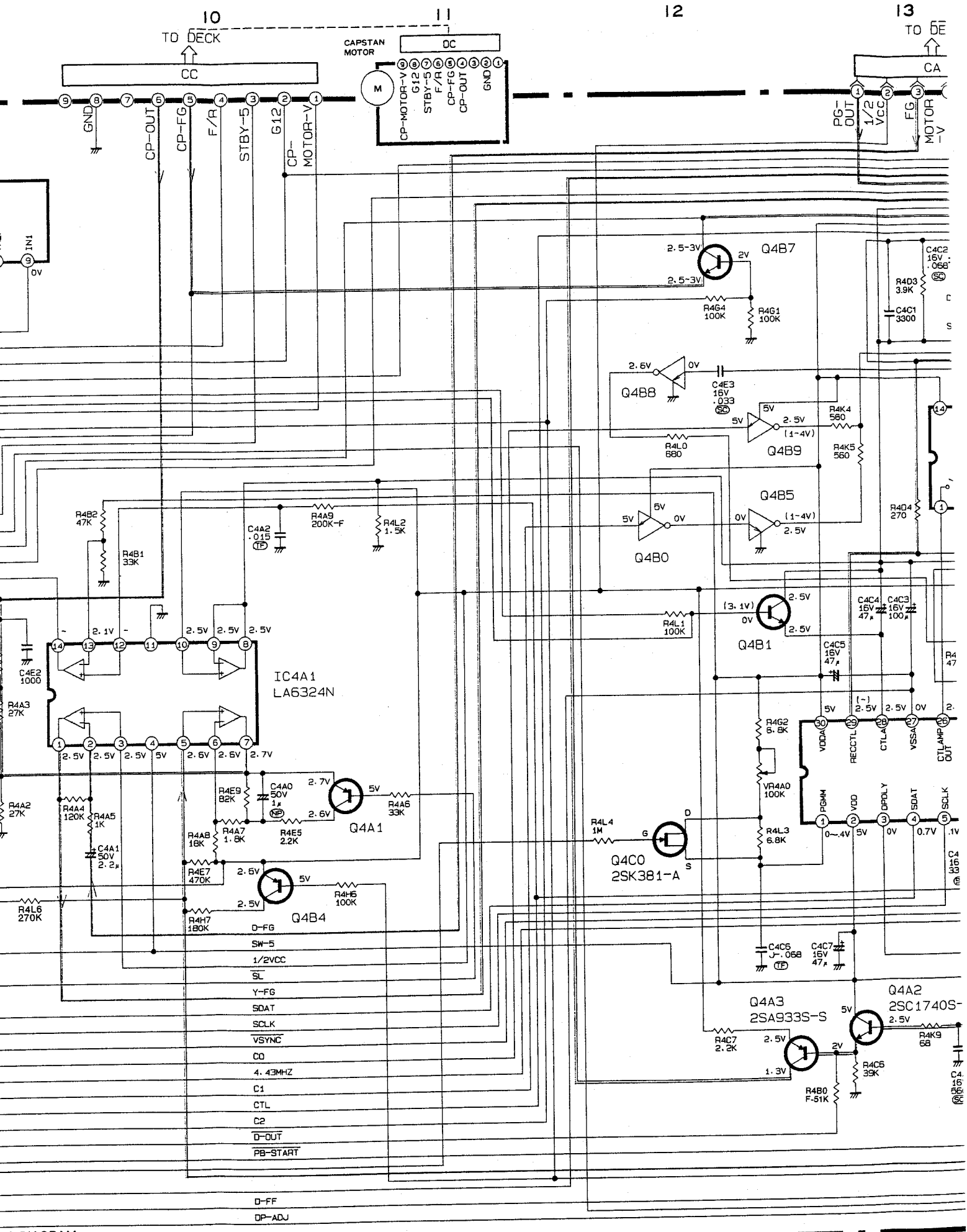
(REMAIN)PCB-CONTROL ⚠



(CG)PCB-CONTROL ⚠

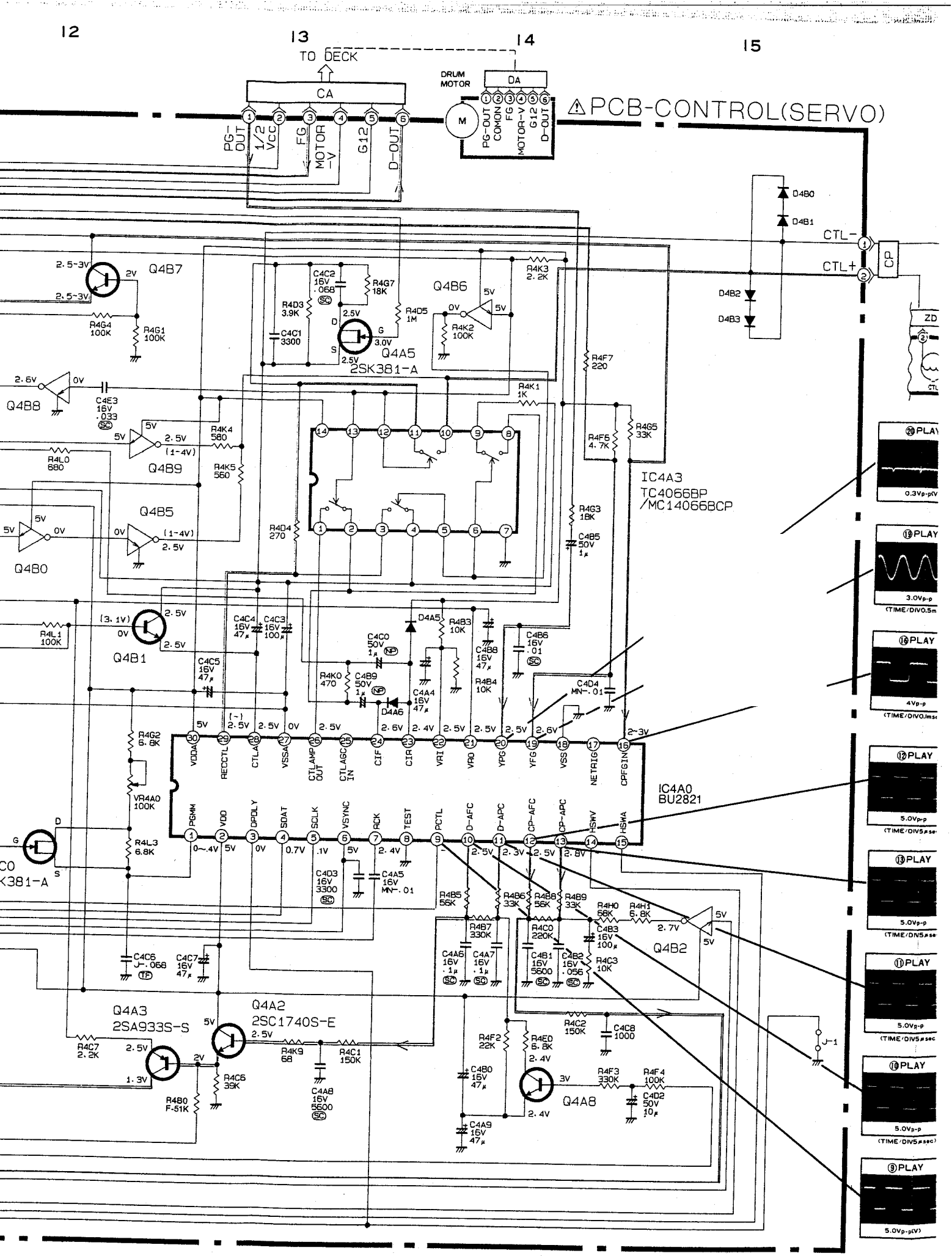



6
7
8
9
LOADING MOTOR
M
CL
LM-1
LM-2
GND
CP-OUT
IC4A2
TA7291S
IN2
VSS
OUT2
NC
GND
VS
OUT1
VREF
IN1
0V
12.0V
C4A3
16V
33μ
UL
L
CP-FWD
G12
MOTOR-V
D4A3
EM01ZV1
NR17V
17.9V
11.2V
R4E3
1.8K
1/2W
17.3V
Q4B3
2SB892-S, T, U
CP-BST
HFR
CP-FG
STBY-5
A-FF
O-FG
CTL-F
Q-STP
REC-2
INS
TO MC
R4B2
47K
R4B1
33K
2.1V
R4A0
27K
C4E2
1000
R4F1
2.7K
R4A1
4.7K
D4A1
R4F0
3K-F
R4A3
27K
2.5V
5V
R4A2
27K
R4A4
120K
R4A5
1K
C4A1
50V
2.2μ
Q4C1
R4L6
270K
R4L5
33K
SDAT
SCLK
VSYNC
4.43MHZ
SW-5
CP-OUT
SL
CTL
D-OUT
PB-START
D-FF
DP-ADJ
TO REMAIN
C0
C1
C2
TO MC
GND
N/PAL
ROL⚠
R510
680
0.7V
0.1V
R513
220
NOTE)PARTS WITHOUT INDICATION IN SCEMATIC DIAGRAM
● DIODES ARE MA165/IN4531
● PNP TRANSISTORS ARE 2SA933S-R,S/JA101-P,Q
● NPN TRANSISTORS ARE 2SC1740S-R,S/JC501-P,Q

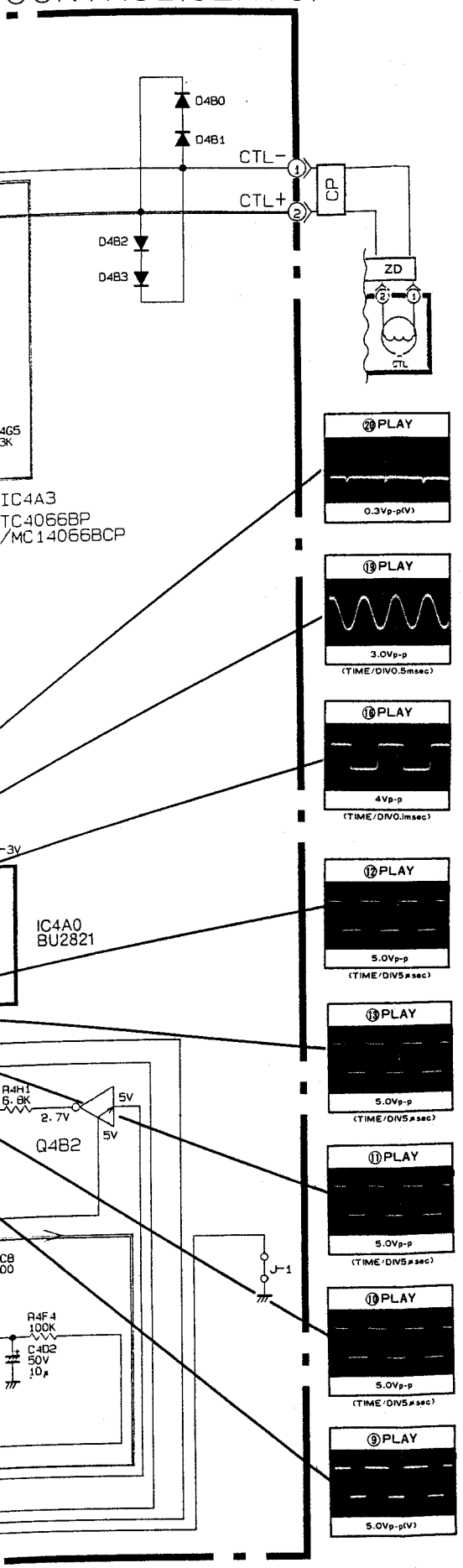


TIC DIAGRAM

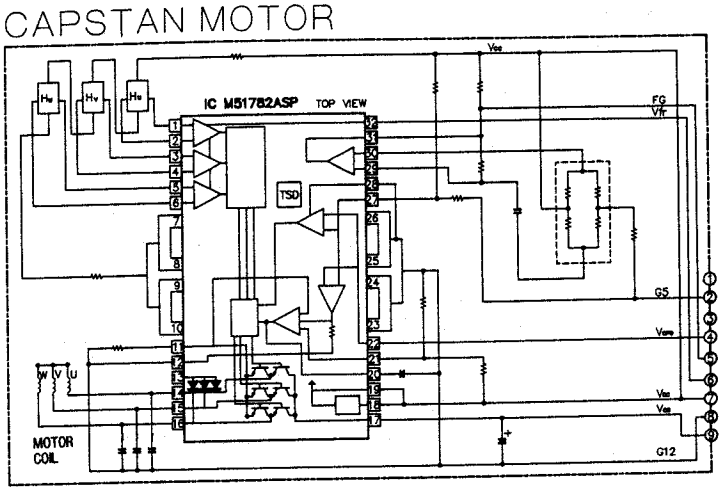
/JA101-P,Q
S/JC501-P,Q


12
13
14
15
TO DECK
CA
DRUM MOTOR
DA
PCB-CONTROL(SERVO)
PG-OUT
1/2 Vcc
FG
MOTOR -V
G12
D-OUT
M
D4B0
D4B1
D4B2
D4B3
CTL-
CTL+
CP
ZD
Q4B7
Q4B6
Q4A5
2SK381-A
Q4B8
Q4B9
Q4B5
Q4B0
Q4B1
IC4A3
TC4066BP
/MC14066BCP
IC4A0
BU2821
Q4B2
Q4A3
2SA933S-S
Q4A2
2SC1740S-E
Q4A8
J-1
20 PLAY
19 PLAY
18 PLAY
12 PLAY
13 PLAY
11 PLAY
10 PLAY
9 PLAY

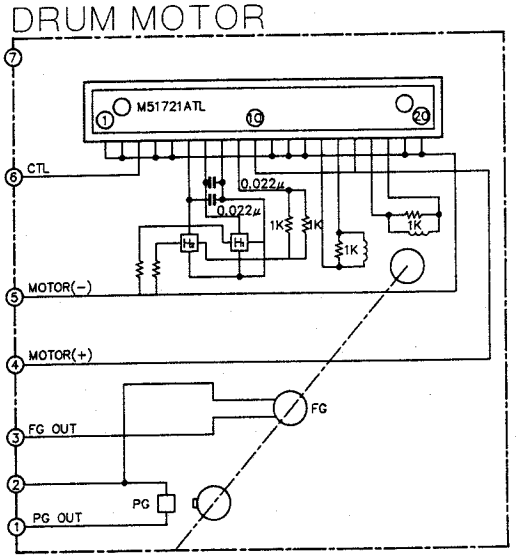
CONTROL(SERVO)



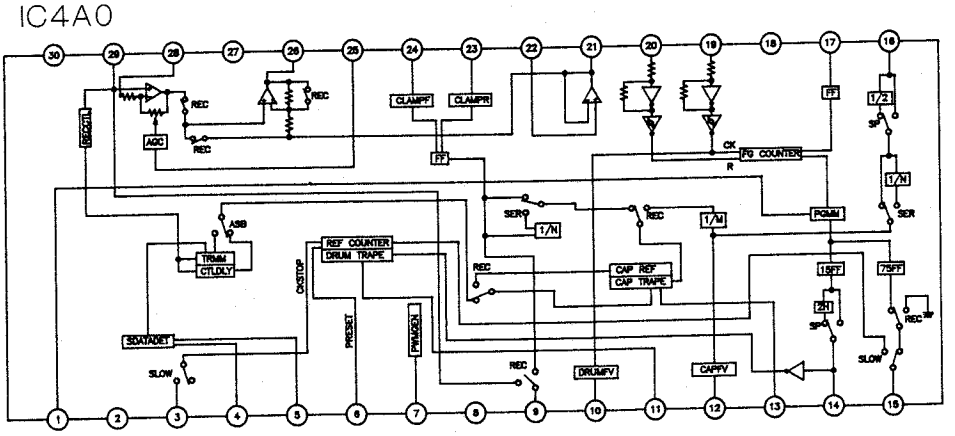
CAPSTAN MOTOR

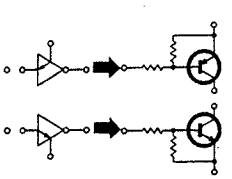


DRUM MOTOR



IC4A0





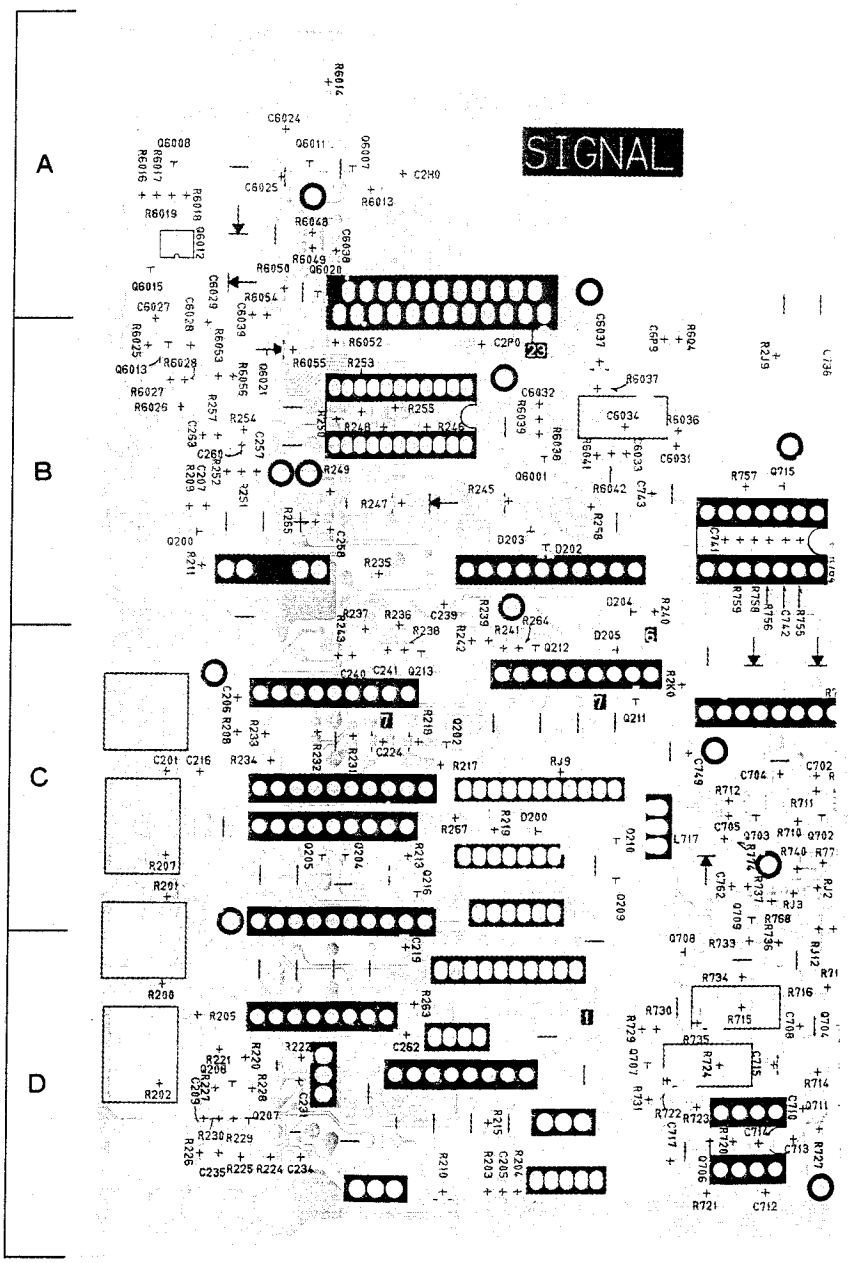
Drum Servo System

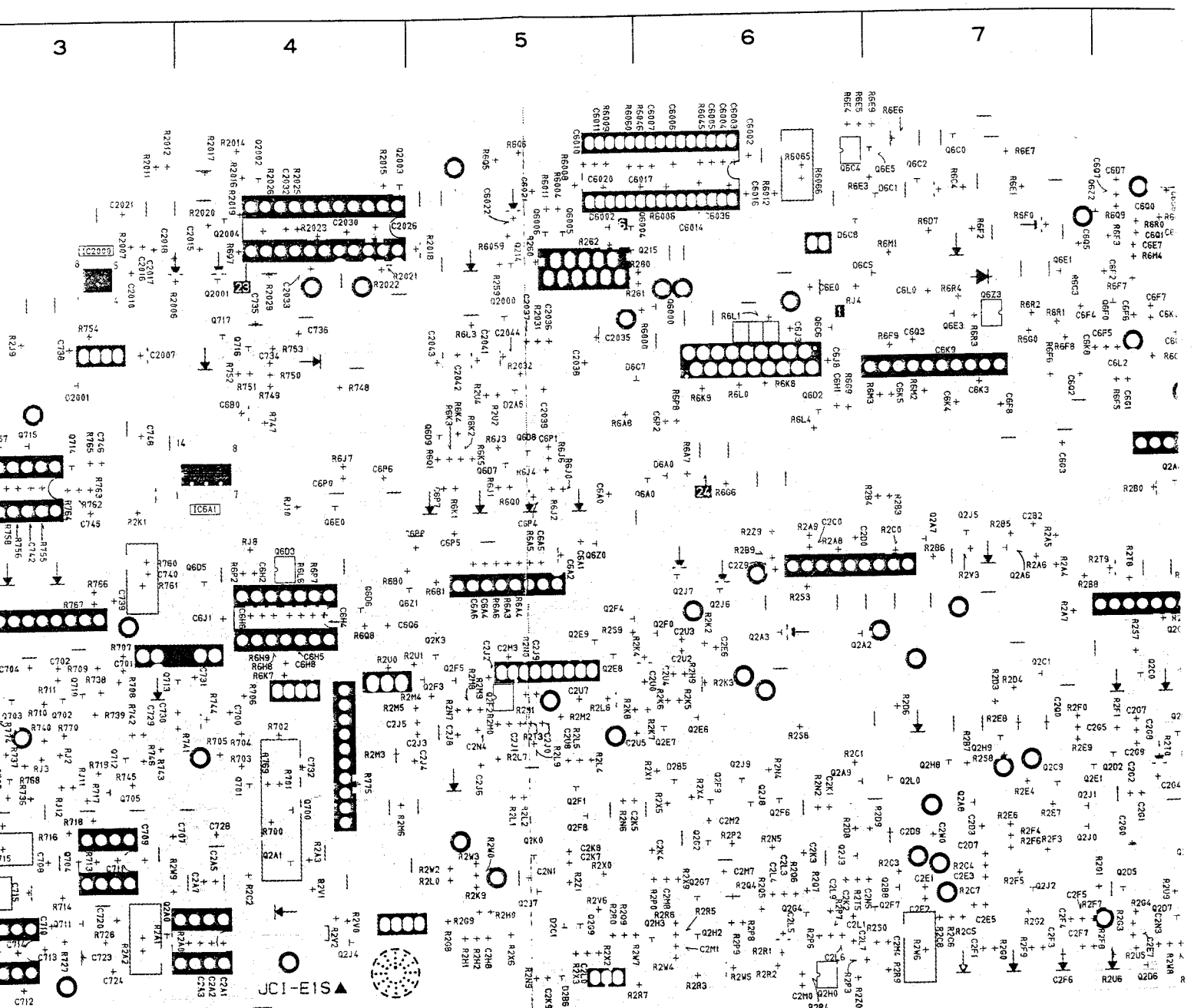
Capstan Servo System

HS-B82
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)

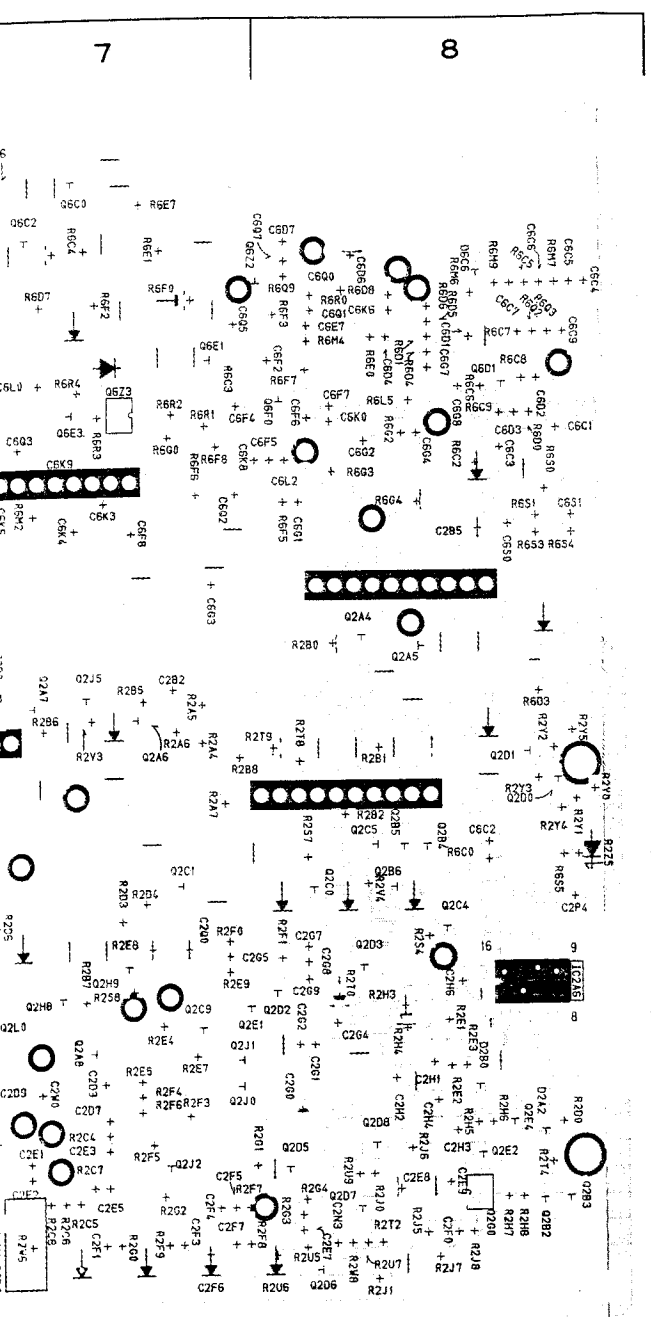
(7/8)

PCB-SIGNAL




3
4
5
6
7
JCI-E1S▲
© 240A86301

PCB-CONTROL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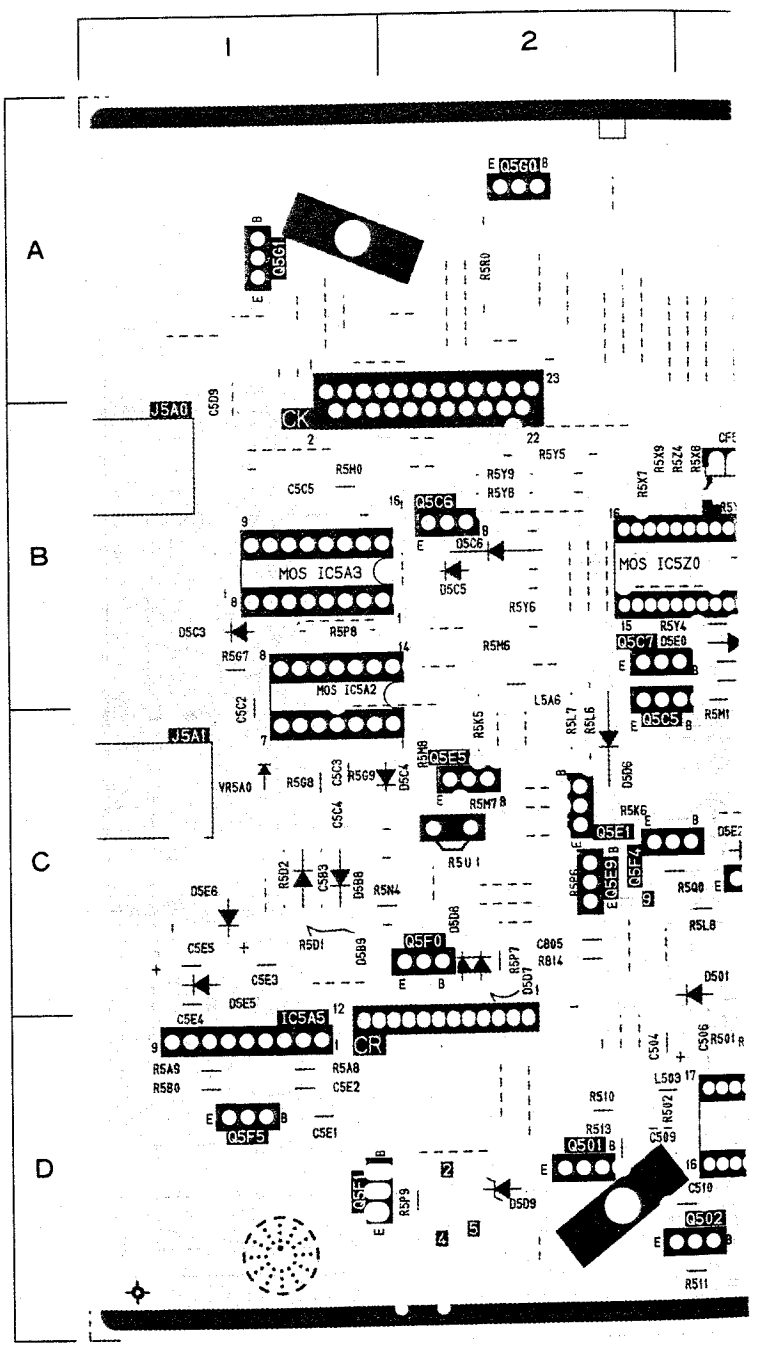
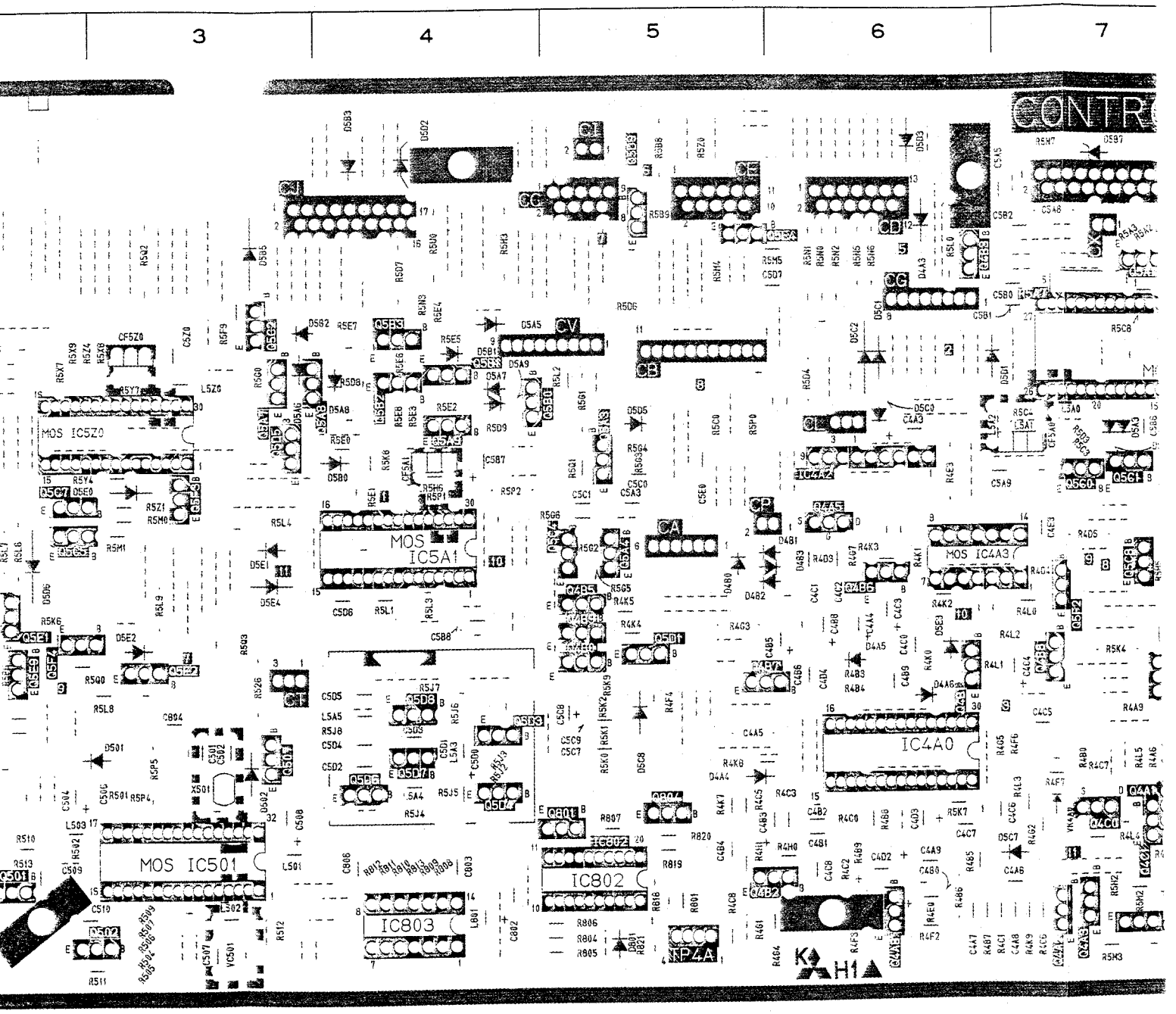
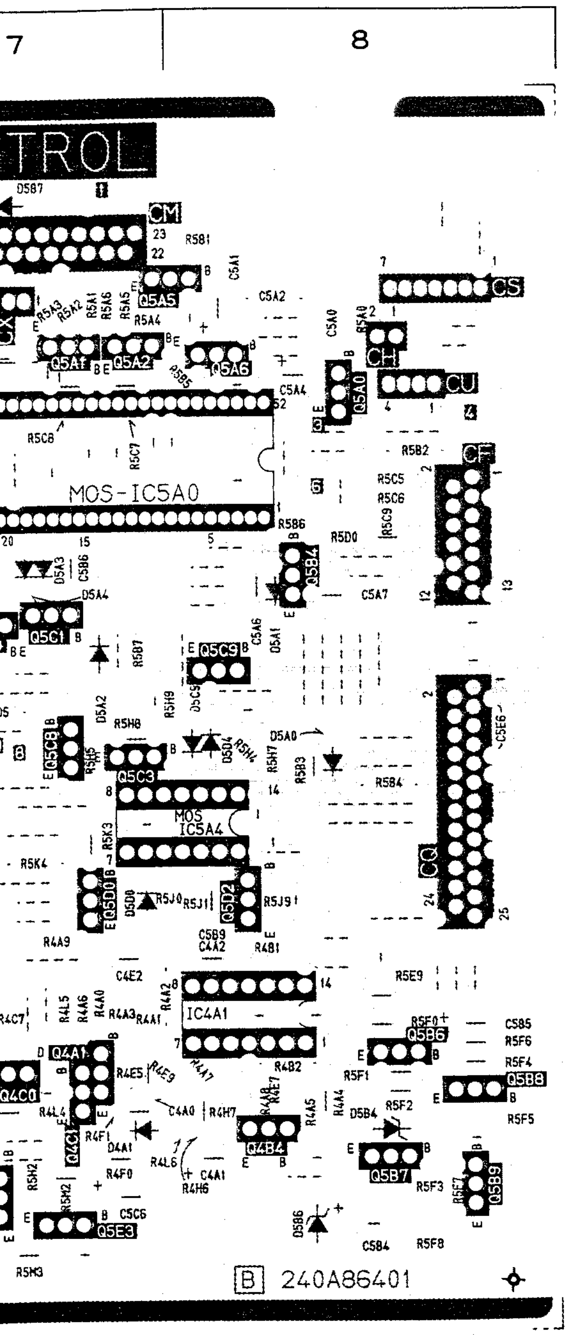
8


1
2
A
B
C
D
MOS IC5A3
MOS IC5A2
MOS IC5Z0
IC5A5
CK
CR
J5A0
J5A1
Q5G1
Q5C6
Q5C7
Q5E0
Q5C5
Q5E5
Q5E1
Q5E9
Q5F4
Q5F0
Q5F5
Q5E1
Q501
Q502


3
4
5
6
7
CONTR
MOS IC5Z0
MOS IC5A1
MOS IC4A3
IC4A0
MOS IC501
IC802
IC803
NP4A
H1

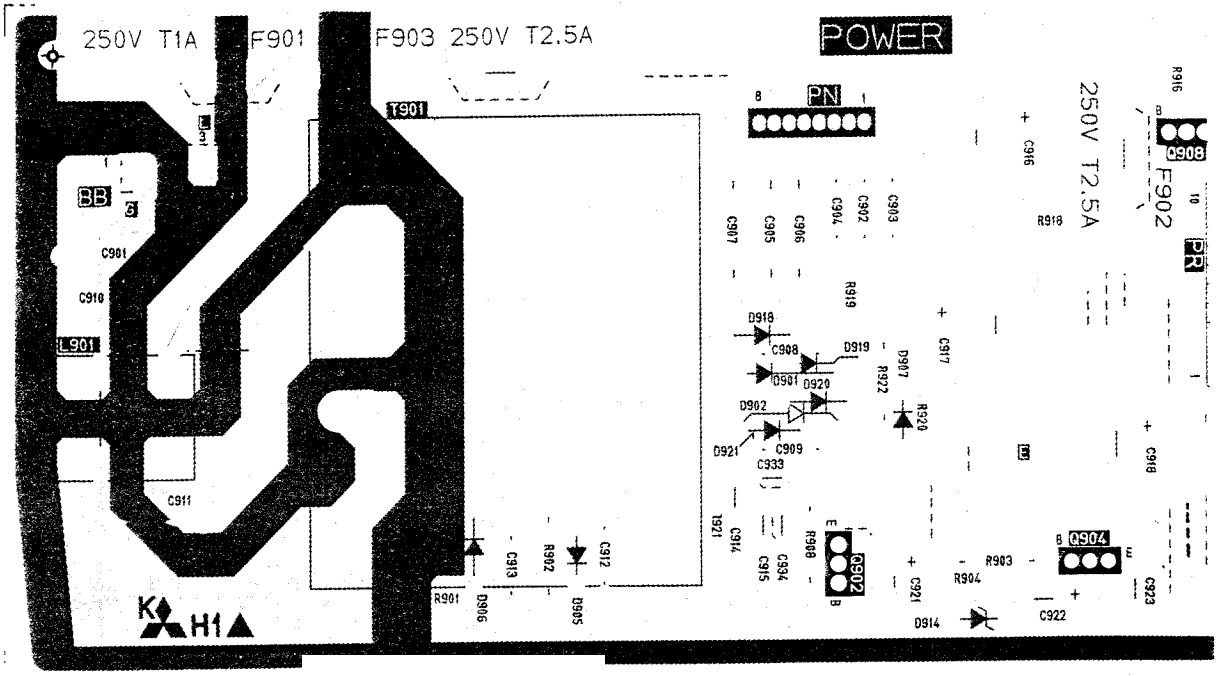


SYMBOL NO.	ADDRESS
D4A1	D-7
D4A3	A-6
D4A4	D-5
D4A5	C-6
D4A6	C-6
D4B0	C-5
D4B1	C-6
D4B2	C-5
D4B3	C-6
D501	C-3
D5A0	C-8
D5A1	B-8
D5A2	C-7
D5A3	B-7
D5A4	B-7
D5A5	B-4
D5A6	B-3
D5A7	B-4
D5A8	B-4
D5A9	B-4
D5B0	B-4
D5B1	B-4
D5B2	B-4
D5B3	A-4
D5B5	A-3
D5B4	D-8
D5B6	D-8
D5B7	A-7
D5B8	C-1
D5B9	C-1
D5C0	B-6
D5C1	B-6
D5C2	B-6
D5C3	B-1
D5C4	C-2
D5C5	B-2
D5C6	B-2
D5C7	D-7
D5C8	D-5
D5C9	B-8
D5D0	C-7
D5D1	B-7
D5D2	A-4
D5D3	A-6
D5A4	C-8
D5D5	B-5
D5D6	C-2
D5D7	C-2
D5D8	C-2
D5D9	D-2
D5E0	B-2
D5E1	C-3
D5E2	C-3
D5E3	C-6
D5E4	C-3
D5E5	C-1
D5E6	C-1
D801	D-5

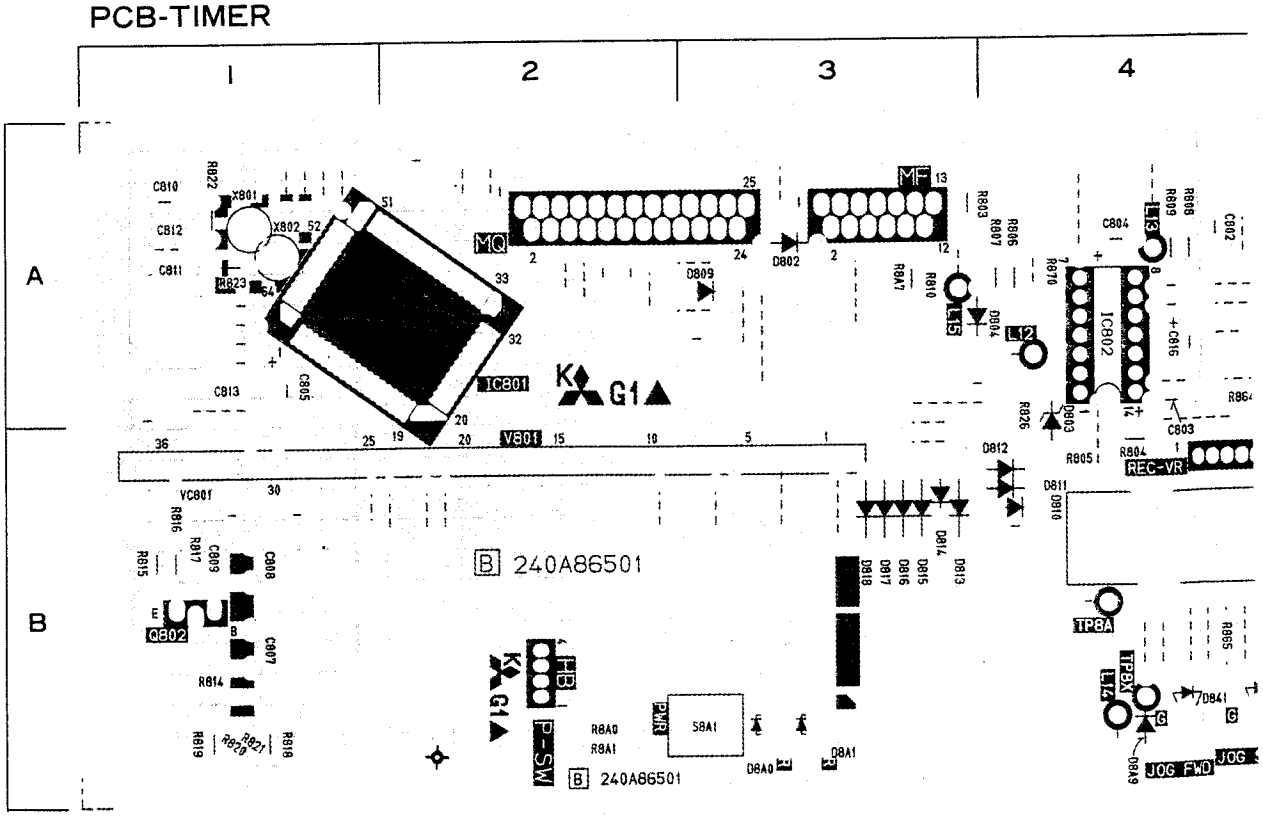
SYMBOL NO.	ADDRESS
IC4A0	C-6
IC4A1	D-8
IC4A2	B-6
IC4A3	C-6
IC501	D-3
IC5A0	B-7
IC5A1	C-4
IC5A3	B-1
IC5A2	B-1
IC5A4	C-8
IC5A5	D-1
IC5Z0	B-2
IC802	D-5
IC803	D-4
Q4A1	D-7
Q4A2	D-7
Q4A3	D-7
Q4A5	B-6
Q4A8	D-6
Q4B0	C-5
Q4B1	C-6
Q4B2	D-5
Q4B3	A-6
Q4B4	D-8
Q4B5	C-5
Q4B6	C-6
Q4B7	C-5
Q4B8	C-7
Q4B9	C-5
Q4C0	D-7
Q4C1	D-7
Q501	D-2
Q502	D-3
Q507	C-3
Q5A0	B-8
Q5A1	A-7
Q5A2	A-7
Q5A3	B-5
Q5A4	C-5
Q5A5	A-7
Q5A6	A-8
Q5A7	B-3
Q5A8	B-4
Q5A9	B-4
Q5B0	B-5
Q5B1	B-4
Q5B2	B-4
Q5B3	B-4
Q5B4	B-8
Q5B6	D-8
Q5B7	D-8
Q5B8	D-8
Q5B9	D-8
Q5C0	B-7
Q5C1	B-7
Q5C2	B-3
Q5C3	C-7
Q5C4	C-5

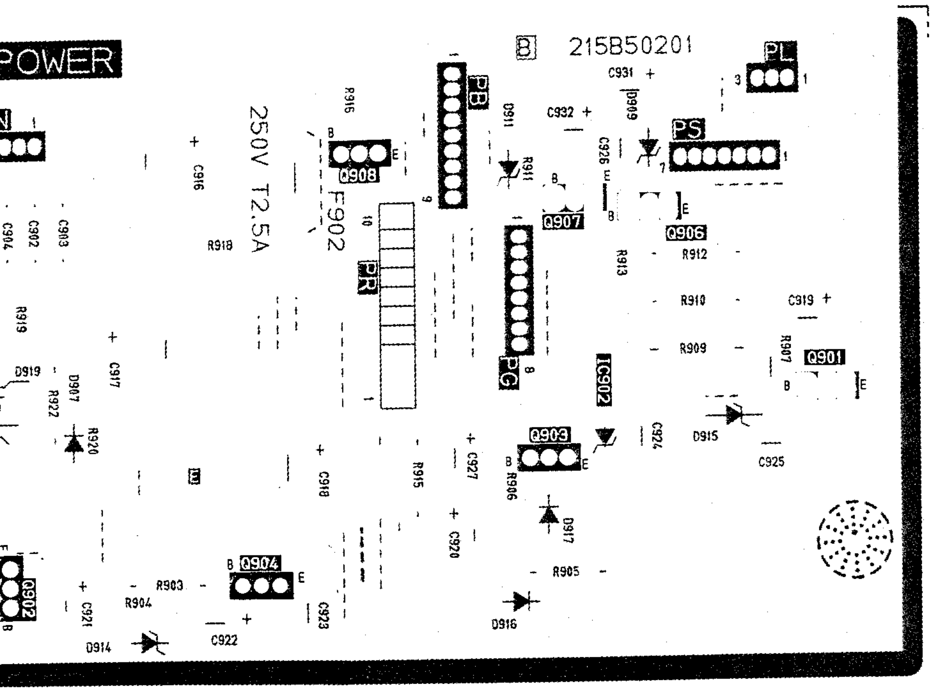
SYMBOL NO.	ADDRESS
Q5C5	C-2
Q5C6	B-2
Q5C7	B-2
Q5C8	C-7
Q5C9	B-8
Q5D0	C-7
Q5D1	C-5
Q5D2	C-8
Q5D3	C-4
Q5D4	D-4
Q5D5	B-3
Q5D6	D-4
Q5D7	D-4
Q5D8	C-4
Q5D9	A-5
Q5E1	C-2
Q5E2	C-3
Q5E3	D-7
Q5E4	A-6
Q5E5	C-2
Q5E9	C-2
Q5F0	C-2
Q5F1	D-1
Q5F2	C-7
Q5F3	B-3
Q5F4	C-2
Q5F5	D-1
Q5G0	A-2
Q5G1	A-1
Q801	D-5
Q804	D-5
TP4A	D-5
VC501	D-3
VR4A0	D-7
VR5A0	C-1

PCB-POWER

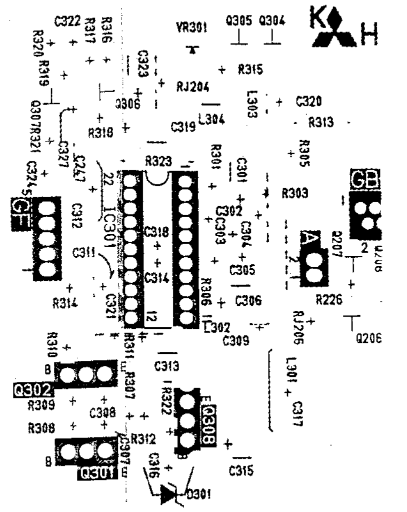


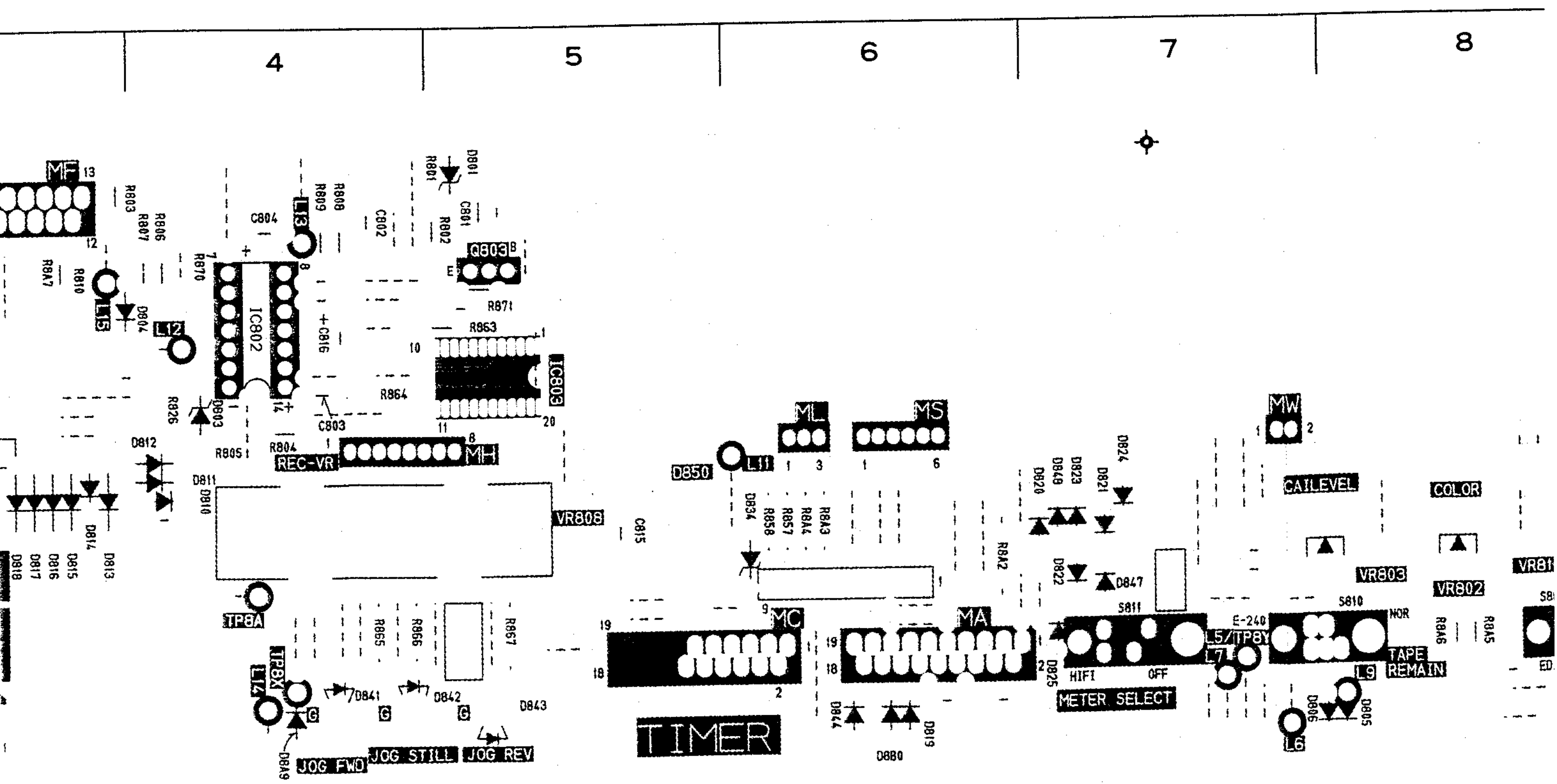
PCB-TIMER



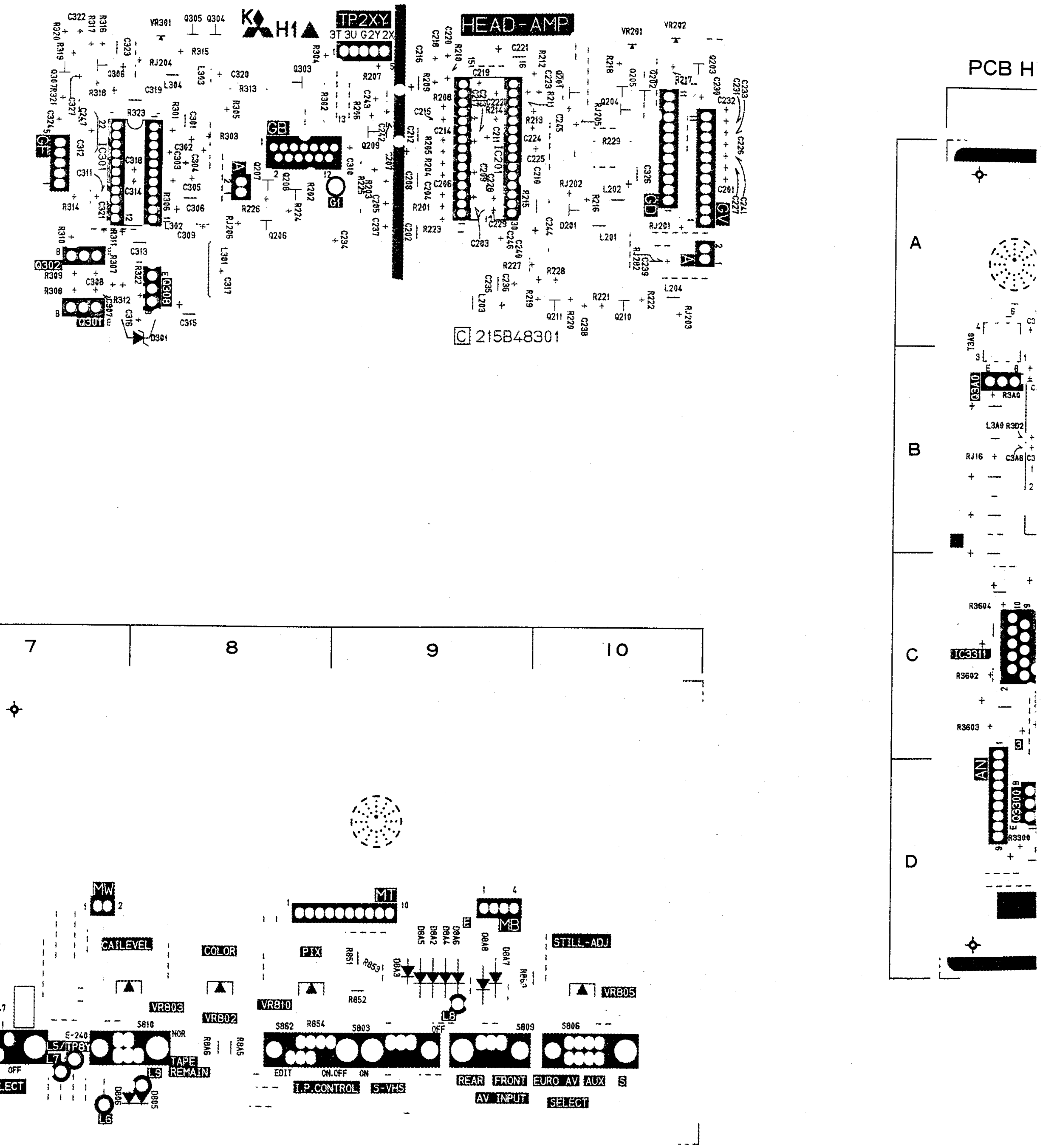

POWER
215B50201
250V T2.5A
F902

PCB-HEAD-AMP



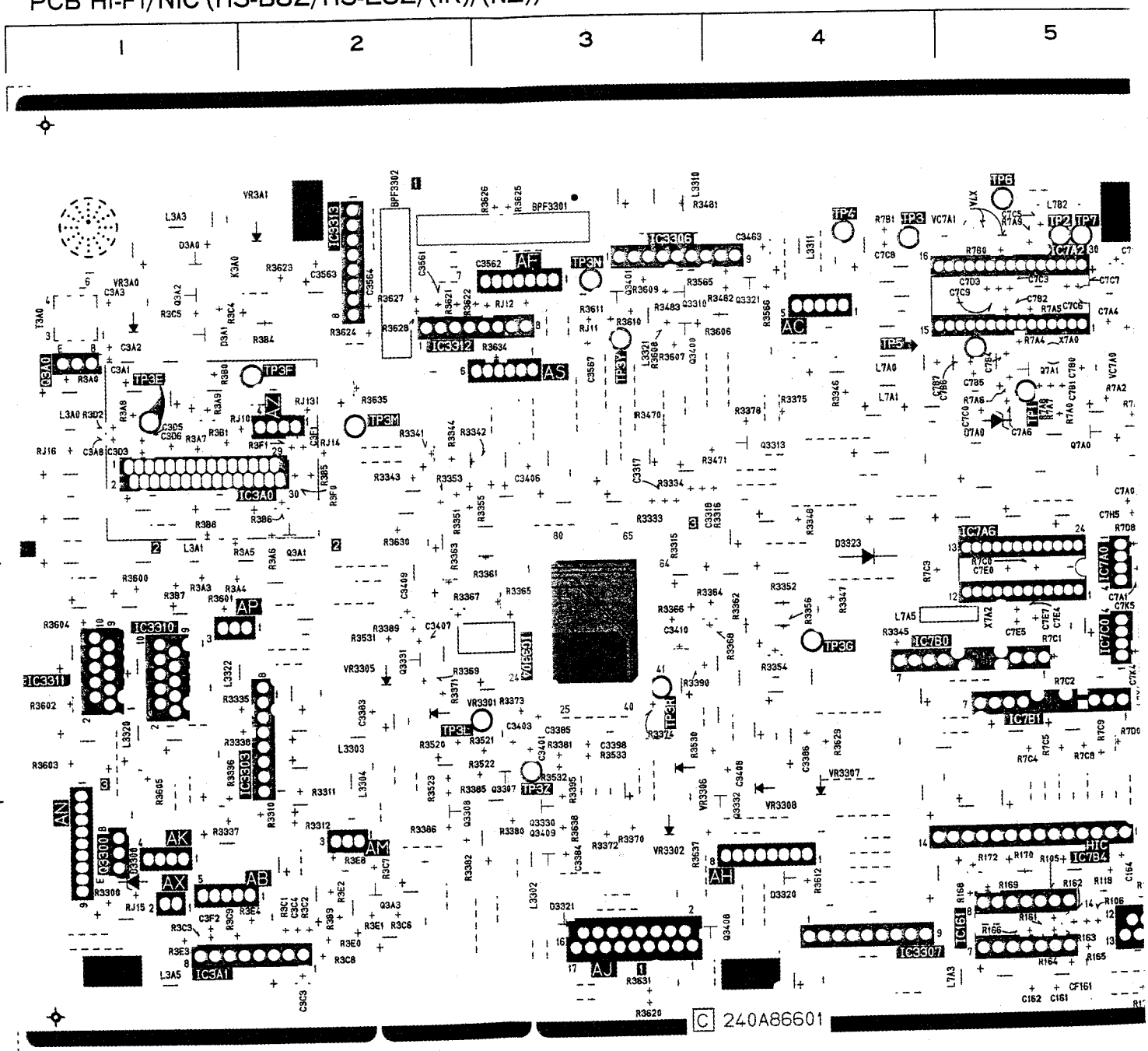

4
5
6
7
8
IC802
IC803
REC-VR
VR808
TIMER
METER SELECT
HIFI
OFF
CAILEVEL
COLOR
VR803
VR802
TAPE REMAIN
JOG FWD
JOG STILL
JOG REV

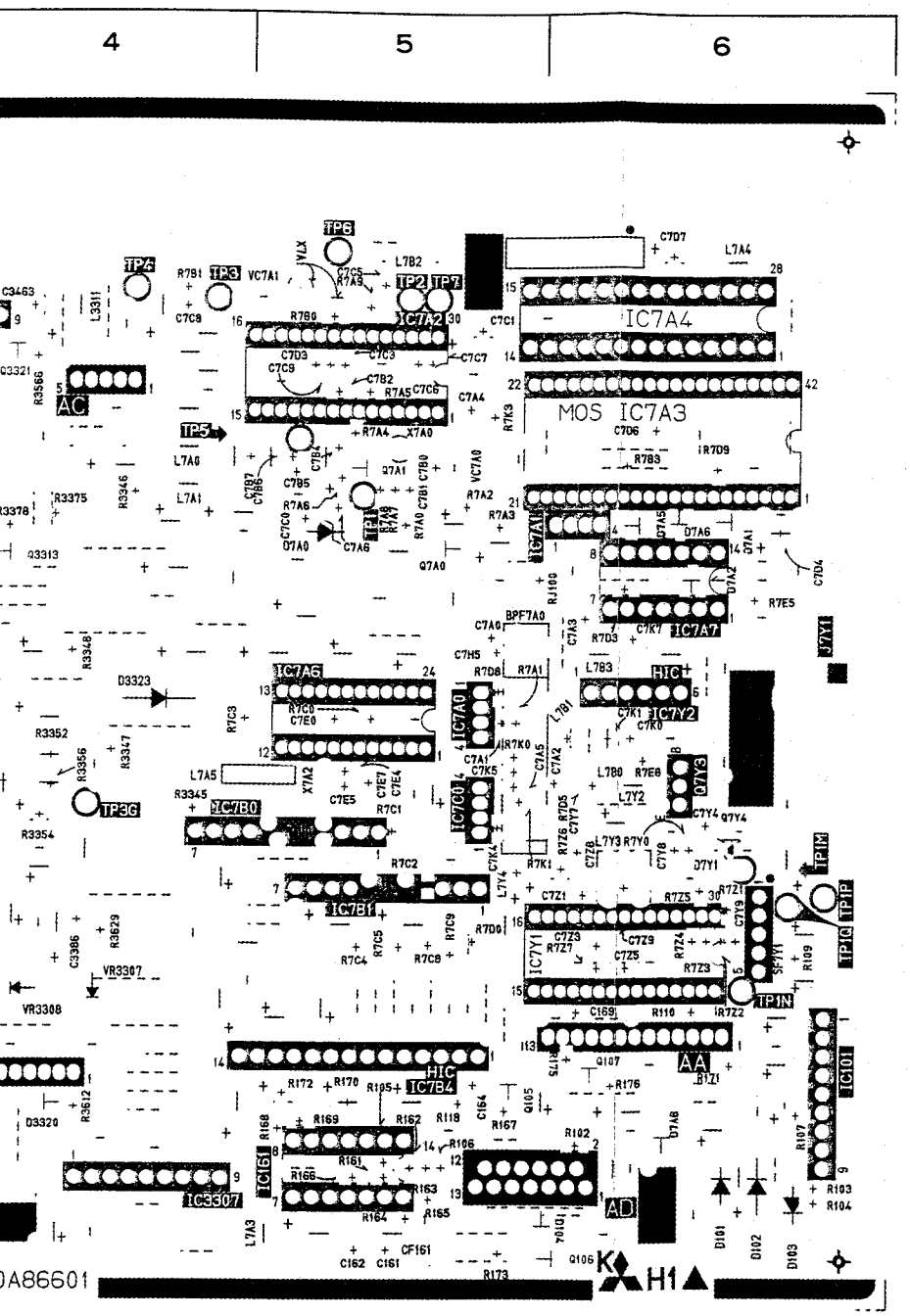
PCB-HEAD-AMP



TP2XY
3T 3U G2Y 2X
HEAD-AMP
IC201
IC301
GB
GF
GD
GV
215B48301
PCB H
A
B
C
D
7
8
9
10
IC3311
AN
MW
MT
MB
CAILEVEL
COLOR
PIX
STILL-ADJ
VR803
VR802
VR810
VR805
TAPE REMAIN
I.P. CONTROL
S-VHS
REAR
FRONT
AV INPUT
EURO AV
AUX
S
SELECT
EDIT
ON.OFF

PCB Hi-Fi/NIC (HS-B82/HS-E82/(IR)/(NZ))



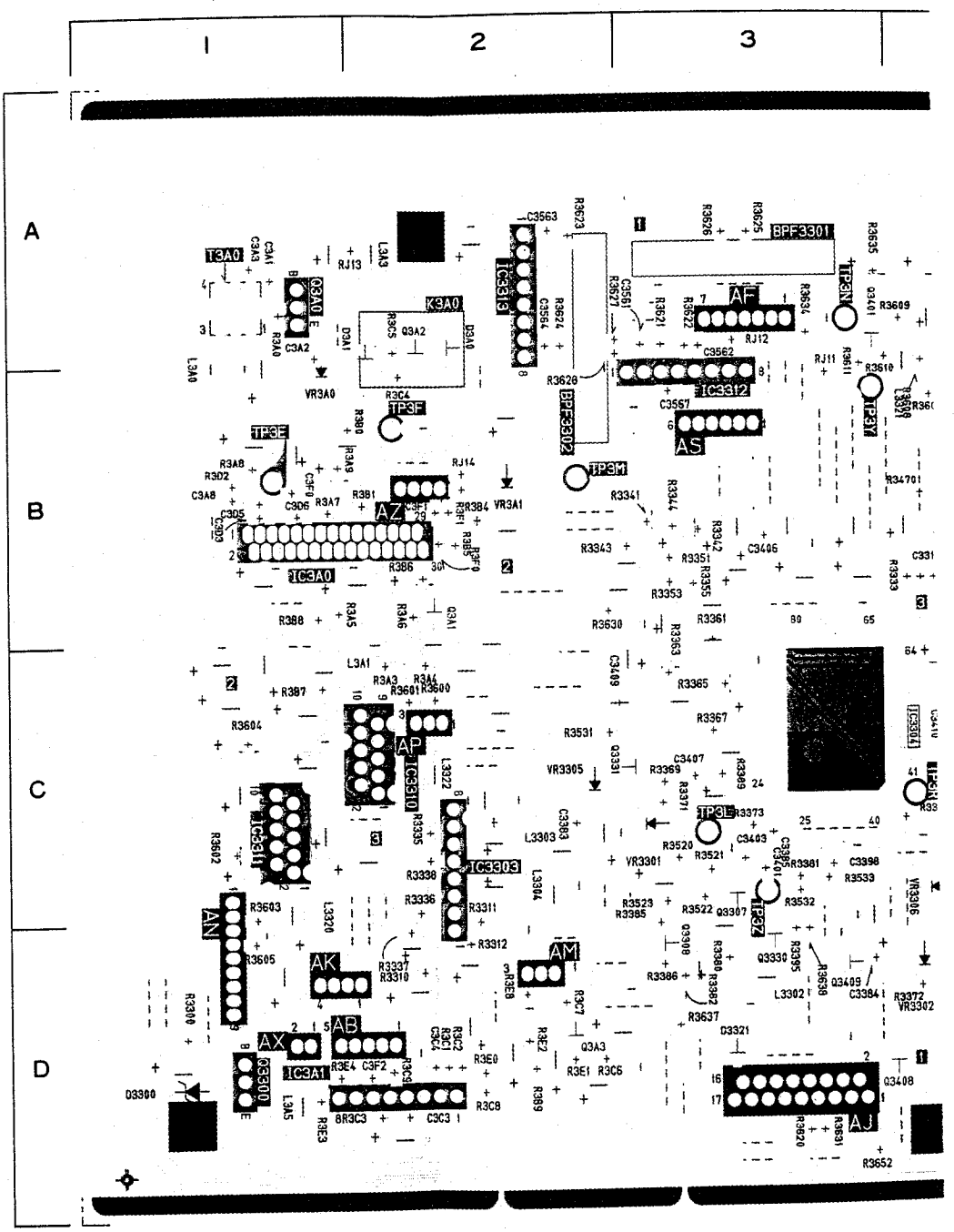


SYMBOL NO.	ADDRESS
D101	D-6
D102	D-6
D103	D-6
D104	D-6
D106	D-6
D3300	D-1
D3320	D-4
D3321	D-3
D3323	B-4
D3A0	A-1
D3A1	B-1
D7A0	B-5
D7A1	B-6
D7A2	B-6
D7A5	B-6
D7A6	B-6
D7A8	D-6
D7Y1	C-6
IC101	D-6
IC161	D-5
IC3303	C-1
IC3304	C-3
IC3306	A-3
IC3307	D-4
IC3310	C-1
IC3311	C-1
IC3312	B-2
IC3313	A-2
IC3A0	B-2
IC3A1	D-1
IC7A0	C-5
IC7A1	B-5
IC7A2	A-5
IC7A3	B-6
IC7A4	A-6
IC7A6	B-5
IC7A7	B-6
IC7B0	C-4
IC7B1	C-5
IC7B4	D-5
IC7C0	C-5
IC7Y1	C-5
IC7Y2	C-6
Q105	D-5
Q107	D-6
Q3300	D-1
Q3307	C-3
Q3308	D-2
Q3310	A-3
Q3313	B-4
Q3321	A-4
Q3330	D-3
Q3331	C-2
Q3332	D-4
Q3400	B-3
Q3401	A-3

SYMBOL NO.	ADDRESS
Q3408	D-4
Q3409	D-3
Q3A0	B-1
Q3A1	B-2
Q3A2	A-1
Q3A3	D-2
Q7A0	B-5
Q7A1	B-5
Q7Y3	C-6
Q7Y4	C-6
TP1	B-5
TP2	A-5
TP3	A-4
TP4	A-4
TP5	B-4
TP6	A-5
TP7	A-5
TP1M	C-6
TP1N	D-6
TP1P	C-6
TP1Q	C-6
TP3E	B-1
TP3F	B-2
TP3G	C-4
TP3L	C-2
TP3M	B-2
TP3N	A-3
TP3R	C-3
TP3Y	B-3
TP3Z	C-3
VC7A0	B-5
VC7A1	A-5
VR3301	C-2
VR3302	D-3
VR3305	C-2
VR3306	D-3
VR3307	C-4
VR3308	D-4
VR3A0	A-1
VR3A1	A-2

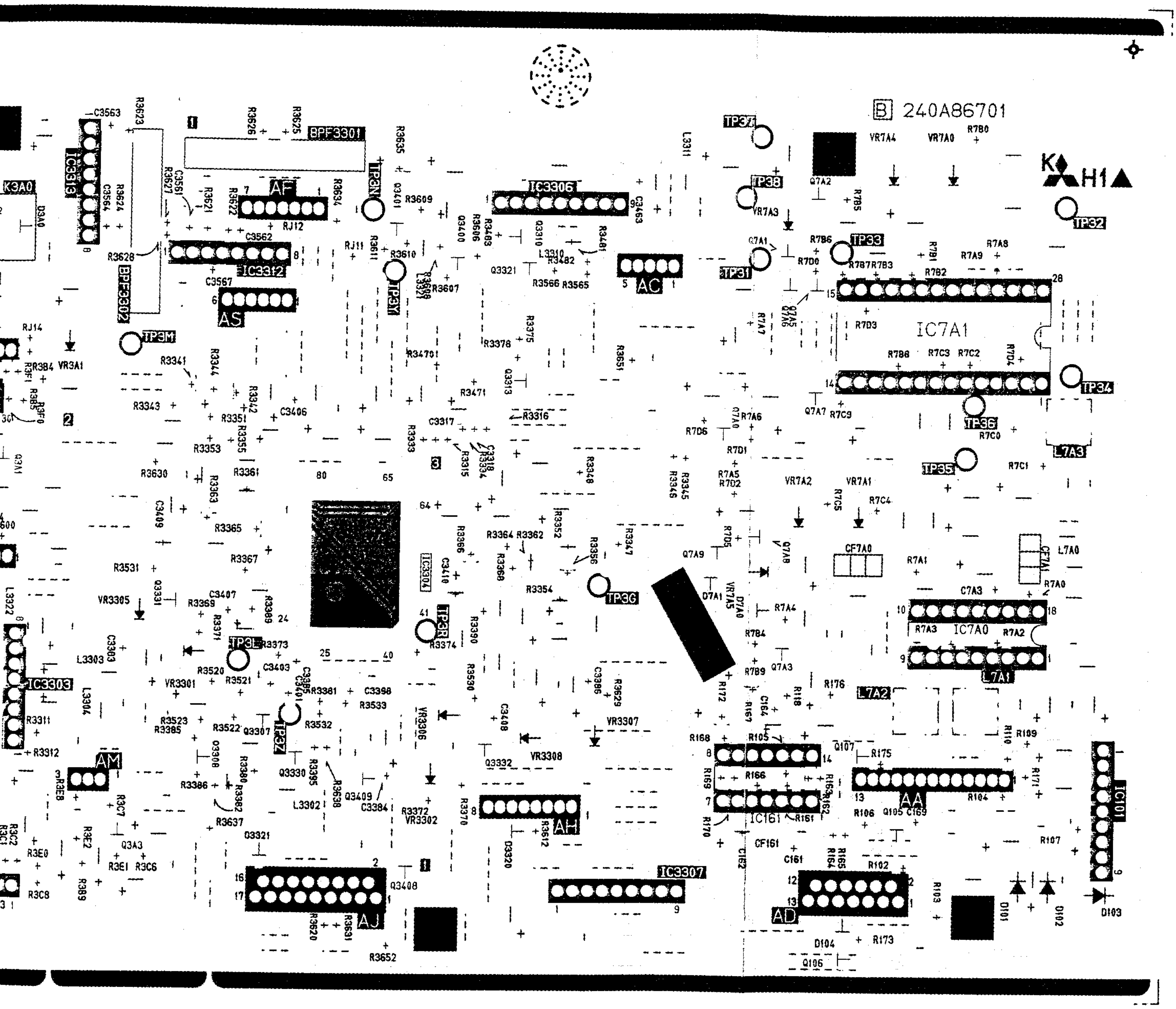
HS-B82 (8/8)
HS-E82
HS-E82(A)(G)(Y)(IR)(NZ)

PCB Hi-Fi/DEC(HS-E82(A)/(G)/(Y))

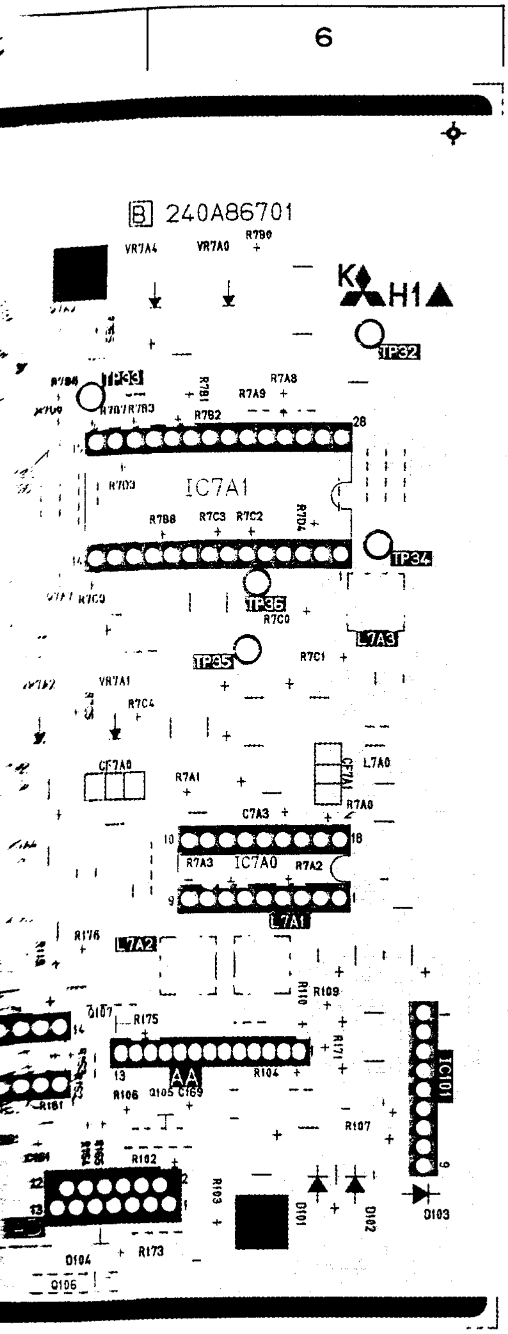


(A)/(G)/(Y))

2	3	4	5	6



B 240A86701
IC3306
IC3312
IC3303
IC3304
IC3307
IC7A1
IC7A0
IC161
IC101
BPF3301
BPF3302
AF
AS
AC
AA
AD
AH
AJ
AM
TP3N
TP3M
TP3Y
TP3G
TP3R
TP3L
TP3Z
TP37
TP38
TP31
TP32
TP33
TP34
TP35
TP36
L7A1
L7A2
L7A3
CF7A0
K3A0



SYMBOL NO.	ADDRESS
D101	D-6
D102	D-6
D103	D-6
D104	D-5
D106	D-5
D3300	D-1
D3320	D-4
D3321	D-3
D3A0	A-2
D3A1	A-1
D7A0	C-5
D7A1	C-5
IC101	D-6
IC161	D-5
IC3303	C-2
IC3304	C-4
IC3306	A-4
IC3307	D-5
IC3310	C-2
IC3311	C-1
IC3312	B-3
IC3313	A-2
IC3A0	B-1
IC3A1	D-1
IC7A0	C-6
IC7A1	B-6
Q105	D-6
Q107	D-5
Q3300	D-1
Q3307	C-3
Q3308	D-3
Q3310	A-4
Q3313	B-4
Q3321	B-4
Q3330	D-3
Q3331	C-2
Q3332	D-4
Q3401	A-3
Q3409	D-3
Q3A0	A-1
Q3A1	B-2
Q3A2	A-2
Q3A3	D-2
Q7A0	B-5
Q7A1	A-5
Q7A2	A-5
Q7A3	C-5
Q7A5	B-5
Q7A6	B-5
Q7A7	B-5
Q7A8	C-5
Q7A9	C-5
TP31	B-5
TP32	A-6

SYMBOL NO.	ADDRESS
TP33	A-5
TP34	B-6
TP35	B-6
TP36	B-6
TP37	A-5
TP38	A-5
TP3E	B-1
TP3F	B-2
TP3G	C-4
TP3L	C-3
TP3M	B-2
TP3N	A-3
TP3R	C-4
TP3Y	B-3
TP3Z	D-3
VR3301	C-3
VR3302	D-4
VR3305	C-2
VR3306	C-4
VR3307	C-4
VR3308	D-4
VR3A0	B-1
VR3A1	B-2
VR7A0	A-6
VR7A1	B-5
VR7A2	B-5
VR7A3	A-5
VR7A4	A-5
VR7A5	C-5