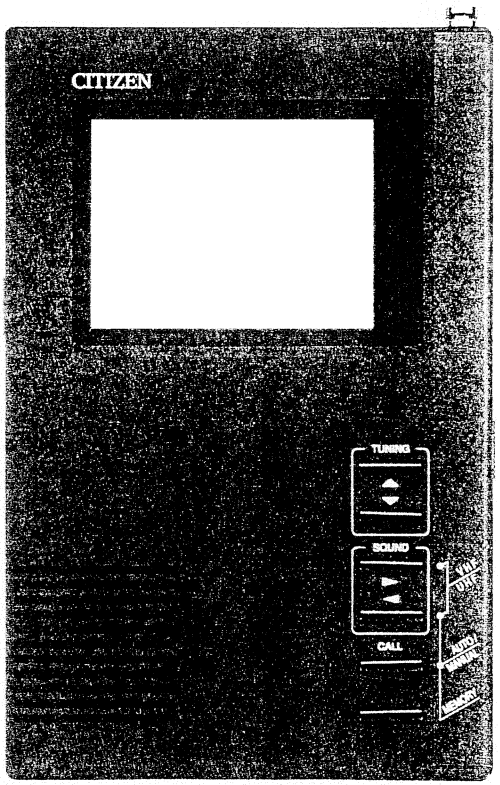
CITIZEN

Service Manual

LCD COLOUR TV & VIDEO MONITOR

P630 BA/BB (PAL-I)
HA (PAL-B/G)
DA/IA (PAL-B/G)



GENERAL SPECIFICATIONS

• Screen Size	43.8 × 58.3 mm (2.9 in.)
• No. of Pixels	130 × 648 = 84,240
• Receiving: TV Channel	VHF 2 — 12 ch UHF 21 ch — 69 ch
• Current Drain (Sound Min.)	410 ± 40 mA
• Operating Voltage	7.0 V — 8.0 V
• Power Consumption	Approx. 3.0 W
• Operating Temperature Range	+ 5 °C — + 40 °C +41 °F — + 104 °F
• Storage Temperature Range	– 20 °C — + 60 °C – 4 °F — + 140 °F
• Battery Life	Approx. 2.5 hours (Continuous Operation at TV) (with Alkaline Batteries)
• Speaker	ø 28 mm Dynamic Speaker
• Dimensions	99 (H) × 152 (W) × 24 (D) mm
• Weight	Approx. 280 gr (w/o batteries)

Note: Specifications and design are subject to change without notice.

CONTENTS

DISASSEMBLY AND ASSEMBLY PROCEDURE

A. Rear Case (200)

Disassembly

- Set the unit with its screen downward. Fig.1
- Remove the four screws (601) at the back face of unit. Fig.1
- Remove the Rear Case (200) from the Front Case (100) as follows.
  Push the two catches A of the Rear Case by finger as shown in Fig.1 and remove the Hook A, from the Catch A of Front Case (100).
  Note:
  Be careful not to force too much to prevent the plastic Rear Case (200) from getting damaged.
- As illastrated in Fig.1, hold the side of Front Case (100) by hand and pull out Rear Case (200) in the direction (arrow Y) of up slant by other hand.

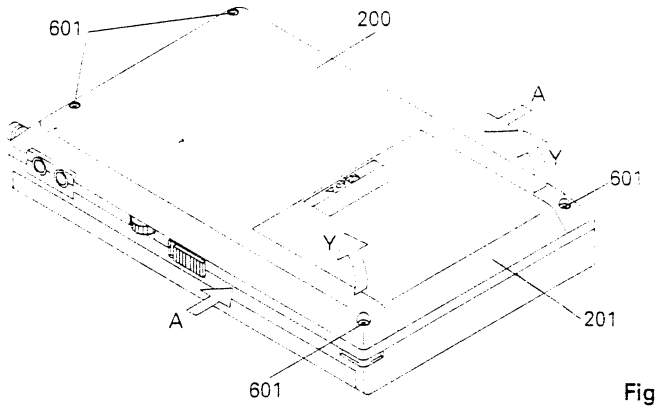


Fig.1

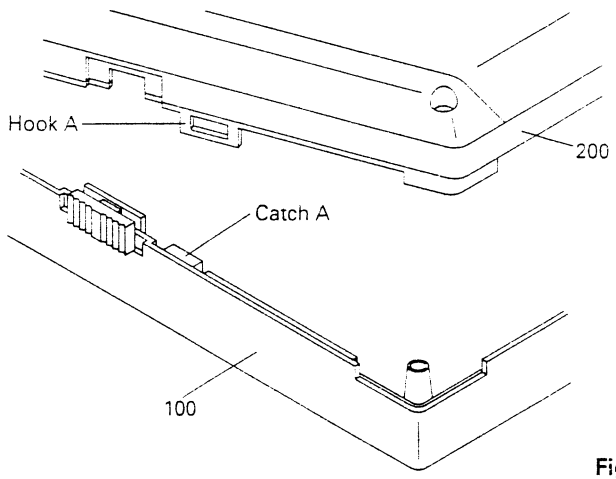


Fig.2

Assembly

- Perform assembly by reversing the procedure outlined for disassembly.

B. TV Receiver Circuit Assembly (PCB-2)

Disassembly

- Take off solder to remove the jumper wire A from PCB-2, Fig.3
- Take off solder to remove the jumper wire B from PCB-2. Fig.3
- Take off solder to remove the jumper wire C from PCB-2. fig.3
- Take off solder to remove the Speaker jumper wire D from PCB-2. Fig.3
- Remove the screw (602) and (604) fixing the PCB-2.
- Lift the PCB-2 and remove the PCB-2 from the Front Case (100). Fig.3
- Remove the Knob of Power SW (SW = Switch) (101) from the Front Case (100). Fig.5

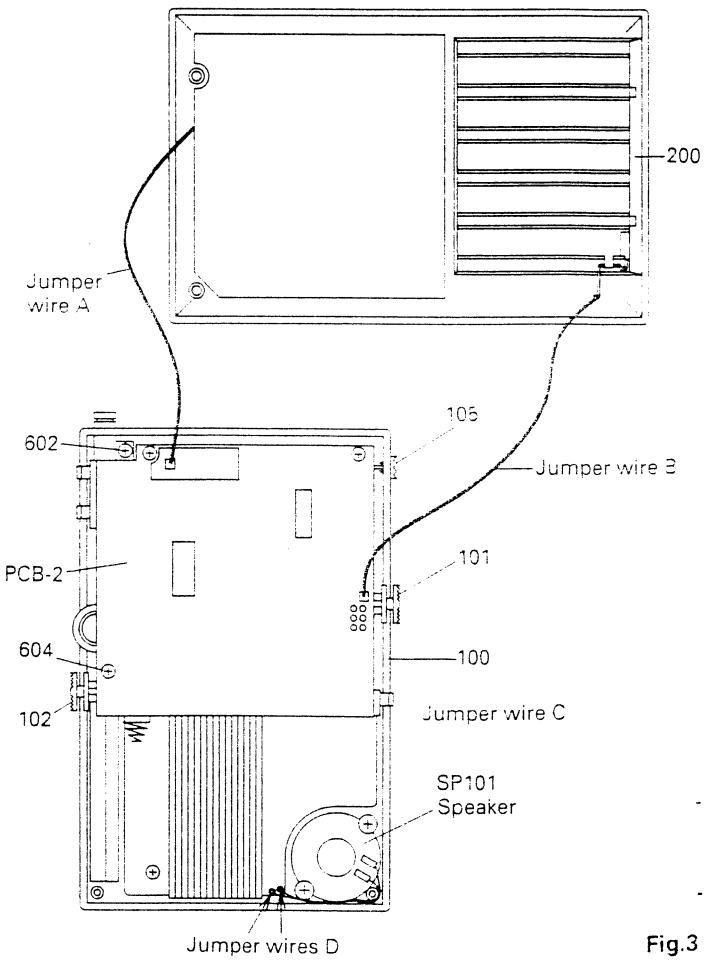


Fig.3

- Remove the Knob of Pre-set SW (102) from the Front Case (100). Fig.5
- Hold the FFC (Flexible Flat Cable) and gently pull out the FFC in the direction indicated by the arrow Y to remove it from the connector (CN500) on the PCB-2. Fig.4
- As illastrated in Fig.5, hold the Hook by the Tweezers.
  And push the Hook in the direction indicate by the arrow X.

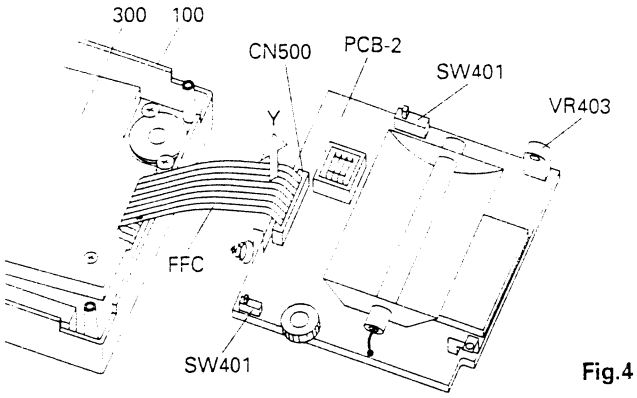


Fig.4

Assembly

- Perform assembly by reversing the procedure outlined for disassembly.
- Caution;
  Don't forget, put on the the Knob of Power SW (101) at the switch (401).
  Don't forget, put on the the Knob of Pre-set SW (102) at the switch (901).
  At last assembly, install the Colour/TINT Knob (105) into the Front Case (100), and joint the Colour/TINT Potentiometer (VR403) into the Colour/TINT Knob (102).

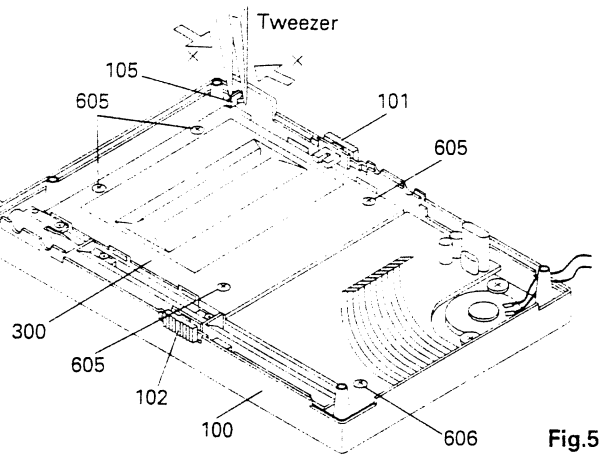


Fig.5

C. LCD Panel Ass'y (300)

Disassembly

- Remove the four screws (605) fixing the LCD Panel Ass'y (300). Fig.5
- Hold the LCD Panel Ass'y (300) and pull out the LCD Panel Ass'y (300) from the Front Case Ass'y (100).
- Take off solder to separate the points A and B jointing the Front Shilde Plate of PCB-1 (305) and the PCB-1, and jointing the Rear Shilde Plate (306) and the PCB-1. Fig.6
- Remove the Front Shilde Plate of PCB-1 (305) from the PCB-1. Fig.6

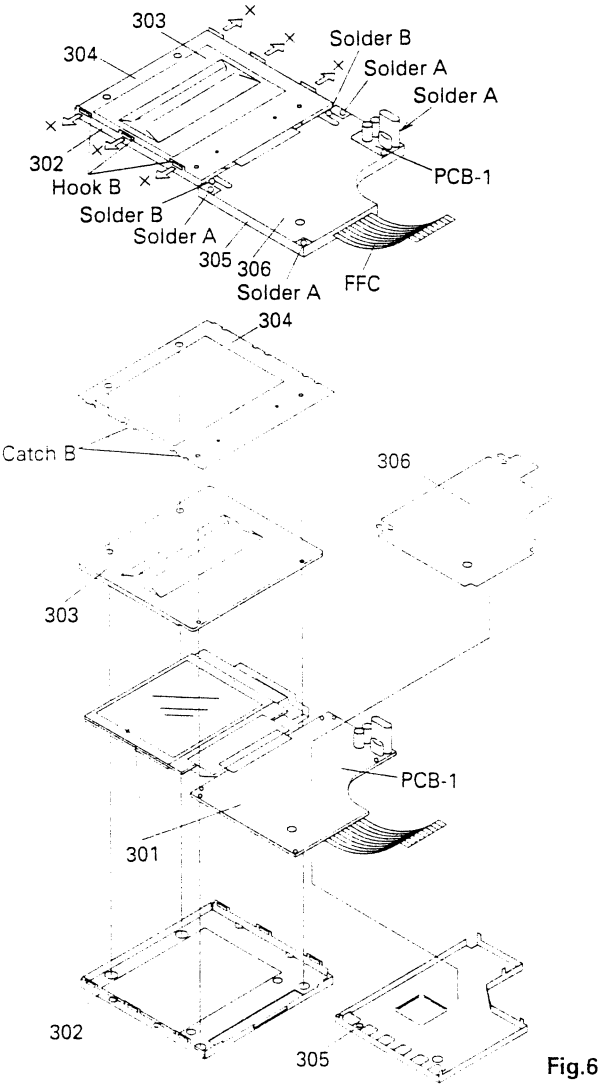


Fig.6

- Remove the Rear Shilde Plate of PCB-1 (306) from the PCB-1. Fig.6
- Push the Hook B in the direction indicated by the arrow X in (Fig.6).
  And remove the Rear Shield Plate of Panel (304) from the Front Shield Plate of Panel (302).
- Remove the Light Diffusion Plate (303) from the Front Shield Plate of Panel (302).
- Remove the LCD Panel Sub Ass'y (301) from the Front Shield Plate of Panel (302).

Assembly

① Set the Front Shild Plate of Panel (302) at the Location Poles A, B, C on the Front Case (100). Fig.7

② Join the Front Shild Plate of PCB-1 (305) and the PCB-1 by solder.
Join the Rear Shild Plate of PCB-1 (306) and the PCB-1 by solder.

③ Set the Panel of LCD Panel Ass'y (300) at the Location Poles A, B, C on the Front Case (100). Fig.7

④ Set the Light Diffusion Plate (303) at the Location Poles A, B, C on the Front Case (100). Fig.6

⑤ Set the Rear Shild Plate of Panel (304) on the Front Shild Plate of Panel (302). Fig.6

⑥ Perform assembly by reversing the procedure outlined for disassembly.

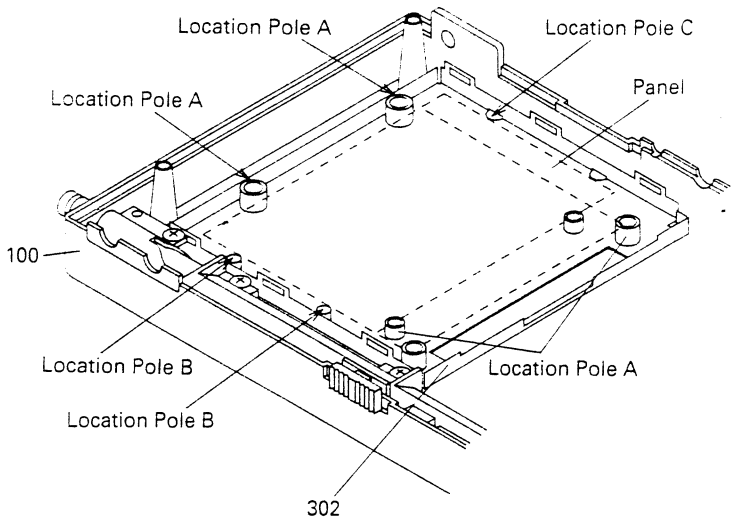


Fig.7

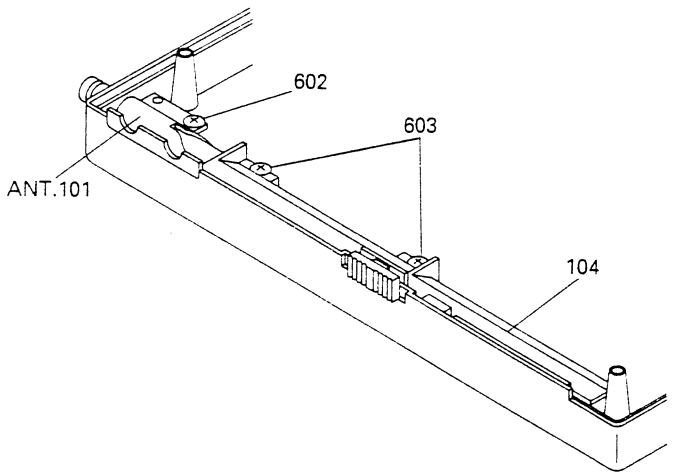


Fig.8

D. Antenna (ANT. 101)

Disassembly

- Remove the tow screws (603) fixing the Antenna Holder (104). Fig.8
- Remove the Antenna Holder (104) from the Front Case (100). Fig.8
- Remove the screw (602) fixing the Antenna (ANT.101). Fig.8
- As illastrated in Fig.9, hold the side of Front Case (100) by hand and pull out the Antenna (ANT.101) in the direction (arrow Y) of up slant by other hand.

Assembly

- Perform assembly by reversing the procedure outlined for disassembly.

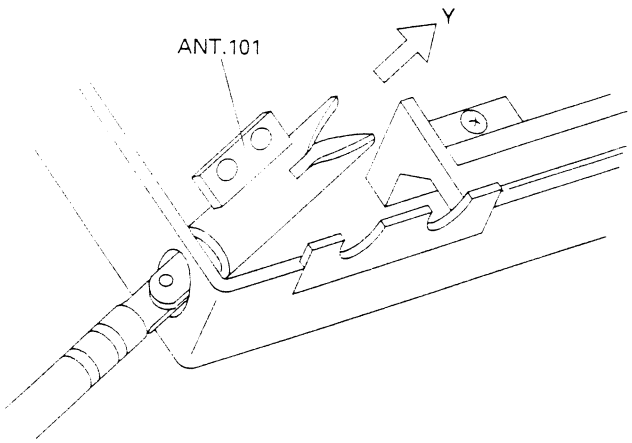
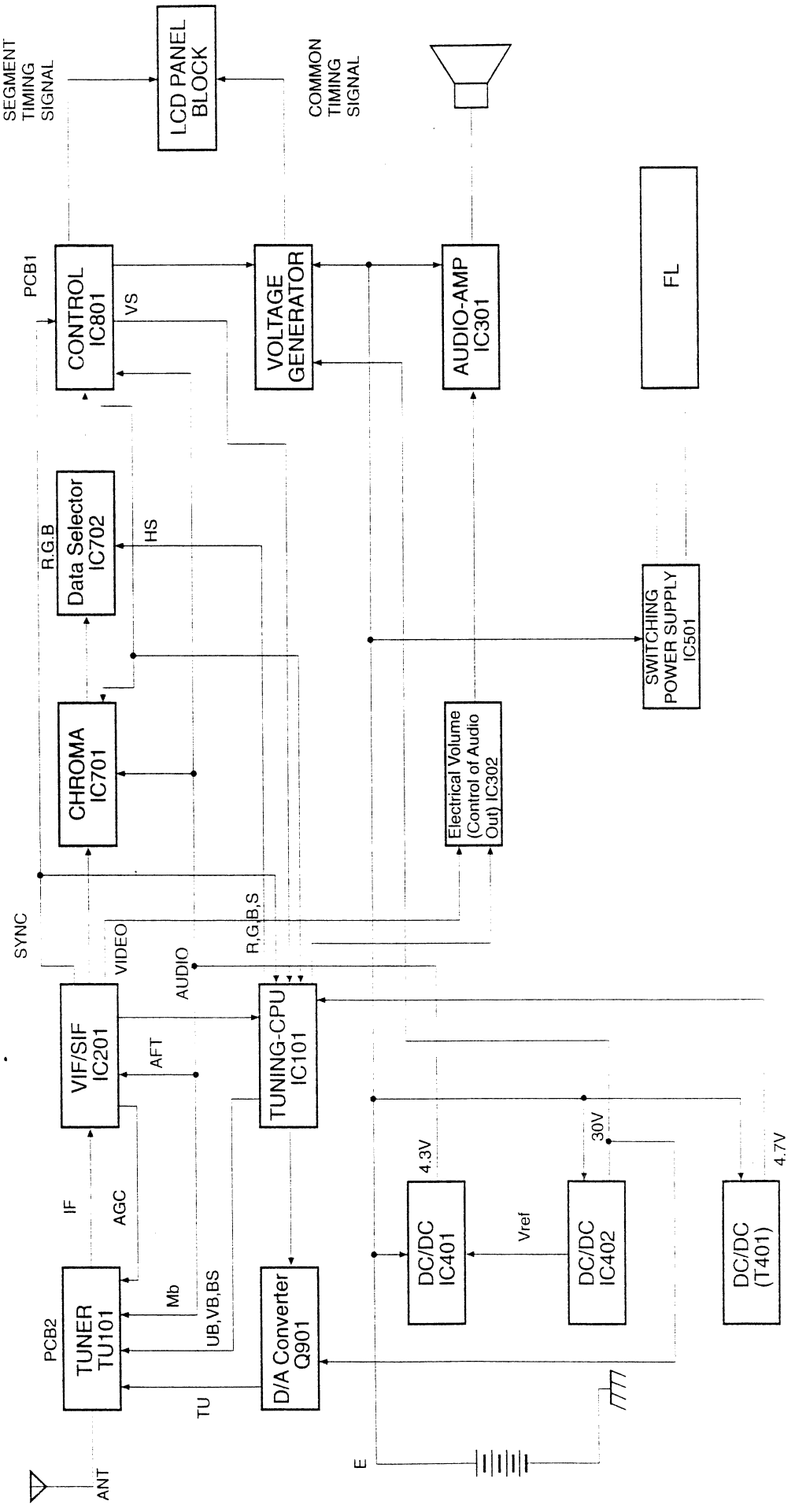
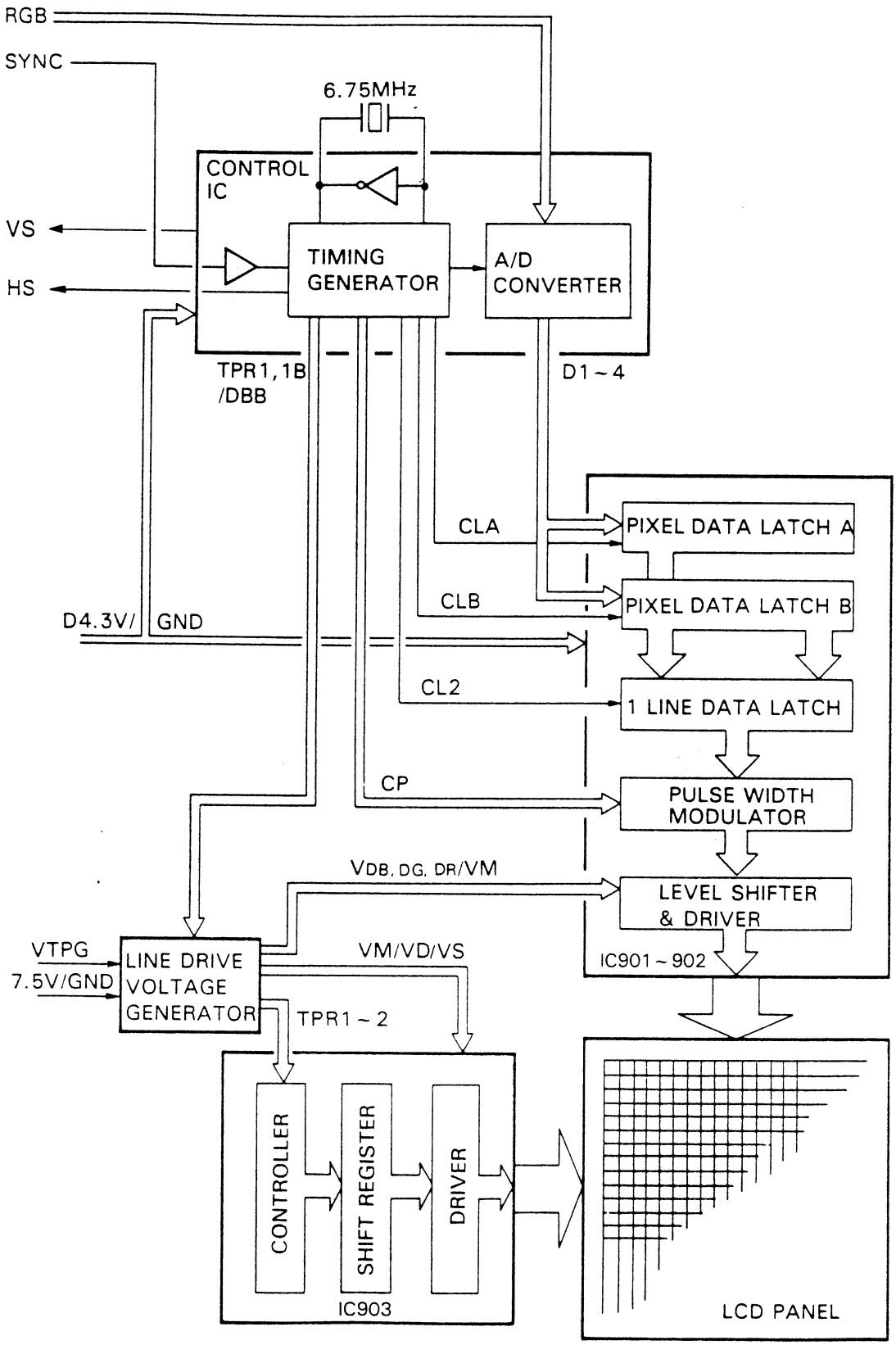


Fig.9

BLOCK DIAGRAM



LCD Driver and Controller Block Diagram



OPERATION PRINCIPLE

TUNER (TU101)

The tuner isolates and amplifies the desired channel signal from the VHF and UHF signal applied to the antenna terminal of the TV receiver, and outputs a video/audio intermediate frequency (38.9 MHz/33.4 MHz) signals.

AUTO TUNING (IC101)

IC101 have been in memory the channel of tuning and have been the Auto-Search function for select of channel.

INTERMEDIATE FREQUENCY AMPLIFIER/DETECTOR CIRCUIT (IC201)

IC201 amplifies the video/audio intermediate frequency signal output from the tuner and a composite video signal is formed by the video detection circuit. The audio intermediate frequency signal is formed by the audio detection circuit, amplified and FM-detected to obtain the audio signal. IC201 has synchronizing separator circuit and produces composite synchronizing signals out of composite video signals.

AUDIO CIRCUIT (IC301)

IC302 control the Signal of SOUND-O by the signal VOL-OUT of IC901
The audio signal output from IC301 is amplified and then the speaker is driven.

DC CONVERTER CIRCUIT (IC402)

IC402 produces the voltage of a 30 V DC from the built-in batteries in TV or an external power supply.
The VTPG and VD2 are produced by IC402 using the 30 V DC, and vary with the brightness control setting.

CHROMA CIRCUIT (IC701)

The carrier chrominance signals are isolated front the composite image signal outputs by IC701. The primary colour signals (R, G, B) are output.

DATA SELECTOR (IC702)

IC702 is the circuit-changing switch. The charactor display interpose or the screen by the IC702 under the control of the DISP-C signal.

CONTROLLER (IC801)

Controller (IC801) operates based on the oscillation frequency of a quartz oscillator circuit and outputs signal which controls the segment drivers (IC901, IC903, IC904) and timing pulse generator (IC901). The color signals (R, G, B, signals) from IC701 are transferred into IC801. IC801 produces 4-bit digital data signals with the A-D converters in IC801. The converted 4-bit digital data signals are weighted according to the gradation of each colour. IC801 has a synchronous discrimination circuit which detects horizontal and vertical synchronizing pulse by composite synchronizing signals. The synchronous discrimination circuit distinguishes the width and synchronism of synchronizing pulse. If the synchronizing pulse cannot be distinguished due to an incomplete signal of synchronizing signal or noise, a free-running synchronizing pulse is output from the free-running frequency generation circuit in IC801. IC801 has also a PLL (Phase Locked Loop) circuit which automatically adjusts frequency of quartz oscillator by horizontal synchronizing pulse of composite synchronizing signal.

TIMING PULSE GENERATOR (TPG)

Timing pulse generator IC (IC903) is mounted on the glass of LCD and connected to the line electrode. It drives the horizontal line electrodes of LCD with control signals from controller (IC801). The frequency is 3.9 kHz. The height of pulse varies depending on V_{TPG}, and the pulse width is 254 micro-second.

SEGMENT DRIVER

(SGD-IC901 ~ 902)
Segment driver IC's (IC901 ~ 902) are mounted on another glass of the LCD and connected to the vertical segment electrode. They have two shift registers (A, B) and latch to memorize the content of shift register. The digital data signals obtained from A-D converter of IC801 are stored in the shift registers A and B alternately per one horizontal signal. After digital data signals of two horizontal lines are stored, the data in these registers are read into latches to generate drive signals for the vertical line electrodes of LCD. The pulse width modulator generates signals having pulse width determined by the value of data in these latches, from which gradation can be produced. These driving signals have electric potential of VD2 and its wave form is rectangular.

LCD (LIQUID CRYSTAL DISPLAY) PANEL

LCD panel is composed of two sheets of glass facing each other with a gap of about 100 μm. Nematic liquid crystal material is filled in the gap between them and two sheets of polarizer cover the outside of the glass. On the inside of the lower glass, 130 horizontal transparent line electrodes are patterned, and on the inside of the upper glass, there are 648 vertical transparent line electrodes. Molecules of liquid crystal are arranged horizontally to the glass and twisted about 90 degrees between upper and lower glass and then do not let the light through when the voltage between vertical electrode and horizontal electrode is lower than the threshold voltage (about 2.0 V) of liquid crystal. When the voltage is higher than the threshold voltage, the molecules are arranged vertically between upper and lower glass and let the light through.
Full color display of liquid crystal could be realized by adoption of color filters which are made of very thin (about 2 μm) organic materials and are placed in the transparent electrode of the glass. The primary three colors (R, G, B) consist of three pixels.

ILLUMINATION

A hot cathode fluorescent tube which generates approximately 10,000 cd/m^2 at its center is used for illumination. A thermal fuse of the surface of the fluorescent tube cuts off the high voltage circuit and suspends operation when abnormal heating occurs.

ADJUSTMENT AND ALIGNMENT

GENERAL DESCRIPTION

Note:
P: After replacement of power supply circuit components
TV: After replacement of tuner of IF AMP/DETECT circuit components
Always connect PCB-1 to PCB-2

No.	Item	PCB	Adjustment	Remarks	Measuring Equipment
1	Video IF Alignment And AFT Alignment	PCB-2	L203 L204	TV	• Sweep Marker Generator • Alignment Scope
2	RF AGC Delay Alignment	LCD Panel PCB-1 PCB-2	VR201 VR202	P TV	• Colour Pattern Generator • Signal Generator • Oscilloscope
3	Contrast Alignment	PCB-1 PCB-2	VR801 VR701	TV	• Pattern Generator
4	RGB Phase Alignment	PCB-1 PCB-2	TC701	TV	• Pattern Generator • Oscilloscope
5	PLL Alignment	PCB-1 PCB-2	TC801	TV	• Pattern Generator • Oscilloscope

1. VIDEO IF ALIGNMENT AND AFT ALIGNMENT (PCB-2)

1 Set the marker of Alignment Scope e: 38.9 MHz, d: 38.9 MHz
2 Set the switch of Sweep Marker Generator to the AC.
3 Remove the solder bridge SR101.
4 Input a DC power supply (+ 7.5 V) to power jack of TV
5 Connect a DC power supply (+ 3.3 V) to TP206.
6 Connect a 0.01 µF capacitor between TP203 and the OUT terminal of Sweep Marker Generator.
7 Connect TP297 to the IN terminal of Sweep Marker Generator.
8 VIF Alignment (step 1). Fig.15
9 Connect TP201 to the OUT terminal of Sweep Marker Generator.
10 Connect TP213 to the IN terminal of sweep Marker Generator.
11 AFT Alignment (step 2) Fig.15.

Input Equipment	Input Point	Input Signal	Step	Adjust	Output Connection	Output Point	Adjust For
• Sweep Marker Generator	TP203	IF: 38.9 MHz 70 dBµ	1 VIF	L203 (See PCB-1 Top View)	• Sweep Marker Generator • Alignment scope	TP297 (See Fig.15)	Adjust LC203 to obtain a suitable size curve on the alignment scope as shown in Fig.16
	TP201	IF: 38.9 MHz 70 dBµ	2 AFT	L204 (See PCB-1 Top View)		TP213 (See Fig.15)	Adjust LC204 for setting the marker (d) on to the base Line as shown in Fig.17

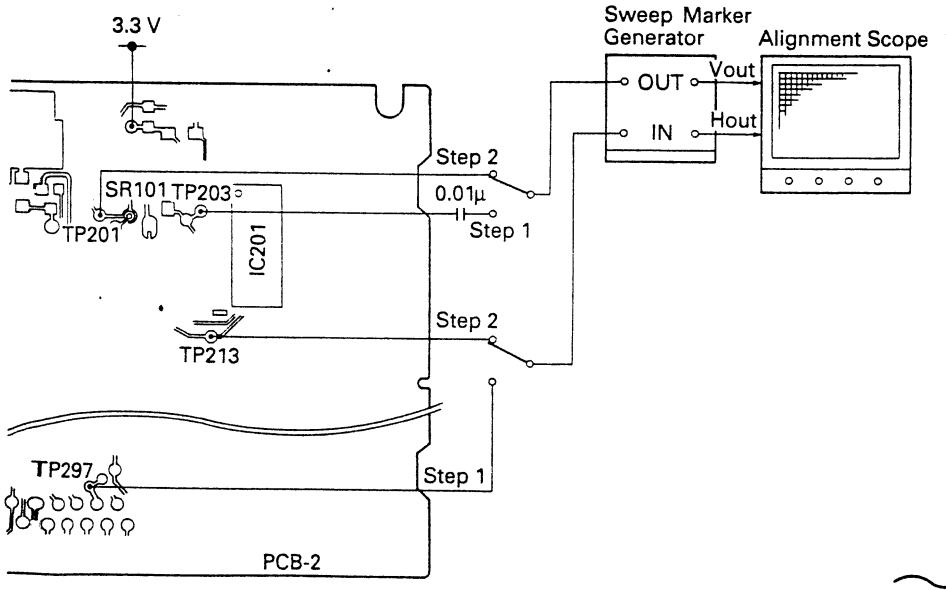


Fig.15

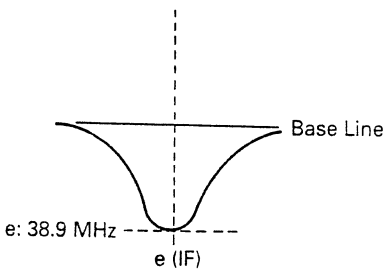


Fig.16

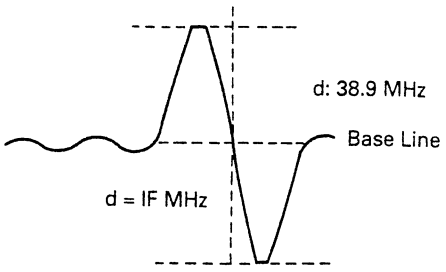


Fig.17

2. RF AGC DELAY ALIGNMENT (PCB-1)

1 Short the solder bridge SR101. (Fig.15)
2 Connect a DC power supply (+ 7.5 V) to J401. Connect the equipment as shown in Fig.18.
3 Set the video signal of Colour Pattern Generator to White 75%.
4 Turn the TV power switch ON.
5 Tune the Channel to CH21.

Input Equipment	Input Point	Input Signal	Step	Adjust	Output Connection	Output Point	Adjust For
• Colour Pattern Generator • Signal Generator	TP101	• Colour Bar • S/F: FM, Frequency 5.5 MHz (Only used for – 1 BA 6.0 MHz) Frequency Deviation 50 kHz, Tone Signal 1 kHz, Output 90 dBμ • Channel Signal 471.25 MHz 70 dBμ	1	VR202 (See PCB-1 Top View)	Oscilloscope	TP297 (See Fig.15)	Adjust VR202 to obtain a suitable size wave on the oscilloscope as shown in Fig.19
			2	VR 201 (See PCB-1 top View)			Adjust VR201 until the minimum noise is obtained at the point (a) and not to break the horizontal synchronizing signal. Fig.20

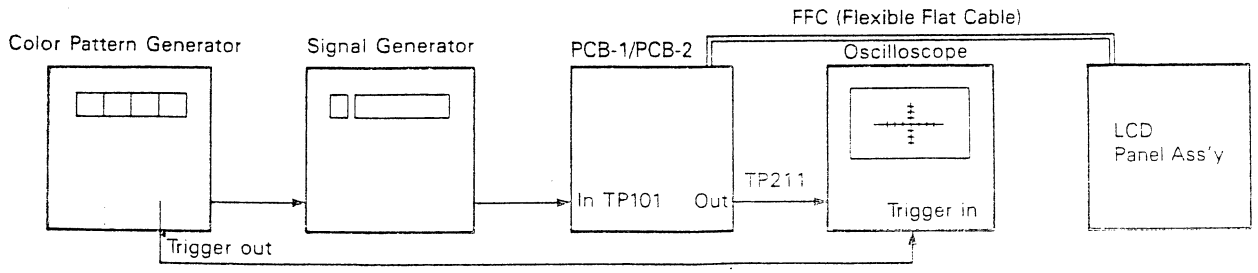


Fig. 18

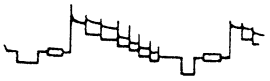


Fig. 19

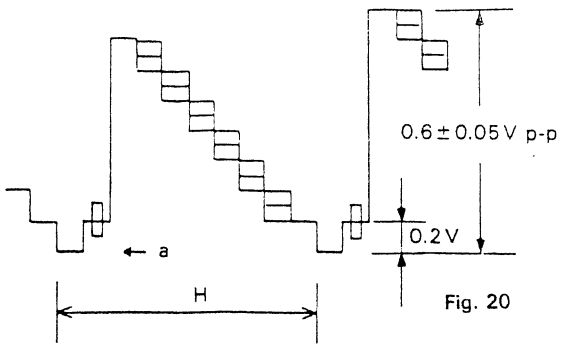


Fig. 20

3. CONTRAST ALIGNMENT AND BRIGHTNESS ALIGNMENT (PCB-1)

1 Input DC power supply (7.5 V) to J401.
2 Input Video signal to AV jack of TV.
3 Adjust the brightness control (VR402) on the side of cabinet to obtain the suitable brightness.
4 Adjust the Colour Knob of TV to obtain the black/white display.
5 Connect the equipment as shown in Fig.22

Input Equipment	Input Point	Input Signal	Step	Adjust	Output Connection	Output Point	Adjust For
• Pattern Generator	AV Jack	Luminance (Fig.23)	1	VR801 VR701	TV. Display	— —	Adjust VR801 and VR701 as shown in Fig.24

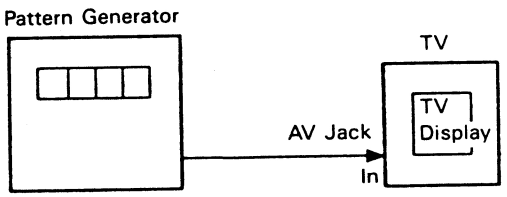


Fig. 22

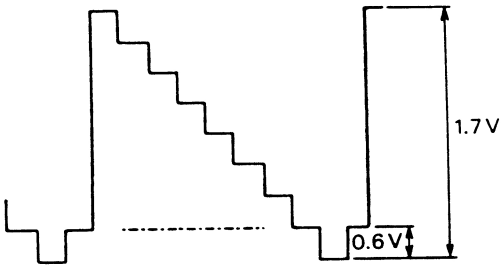


Fig. 23 Input Video Signal

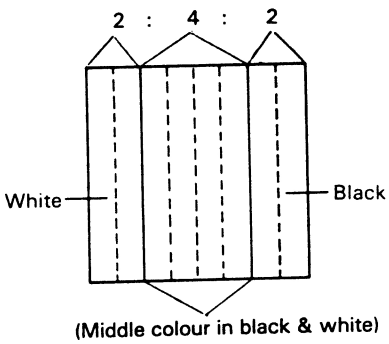


Fig. 24

4. RGB PHASE ALIGNMENT (PCB-1)

1 Connect a Power jack (J401) to 7.5 V DC external power supply.
2 Connect the equipment as shown in Fig.25
3 Turn the TV power switch On.
4 Input Video signal to AV jack of TV.
5 Adjust brightness control (VR402) to obtain the suitable brightness.
6 Adjust the Colour Knob of TV to obtain the most deep colour display.

Input Equipment	Input Point	Input Signal	Step	Adjust	Output Connection	Output Point	Adjust For
• Pattern Generator	AV Jack	Colour Bar	1	TC701 (See PCB-1 Top View)	Oscilloscope	TP-702 (See PCB-1 Top View)	Adjust TC701 as shown in Fig.26. Voltage a equal to Voltage b.

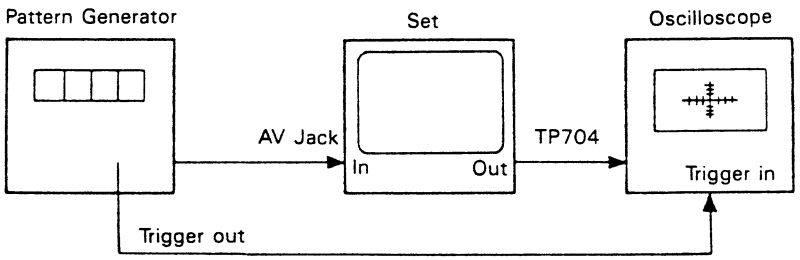


Fig. 25

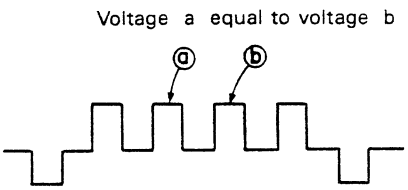


Fig. 26 TP702

5. PLL ALIGNMENT (PCB-1)

1 Connect 7.5 V DC external power supply to Power jack (J401).
2 Connect the equipment as shown in Fig.27
3 Turn the TV power switch On.
4 Input Video signal to AV jack of TV.
5 Adjust brightness control (VR402) to obtain the suitable brightness.

Input Equipment	Input Point	Input Signal	Step	Adjust	Output Connection	Output Point	Adjust For
• Pattern Generator	AV Jack	Colour Bar	1	TC801 (See PCB-1 Top View)	Oscilloscope	TP801 (See PCB-1 top View)	Adjust TC801 as shown in Fig.28

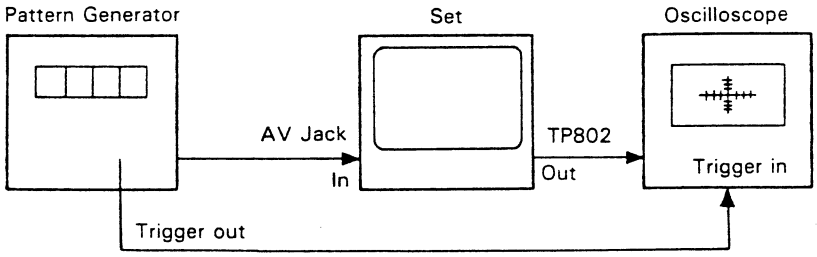


Fig. 27

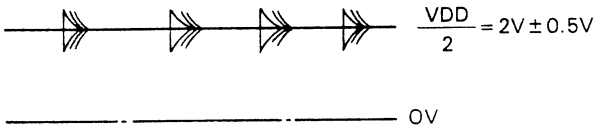


Fig. 28 TP801 (PLLO)

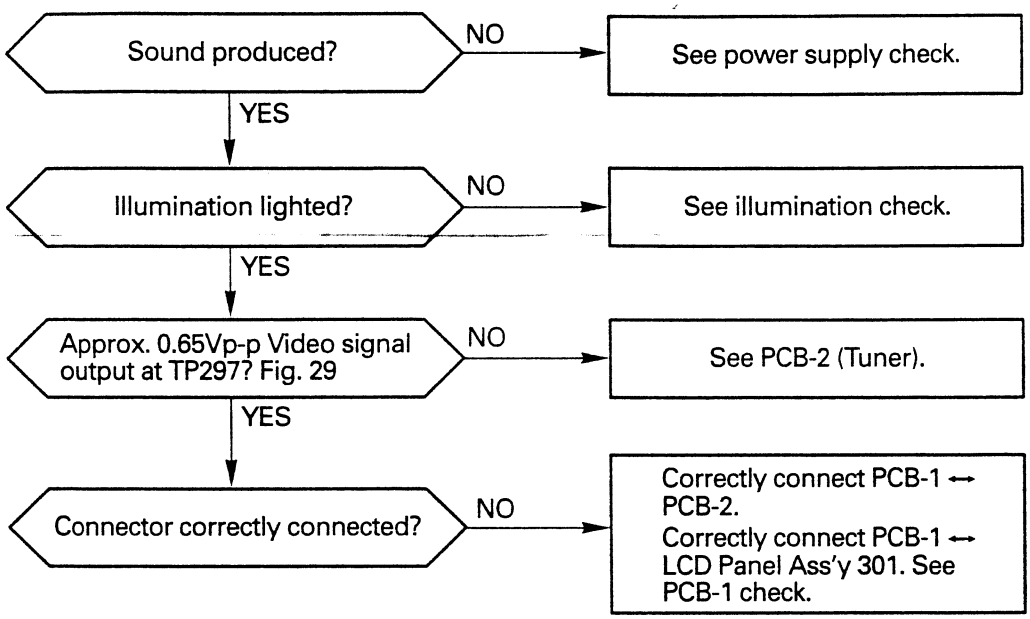
TROUBLE SHOOTING CHART

1. POOR PICTURE OR NO PICTURE

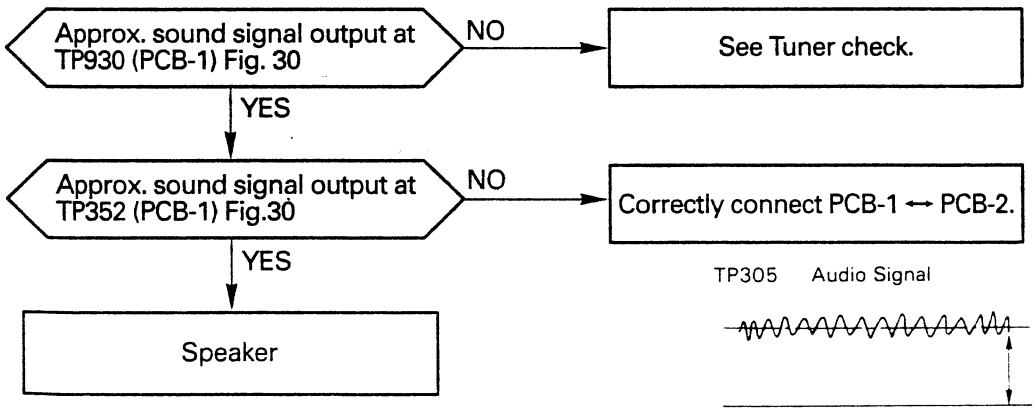
- Supply 7.5 V DC at J401
- Connect external antenna to TV ANT.

TP214 Video Signal PCB-2

Fig. 29



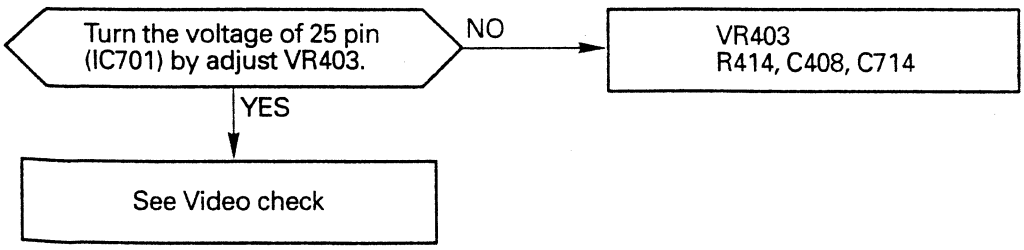
2. NO SOUND



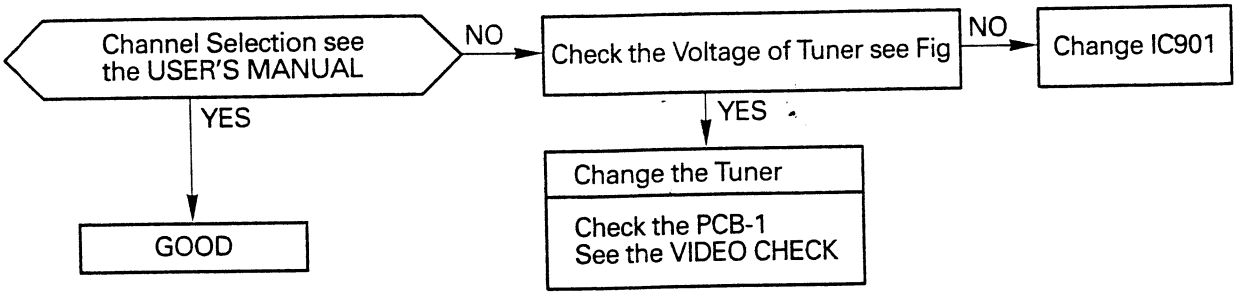
TP305 Audio Signal

Fig. 30

3. NO COLOR



4. NO TUNING



5. SINGLE LINE

Change the LCD panel

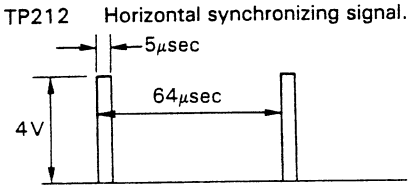


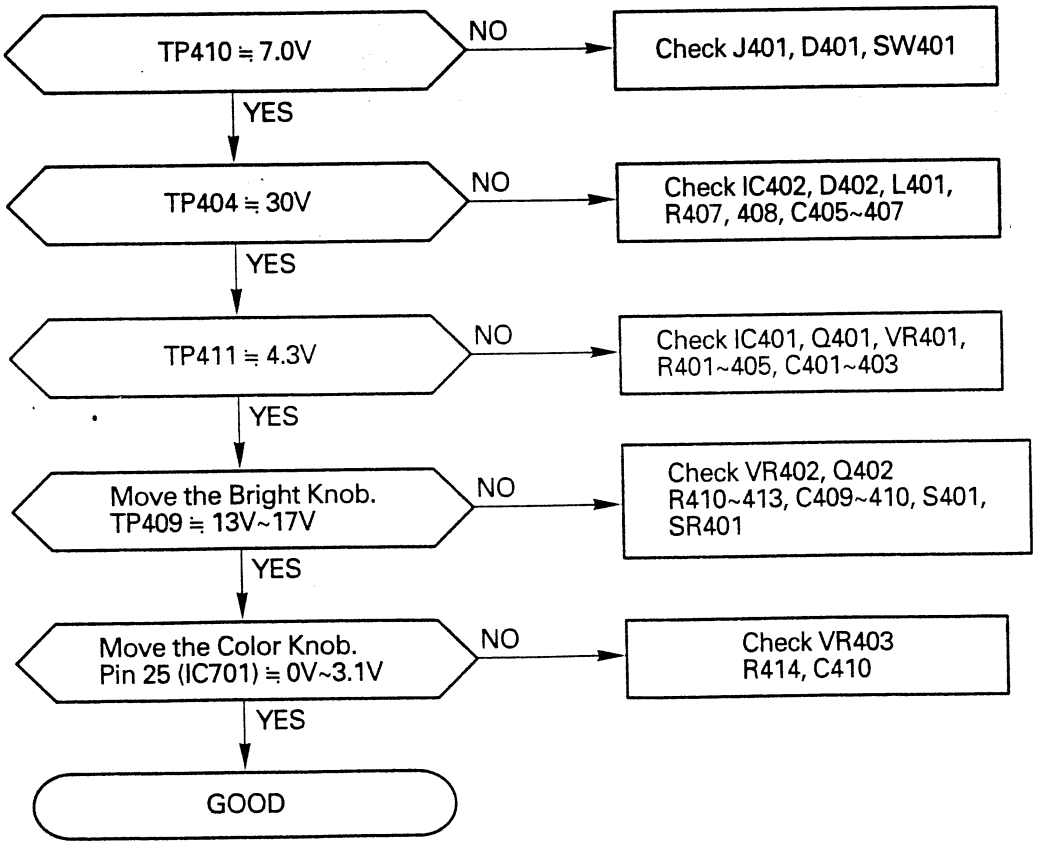
Fig. 31

6. WHITE OR BLACK SPOT ON LCD PANEL

Change the LCD Panel Ass'y (301).

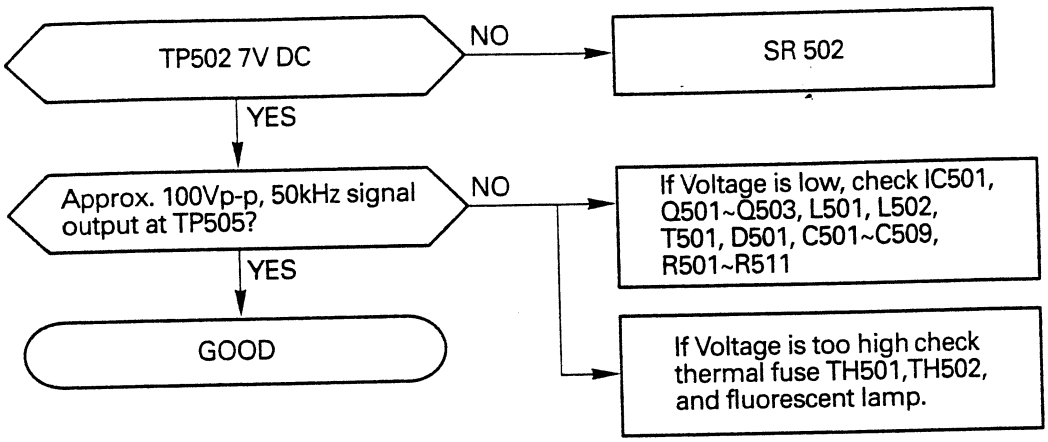
7. POWER SUPPLY CHECK

- Power supply 7.5V DC at J401.



8. ILLUMINATION CHECK

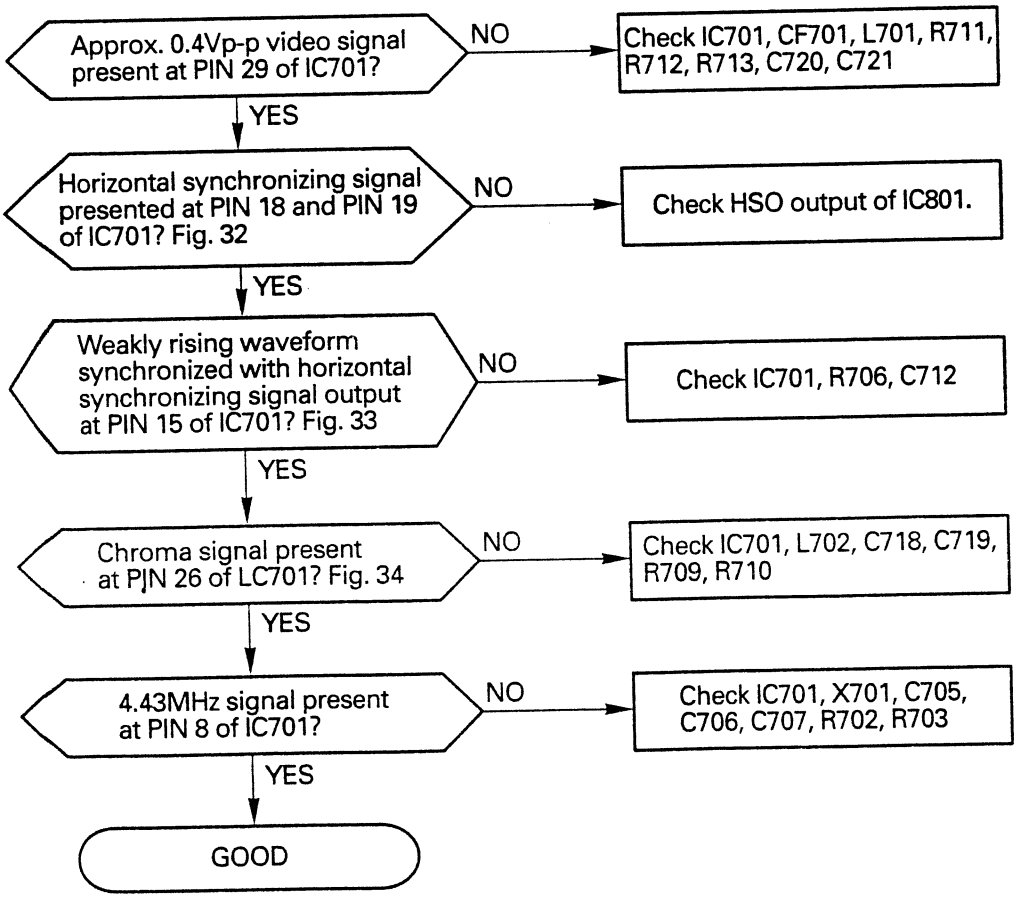
- Supply 7.5V DC at J401



9. VIDEO CHECK

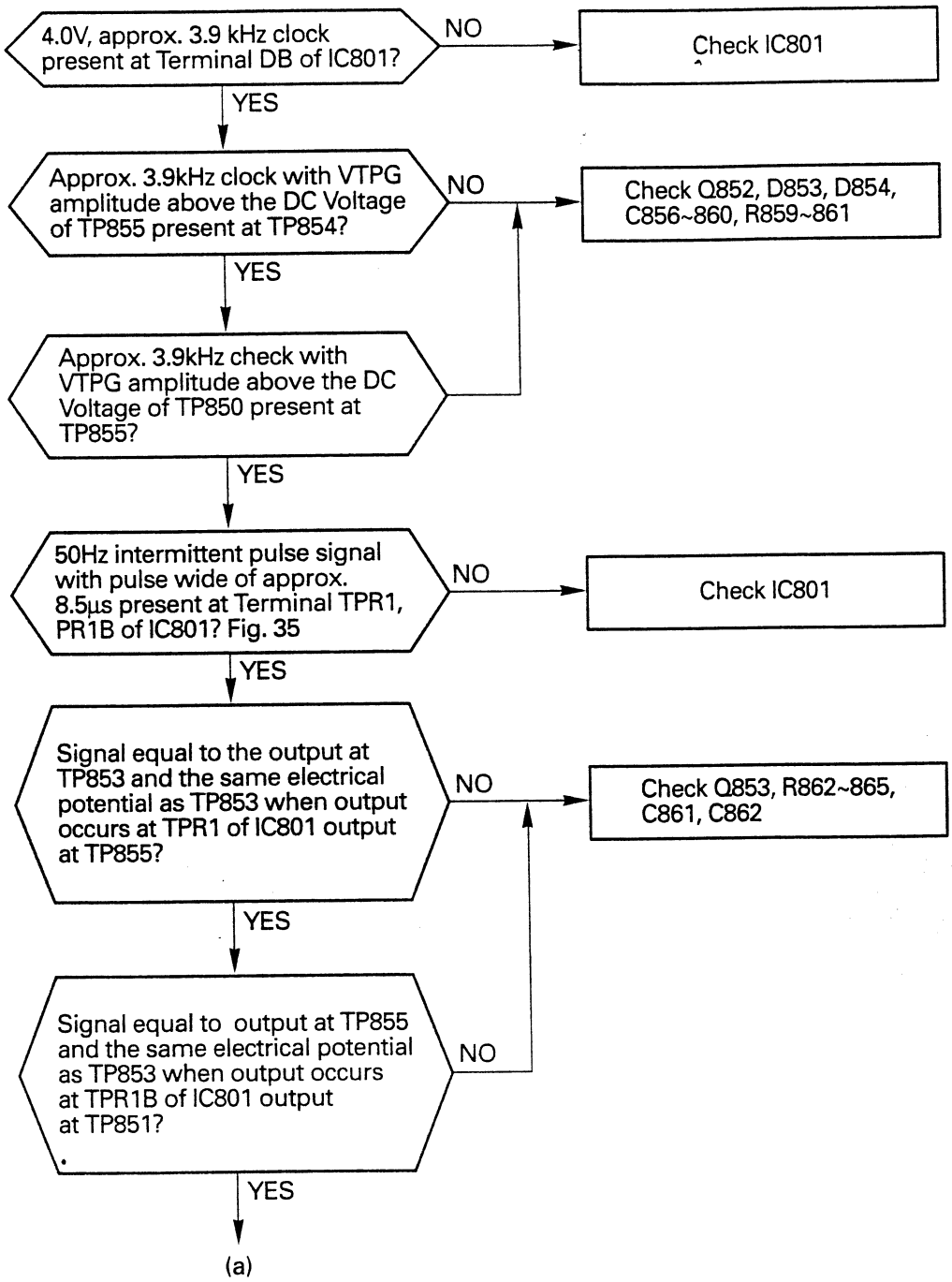
9-1 Chroma check

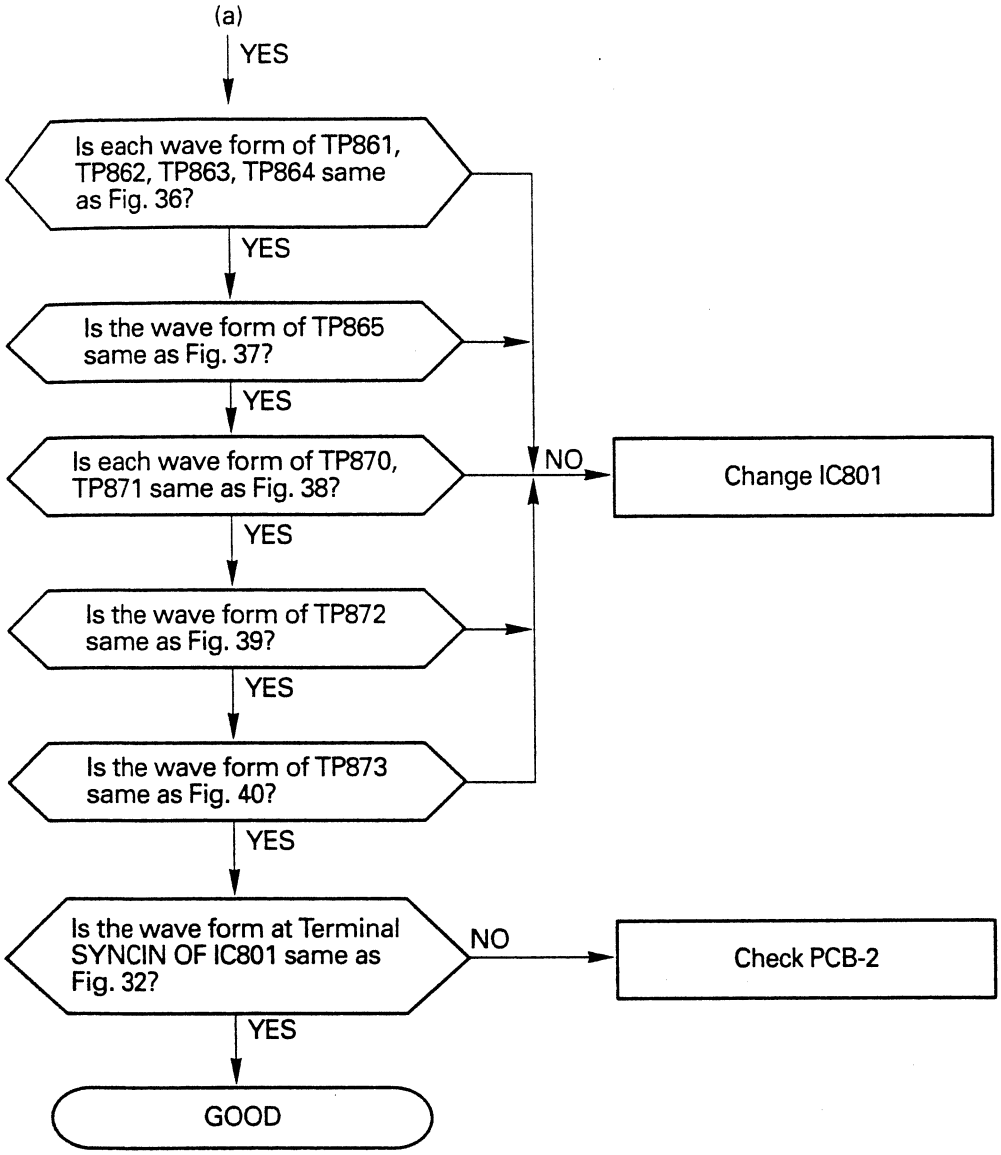
- Connect A/V signal at A/V jack (J201)
- Supply 7.5V DC at J401



9-2 Control circuit check

- Connect A/V signal at A/V jack (J201)
- Supply 8.5V DC at J401





IC701
PIN 18, 19 Horizontal Synchronizing Signal

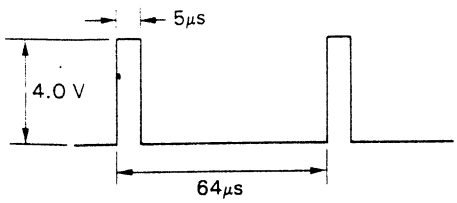


Fig. 32

IC701
PIN 15 Horizontal Synchronizing Signal

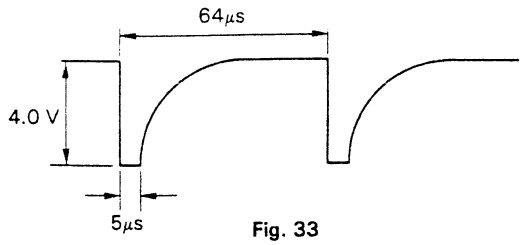


Fig. 33

IC701
PIN 26 Chroma Signal

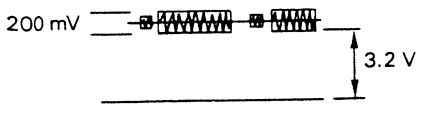
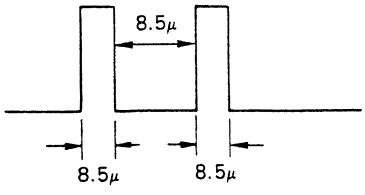


Fig. 34

IC801
TPR1



TPR1B

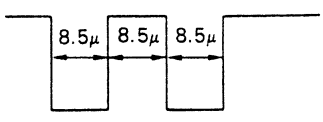


Fig. 35

IC801
TP855 ~ 858 (D1 ~ D4)

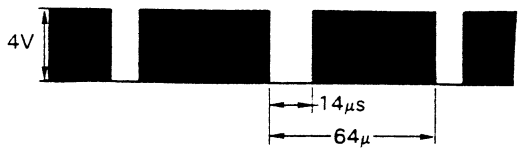


Fig. 36

IC801
TP859 (REST B)

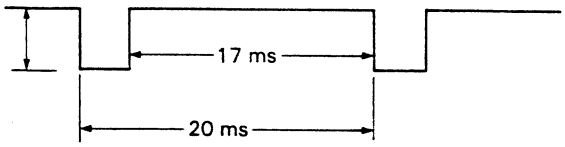


Fig. 37

IC801 TP865 (CLA), TP866 (CLB)

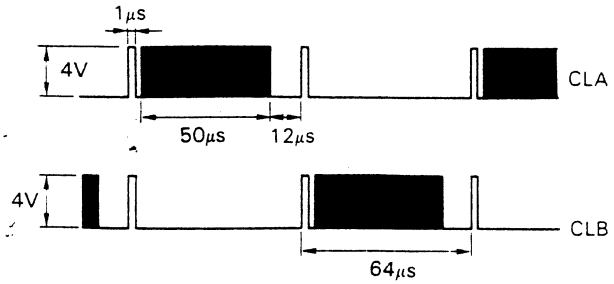


Fig. 38

IC801 TP867 (CL2)

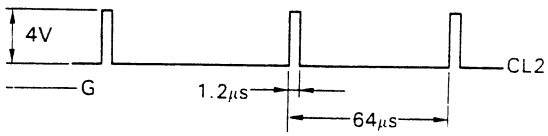


Fig. 39

IC801 TP869 (CP)

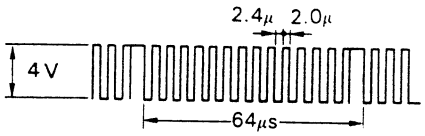
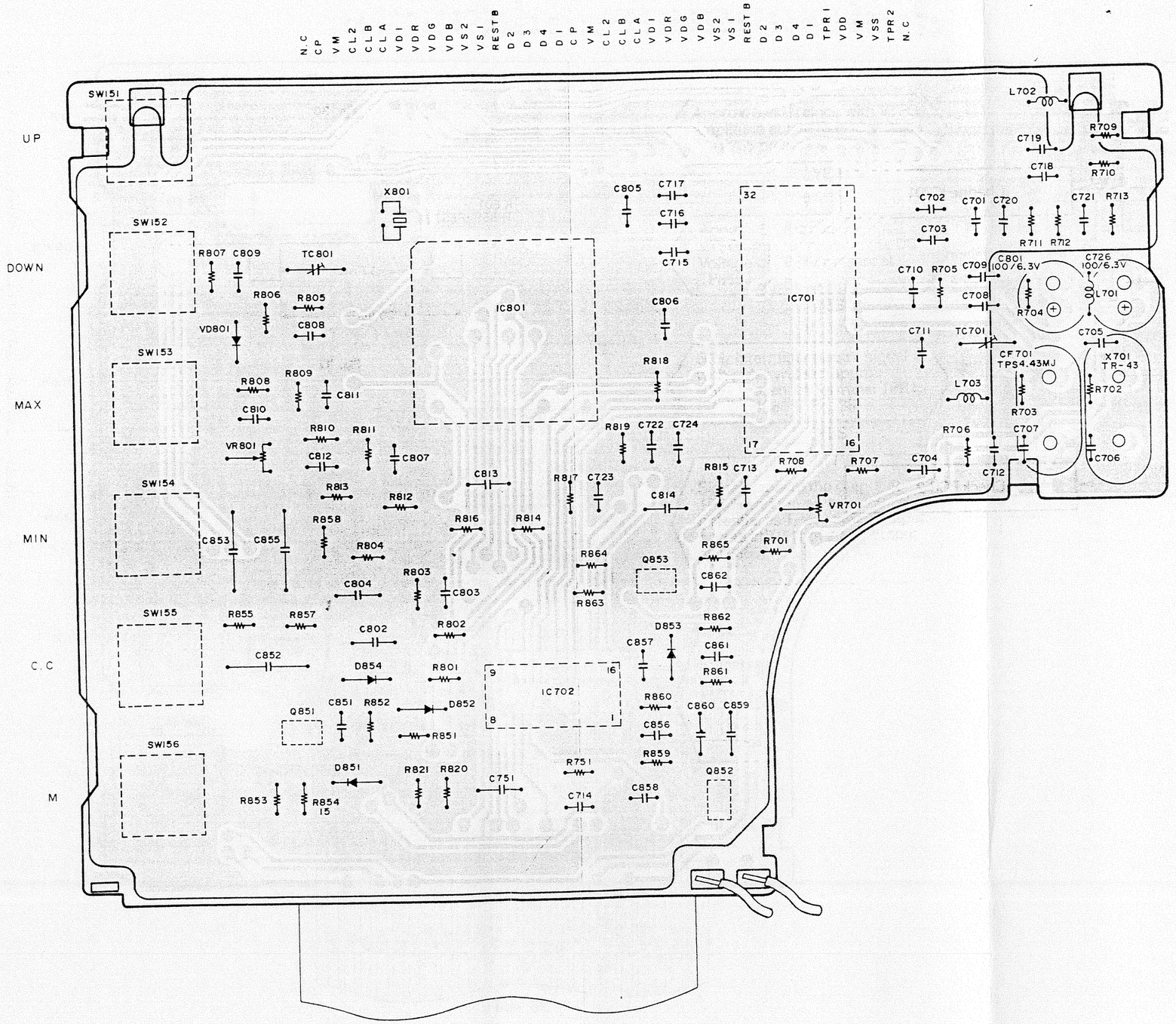


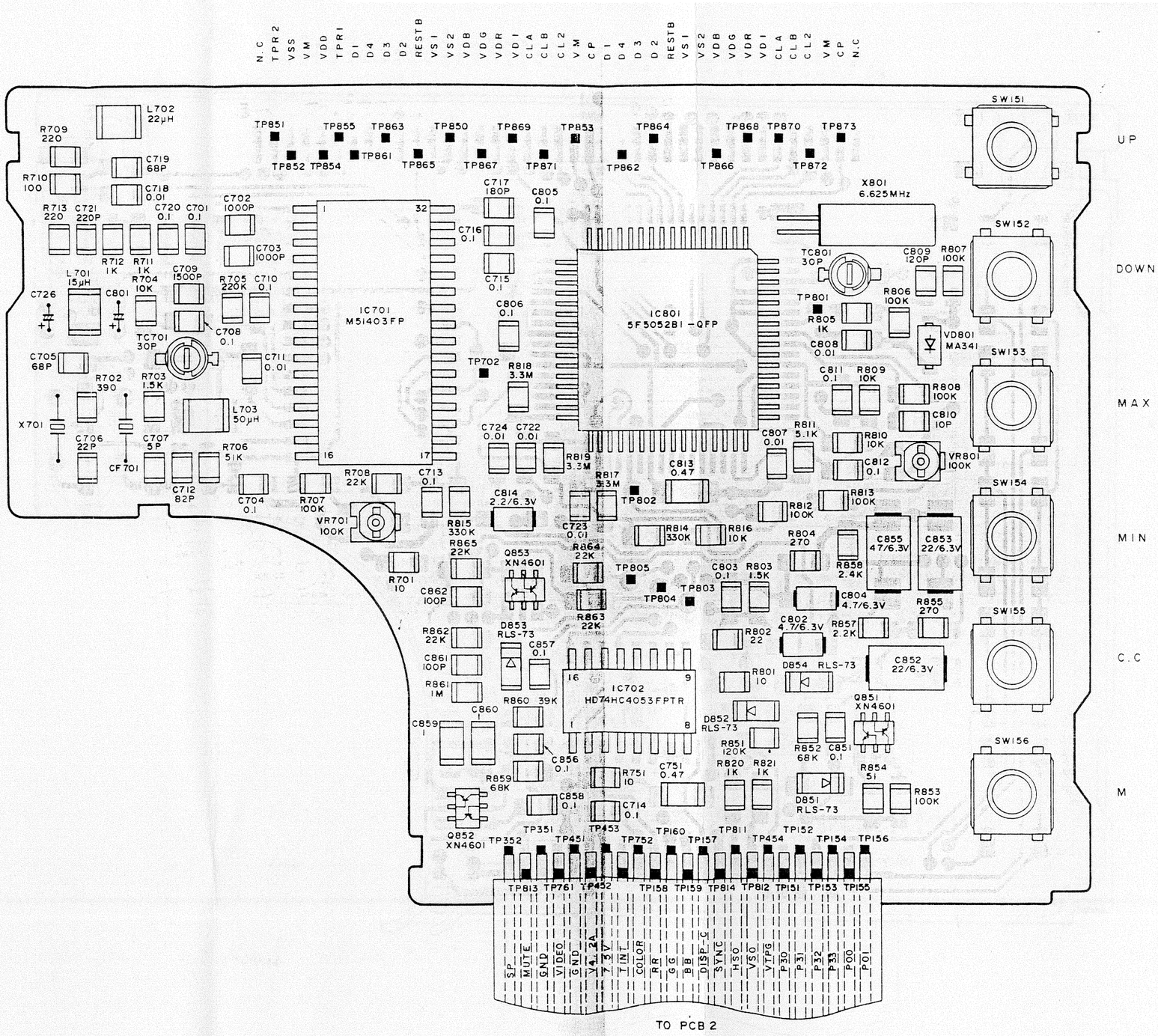
Fig. 40

PCB (TOP AND BOTTOM VIEWS)

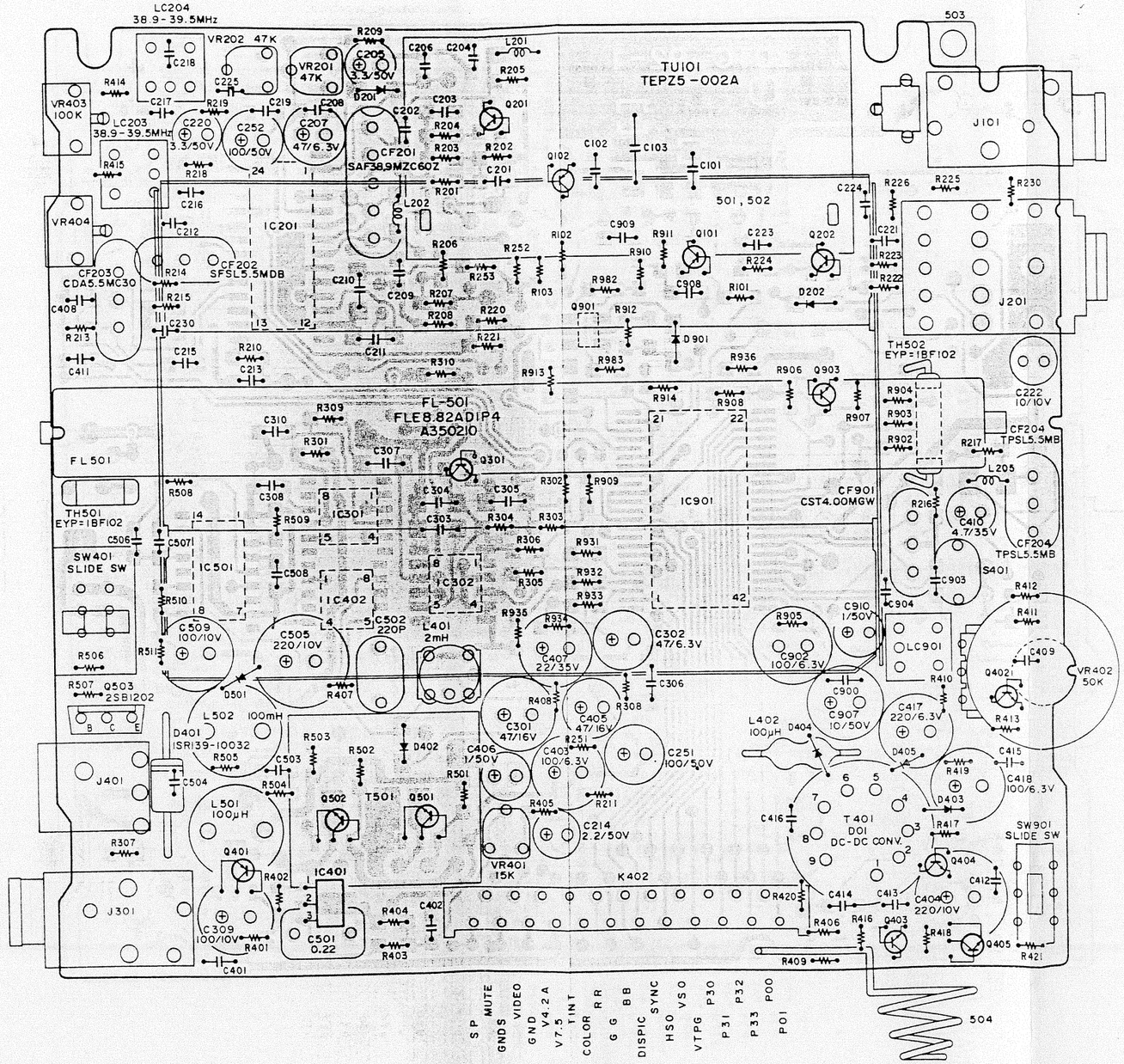
VIDEO PCB ASS'Y (PCB-1) TOP VIEW



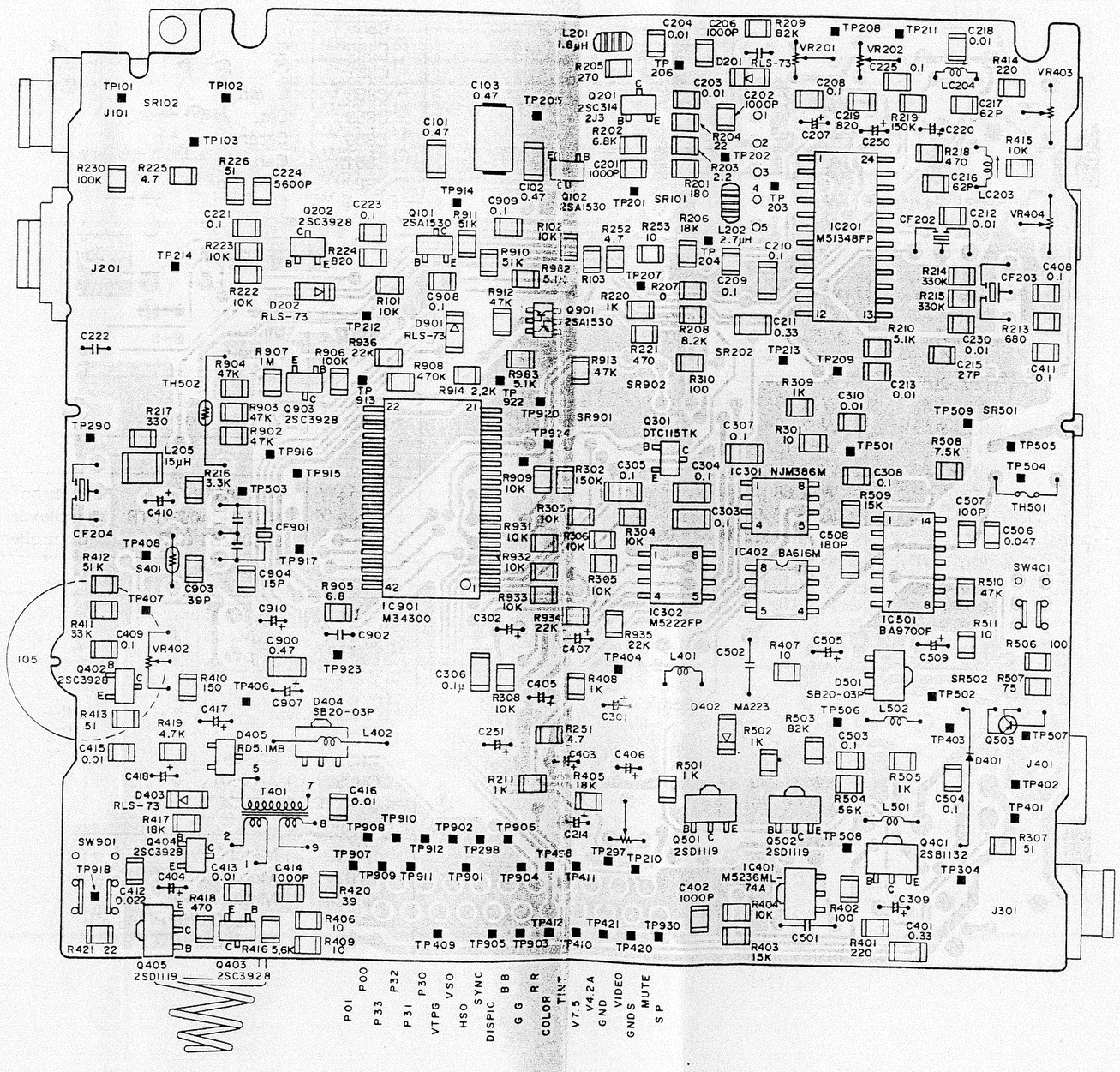
VIDEO PCB ASS'Y (PCB-1) BOTTOM VIEW



TV RECEIVER PCB ASS'Y (PCB-2) TOP VIEW



TV RECEIVER PCB ASS'Y (PCB-2) BOTTOM VIEW



ELECTRICAL PARTS LIST

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
PCB-1	Video PCB Ass'y Consists of the following;				A51-2710
Capacitor					
C701	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C702	Ceramic	1000pF	50WV	±10%	W32-1022
C703	Ceramic	1000pF	50WV	±10%	W32-1022
C704	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C705	Ceramic	68pF	50WV	±5%	W52-6801
C706	Ceramic	22pF	50WV	±5%	W52-2201
C707	Ceramic	5pF	50WV	±10%	W52-0502
C708	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C709	Ceramic	1500pF	50WV	±10%	W32-1522
C710	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C711	Ceramic	0.01μF	50WV	±10%	W32-1032
C712	Ceramic	82pF	50WV	±5%	W52-8201
C713	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C714	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C715	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C716	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C717	Ceramic	180pF	50WV	±5%	W52-1811
C718	Ceramic	0.01μF	50WV	±10%	W32-1032
C719	Ceramic	68pF	50WV	±5%	W52-6801
C720	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C721	Ceramic	220pF	50WV	±5%	W52-2211
C722	Ceramic	0.01μF	50WV	±10%	W32-1032
C723	Ceramic	0.01μF	50WV	±10%	W32-1032
C724	Ceramic	0.01μF	50WV	±10%	W32-1032
C725	NOT USED				
C726	Electrolytic	100μF	50WV	±20%	A86-0280
C727-50	NOT USED				
C751	Ceramic	0.47μF	25WV	+80/–20%	W43-4749
C752-800	NOT USED				
C801	Electrolytic	100μF	50WV	±20%	A86-0280
C802	Tantalum	4.7μF	6.3WV	±20%	A87-0120
C803	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C804	Tantalum	4.7μF	6.3WV	±20%	A87-0120
C805	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C806	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C807	Ceramic	0.01μF	50WV	±10%	W32-1032
C808	Ceramic	0.01μF	50WV	±10%	W32-1032
C809	Ceramic	120pF	50WV	±5%	W52-1211
C810	Ceramic	10pF	50WV	±10%	W52-1002
C811	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C812	Ceramic	0.1μF	25WV	+80/–20%	W42-1049
C813	Ceramic	0.47μF	25WV	+80/–20%	A43-4749
C814	Tantalum	2.2μF	6.3WV	±20%	A87-0130
C815-50	NOT USED				

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
C851	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C852	Tantalum	22µF	6.3WV	±20%	A87-0100
C853	Tantalum	22µF	6.3WV	±20%	A87-0100
C854	NOT USED				
C855	Tantalum	47µF	6.3WV	±20%	A87-0110
C856	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C857	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C858	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C859	Ceramic	1µF	25WV	+80/–20%	A43-1059
C860	Ceramic	1µF	25WV	+80/–20%	A43-1059
C861	Ceramic	100pF	50WV	±5%	W52-1011
C862	Ceramic	100pF	50WV	±5%	W52-1011
Ceramic Filter					
CF701	TPS4.43MJ	Colour Trap			A75-0150
Diode					
D851	Silicon	RLS-73			A73-0340
D852	Silicon	RLS-73			A73-0340
D853	Silicon	RLS-73			A73-0340
D854	Silicon	RLS-73			A73-0340
VD801	Varicap Diode	MA341			A73-0280
IC					
IC701	M51403FP	Chroma	IC		A71-0710
IC702	HD74HC4053FPTR	Multiplexcer	C-MOS IC		A71-1470
IC801	5F5052B1-QFP	Controller	IC		A71-1420
Coil					
L701	ELJ-FA150KB	15µH	Fixed Chip	±10%	A90-0330
L702	ELJ-FA220KB	22µH	Fixed Chip	±10%	A90-0290
L703	ELJ-FA560KB	56µH	Fixed Chip	±10%	A90-0360
Transistor					
Q851	XN4601	PNP, NPN			A72-0010
Q852	XN4601	PNP, NPN			A72-0010
Q853	XN4601	PNP, NPN			A72-0010
Resistor					
R701	Metal Oxide	10Ω	0.1W	±5%	W22-1003
R702	Metal Oxide	390Ω	0.1W	±5%	W22-3913
R703	Metal Oxide	1.5kΩ	0.1W	±5%	W22-1523
R704	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R705	Metal Oxide	220kΩ	0.1W	±5%	W22-2243
R706	Metal Oxide	51kΩ	0.1W	±5%	W22-5133
R707	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R708	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
R709	Metal Oxide	220Ω	0.1W	±5%	W22-2213
R710	Metal Oxide	100Ω	0.1W	±5%	W22-1013
R711	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R712	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R713	Metal Oxide	220Ω	0.1W	±5%	W22-2213

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
R714-50	NOT USED				
R751	Metal Oxide	10Ω	0.1W	±5%	W22-1003
R752-800	NOT USED				
R801	Metal Oxide	10Ω	0.1W	±5%	W22-1003
R802	Metal Oxide	22Ω	0.1W	±5%	W22-2203
R803	Metal Oxide	1.5kΩ	0.1W	±5%	W22-1523
R804	Metal Oxide	270Ω	0.1W	±5%	W22-2713
R805	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R806	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R807	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R808	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R809	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R810	Metal Oxide	5.1kΩ	0.1W	±5%	W22-5123
R811	Metal Oxide	5.1kΩ	0.1W	±5%	W22-5123
R812	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R813	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R814	Metal Oxide	330kΩ	0.1W	±5%	W22-3343
R815	Metal Oxide	330kΩ	0.1W	±5%	W22-3343
R816	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R817	Metal Oxide	3.3MΩ	0.1W	±5%	W22-3353
R818	Metal Oxide	3.3MΩ	0.1W	±5%	W22-3353
R819	Metal Oxide	3.3MΩ	0.1W	±5%	W22-3353
R820	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R821	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R822-50	NOT USED				
R851	Metal Oxide	120kΩ	0.1W	±5%	W22-1243
R852	Metal Oxide	68kΩ	0.1W	±5%	W22-6833
R853	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R854	Metal Oxide	51Ω	0.1W	±5%	W22-5103
R855	Metal Oxide	270Ω	0.1W	±5%	W22-2713
R856	NOT USED				
R857	Metal Oxide	2.2kΩ	0.1W	±5%	W22-2223
R858	Metal Oxide	2.4kΩ	0.1W	±5%	W22-2423
R859	Metal Oxide	68kΩ	0.1W	±5%	W22-6833
R860	Metal Oxide	39kΩ	0.1W	±5%	W22-3933
R861	Metal Oxide	1MΩ	0.1W	±5%	W22-1053
R862	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
R863	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
R864	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
R865	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
Switch					
SW151	SKHUDA	TACT Switch	2.5H–160gr 70TC		A61-0200
SW152	SKHUDA	TACT Switch	2.5H–160gr 70TC		A61-0200
SW153	SKHUDA	TACT Switch	2.5H–160gr 70TC		A61-0200
SW154	SKHUDA	TACT Switch	2.5H–160gr 70TC		A61-0200
SW155	SKHUDA	TACT Switch	2.5H–160gr 70TC		A61-0200
SW156	SKHUDA	TACT Switch	2.5H–160gr 70TC		A61-0200
Variable Capacitor					
TC701	TSR-3S-150	30pF	Trimmer		A89-0032
TC801	TSR-3S-150	30pF	Trimmer		A89-0032

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
Potentiometer					
VR701	RH-03A3A15XOWA	100KΩ	Semifixed		A83-0630
VR801	RH-03A3A15XOWA	100KΩ	Semifixed		A83-0630
Miscellaneous					
X701	TC-43	3.57954MHz	Crystal		A75-0430
X801	CSA309	6.625MHz	Crystal		A75-1020
305	Front Shield Plate, PCB-1				A12-0580
306	Rear Shield Plate, PCB-1				A55-0640
Ref. No.	**Material**	**Value**	**Voltage (V)**	**Tolerance(%)**	**Nfr' Parts No.**
PCB-2	TV Receiver PCB Ass'y			–B	A51-2730
PCB-2	TV Receiver PCB Ass'y			–H	A51-2720
PCB-2	TV Receiver PCB Ass'y Consists of the following;			–D/I	A51-2740
Capacitor					
C101	Ceramic	0.47µF	25WV	+80/–20%	A43-4749
C102	Ceramic	0.47µF	25WV	+80/–20%	A43-4749
C103	Ceramic	0.47µF	25WV	+80/–20%	A43-4749
C104-200	NOT USED				
C201	Ceramic	1000pF	50WV	±10%	W32-1022
C202	Ceramic	1000pF	50WV	±10%	W32-1022
C203	Ceramic	0.01µF	50WV	±10%	W32-1032
C204	Ceramic	0.01µF	50WV	±10%	W32-1032
C205	Electrolytic	3.3µF	50WV	±20%	A86-0060
C206	Ceramic	1000pF	50WV	±10%	W32-1022
C207	Electrolytic	47µF	6.3WV	±20%	A86-0040
C208	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C209	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C210	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C211	Ceramic	0.33µF	25WV	+80/–20%	W43-3349
C212	Ceramic	0.01µF	50WV	±10%	W32-1032
C213	Ceramic	0.01µF	50WV	±10%	W32-1032
C214	Electrolytic	2.2µF	50WV	±20%	A86-0430
C215	Ceramic	27pF	50WV	±5%	W52-2701
C216	Ceramic	62pF	50WV	±5%	W52-6201
C217	Ceramic	62pF	50WV	±5%	W52-6201
C218	Ceramic	0.01µF	50WV	±10%	W32-1032
C219	Ceramic	820pF	50WV	±5%	W52-8211
C220	Electrolytic	3.3µF	50WV	±20%	A86-0060
C221	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C222	Electrolytic	10µF	10WV	±20%	A86-0450
C223	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C224	Ceramic	5600pF	50WV	±10%	W32-5622
C225	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C226-9	NOT USED				
C230	Ceramic	0.01µF	50WV	±10%	W32-1032
C231-50	NOT USED				
C251	Electrolytic	100µF	50WV	±20%	A86-0280

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
C251	Electrolytic	100µF	6.3WV	±20%	A86-0050
C252	Electrolytic	100µF	50WV	±20%	A86-0280
C253-300	NOT USED				
C301	Electrolytic	47µF	16WV	±20%	A86-0080
C302	Electrolytic	47µF	6.3WV	±20%	A86-0040
C303	Ceramic	0.1µF	16WV	+80/–20%	A88-0050
C304	Ceramic	0.1µF	16WV	+80/–20%	A88-0050
C305	Ceramic	0.1µF	16WV	+80/–20%	A88-0050
C306	Ceramic	0.1µF	16WV	+80/–20%	A88-0050
C307	Ceramic	0.1µF	16WV	+80/–20%	A88-0050
C308	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C309	Electrolytic	100µF	10WV	±20%	A86-0630
C310	Ceramic	0.01µF	50WV	±10%	W32-1032
C311-400	NOT USED				
C401	Ceramic	0.33µF	25WV	+80/–20%	W43-3349
C402	Ceramic	1000pF	50WV	±10%	W32-1022
C403	Electrolytic	100µF	6.3WV	±20%	A86-0050
C404	Electrolytic	220µF	10WV	±20%	A86-0640
C405	Electrolytic	47µF	16WV	±20%	A86-0270
C406	Electrolytic	1µF	50WV	±20%	A86-0010
C407	Electrolytic	22µF	35WV	±20%	A86-0490
C408	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C409	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C410	Electrolytic	4.7µF	35WV	±20%	A86-0580
C411	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C412	Ceramic	0.022µF	50WV	±10%	W42-2234
C413	Ceramic	0.01µF	50WV	±10%	W32-1032
C414	Ceramic	1000pF	50WV	±10%	W32-1022
C415	Ceramic	0.01µF	50WV	±10%	W32-1032
C416	Ceramic	0.01µF	50WV	±10%	W32-1032
C417	Electrolytic	220µF	6.3WV	±20%	A86-0380
C418	Electrolytic	100µF	6.3WV	±20%	A86-0050
C419-500	NOT USED				
C501	Film	0.22µF	50WV	±10%	A88-0240
C502	Ceramic	220pF	2kWV	±10%	A88-0070
C503	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C504	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C505	Electrolytic	220µF	10WV	±20%	A86-0640
C506	Ceramic	0.047µF	50WV	+80/–20%	W42-4734
C507	Ceramic	100pF	50WV	±5%	W52-1011
C508	Ceramic	180pF	50WV	±5%	W52-1811
C509	Electrolytic	100µF	10WV	±20%	A86-0630
C510-899	NOT USED				
C900	Ceramic	0.47µF	25WV	+80/–20%	W43-4749
C901	NOT USED				
C902	Electrolytic	100µF	6.3WV	±20%	A86-0050
C903	Ceramic	39pF	50WV	±5%	W52-3901
C904	Ceramic	15pF	50WV	±5%	W52-1501
C905	Ceramic	47pF	50WV	±5%	W52-4701
C906	Ceramic	47pF	50WV	±5%	W52-4701
C907	Electrolytic	10µF	50WV	±20%	A86-0370
C908	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C909	Ceramic	0.1µF	25WV	+80/–20%	W42-1049
C910	Electrolytic	1µF	50WV	±20%	A86-0010

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
Ceramic Filter					
CF201	SAF38.9MZC60Z	SAW Filter			A75-0920
CF202	SFSL5.5MDB	SAW Filter	Band Pass	Audio –H/D/I	A75-0760
CF202	SFSL6.0MDB	SAW Filter	Band Pass	Audio –B	A75-0830
CF202	SFSL5.5MDB	SAW Filter	Band Pass	Audio –H/D/I	A75-0760
CF203	CDA5.5MC30	FM Detector	Audio	–H/D/I	A75-0300
	or CDA5.5MC30A	Audio Trap		–H/D/I	A75-0980
CF203	CDA6.0MC30	FM Detector	Audio	–B	A75-0310
	or CDA6.0MC30A	FM Detector	Audio	–B	A75-0970
CF203	CDA5.5MC30	FM Detector	Audio	–H/D/I	A75-0300
	or CDA5.5MC30A	Audio Trap		–H/D/I	A75-0980
CF204	TPSL5.5MB	Audio	Trap	–H/D/I	A75-0780
CF204	TPSL6.0MB	Audio	Trap	–B	A75-0840
CF204	TPSL5.5MB	Audio	Trap	–H/D/I	A75-0780
CF901	CST4.00MGW	For OSC of CPU	Sera, Lock		A75-1030
Diode					
D201	Silicon	RLS-73			A73-0340
D202	Silicon	RLS-73			A73-0340
D401	Silicon	1SR139-10032			A73-0410
D402	Silicon	MA223			A73-0330
D403	Silicon	RLS-73			A73-0340
D404	Silicon	SB20-03P			A73-0320
D405	Silicon	RD5.1MB	B2		A73-0130
D501	Silicon	SB20-03P			A73-0320
D901	Silicon	RLS-73			A73-0340
IC					
IC201	M51348FP	V.I.F.	IC		A71-0230
IC301	NJM386M	S.I.F.	IC		A71-0080
IC302	M5222FP	–600C	IC		A71-0780
IC401	M5236ML-74A	3 Terminal Regulator	IC		A71-1240
IC402	BA6161M	Up Voltage	IC		A71-0540
IC501	BA9700F	Down Voltage	IC		A71-0680
IC901	M34300	Tuning Controller	MICON-IC	70TC	A71-1460
Jack					
J101	HSJ083601010	EXT ANT			A62-0020
J201	HSJ-0863-01-410	AV Input			A62-0040
J301	HSJ083601010		Earphone		A62-0020
J401	EX403-1	DC Power	Input		A62-0110

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
Coil					
L201	LER015T1R8M	1.8μH	Fixed Chip	±20%	A90-0340
L202	LER015T2R7M	2.7μH	Fixed Chip	±20%	A90-0350
L205	ELJ-FA150KB	15μH	Fixed Chip	±10%	A90-0330
L401	5TAN-0349Z	2mH	252KHz	194 TURN	A79-0450
L402	LAL03KH101K	100μH	Fixed Chip	±10%	A79-0490
L501	8RBS-100mH	100mH	Choking Coil	±10%	A79-0420
L502	8RBS-100mH	100mH	Choking Coil	±10%	A79-0420
Transistor					
Q101	2SA1530	PNP		100KΩ IN	W01-1530
Q102	2SA1530	PNP			W01-1530
Q201	2SC3142J3	NPN			W13-3142
Q202	2SC3928	NPN			W03-3928
Q301	DTC115TK	NPN		100KΩ IN	A72-0040
Q401	2SB1132	PNP			W02-1132
Q402	2SC3928	NPN			W03-3928
Q403	2SC3928	NPN			W03-3928
Q404	2SC3928	NPN			W03-3928
Q405	2SD1119	NPN			W04-1119
Q501	2SD1119	NPN			W04-1119
Q502	2SD1119	NPN			W04-1119
Q503	2SB1202	PNP			W02-1202
Q901	2SA1530	PNP			W01-1530
Q902	2SC3928	NPN			W03-3928
Q903	2SC3928	NPN			W03-3928
Resistor					
R101	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R102	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R103-200	NOT USED				
R201	Metal Oxide	180Ω	0.1W	±5%	W22-1813
R202	Metal Oxide	6.8kΩ	0.1W	±5%	W22-6823
R203	Metal Oxide	2.2kΩ	0.1W	±5%	W22-2223
R204	Metal Oxide	22Ω	0.1W	±5%	W22-2203
R205	Metal Oxide	270Ω	0.1W	±5%	W22-2713
R206	Metal Oxide	18kΩ	0.1W	±5%	W22-1833
R207	Metal Oxide	0Ω	0.1W	±5%	W22-0R00
R208	Metal Oxide	8.2kΩ	0.1W	±5%	W22-8223
R209	Metal Oxide	82kΩ	0.1W	±5%	W22-8233
R210	Metal Oxide	5.1kΩ	0.1W	±5%	W22-5123
R211	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R212	NOT USED				
R213	Metal Oxide	680Ω	0.1W	±5%	W22-6813
R214	Metal Oxide	330kΩ	0.1W	±5%	W22-3343
R215	Metal Oxide	330kΩ	0.1W	±5%	W22-3343
R216	Metal Oxide	3.3kΩ	0.1W	±5%	W22-3323
R217	Metal Oxide	330Ω	0.1W	±5%	W22-3313
R218	Metal Oxide	470Ω	0.1W	±5%	W22-4713
R219	Metal Oxide	150kΩ	0.1W	±5%	W22-1543
R220	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R221	Metal Oxide	470Ω	0.1W	±5%	W22-4713

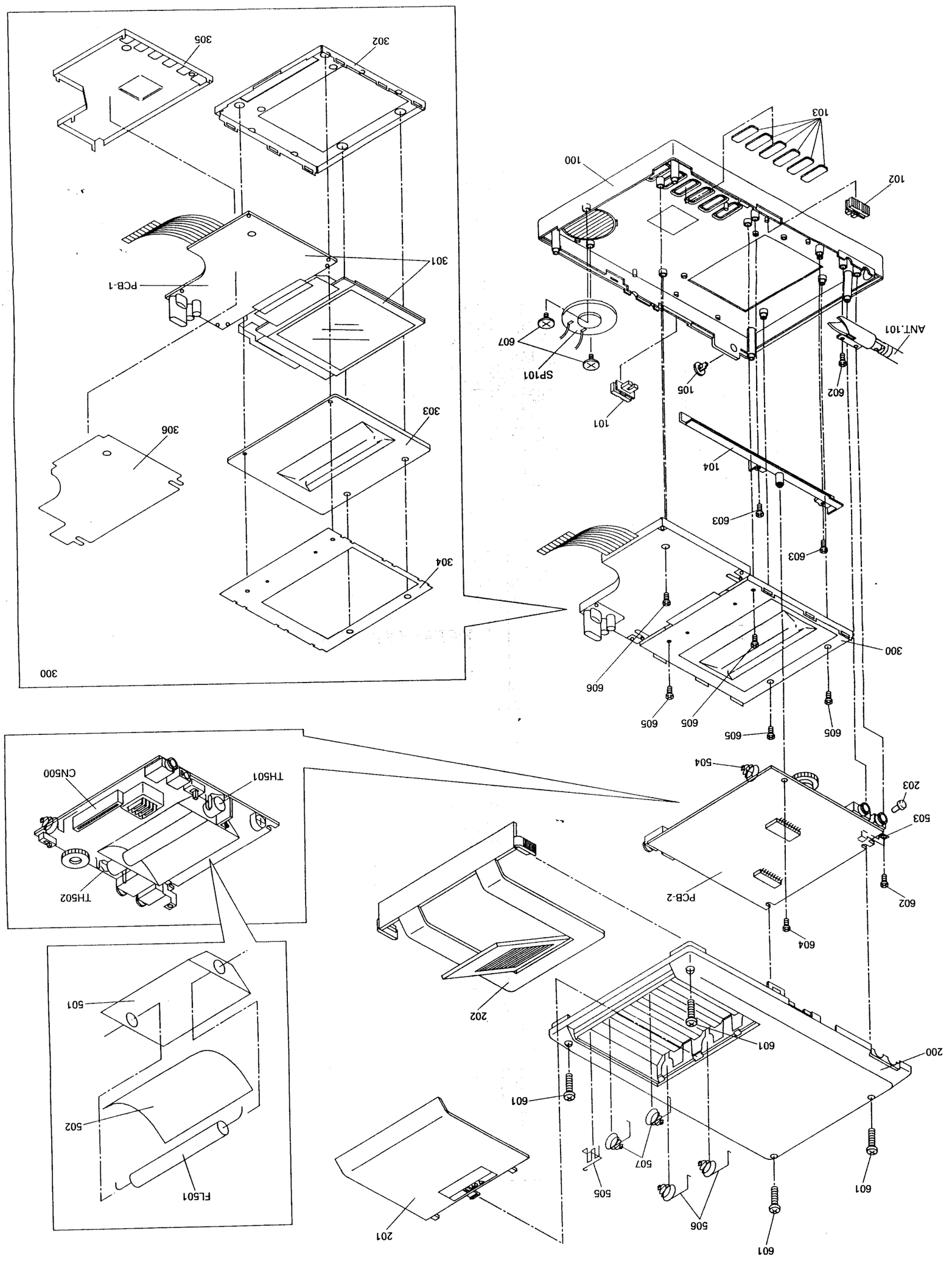
Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
R222	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R223	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R224	Metal Oxide	820Ω	0.1W	±5%	W22-8213
R225	Metal Oxide	4.7Ω	0.1W	±5%	W22-4R73
R226	Metal Oxide	51Ω	0.1W	±5%	W22-5103
R227-9	NOT USED				
R230	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R231-50	NOT USED				
R251	Metal Oxide	4.7Ω	0.1W	±5%	W22-4R73
R252	Metal Oxide	4.7Ω	0.1W	±5%	W22-4R73
R253-300	NOT USED				
R301	Metal Oxide	10Ω	0.1W	±5%	W22-1003
R302	Metal Oxide	150kΩ	0.1W	±5%	W22-1543
R303	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R304	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R305	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R306	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R307	Metal Oxide	51Ω	0.1W	±5%	W22-5103
R308	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R309	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R310-400	NOT USED				
R401	Metal Oxide	220Ω	0.1W	±5%	W22-2213
R402	Metal Oxide	100Ω	0.1W	±5%	W22-1013
R403	Metal Oxide	15kΩ	0.1W	±5%	W22-1533
R404	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R405	Metal Oxide	18kΩ	0.1W	±5%	W22-1833
R406	Metal Oxide	10Ω	0.1W	±5%	W22-1003
R407	Metal Oxide	10Ω	0.1W	±5%	W22-1003
R408	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R409	Metal Oxide	10Ω	0.1W	±5%	W22-1033
R410	Metal Oxide	150kΩ	0.1W	±5%	W22-1543
R411	Metal Oxide	33kΩ	0.1W	±5%	W22-3333
R412	Metal Oxide	51kΩ	0.1W	±5%	W22-5133
R413	Metal Oxide	51Ω	0.1W	±5%	W22-5103
R414	Metal Oxide	220kΩ	0.1W	±5%	W22-2243
R415	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R416	Metal Oxide	5.6kΩ	0.1W	±5%	W22-5623
R417	Metal Oxide	18kΩ	0.1W	±5%	W22-1833
R418	Metal Oxide	470Ω	0.1W	±5%	W22-4713
R419	Metal Oxide	4.7kΩ	0.1W	±5%	W22-4723
R420	Metal Oxide	39Ω	0.1W	±5%	W22-3903
R421	Metal Oxide	22Ω	0.1W	±5%	W22-2203
R422-500	NOT USED				
R501	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R502	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R503	Metal Oxide	82kΩ	0.1W	±5%	W22-8233
R504	Metal Oxide	56kΩ	0.1W	±5%	W22-5633
R505	Metal Oxide	1kΩ	0.1W	±5%	W22-1023
R506	Metal Oxide	100Ω	0.1W	±5%	W22-1013
R507	Metal Oxide	75Ω	0.1W	±5%	W22-7503
R508	Metal Oxide	7.5kΩ	0.1W	±5%	W22-7523
R509	Metal Oxide	15kΩ	0.1W	±5%	W22-1533
R510	Metal Oxide	47kΩ	0.1W	±5%	W22-4733

Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
R511	Metal Oxide	10Ω	0.1W	±5%	W22-1003
R512-901	NOT USED				
R902	Metal Oxide	47kΩ	0.1W	±5%	W22-4733
R903	Metal Oxide	47kΩ	0.1W	±5%	W22-4733
R904	Metal Oxide	47kΩ	0.1W	±5%	W22-4733
R905	Metal Oxide	6.8kΩ	0.1W	±5%	W22-6823
R906	Metal Oxide	100kΩ	0.1W	±5%	W22-1043
R907	Metal Oxide	1MΩ	0.1W	±5%	W22-1053
R908	Metal Oxide	470kΩ	0.1W	±5%	W22-4743
R909	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R910	Metal Oxide	51kΩ	0.1W	±5%	W22-5133
R911	Metal Oxide	51kΩ	0.1W	±5%	W22-5133
R912	Metal Oxide	47kΩ	0.1W	±5%	W22-4733
R913	Metal Oxide	47kΩ	0.1W	±5%	W22-4733
R914	Metal Oxide	2.2kΩ	0.1W	±5%	W22-2223
R915-30	NOT USED				
R931	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R932	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R933	Metal Oxide	10kΩ	0.1W	±5%	W22-1033
R934	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
R935	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
R936	Metal Oxide	22kΩ	0.1W	±5%	W22-2233
Switch					
SW401	SSSS9-2-2 Type A, Slide Switch				A61-0110
SW901	SSS222-A Slide Switch				A61-0020
Variable Coil					
LC203	294SN-0796Z	38.9-39.5MHz	Choking Coil	±5%	A80-0160
LC204	294SN-0796Z	38.9-39.5MHz	Choking Coil	±5%	A80-0160
Potentiometer					
VR201	RH0411CS4	47KΩ	Semifixed		A83-0650
VR202	RH0411CS4	47KΩ	Semifixed		A83-0650
VR401	RH0411CE4J03A	15KΩ	Semifixed		A83-0670
VR402	VOBL-PY-Y52-50K	50KΩ	Rotary		A83-0570
VR403	RHEON (H0614)-104	100KΩ	Rotary	Color	A83-0350
VR901	RH0411C13	1KΩ	Semifixed		A83-0710
Transformer					
T401	D01 DC-DC Conv.				A78-0320
T501	ST-32 High Voltage Transformer				A78-0290
Miscellaneous					
CN500	9602S-23A S (23 pin)				A54-0850
FL501	Tube, Fluorescent FLE8.82AD1P4				A35-0210
TH501	Thermofuse EYP=1BF102				A84-0080
TH502	Thermofuse EYP=1BF102				A84-0080
TU101	TEPZ5-002A Tuner				A51-2100
501	First Reflector				A34-0320
502	Second Reflector				A34-0250
503	Lug Plate of ANT.				A12-0590
504	Spring, Battery, Positive				A20-0340

EXPLODED VIEW PART LIST

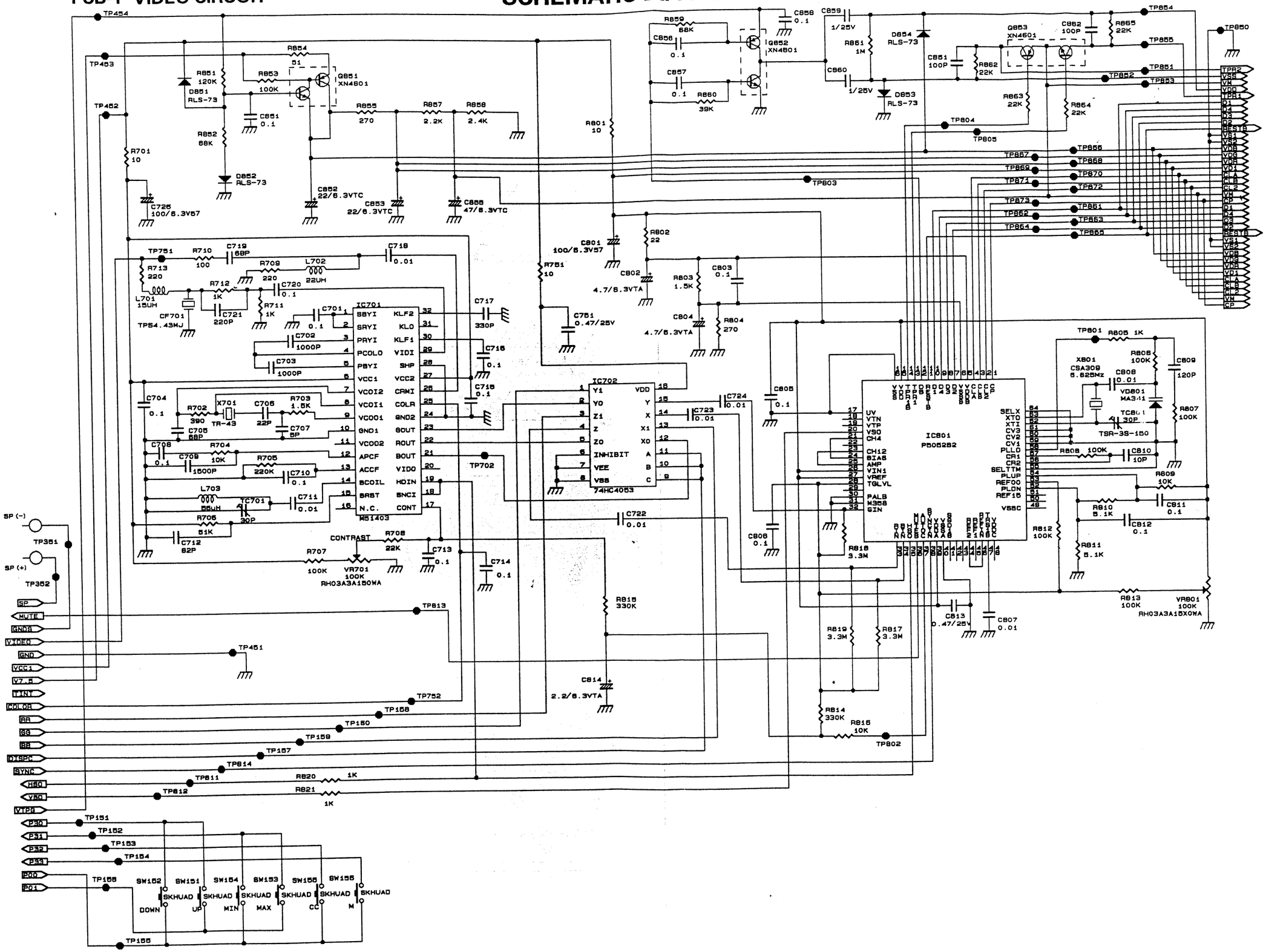
Ref. No.	Material	Value	Voltage (V)	Tolerance(%)	Nfr' Parts No.
Exploded					
100	Case Ass'y,	Front		-H/B	A01-5390
100	Case Ass'y,	Front		-D/I	A01-5470
ANT101	Rod Antenna(ANT.),	Telescopic			A64-0230
101	Knob, Slider,	Power ON/OFF			A05-0840
SP101	Speaker	28ϕ			A42-0150
102	Knob, Slider	Preset			A05-0850
103	Setting Button				A05-0830
104	Holder, ANT.	Plastic			A13-0820
105	Knob	Colour Control			A05-0580
200	Case Ass'y	Rear		-H	A01-5410
200	Case Ass'y	Rear		-B	A01-5430
200	Case Ass'y	Rear		-D/I	A01-5440
201	Lide	Battery Compartment	Plastic		A02-1320
202	Stand				A02-1270
203	Cap, External Antenna Jack, Only used			-DA	A02-0720
301	LCD Panel				A11-1150
302	Front Shield Plate, LCD Panel				A12-0600
303	Light Diffusion Plate				A13-0730
304	Rear Shield Plate, LCD Panel				A12-0520
305	Front Shield Plate, PCB-1				A12-0580
306	Rear Shield Plate, PCB-1				A55-0640
PCB-1	Video PCB Ass'y				A51-2710
PCB-2	TV Receiver PCB Ass'y			-H	A51-2720
PCB-2	TV Receiver PCB Ass'y			-B	A51-2730
PCB-2	TV Receiver PCB Ass'y			-D/I	A51-2740
CN500	9602S-23A	S (23 Pin)			A54-0850
TH501	Thermofuse	EYP=1BF102			A84-0080
TH502	Thermofuse	EYP=1BF102			A84-0080
FL501	Tube, Fluorescent	FLE8.82AD1P4			A35-0210
501	First Reflector				A34-0320
502	Second Reflector				A34-0250
503	Lug Plate of ANT.				A12-0590
504	Spring, Battery, Positive				A20-0340
505	Spring, Battery, Positive				A20-0420
506	Spring, Battery, Positive & Negative				A20-0160
507	Spring, Battery, Positive & Negative				A20-0170
601	B2×8 (3) mm	Tapping	Pan Head	Black	Y23-6806
602	B2×5 (S) mm	Machine Precision	Flat Head 4×0.8	Ni	A22-0260
603	B2×5 (S) mm	Machine Precision	Flat Head 4×0.8	Ni	A22-0260
604	B2×5 (S) mm	Machine Precision	Flat Head 4×0.8	Ni	A22-0260
605	B2×4 (3) mm	Tapping	Pan Head	Ni	Y23-6401
606	B2×4 (3) mm	Tapping	Pan Head	Ni	Y23-6401
607	B2×3 (S) mm	Tapping	Pan Head	Ni	A22-0030
900	Soft Case				A07-0540

EXPLODED VIEW

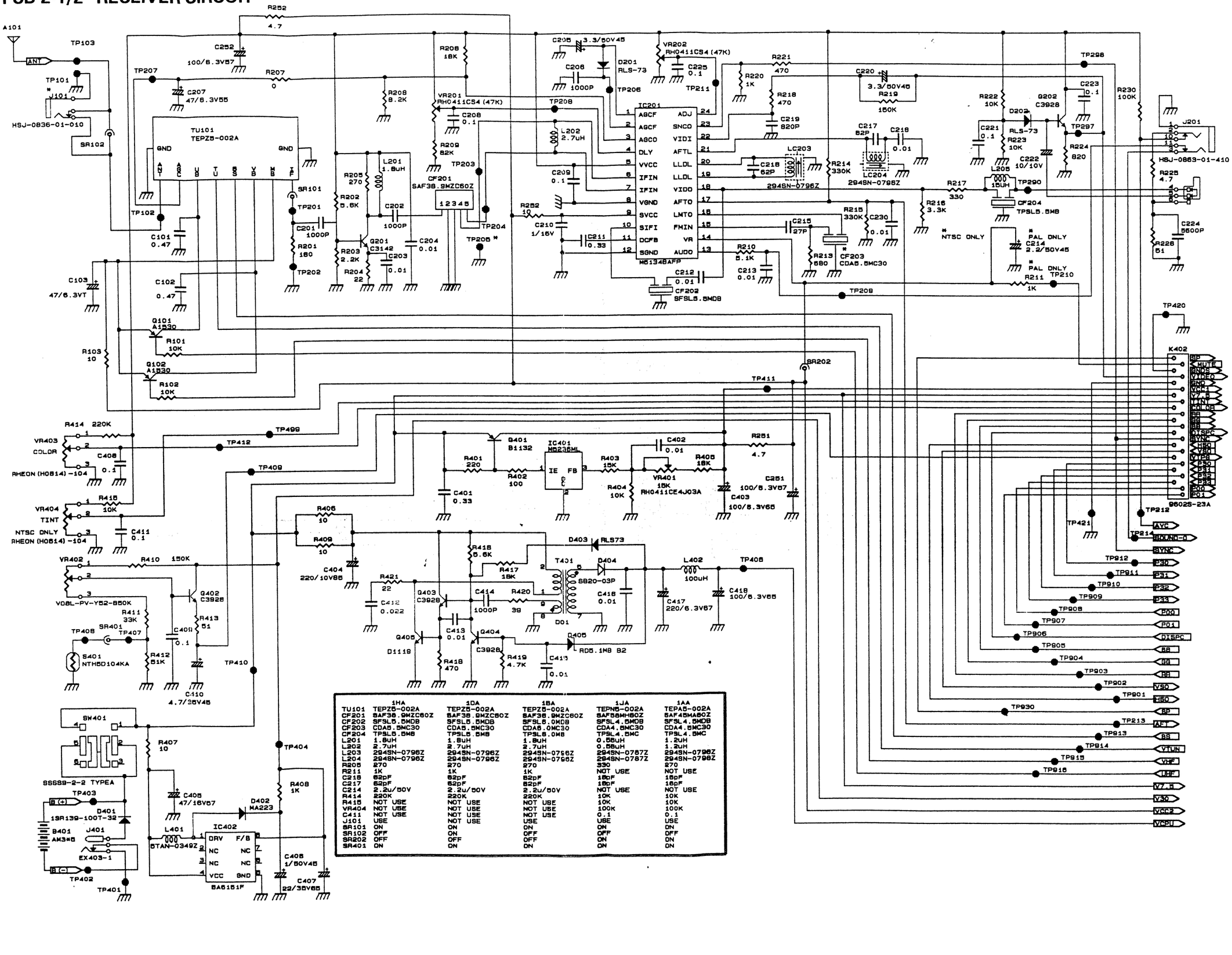


PCB-1 VIDEO CIRCUIT

SCHEMATIC DIAGRAM

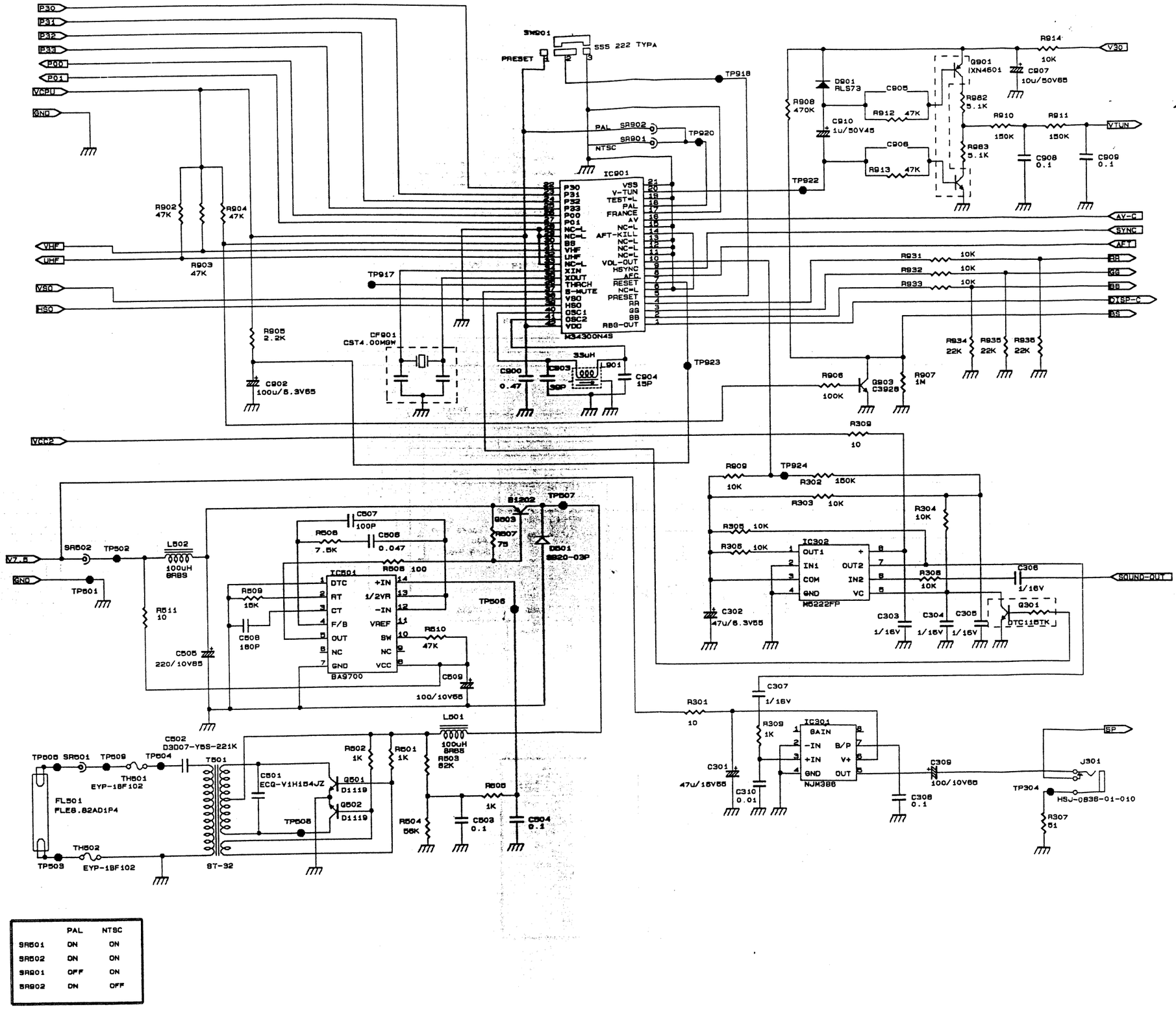


PCB-2-1/2 RECEIVER CIRCUIT



	1HA	1DA	1BA	1JA	1AA
TU101	TEPZ5-002A	TEPZ5-002A	TEPZ5-002A	TEPN5-002A	TEPA5-002A
CF201	SAF38.9MZC60Z	SAF38.9MZC60Z	SAF38.9MZC60Z	SAF58MH60Z	SAF45MA60Z
CF202	SFSL5.5MDB	SFSL5.5MDB	SFSL6.0MDB	SFSL4.5MDB	SFSL4.5MDB
CF203	CDA5.5MC30	CDA5.5MC30	CDA6.0MC30	CDA4.5MC30	CDA4.5MC30
CF204	TPSL5.5MB	TPSL5.5MB	TPSL6.0MB	TPSL4.5MC	TPSL4.5MC
L201	1.8UH	1.8UH	1.8UH	0.56UH	1.2UH
L202	2.7UH	2.7UH	2.7UH	0.56UH	1.2UH
L203	2945N-0796Z	2945N-0796Z	2945N-0756Z	2945N-0787Z	2945N-0796Z
L204	2945N-0796Z	2945N-0796Z	2945N-0756Z	2945N-0787Z	2945N-0796Z
R205	270	270	270	330	270
R211	1K	1K	1K	NOT USE	NOT USE
C218	62pF	62pF	62pF	18pF	15pF
C217	82pF	82pF	82pF	18pF	15pF
C214	2.2u/50V	2.2u/50V	2.2u/50V	NOT USE	NOT USE
R414	220K	220K	220K	10K	10K
R415	NOT USE	NOT USE	NOT USE	10K	10K
VR404	NOT USE	NOT USE	NOT USE	100K	100K
C411	NOT USE	NOT USE	NOT USE	0.1	0.1
J101	USE	NOT USE	USE	USE	USE
SR101	ON	ON	ON	ON	ON
SR102	OFF	ON	OFF	OFF	OFF
SR202	OFF	OFF	OFF	ON	ON
SR401	ON	ON	ON	ON	ON

PCB-2-2/2 TV RECEIVER CIRCUIT



	PAL	NTSC
SR501	ON	ON
SR502	ON	ON
SR901	OFF	ON
SR902	ON	OFF