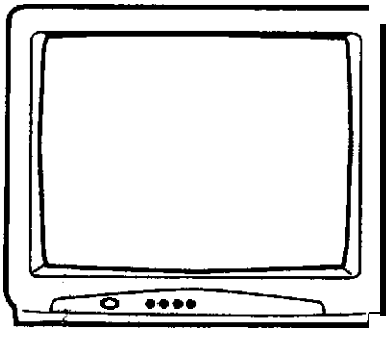
SERVICE MANUAL

COLOR TELEVISION RECEIVER

TC1973D



SPECIFICATIONS

Power Source :	AC 120V, 60 Hz
Power Consumption :	95 Watts
Chassis Construction:	IC Solid state
Picture Tube:	19" (measured diagonally)
Audio Power Output Rating:	1.5 Watts
Speaker:	3" Full Range, 8 ohm
Tuner Type:	181 Channel, Quartz PLL Frequency Synthesized
Receiving Channels:	
VHF	2-13
UHF	14-69
CATV	01-97 (5A)-(A-3) 98-99 (A-2)-(A-1) 14-22 (A)-(I) 23-36 (J)-(W) 37-65 (AA)-(FFF) 66-125 (GGG)-(125)
Antenna Input Impedance:	75 Ohm (VHF/UHF/CATV) Coaxial Input
Cabinet:	Monitor Style
Dimensions (W x H x D):	19 1/8" x 16 5/16" x 18 5/16"
Weight:	38.6 lbs
Intermediate Frequency:	
Picture IF Carrier Frequency	45.75 MHz
Color Sub Carrier Frequency	42.17 MHz
Sound IF Carrier Frequency	41.25 MHz
Sound Intermediate Frequency:	4.5 MHz

All the specifications and features are subject to change without notice.

ORIGINAL VERSION (A)

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF ANODE CAP

Read the following NOTED items before starling work.

- After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. (Refer to Fig. I-l.)
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

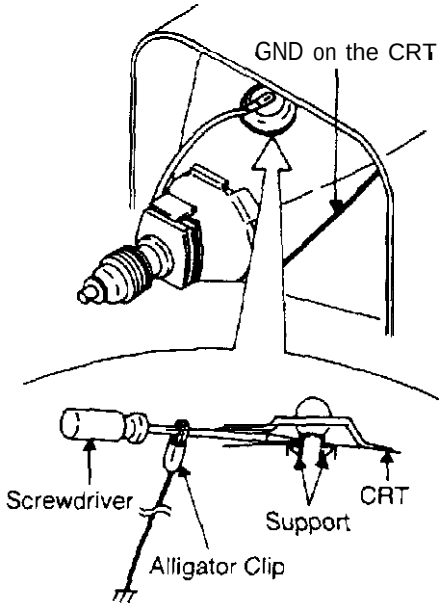


Fig. 1-l

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support (Refer to Fig. I-2.)

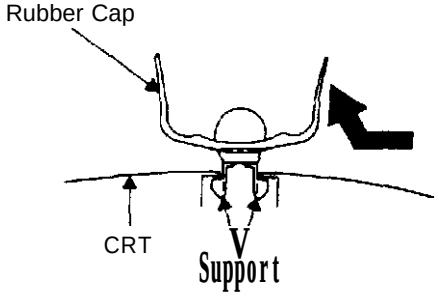


Fig. 1-2

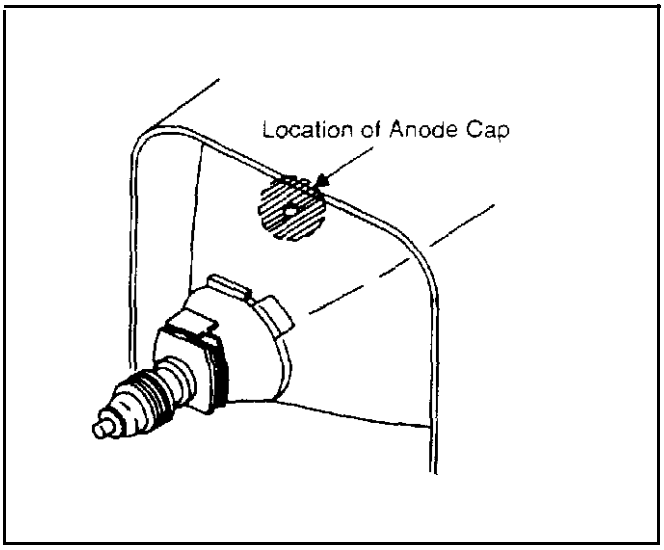
3. After one side is removed. pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. (Refer to Fig. I-3.)



NOTE

Confirm that there is no dirt. dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. (Refer to Fig. I-4.)

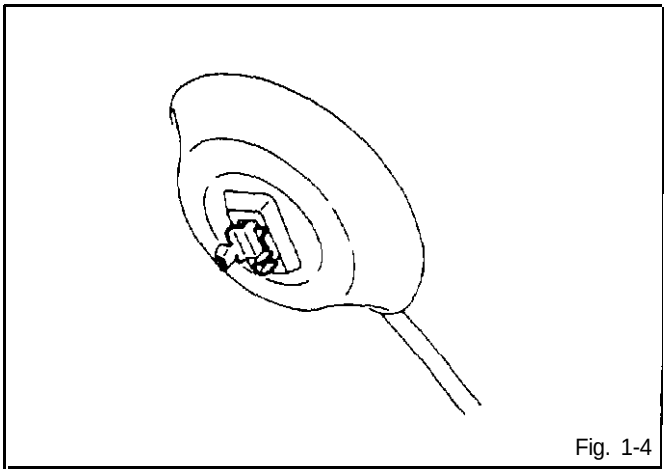


Fig. 1-4

4. Insert one end of the Anode Support into the anode button. then the other as shown in Fig. **1-5**.

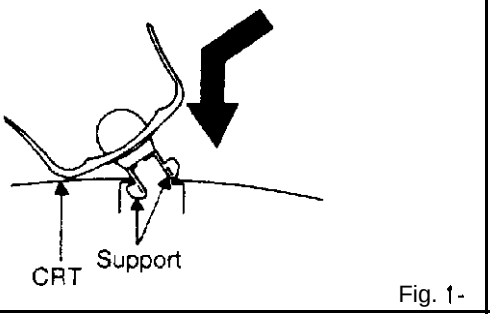


Fig. 1-

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

2. REMOVAL OF DEFLECTION YOKE (Refer to Fig. 2-1)

1. Loosen the screw ①.
2. Remove the Convergence · Purity Magnet in the direction of arrow (A).
3. Loosen the screw ②.
4. Remove the 3 Wedges.
5. Remove the Deflection Yoke in the direction of arrow (B).

INSTALLATION

Install new Deflection Yoke in reverse steps of REMOVAL.

NOTE

After adjusting the purity and the convergence. fix the screw ② and lock the wedges.

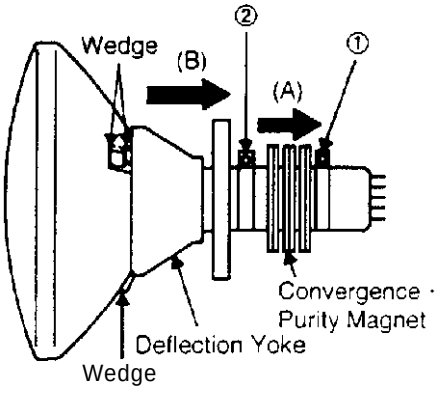


Fig. 2-

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

Use an isolation transformer when performing any service on this chassis.

Before removing the anode cap, discharge electricity because it contains high voltage.

When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.

Inferior silicon grease can damage IC's and transistors. When replacing IC's and transistors. use only specified silicon grease (YG6260M).
Remove all old silicon before applying new silicon.

1-l: Prepare the following measurement tools far electrical adjustments.

1. Sweepmarker Generator
2. Oscilloscope
3. Digital Voltmeter
4. Color Bar Generator

2. BASIC ADJUSTMENTS

On-Screen Display Adjustment

NOTE: Press the end of a straightened paper clip into the hole on remote control marked with an arrow as shown in Fig. 2-f.

The adjustment mode display will appear as shown Fig. 2-2 and Fig. 2-3.

NOTE

Use the 18 keys on the remote control to select the options shown in Fig. 2-2 and Fig. 2-3.
Press the 8 key to end the adjustments.

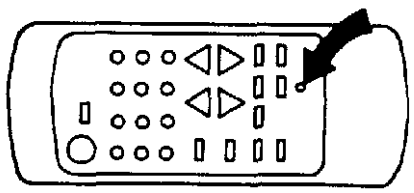


Fig. 2-l

1. CUTOFF
2. V.SIZE
3. BRI. AUTO
4. X-RAY
5. CONT
8. END

Fig. 2-2

1. AUTO
2. VCO
3. AFT
4. AGC
5. COL
6. TINT
7. BRI
8. END

Fig. 2-3

2-1: VCO AND AFT

Connect input and output terminals of the sweepmarker generator to the circuit as shown in Fig. 2-4-a, it.

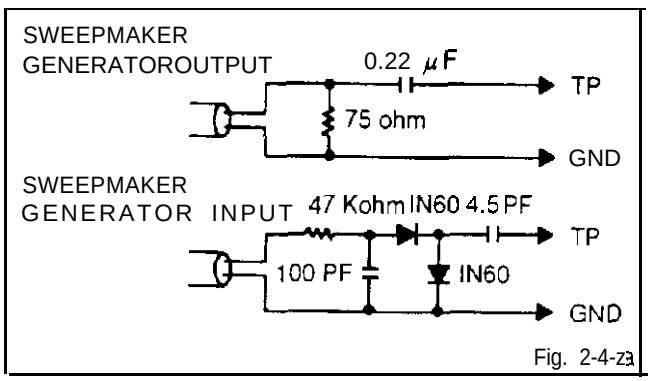
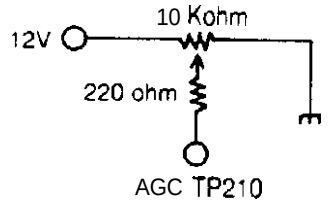


Fig. 2-4-za

1. Connect output terminal of the sweepmarker generator to TP201.
2. Connect input terminal of the sweepmarker generator to TP204.
3. Connect a 10K ohm variable resistor to IF AGC terminal (TP210), 12V line and ground. then adjust to make the waveform of the oscilloscope readable

ELECTRICAL ADJUSTMENTS



4. Activate the adjustment mode display (Fig. 2-3) and press the 2 key.
5. Adjust VOL. UP/DOWN key on the remote control until the waveform maker (45.75MHz) becomes as shown in Fig. 2-4-b.

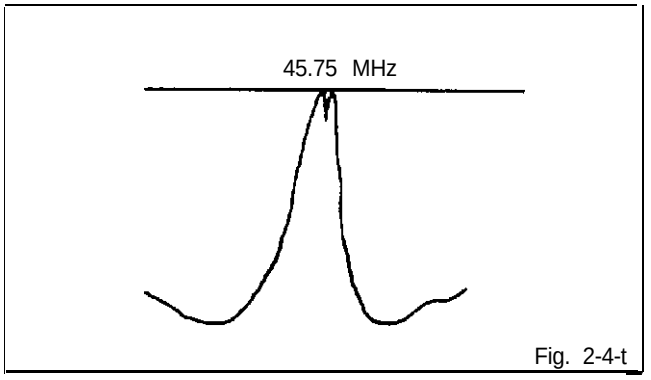


Fig. 2-4-t

6. Disconnect output terminal of the sweepmarker generator from **TP201,** then connect it to TP al the tuner pack.
7. Disconnect the 10K ohm and the 2.7K ohm variable resistors.
6. Disconnect input and output terminals of the sweepmarker generator.
9. Connect the AFT adjustment oscillator (45.75MHz) to TP of the tuner pack.
10. Connect the digital voltmeter to TP206.
11. Activate the adjustment mode display (Fig. 2-3) and press the 3 key.
12. Adjust VOL. UP/DOWN key on the remote control to find the point where the voltage of **TP206** changes dramatically, and adjust to 4.5VDC at that point.

2-2: BRIGHT, AGC, TINT AND COLOR

2-2-A: BRIGHT

1. Receive the monochrome pattern.
2. Activate the adjustment mode display (**Fig.** 2-3) and press the 7 key.
3. Press the VOL. UP/DOWN key on the remote control until the boundary between 0% and 10% white starts to become visible.

2-2-B: AGC

NOTE

Adjust after performing adjustments in section 2-1.

In case of weak electric field.

1. Tune to a noisy channel.
2. Activate the adjustment mode display and press the 4 key.
3. Press the VOL. UP/DOWN key on the remote control until noise is at minimum.
4. Change the channel. confirm that the other channels are normal.

In case of strong electric field.

(Radio frequency interference **can cause** diagonal streaks to appear.)

1. Activate the adjustment mode display and press the 4 key.
2. Press the VOL. UP/DOWN key on the remote control until diagonal streaks are at minimum.
3. If there is still a problem after pressing the VOL. UP/DOWN key on the remote control. install an attenuator to the antenn terminals. then repeat step 1.
4. Confirm that noise does not appear.
5. Change the channel. confirm that the other channels are normal.

2-2-C: TINT

1. Receive the color bar pattern.
2. Connect the oscilloscope to TP023.
3. Activate the adjustment mode display (Fig. 2-3) and press the 6 key.
4. Press the VOL. UP/DOWN key on the remote control until the waveform becomes as shown in Fig. 2-5.

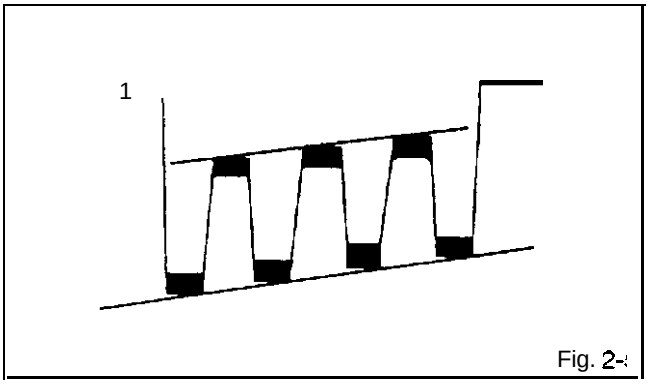


Fig. 2-5

2-2-D: COLOR

1. Receive the color bar pattern.
2. Connect the oscilloscope to TP022
3. Activate the adjustment mode (Fig. 2-3) display and press the 5 key.
4. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 0% and 100% is set to 5 scales on the screen of the oscilloscope.
5. Press the VOL. UP/DOWN key an the remote control until the red color level is adjusted to 4.75scales(95%) for the white level. (Refer to Fig. 2-6)

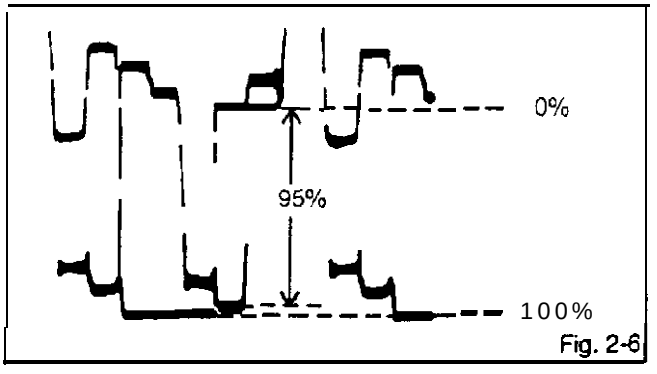


Fig. 2-6

ELECTRICAL ADJUSTMENTS

2-3: CUT OFF

1. Receive the color bar pattern.
2. Using the remote control. set brightness and contrast to minimum position.
3. Connect the oscilloscope to TP024.
4. Adjust the screen volume until voltage is 150VDC. (Refer to Fig. 2-7)

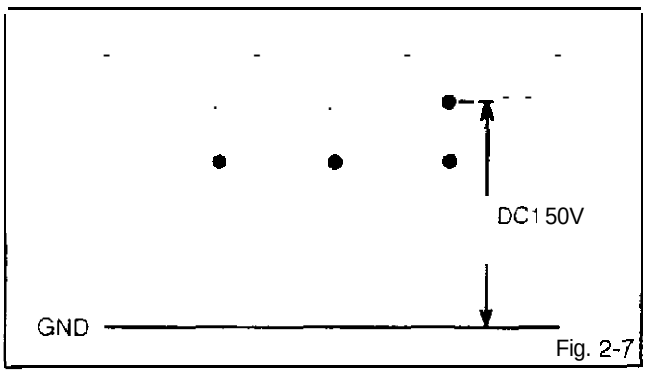


Fig. 2-7

2-4: FOCUS

1. Receive the broadcasting signal.
2. Adjust the focus control until picture is distinct

2-5: VERTICAL SIZE

1. Receive the crosshatch pattern from the color bar generator.
2. Activate the adjustment mode display (Fig. 2-2) and press the 2 key.
3. Press the VOL. UP/DOWN key on the remote control until the horizontal overscan is equal to the vertical overscan.

2-6: VERTICAL POSITION

1. Receive the color bar pattern.
2. Using the remote control, set brightness and contrast to maximum position.
3. Adjust the value of R429 and R430 until horizontal line of the color bar comes to approximate center of the CRT.

NOTE

R429 and R430 are fixed resistors. Use a variable resistor to determine the optimal value and insert that value resistor.

Lessen the value of R430	Picture will move about 5mm UP.
Lessen the value of R429	Picture will move about 5mm DOWN.

2-7: HORIZONTAL POSITION

1. Receive the color bar pattern.
2. Adjust the value of R443 and C460 until the color width of both screen edges are equal.
3. Receive the broadcasting signal, then confirm picture is normal.

NOTE

R443 and C460 are fixed components. Use a variable resistor or capacitor to determine the optimal value and insert that value component.

Lessen the value of R443 Picture will move right.
Lessen the value of C460 Picture Will move left.

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENT

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface lacing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-I: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. (Refer to Fig. 3-1)
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green. with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
6. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generatar.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at ends are equally wide.
3. Move the deflection yoke backward (To neck side) slowly. and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen. then tighten the fixing screw.

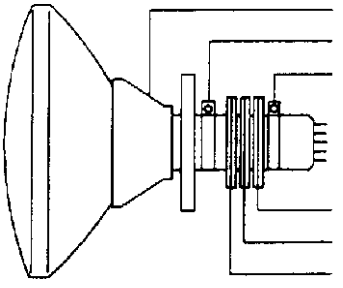


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

1. Receive the crosshatch pattern from color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. (Refer to Fig. 3-2-a)
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. (Refer to Fig. 3-2-b)

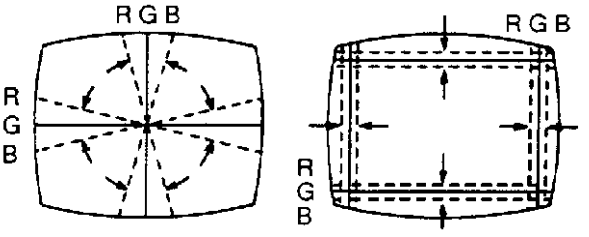
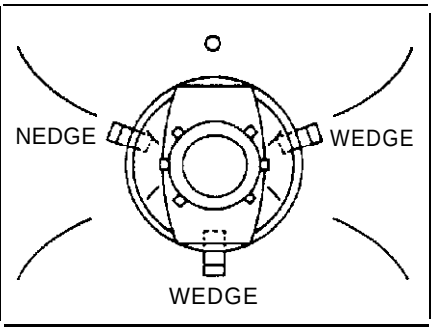


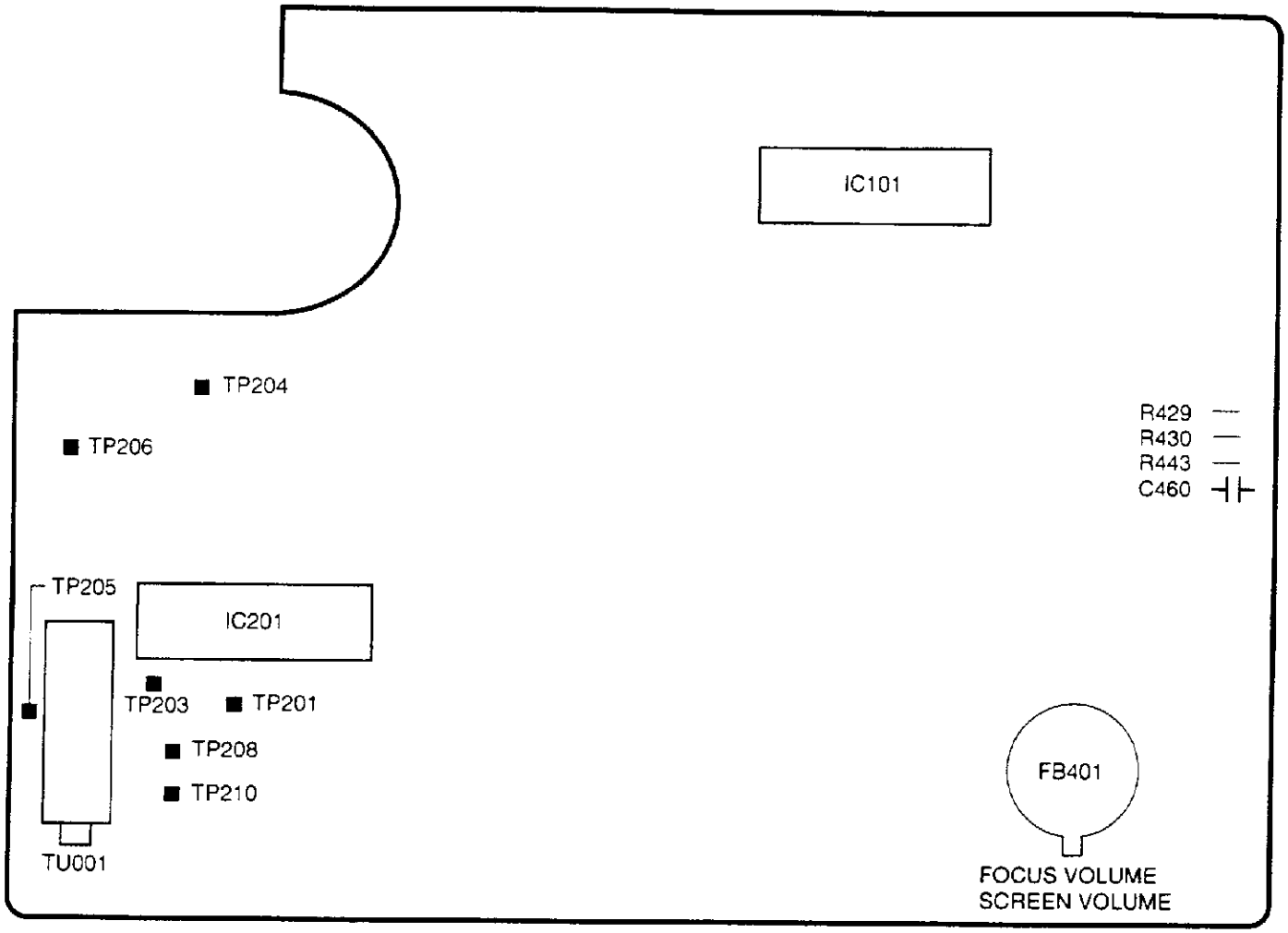
Fig. 3-2-a



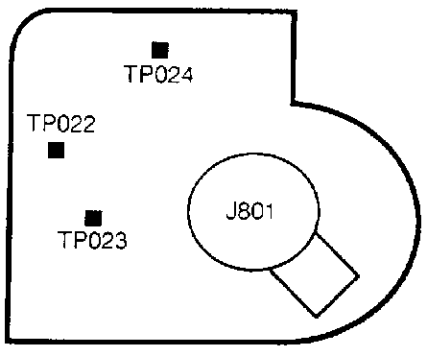
WEDGE POSITION

Fig. 3-2-b

MAJOR COMPONENTS LOCATION GUIDE



MAIN



CRT

TROUBLESHOOTING GUIDE

NO POWER

Is the voltage at the point Ⓐ in the Figure DC122V ?
- Yes → Check the circuit after the point Ⓐ.
- No ↓

Is the voltage at pin 3 of IC501 DC175V ?
- Yes → Check IC501 and associated circuit.
- No ↓

Is the voltage at the point Ⓑ in the Figure DC164V ?
- Yes → Broken wire of R521 or short circuit on GND.
- No ↓

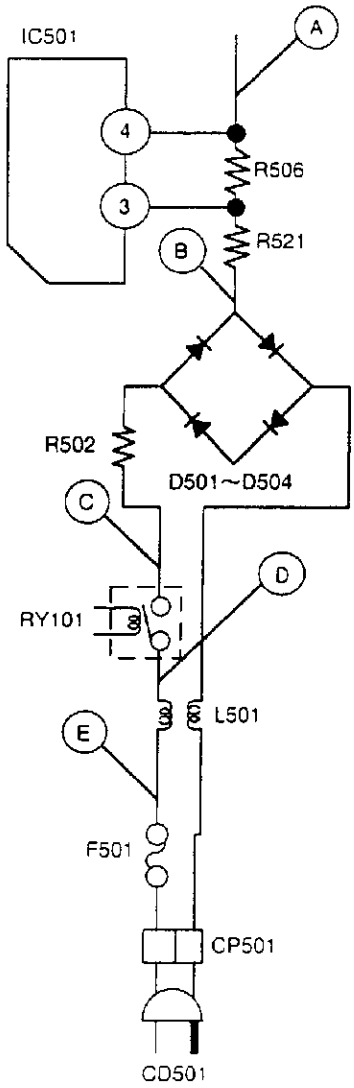
Is the voltage at the point Ⓒ in the Figure AC120V ?
- Yes → Check the rectifying circuit.
- No ↓

Is the voltage at the point Ⓓ in the Figure AC120V ?
- Yes → Check associated circuit of the Relay.
- No ↓

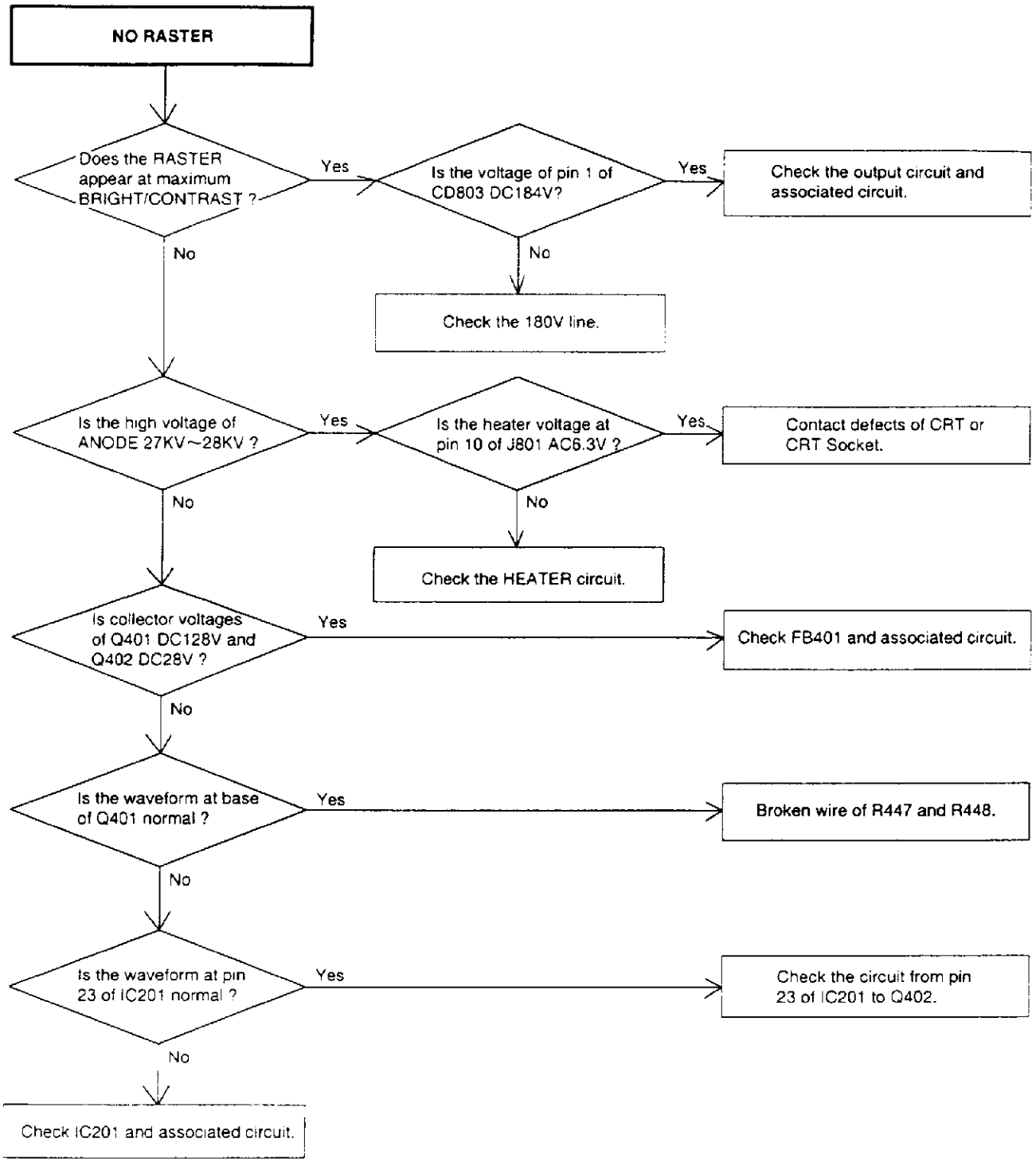
Is the voltage at the point Ⓔ in the Figure AC120V ?
- Yes → Broken wire of L501.
- No ↓

Is the voltage on both ends of CP501 AC120V ?
- Yes → Broken wire of F501.
- No ↓

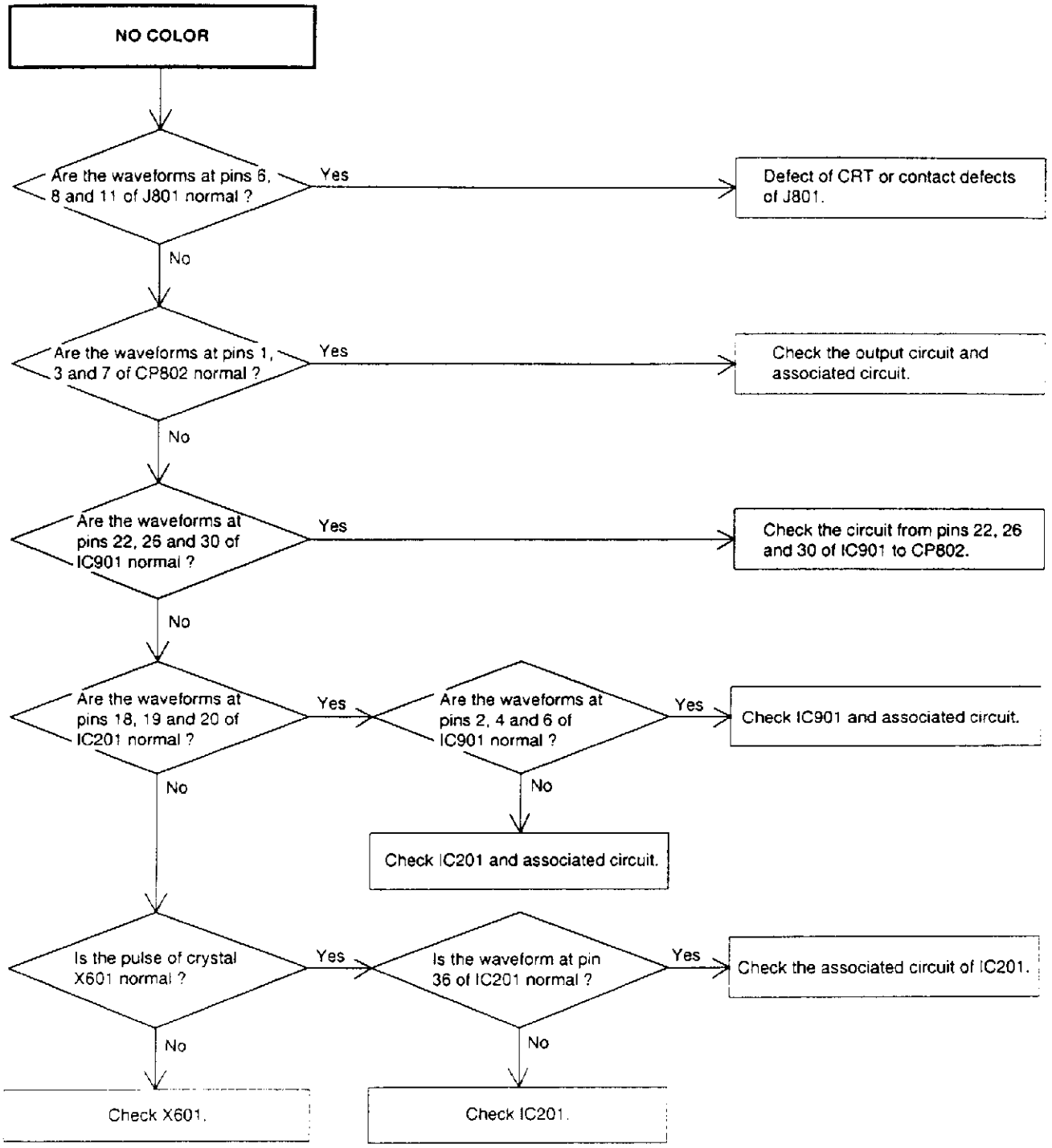
Broken wire of AC cord or check CP501.



TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



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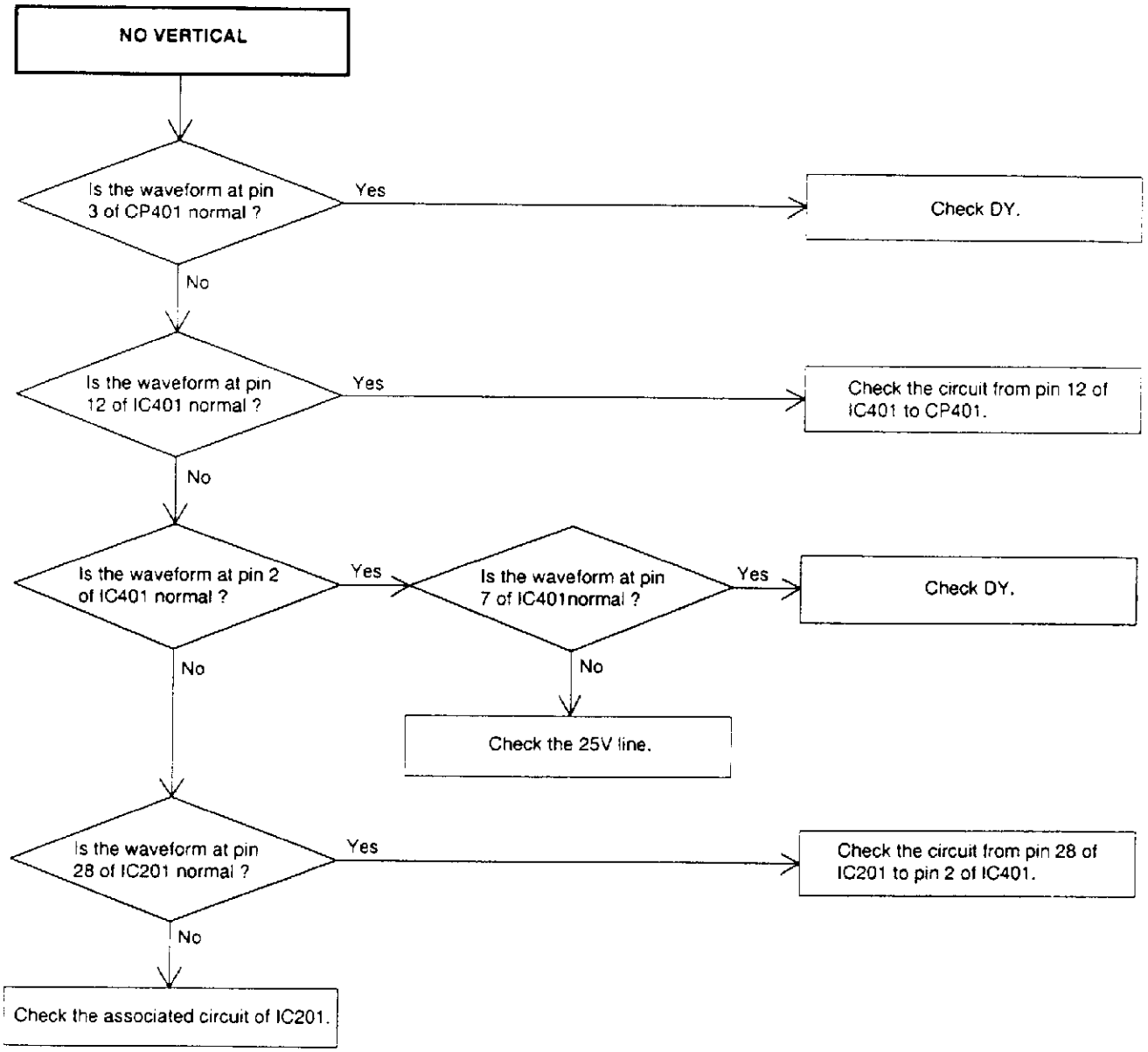

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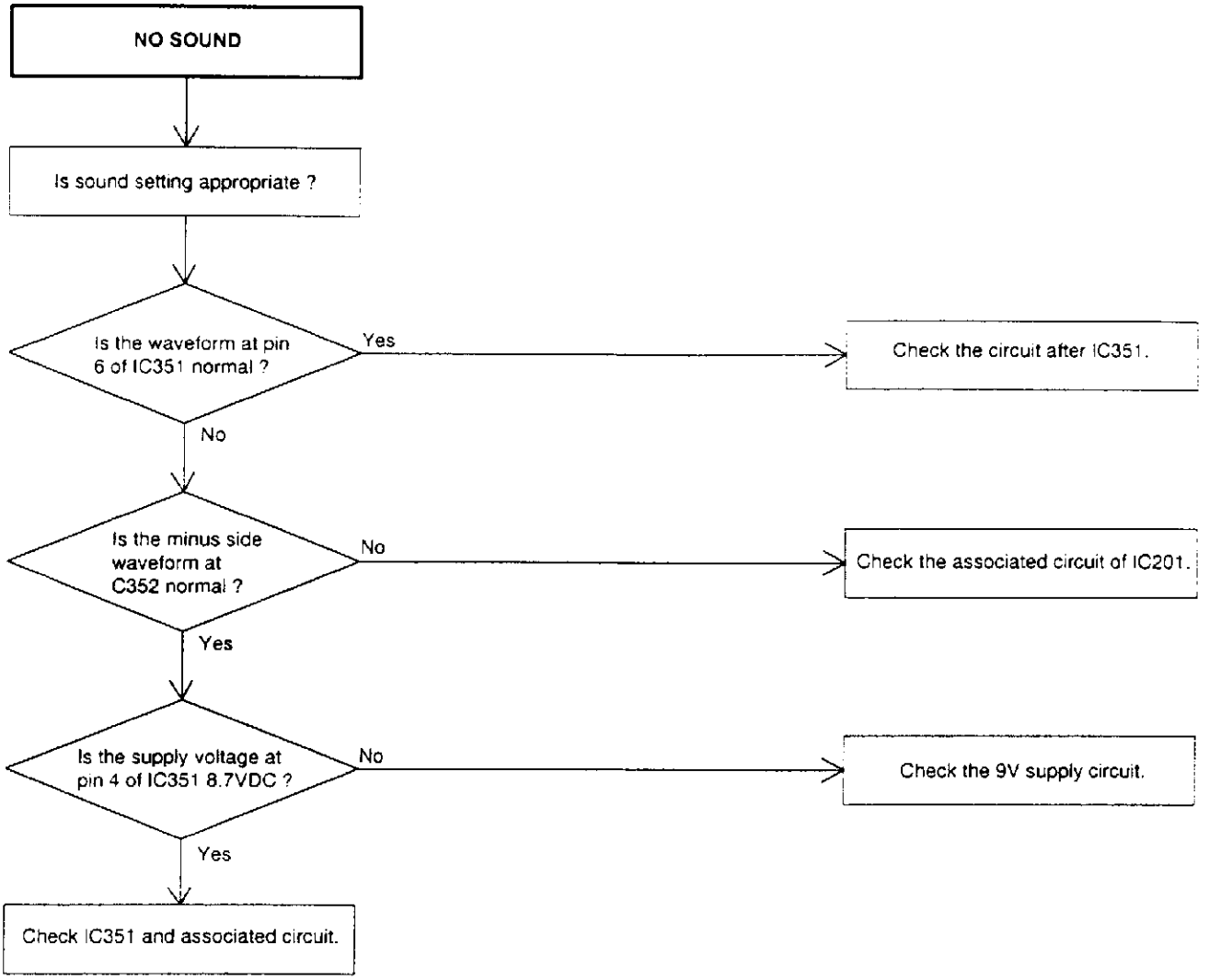

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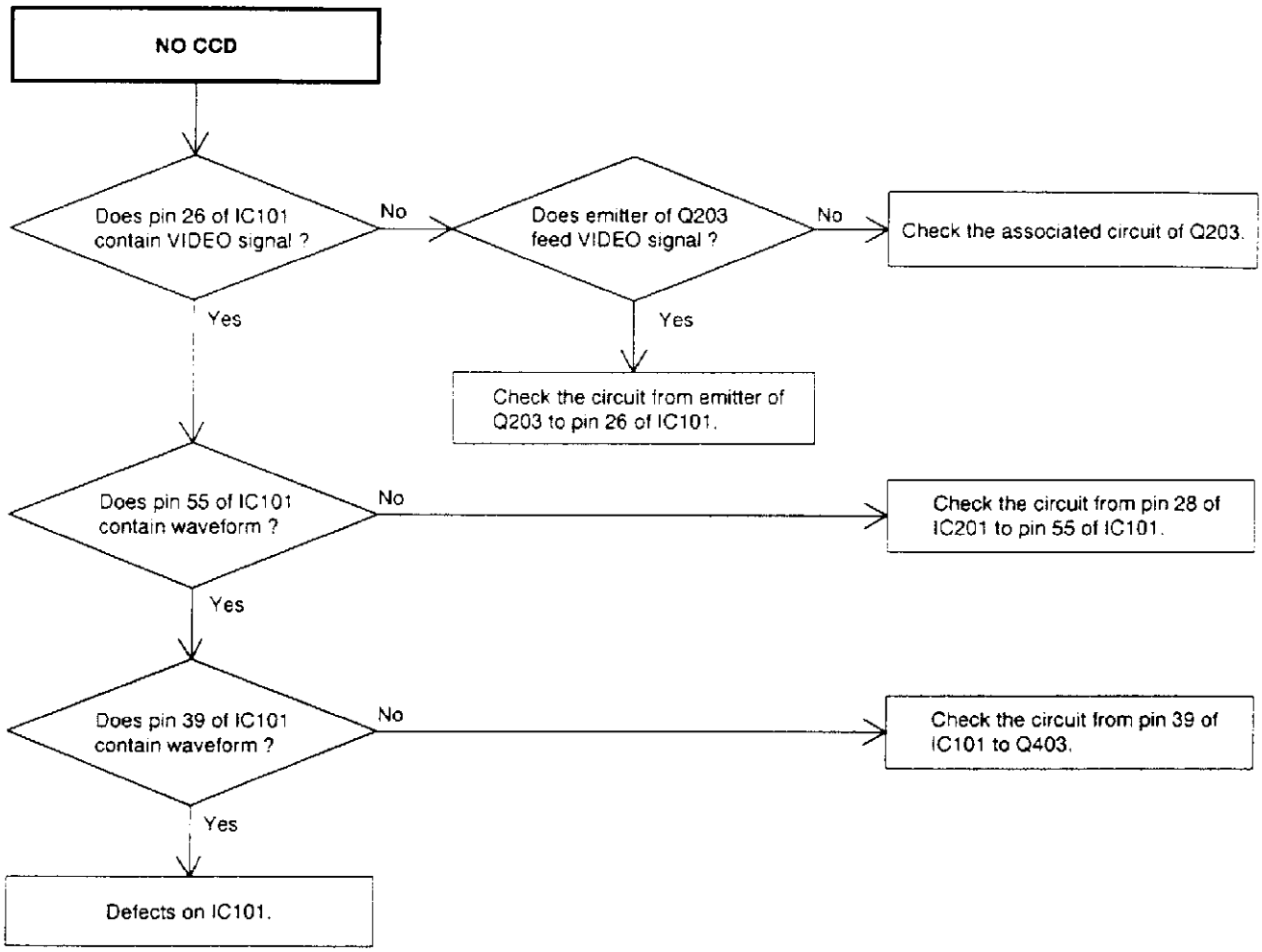


IC DESCRIPTION

OEC8059A

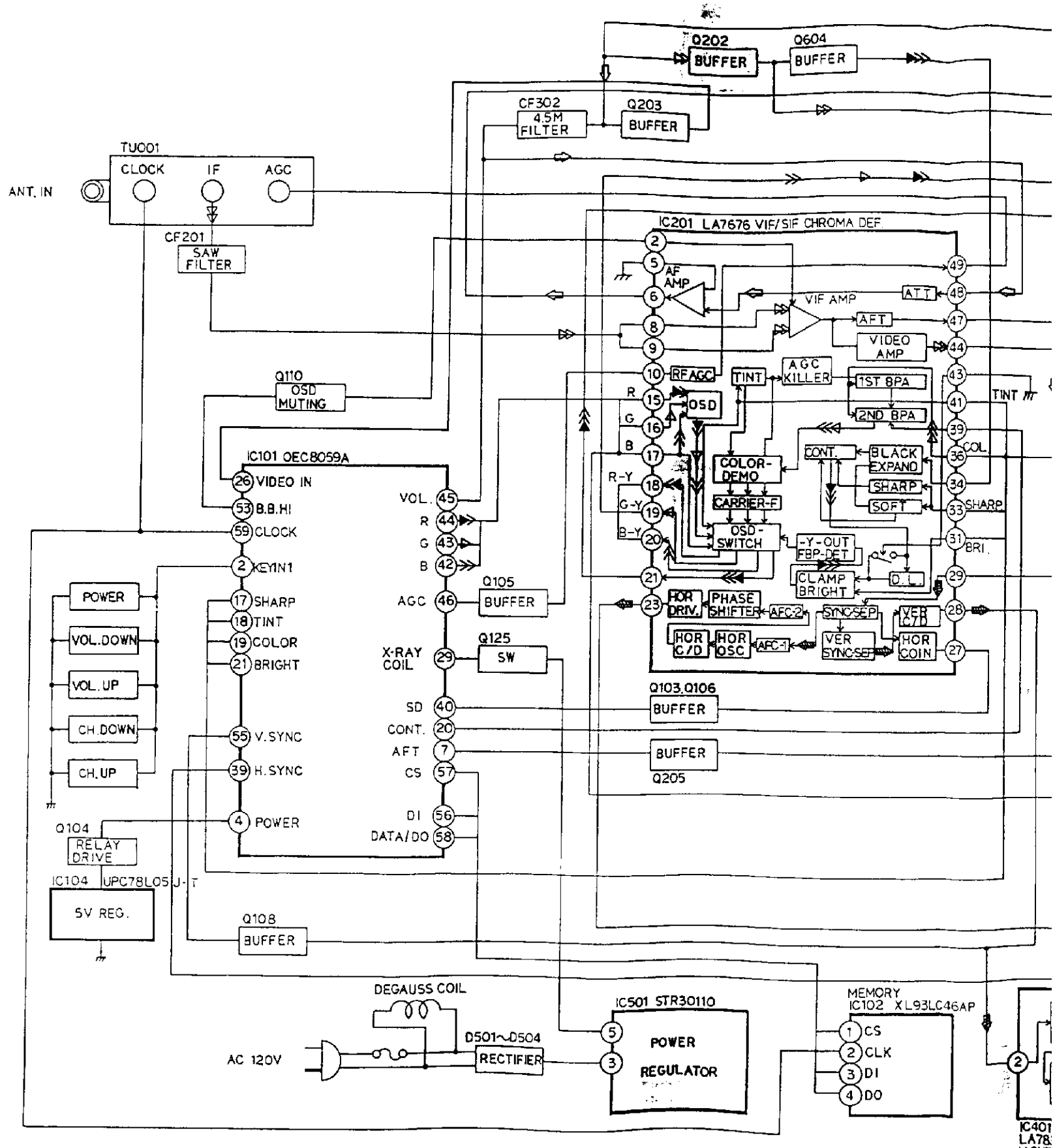
Pin No.	Pin Name	I/O	Description
1	RMIN	O	Input the remote control signal.
2	ADIN0	—	Input the key.
3	ADIN1	—	
4	P50	I	Output the power signal.
5	ADIN3	—	Input voltage of Sub Bright adjustment.
6	ADIN4	—	Sub brightness standard voltage input.
7	ADIN5	—	Input the AFT signal.
8	P54	I	Input voltage of VCO adjustment.
9	P55	—	Lights up the ON TIMER LED.
10	ADIN8	I	Input the key.
11	ADIN9	—	Input voltage of CUT OFF adjustment.
12	CM	—	Ground
13	SYNC	—	CUTOFF standard voltage input.
14	PWM1	O	Output the PWM at AFT adjustment.
15	PWM2	I	Output the PWM at VCO adjustment.
16	PWM3	O	Output the PWM at Vertical Size adjustment.
17	PWM4	I	Output the picture control.
18	PWM5	O	
19	PWM6	I	
20	PWM7	I	
21	PWM8	I	
22	AVDD	—	5V
23	CREF	—	CCD monitor.
24	VPH	—	Test of analog.
25	VCP	—	
26	CVBS	—	Video in.
27	AVSS	—	Ground
28	P47	I	Input comparator for TINT adjustment.
29	P46	I	Check the output voltage at X-inviter.
30	P45	—	Input the key matrixes.
31	P44	—	
32	P43	—	

IC DESCRIPTION

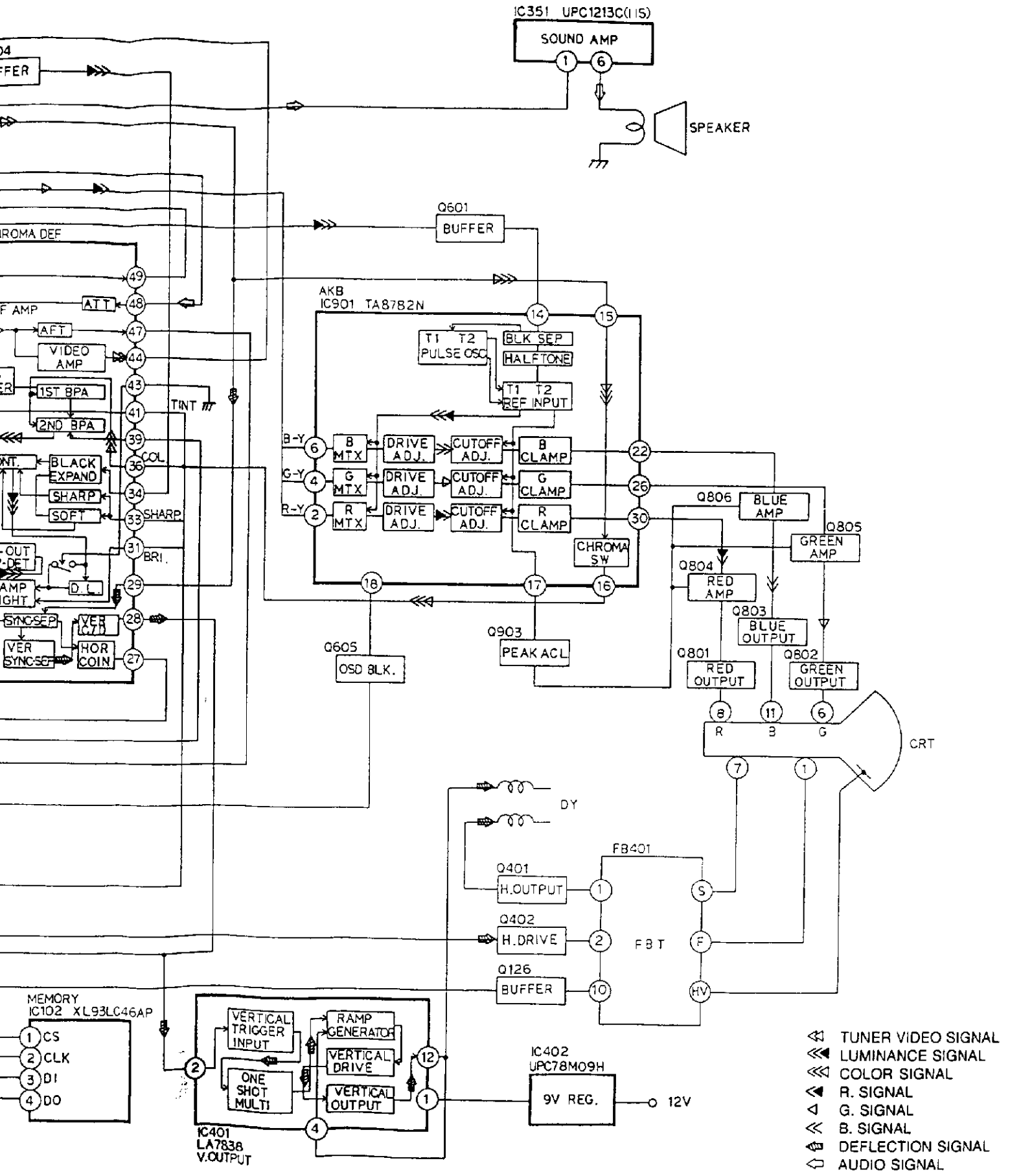
OEC8059A

Pin No.	Pin Name	I/O	Description
33	P42	—	Input the key matrixes.
34	P41	—	
35	P40	—	
36	P21	I	Input comparator for AGC and COLOR.
37	P20	—	NC
38	VSS	—	Ground
39	HSYNC	O	Input the horizontal synchronization signal.
40	P16	O	Input the SD signal.
41	VOB	I	Output the color signal BL.
42	VOW3	I	Output the color signal blue.
43	VOW2	I	Output the color signal green.
44	VOW1	I	Output the color signal red.
45	SPWM	I	Output the volume control.
46	PWM	I	Output the AGC control.
47	P66	—	Not used.
48	P65	I	PAL/NTSC selection output.
49	P64	—	Not used.
50	P63	—	Not used.
51	P62	—	Video selection.
52	P61	I	Output the Soft Start.
53	P60	I	B.B selection output.
54	RESET	O	Input the reset signal.
55	VSYNC	O	Input the vertical synchronization signal.
56	P04	—	Data input from E^2PROM.
57	P03	—	Memory CS output.
58	P02	—	Serial data output.(TUNER) Data output to E^2PROM.
59	P01	—	Serial clock output.(TUNER) Memory clock output.
60	P00	—	Serial enable output.
61	VDD	—	5V
62	OSC1	—	Crystal synthesizer connection.
63	OSC2	—	
64	VSS	—	Ground

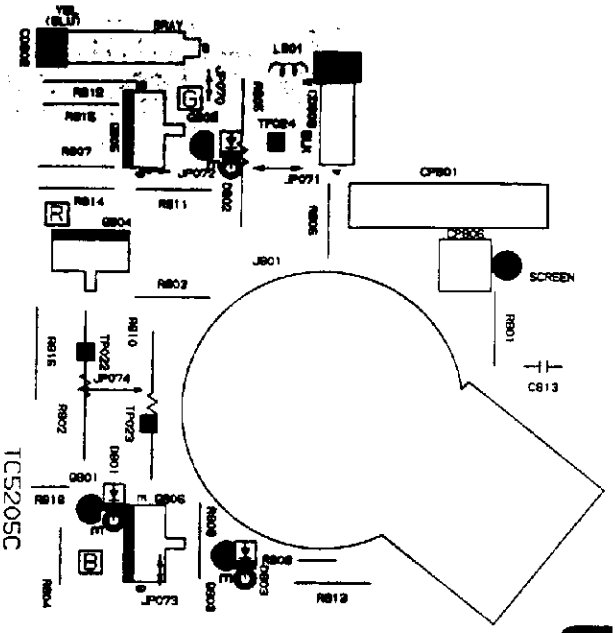
BLOCK DIAGRAM



LOCK DIAGRAM

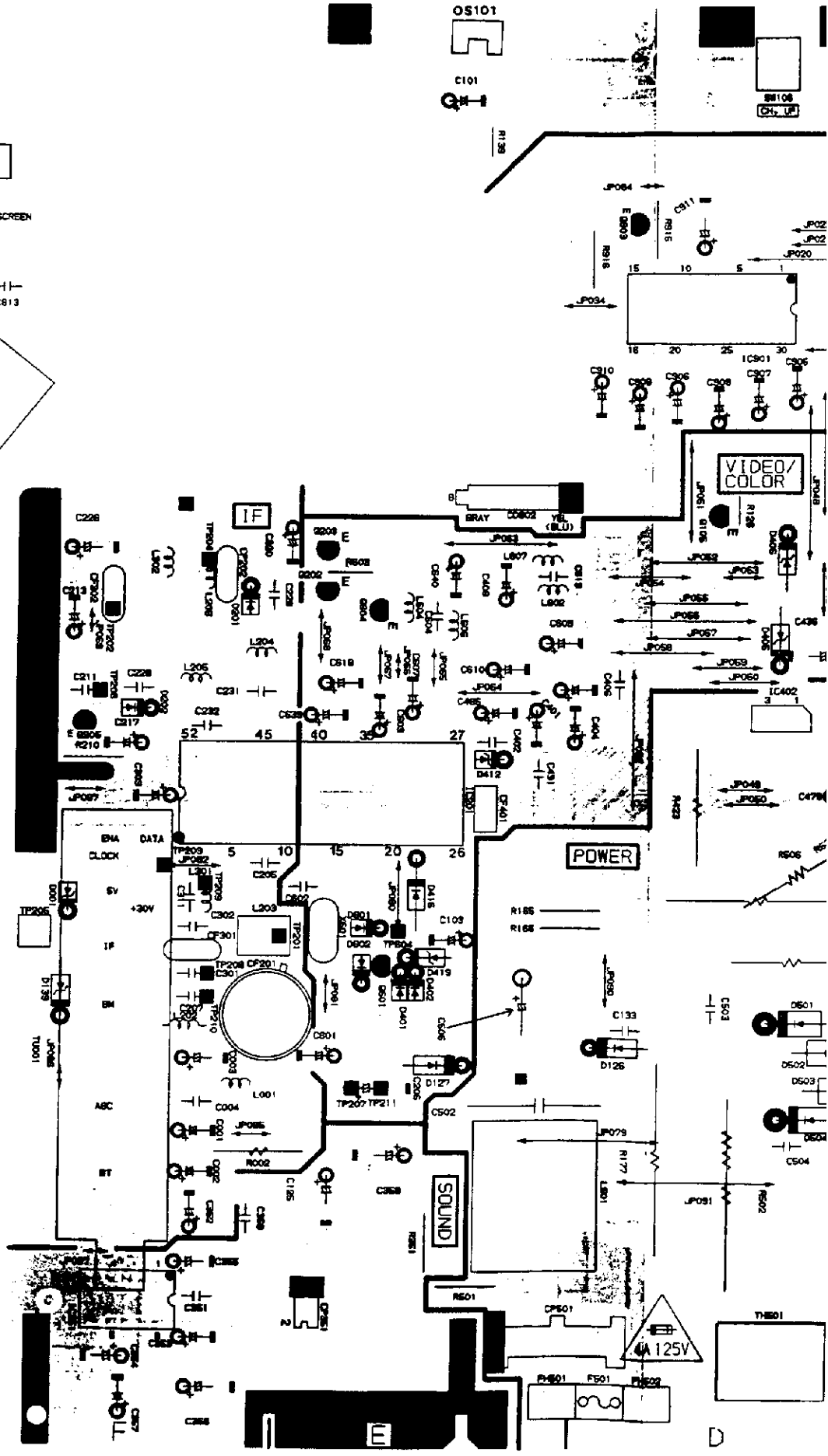


CRT
COMPONENT SIDE



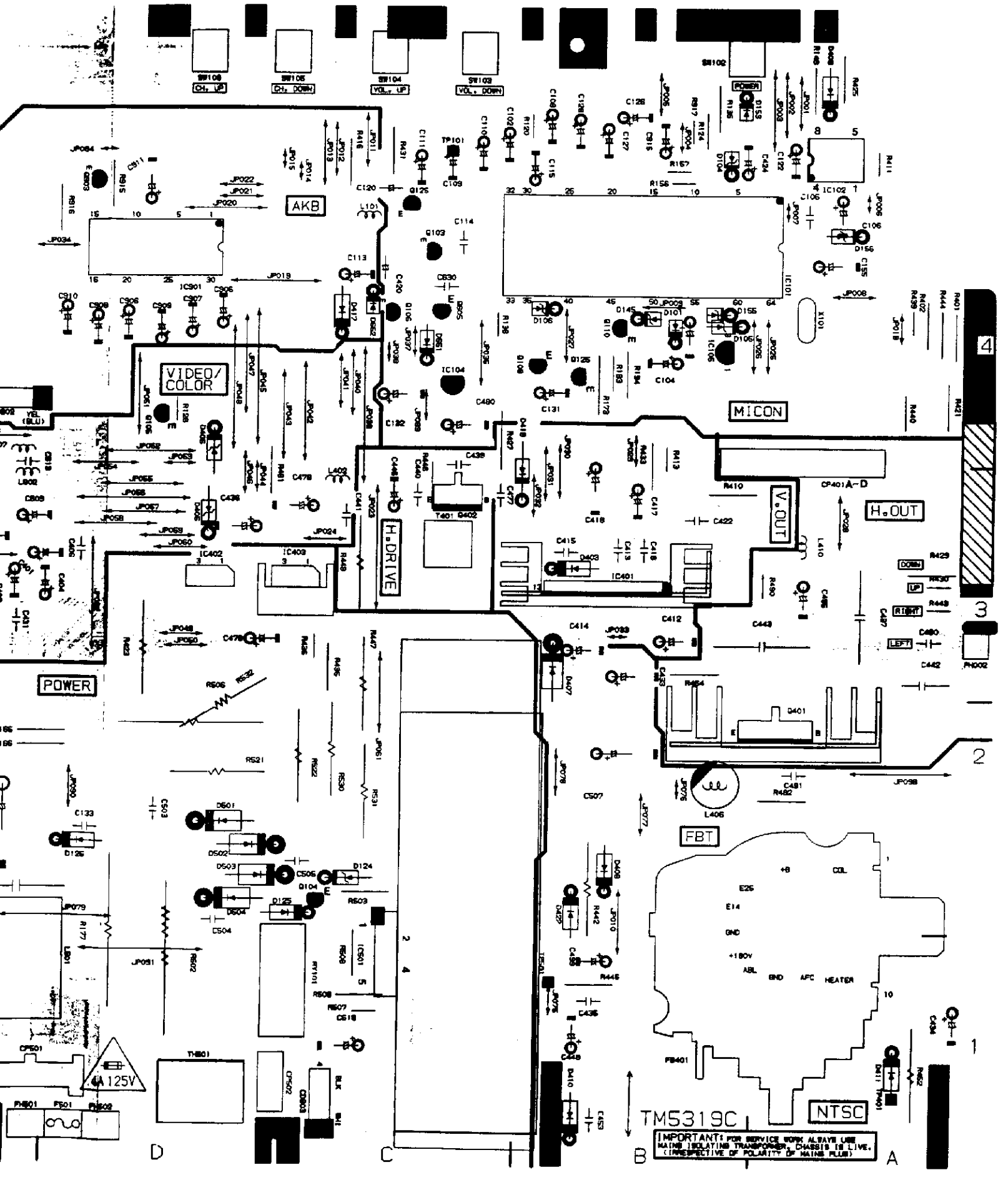
TC5205C

PRINTED CIRCUIT BOARD



PRINTED CIRCUIT BOARDS

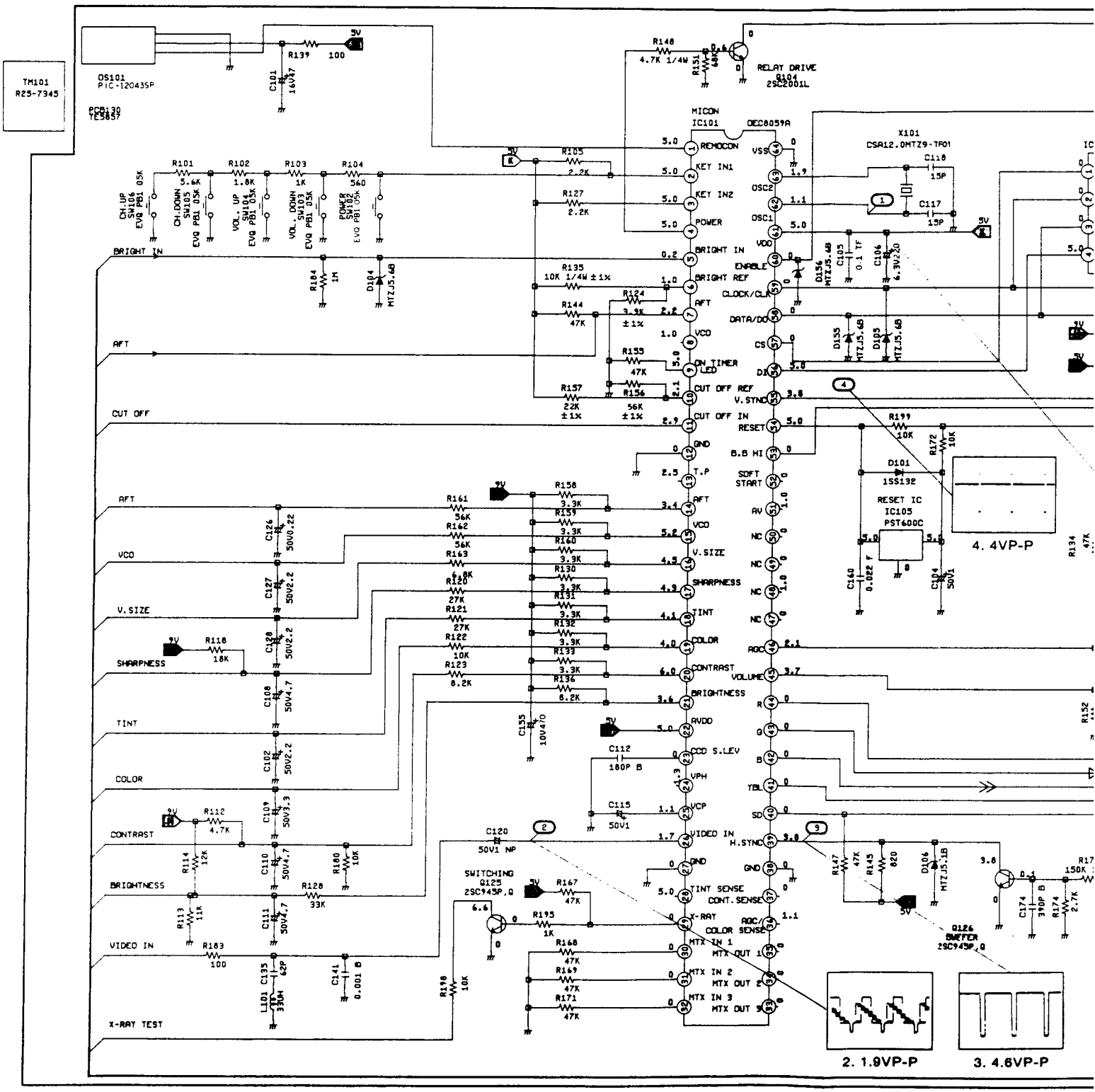
MAIN
COMPONENT SIDE



IF/MICON SCHEMATIC DIAGRAM

(REMOCON PCB)

(MAIN PCB)



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

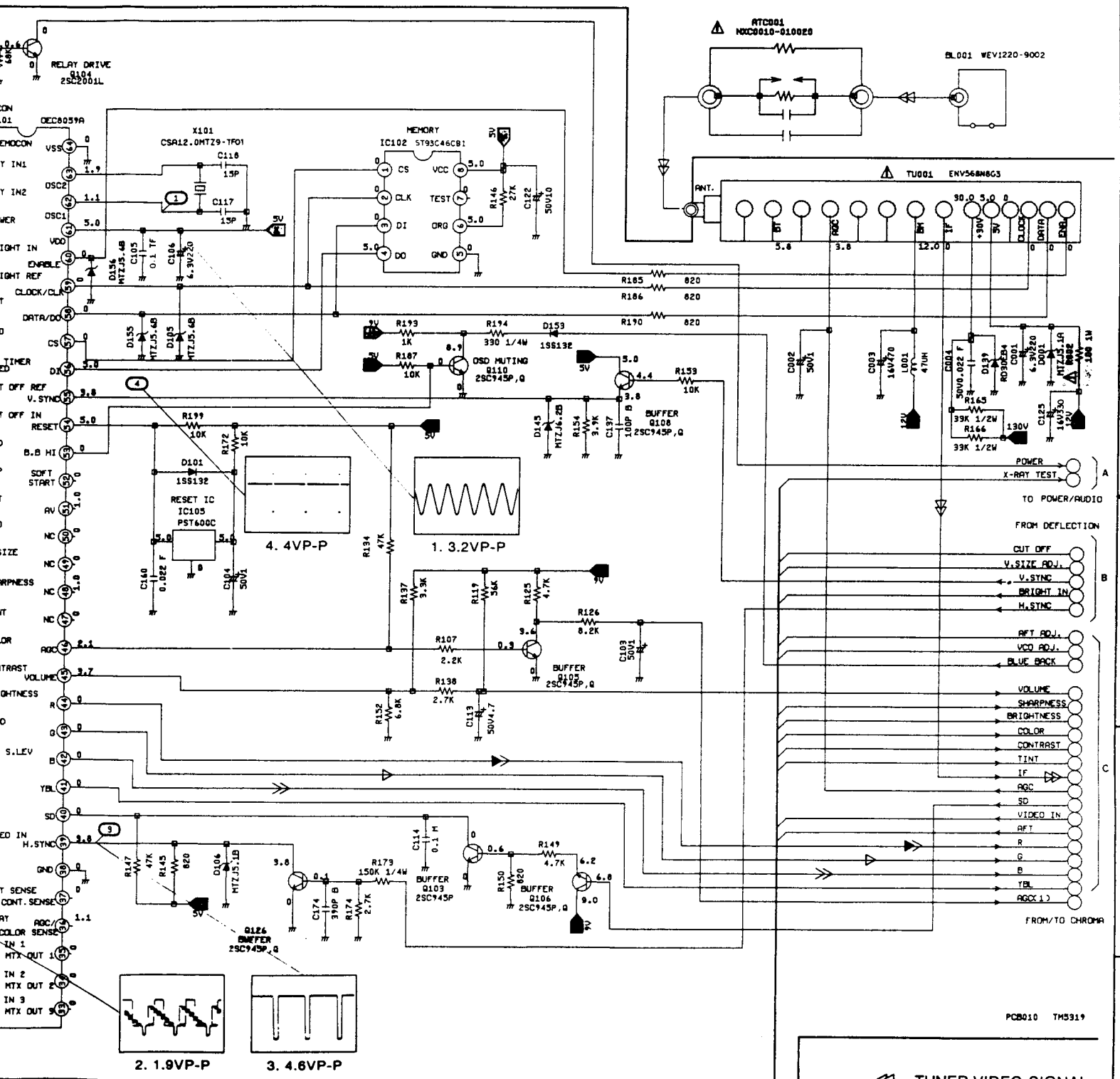
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS ... OF PRINTING AND SUBJECT TO

A | B | C | D | E

/MICON SCHEMATIC DIAGRAM

(MAIN PCB)



TUNER VIDEO SIGNAL
R. SIGNAL
G. SIGNAL
B. SIGNAL

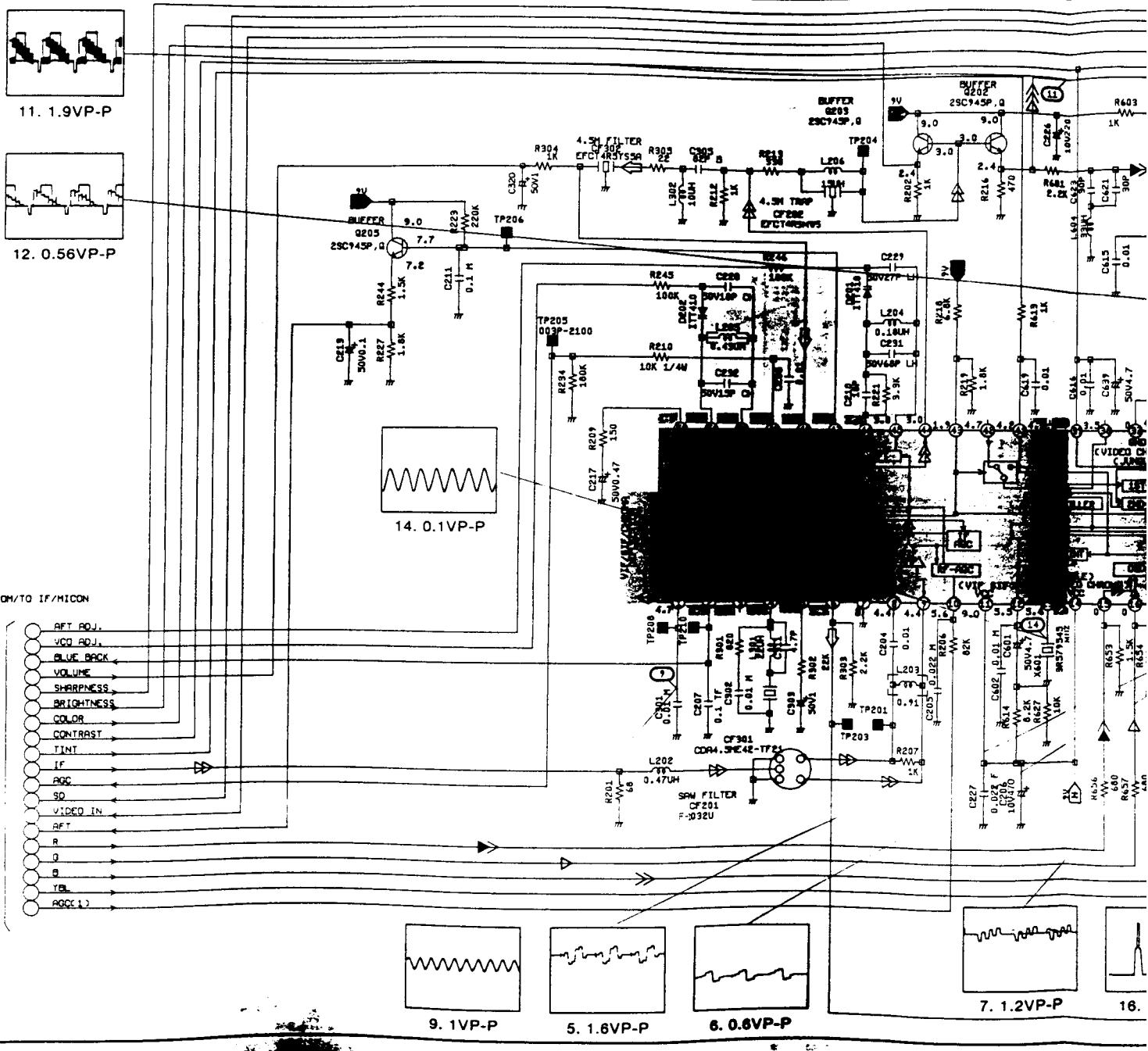
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

[redacted]CHROMA SCHEMATIC DIAG

(MAIN PCB)

- TUNER VIDEO SIGNAL
- LUMINANCE SIGNAL
- COLOR SIGNAL
- R. SIGNAL
- G. SIGNAL
- B. SIGNAL
- DEFLECTION SIGNAL
- AUDIO SIGNAL

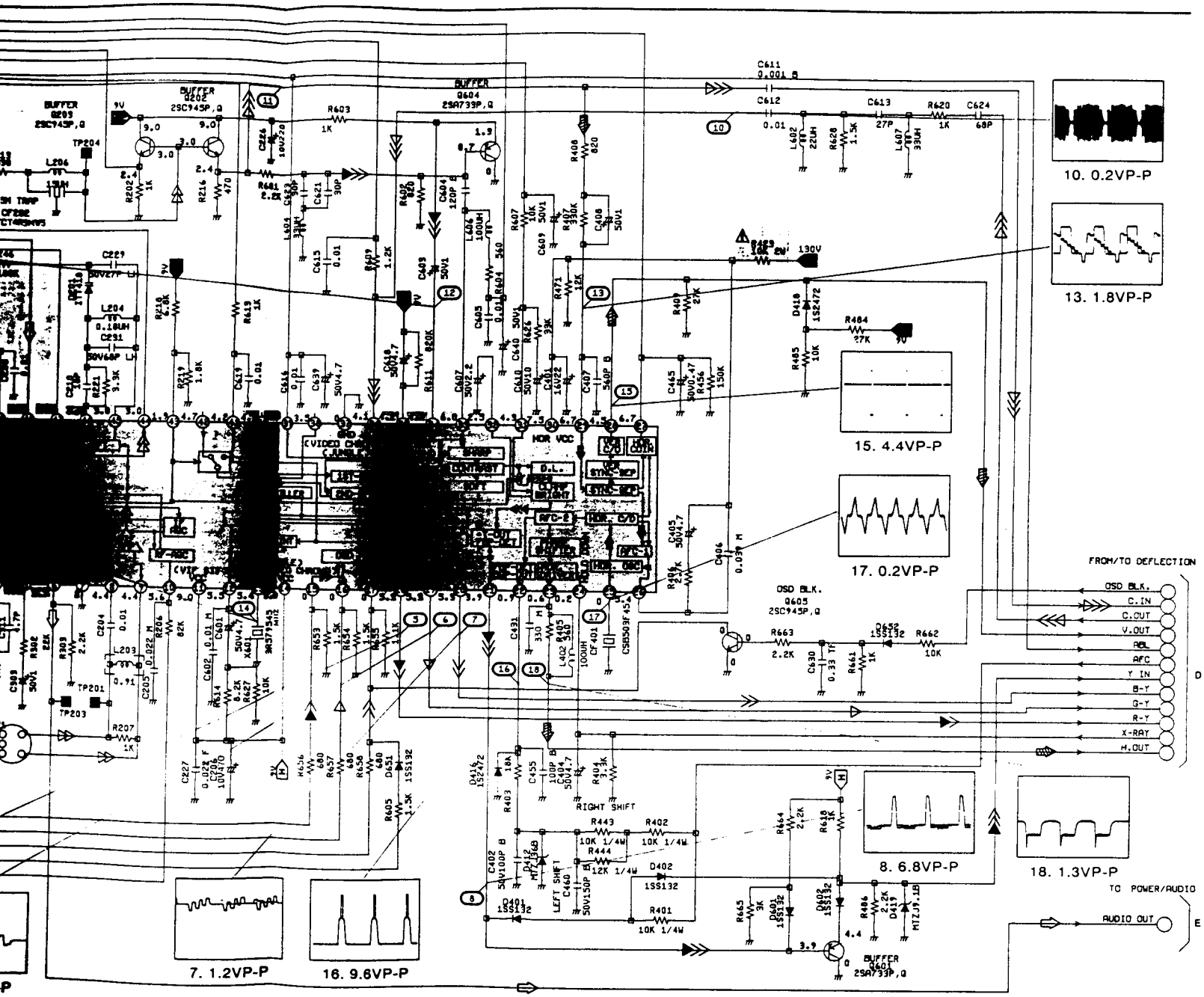


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS
OF PR

CHROMA SCHEMATIC DIAGRAM

(MAIN PCB)

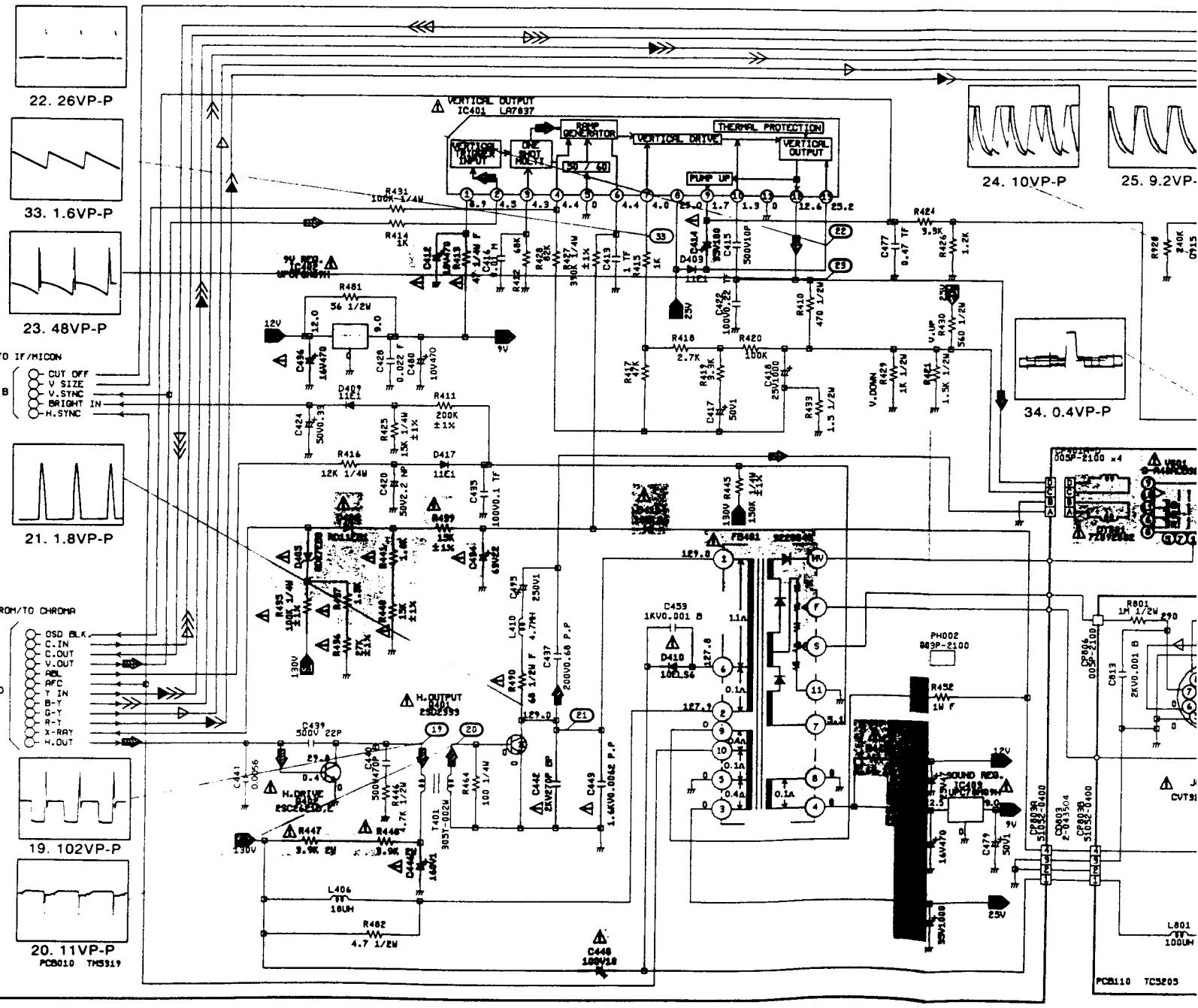


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

DEFLECTION SCHEMATIC DIAGR

LUMINANCE SIGNAL
COLOR SIGNAL
R. SIGNAL
G. SIGNAL
B. SIGNAL
DEFLECTION SIGNAL

(MAIN PCB)



CAUTION: PARTS DESIGNATED BY ⚠ ARE CRITICAL FOR SAFETY. USE ONLY DESCRIBED REPLACEMENT PARTS.

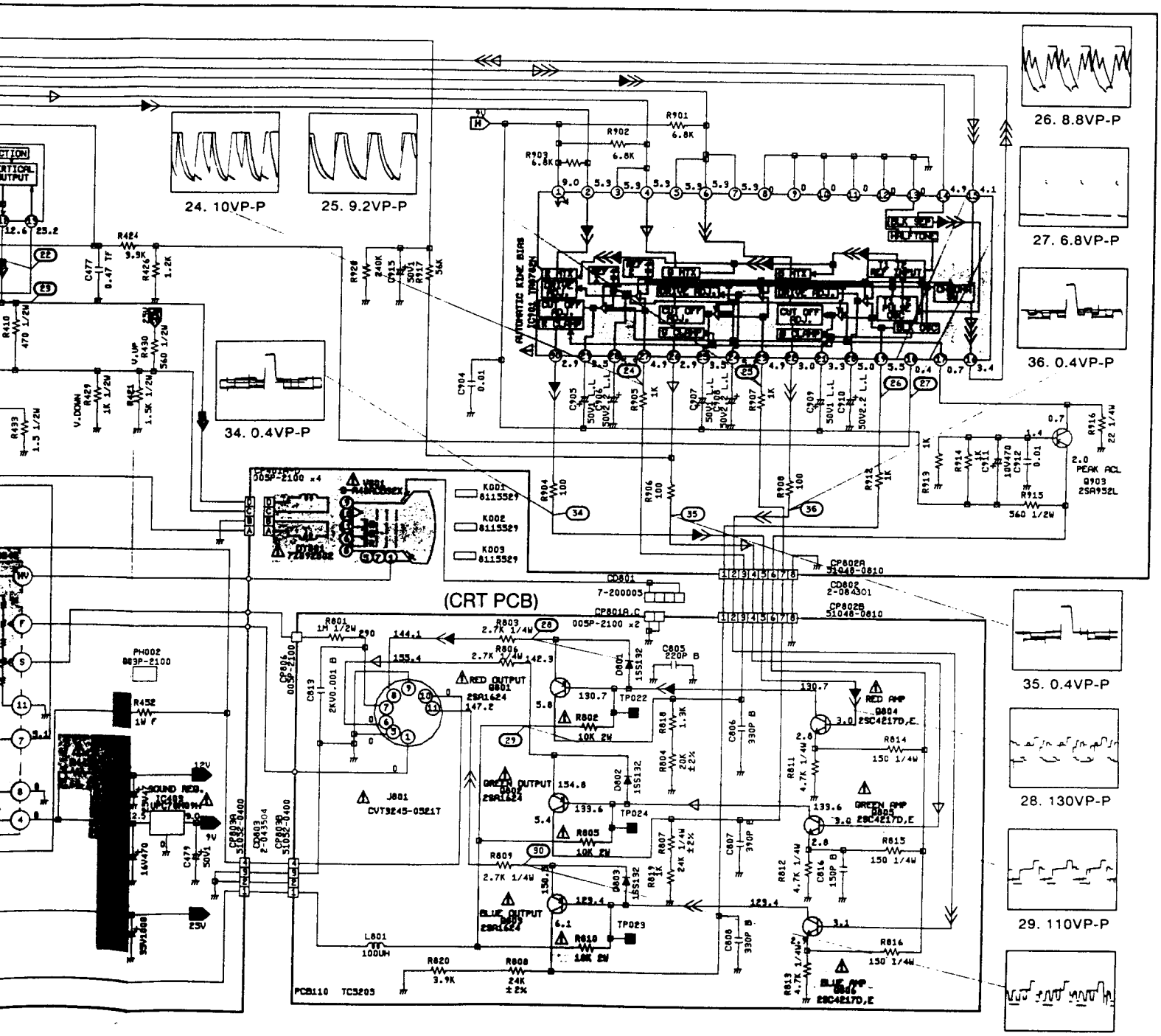
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS

A B C D E

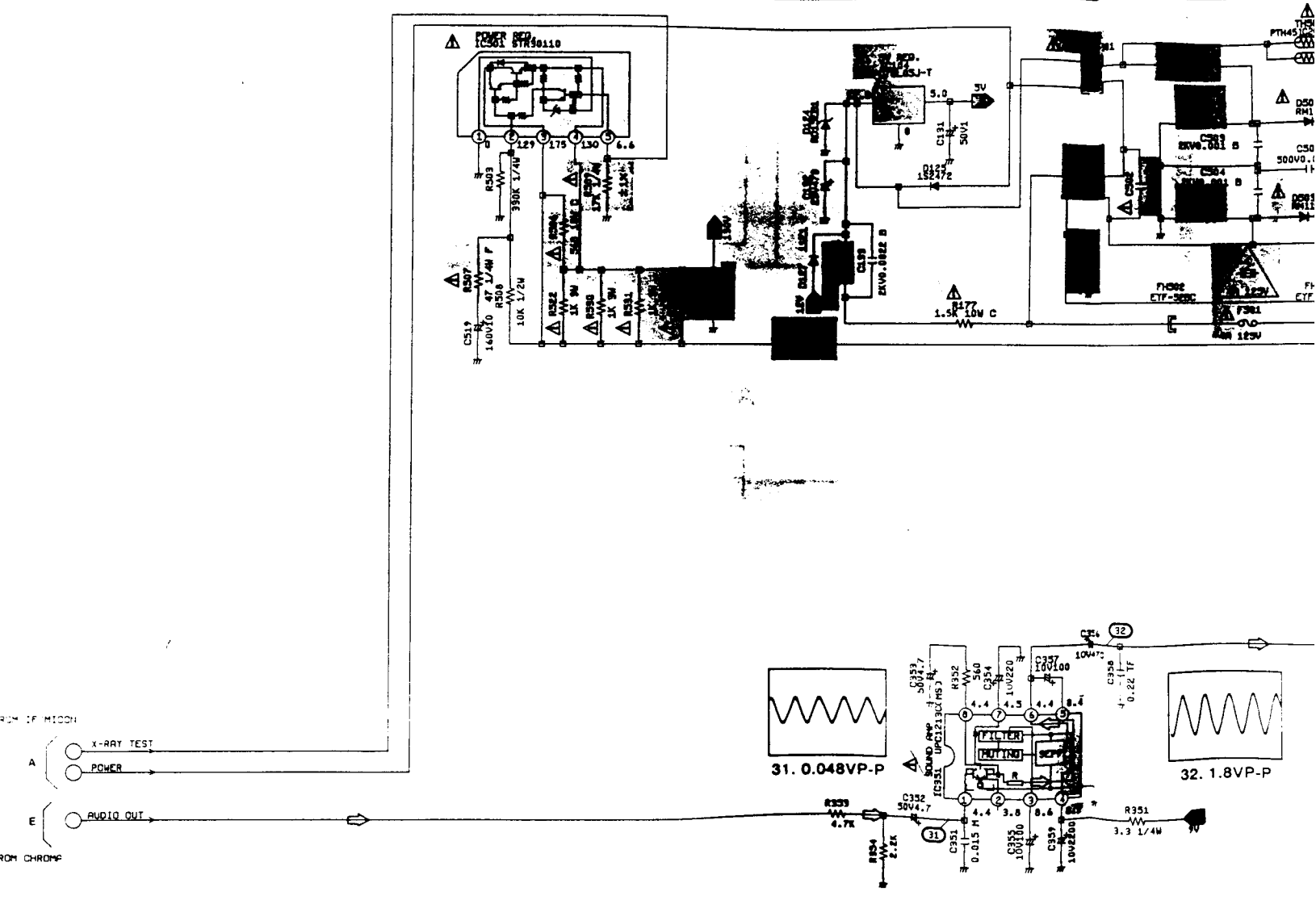
FLECTION SCHEMATIC DIAGRAM

(MAIN PCB)



POWER/AUDIO SCHEMATIC DIAGRAM

(MAIN PCB)



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

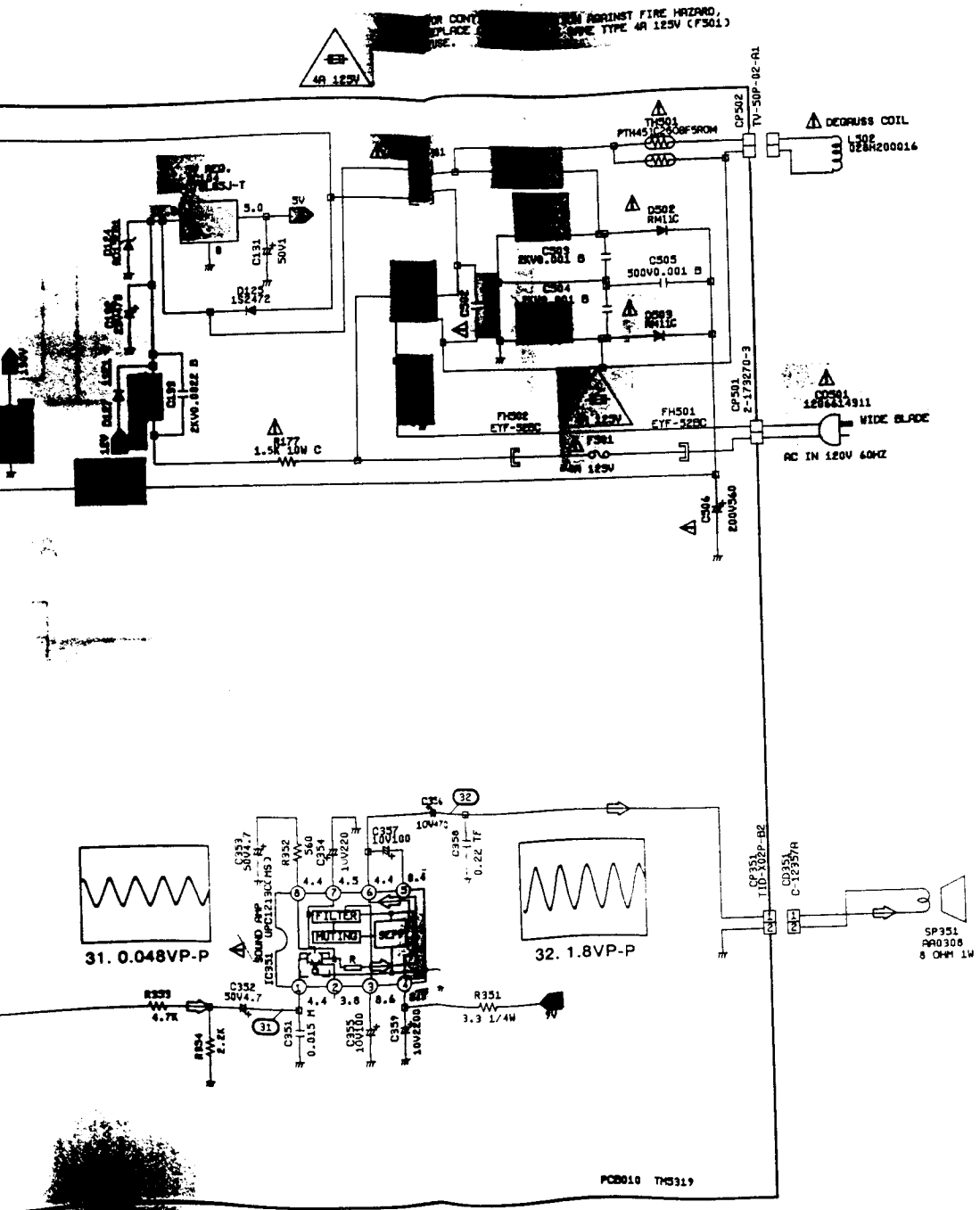
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.

POWER/AUDIO SCHEMATIC DIAGRAM

I PCB)

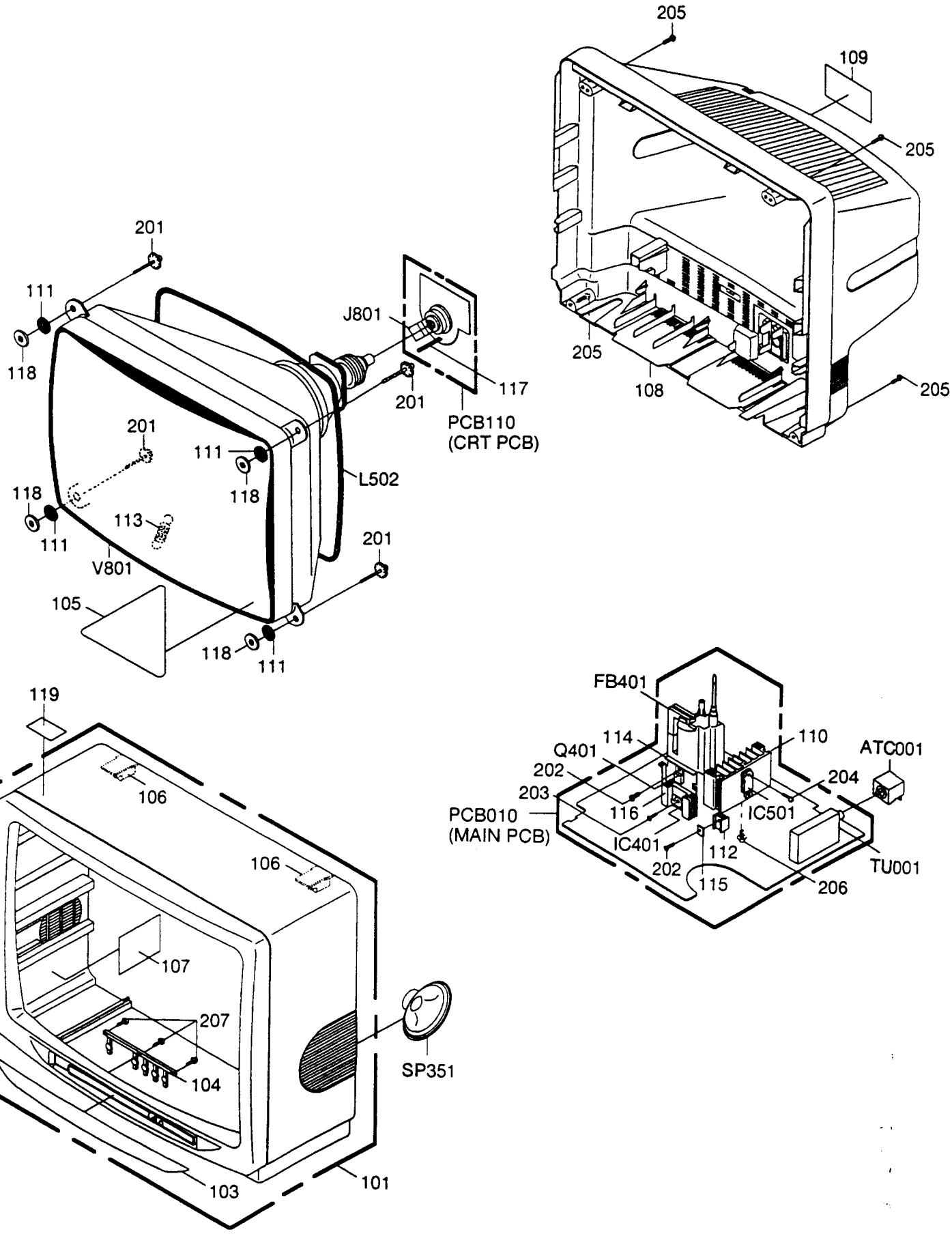


⇦ AUDIO SIGNAL

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR.

MECHANICAL EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
101	A3F401A720	CABINET,FRONT ASS'Y
102	701APJ0054	CABINET,FRONT
103	711APD0055	PLATE,FRONT
104	735APA0016	FRAME,BUTTON GUIDE
105	7230005850	FILM,DECORATION
106	709APA0001	CABINET HOLDER
107	7260000285	SHEET,CRT SERVICEMAN
108	702APA0071	CABINET,BACK
109	7222560791	SHEET,RATING
110	763WAAA001	HEAT SINK
111	800AR00006	SHEET,CRT SUPPORT(A)
112	763WAAA002	HEAT SINK
113	741SUA0001	SPRING,EARTH
114	763WSA0001	HEAT SINK
115	769WSF0001	METAL SPACER
116	763MAA0004	HEAT SINK
117	899OTP1S05	COATING CLIP TP1S-05
118	769WSA0002	WASHER 9.1*22*T1
119	7230006085	FILM,INFORMATION
201	8141J50D04	SCREW,TAP TITE(P) GW22 5*40
202	810A130804	SCREW/WASHER(A) M3*8
203	8110630804	SCREW,TAP TITE(P) BRAZIER 3*8
204	8110630A04	SCREW,TAP TITE(P) BRAZIER 3*10
205	8117540A64	SCREW,TAPPING(BO) TRUSS 4*16
206	8117D30A04	SCREW,TAPPING(BO) WH8 BRAZIER 3*10
207	8110630A44	SCREW,TAP TITE(P) BRAZIER 3*14
---	T91AHA0013	LAMIFILM BAG
---	T92AHA0061	PACKAGE,TOP
---	T92AHA0062	PACKAGE,BOTTOM
---	T93ACD0422	GIFT BOX

ACCESSORY REPLACEMENT PARTS LIST

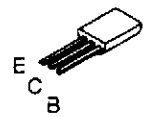
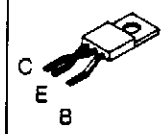
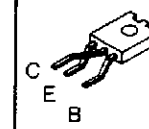
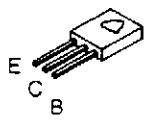
REF.NO.	PART NO.	DESCRIPTION
---	J3C01202	WARRANTY CARD
---	J3F40101	INSTRUCTION BOOK
---	J3F40117	REGISTRATION CARD
BL001	0634200015	PLUG-FJ WEV1220-9002
TM101	076R074040	TRANSMITTER R25-7345

SEMICONDUCTOR BASE CONNECTIONS

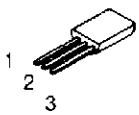
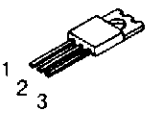
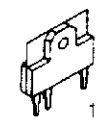
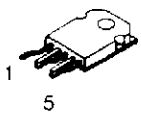
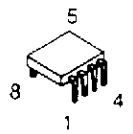
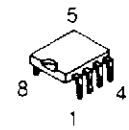
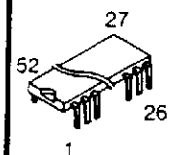
DIODE

ILLUSTRATION	DESCRIPTION	ILLUSTRATION	DESCRIPTION	ILLUSTRATION	DESCRIPTION
	1SS132 MTZJ36B MTZJ5.1A ITT410 MTZJ5.1B MTZJ5.6B MTZJ6.2B MTZJ9.1B		1S2472 RD11EB RD15EB RD27EB RD30EB		11E1TA1 RM11C EM1C
	10ELS6				

TRANSISTOR

ILLUSTRATION	DESCRIPTION	ILLUSTRATION	DESCRIPTION	ILLUSTRATION	DESCRIPTION
	2SA733 2SC945 2SA952 2SA1624 2SC2001		2SD2333		2SC4217
	2SC2621				

IC

ILLUSTRATION	DESCRIPTION	ILLUSTRATION	DESCRIPTION		ILLUSTRATION	DESCRIPTION
	UPC78L05J-T PST600C		UPC78M09H			LA7837
	STR30110		UPC1213C(MS)			ST93C46CB1
	LA7676		30pin	TA8782N		
			64pin	QEC6059A		

ELECTRICAL REPLACEMENT PARTS LIST

THIS ELECTRICAL PARTS LIST IS A STANDARD PARTS LIST, BUT INTERCHANGEABLE PARTS MAY BE USED IN THE UNIT. SEE THE INTERCHANGEABLE PARTS LIST AFTER THE STANDERD PARTS LIST.

REF.NO.	PART NO.	DESCRIPTION
	RESISTORS	
⚠ R002	R3U181101J	R.METAL OXIDE 100 OHM 1W
R101	R902N8562J	RC 5.6K OHM 1/8W
R102	R902N8182J	RC 1.8K OHM 1/8W
R103	R902N8102J	RC 1K OHM 1/8W
R104	R902N8561J	RC 560 OHM 1/8W
R105	R902N8222J	RC 2.2K OHM 1/8W
R107	R902N8222J	RC 2.2K OHM 1/8W
R112	R902N8472J	RC 4.7K OHM 1/8W
R113	R902N8113J	RC 11K OHM 1/8W
R114	R902N8123J	RC 12K OHM 1/8W
R118	R902N8183J	RC 18K OHM 1/8W
R119	R902N8563J	RC 56K OHM 1/8W
R120	R001T6273J	RC 27K OHM 1/6W
R121	R902N8273J	RC 27K OHM 1/8W
R122	R902N8103J	RC 10K OHM 1/8W
R123	R902N8822J	RC 8.2K OHM 1/8W
R124	R4X5T6392F	R.METAL 3.9K OHM 1/6W
R125	R902N8472J	RC 4.7K OHM 1/8W
R126	R001T6822J	RC 8.2K OHM 1/6W
R127	R902N8222J	RC 2.2K OHM 1/8W
R128	R902N8333J	RC 33K OHM 1/8W
R130	R902N8332J	RC 3.3K OHM 1/8W
R131	R902N8332J	RC 3.3K OHM 1/8W
R132	R902N8332J	RC 3.3K OHM 1/8W
R133	R902N8332J	RC 3.3K OHM 1/8W
R134	R902N8473J	RC 47K OHM 1/8W
R135	R4X5T4103F	R.METAL 10K OHM 1/4W
R136	R902N8822J	RC 8.2K OHM 1/8W
R137	R902N8332J	RC 3.3K OHM 1/8W
R138	R001T6272J	RC 2.7K OHM 1/6W
R139	R001T6101J	RC 100 OHM 1/6W
R144	R902N8473J	RC 47K OHM 1/8W
R145	R902N8821J	RC 820 OHM 1/8W
R146	R902N8273J	RC 27K OHM 1/8W
R147	R902N8473J	RC 47K OHM 1/8W
R148	R001T4472J	RC 4.7K OHM 1/4W
R149	R902N8472J	RC 4.7K OHM 1/8W
R150	R902N8821J	RC 820 OHM 1/8W
R151	R902N8683J	RC 68K OHM 1/8W
R152	R902N8682J	RC 6.8K OHM 1/8W
R153	R902N8103J	RC 10K OHM 1/8W
R154	R902N8392J	RC 3.9K OHM 1/8W
R155	R902N8473J	RC 47K OHM 1/8W
R156	R4X5T6563F	R.METAL 56K OHM 1/6W
R157	R4X5T6223F	R.METAL 22K OHM 1/6W
R158	R902N8332J	RC 3.3K OHM 1/8W
R159	R902N8332J	RC 3.3K OHM 1/8W
R160	R902N8332J	RC 3.3K OHM 1/8W
R161	R902N8563J	RC 56K OHM 1/8W
R162	R902N8563J	RC 56K OHM 1/8W
R163	R902N8682J	RC 6.8K OHM 1/8W
R165	R002T2333J	RC 33K OHM 1/2W
R166	R002T2333J	RC 33K OHM 1/2W
R167	R902N8473J	RC 47K OHM 1/8W
R168	R902N8473J	RC 47K OHM 1/8W
R169	R902N8473J	RC 47K OHM 1/8W
R171	R902N8473J	RC 47K OHM 1/8W
R172	R902N8103J	RC 10K OHM 1/8W
R173	ROX1X4154J	RC 150K OHM 1/4W
R174	R902N8272J	RC 2.7K OHM 1/8W
⚠ R177	R5Y2CF152J	R.CEMENT 1.5K OHM 10 W
R180	R902N8103J	RC 10K OHM 1/8W
R183	R902N8101J	RC 100 OHM 1/8W
R184	R902N8105J	RC 1M OHM 1/8W
R185	R902N8821J	RC 820 OHM 1/8W
R186	R902N8821J	RC 820 OHM 1/8W
R187	R902N8103J	RC 10K OHM 1/8W
R190	R902N8821J	RC 820 OHM 1/8W
R193	R001T6102J	RC 1.0K OHM 1/6W
R194	R001T4331J	RC 330 OHM 1/4W
R195	R902N8102J	RC 1K OHM 1/8W
R198	R902N8103J	RC 10K OHM 1/8W
R199	R902N8103J	RC 10K OHM 1/8W
R201	R902N8680J	RC 68 OHM 1/8W
R202	R902N8102J	RC 1K OHM 1/8W
R206	R902N8823J	RC 82K OHM 1/8W
R207	R902N8102J	RC 1K OHM 1/8W
R209	R902N8151J	RC 150 OHM 1/8W
R210	R001T4103J	RC 10K OHM 1/4W
R212	R902N8102J	RC 1K OHM 1/8W
R213	R902N8331J	RC 330 OHM 1/8W

REF.NO.	PART NO.	DESCRIPTION
	RESISTORS (CONT.)	
R216	R902N8471J	RC 470 OHM 1/8W
R218	R902N8682J	RC 6.8K OHM 1/8W
R219	R902N8182J	RC 1.8K OHM 1/8W
R221	R902N8332J	RC 3.3K OHM 1/8W
R223	R902N8224J	RC 220K OHM 1/8W
R227	R902N8182J	RC 1.8K OHM 1/8W
R234	R902N8184J	RC 180K OHM 1/8W
R244	R902N8152J	RC 1.5K OHM 1/8W
R245	R902N8104J	RC 100K OHM 1/8W
R246	R902N8104J	RC 100K OHM 1/8W
R301	R902N8821J	RC 820 OHM 1/8W
R302	R902N8223J	RC 22K OHM 1/8W
R303	R902N8222J	RC 2.2K OHM 1/8W
R304	R902N8102J	RC 1K OHM 1/8W
R305	R902N8220J	RC 22 OHM 1/8W
R351	R001T43R3J	RC 3.3 OHM 1/4W
R352	R902N8561J	RC 560 OHM 1/8W
R353	R902N8472J	RC 4.7K OHM 1/8W
R354	R902N8222J	RC 2.2K OHM 1/8W
R401	R001T4103J	RC 10K OHM 1/4W
R402	R001T4103J	RC 10K OHM 1/4W
R403	R902N8183J	RC 18K OHM 1/8W
R404	R902N8332J	RC 3.3K OHM 1/8W
R405	R902N8561J	RC 560 OHM 1/8W
R406	R902N8272J	RC 2.7K OHM 1/8W
R407	R902N8334J	RC 330K OHM 1/8W
R408	R902N8821J	RC 820 OHM 1/8W
R409	R902N8273J	RC 27K OHM 1/8W
R410	R002T2471J	RC 470 OHM 1/2W
R411	R4X5T6204F	R.METAL 200K OHM 1/6W
R412	R902N8683J	RC 68K OHM 1/8W
⚠ R413	R635U4470J	R.FUSE 47 OHM 1/4W
R414	R902N8102J	RC 1K OHM 1/8W
R415	R902N8102J	RC 1K OHM 1/8W
R416	R001T4123J	RC 12K OHM 1/4W
R417	R902N8473J	RC 47K OHM 1/8W
R418	R902N8272J	RC 2.7K OHM 1/8W
R419	R902N8332J	RC 3.3K OHM 1/8W
R420	R902N8104J	RC 100K OHM 1/8W
R421	R002T2152J	RC 1.5K OHM 1/2W
⚠ R423	R3U18A103J	R.METAL OXIDE 10K OHM 2W
R424	R902N8332J	RC 3.3K OHM 1/8W
R425	R4X5T4153F	R.METAL 15K OHM 1/4W
R426	R902N8122J	RC 1.2K OHM 1/8W
R427	R4X5X4394F	R.METAL 390K OHM 1/4W
R428	R902N8823J	RC 82K OHM 1/8W
R429	R002T2102J	RC 1.0K OHM 1/2W
R430	R0L2U2561J	RC 560 OHM 1/2W
R431	R001T4104J	RC 100K OHM 1/4W
R433	R002T21R5J	RC 1.5 OHM 1/2W
⚠ R435	R4X5T4104F	R.METAL 100K OHM 1/4W
⚠ R436	R4X5T6273F	R.METAL 27K OHM 1/6W
⚠ R437	R902N8152J	RC 1.5K OHM 1/8W
⚠ R439	R4X5T6153F	R.METAL 15K OHM 1/6W
⚠ R440	R4X5T6153F	R.METAL 15K OHM 1/6W
⚠ R441	R902N8182J	RC 1.8K OHM 1/8W
⚠ R442	R63581R68J	R.FUSE 0.68 OHM 1W
R443	R0L1U4103J	RC 10K OHM 1/4W
R444	R001T4123J	RC 12K OHM 1/4W
R445	R4X5T4154F	R.METAL 150K OHM 1/4W
R446	R002T2472J	RC 4.7K OHM 1/2W
⚠ R447	R3U18A332J	R.METAL OXIDE 3.3K OHM 2W
⚠ R448	R3U18A332J	R.METAL OXIDE 3.3K OHM 2W
⚠ R452	R635811R2J	R.FUSE 1.2 OHM 1W
R456	R902N8154J	RC 150K OHM 1/8W
R464	R001T4101J	RC 100 OHM 1/4W
R471	R902N8123J	RC 12K OHM 1/8W
R481	R002T2560J	RC 56 OHM 1/2W
R482	R002T24R7J	RC 4.7 OHM 1/2W
R484	R902N8273J	RC 27K OHM 1/8W
R485	R902N8103J	RC 10K OHM 1/8W
R486	R902N8222J	RC 2.2K OHM 1/8W
⚠ R490	R615U2680J	R.FUSE 68 OHM 1/2W
⚠ R501	R002T2824J	RC 820K OHM 1/2W
⚠ R502	R5Y2CF4R7J	R.CEMENT 4.7 OHM 10W
R503	R001T4334J	RC 330K OHM 1/4W
⚠ R506	R5Y2CF561J	R.CEMENT 560 OHM 10W
⚠ R507	R635U4470J	R.FUSE 47 OHM 1/4W
R508	R002T2103J	RC 10K OHM 1/2W
⚠ R509	R4X5T4173F	R.METAL 17K OHM 1/4W
⚠ R521	R3X28B4R7J	R.METAL OXIDE 4.7 OHM 3W
⚠ R522	R3U28B102J	R.METAL OXIDE 1.0K OHM 3W
⚠ R530	R3U28B102J	R.METAL OXIDE 1.0K OHM 3W
⚠ R531	R3U28B102J	R.METAL OXIDE 1.0K OHM 3W

ELECTRICAL REPLACEMENT PARTS LIST

RESISTORS (CONT.)

REF. NO.	PART NO	DESCRIPTION	
⚠ R532	R3U28B102J	R.METAL OXIDE	1.0K OHM 3W
R601	R902N8222J	RC	2.2K OHM 1/8W
R602	R902N8821J	RC	820 OHM 1/8W
R603	R001T6102J	RC	1.0K OHM 1/6W
R604	R902N8561J	RC	560 OHM 1/8W
R605	R902N8152J	RC	1.5K OHM 1/8W
R607	R902N8103J	RC	10K OHM 1/8W
R609	R902N8122J	RC	1.2K OHM 1/8W
R611	R902N8824J	RC	820K OHM 1/8W
R613	R902N8102J	RC	1K OHM 1/8W
R614	R902N8822J	RC	8.2K OHM 1/8W
R618	R902N8102J	RC	1K OHM 1/8W
R620	R902N8102J	RC	1K OHM 1/8W
R626	R902N8333J	RC	33K OHM 1/8W
R627	R902N8103J	RC	10K OHM 1/8W
R628	R902N8152J	RC	1.5K OHM 1/8W
R653	R902N8152J	RC	1.5K OHM 1/8W
R654	R902N8152J	RC	1.5K OHM 1/8W
R655	R902N8112J	RC	1.1K OHM 1/8W
R656	R902N8681J	RC	680 OHM 1/8W
R657	R902N8681J	RC	680 OHM 1/8W
R658	R902N8681J	RC	680 OHM 1/8W
R661	R902N8102J	RC	1K OHM 1/8W
R662	R902N8103J	RC	10K OHM 1/8W
R663	R902N8222J	RC	2.2K OHM 1/8W
R664	R902N8222J	RC	2.2K OHM 1/8W
R665	R902N8302J	RC	3K OHM 1/8W
R801	R002T2105J	RC	1M OHM 1/2W
⚠ R802	R3U18A103J	R.METAL OXIDE	10K OHM 2W
R803	R001T4272J	RC	2.7K OHM 1/4W
R804	R001T6203G	RC	20K OHM 1/6W
⚠ R805	R3U18A103J	R.METAL OXIDE	10K OHM 2W
R806	R001T4272J	RC	2.7K OHM 1/4W
R807	R001T4243G	RC	24K OHM 1/4W
R808	R001T6243G	RC	24K OHM 1/6W
R809	R001T4272J	RC	2.7K OHM 1/4W
⚠ R810	R3U18A103J	R.METAL OXIDE	10K OHM 2W
R811	R0X1X4472J	RC	4.7K OHM 1/4W
R812	R0X1X4472J	RC	4.7K OHM 1/4W
R813	R0X1X4472J	RC	4.7K OHM 1/4W
R814	R0X1X4151J	RC	150 OHM 1/4W
R815	R0X1X4151J	RC	150 OHM 1/4W
R816	R0X1X4151J	RC	150 OHM 1/4W
R818	R902N8132J	RC	1.3K OHM 1/8W
R819	R902N8102J	RC	1K OHM 1/8W
R820	R902N8392J	RC	3.9K OHM 1/8W
R901	R902N8682J	RC	6.8K OHM 1/8W
R902	R902N8682J	RC	6.8K OHM 1/8W
R903	R902N8682J	RC	6.8K OHM 1/8W
R904	R902N8101J	RC	100 OHM 1/8W
R905	R902N8102J	RC	1K OHM 1/8W
R906	R902N8101J	RC	100 OHM 1/8W
R907	R902N8102J	RC	1K OHM 1/8W
R908	R902N8101J	RC	100 OHM 1/8W
R912	R902N8102J	RC	1K OHM 1/8W
R913	R902N8102J	RC	1K OHM 1/8W
R914	R902N8102J	RC	1K OHM 1/8W
R915	R002T2561J	RC	560 OHM 1/2W
R916	R001T4220J	RC	22 OHM 1/4W
R917	R902N8563J	RC	56K OHM 1/8W
R920	R902N8244J	RC	240K OHM 1/8W

CAPACITORS

C001	E02LT0221M	CE	220 UF 6.3V
C002	E0RIT5010M	CE	1 UF 50V
C003	E02LT2471M	CE	470 UF 16V
C004	C0JTF04H4Z	CC	0.022 UF 50V F
C101	E0RIT2470M	CE	47 UF 16V
C102	E0RIT52R2M	CE	2.2 UF 50V
C103	E0RIT5010M	CE	1 UF 50V
C104	E0RIT5010M	CE	1 UF 50V
C105	P6M3T0104J	CMPL	0.1 UF 50V TF
C106	E02LT0221M	CE	220 UF 6.3V
C108	E0RIT54R7M	CE	4.7 UF 50V
C109	E0RIT53R3M	CE	3.3 UF 50V
C110	E0RIT54R7M	CE	4.7 UF 50V
C111	E0RIT54R7M	CE	4.7 UF 50V
C112	CS0LB04G2J	CC	180 PF 50V B
C113	E0RIT54R7M	CE	4.7 UF 50V
C114	P1S3T0104J	CP	0.1 UF 50V
C115	E0RIT5010M	CE	1 UF 50V
C117	CS0LSL4E1J	CC	15 PF 50V SL
C118	CS0LSL4E1J	CC	15 PF 50V SL

CAPACITORS (CONT.)

REF. NO.	PART NO	DESCRIPTION	
C120	E02ET5010M	CE	1 UF 50V
C122	E0RIT5100M	CE	10 UF 50V
C125	E02LT2331M	CE	330 UF 16V
C126	E0RIT5R22M	CE	0.22 UF 50V
C127	E0RIT52R2M	CE	2.2 UF 50V
C128	E0RIT52R2M	CE	2.2 UF 50V
C131	E0RIT5010M	CE	1 UF 50V
C132	E02LT3471M	CE	470 UF 25V
C133	C13VB07H3K	CC	0.0022UF 2KV B
C135	CS0LSL4T1J	CC	62 PF 50V SL
C137	CS0LB0412J	CC	100 PF 50V B
C141	CS0LB0413J	CC	0.001 UF 50V B
C155	E02LT1471M	CE	470 UF 10V
C160	CS0LF03H4Z	CC	0.022 UF 25V F
C174	CS0LB04N2J	CC	390 PF 50V B
C204	CS0LY0214M	CC	0.01 UF 16V Y
C205	P1S3T0223J	CP	0.022 UF 50V
C206	E02LT1471M	CE	470 UF 10V
C207	P6M3T0104J	CMPL	0.1 UF 50V TF
C208	CS0LY0214M	CC	0.01 UF 16V Y
C210	CS0LSL4G1J	CC	18 PF 50V SL
C211	P1S3T0104J	CP	0.1 UF 50V
C213	E0RIT50R1M	CE	0.1 UF 50V
C217	E0RIT5R47M	CE	0.47 UF 50V
C226	E02LT1221M	CE	220 UF 10V
C227	CS0LF03H4Z	CC	0.022 UF 25V F
C228	C0JTCH4G1J	CC	18 PF 50V CH
C229	C0NTLH4K1J	CC	27 PF 50V LH
C231	C0NTLH4U1J	CC	68 PF 50V LH
C232	C0JTCH4E1J	CC	15 PF 50V CH
C301	P1S3T0103J	CP	0.01 UF 50V
C302	P1S3T0103J	CP	0.01 UF 50V
C303	E0RIT5010M	CE	1 UF 50V
C305	CS0LB04W1J	CC	82 PF 50V B
C311	CS0LSL4Q0K	CC	4.7 PF 50V SL
C320	E0RIT5010M	CE	1 UF 50V
C351	P1S3T0153J	CP	0.015 UF 50V
C352	E0RIT54R7M	CE	4.7 UF 50V
C353	E0RIT54R7M	CE	4.7 UF 50V
C354	E02LT1221M	CE	220 UF 10V
C355	E02LT1101M	CE	100 UF 10V
C356	E02LT1471M	CE	470 UF 10V
C357	E02LT1101M	CE	100 UF 10V
C358	P6M3T0224J	CMPL	0.22 UF 50V TF
C359	E02LT1222M	CE	2200 UF 10V
C401	E0RIT2220M	CE	22 UF 16V
C402	C0JTB0412K	CC	100 PF 50V B
C404	E0RIT54R7M	CE	4.7 UF 50V
C405	E0RIT54R7M	CE	4.7 UF 50V
C406	P1S3T0393J	CP	0.039 UF 50V
C407	CS0LB04S2J	CC	560 PF 50V B
C408	E0RIT5010M	CE	1 UF 50V
⚠ C412	E02LT1471M	CE	470 UF 10V
C413	P6M3T0105J	CMPL	1.0 UF 50V TF
⚠ C414	E02LT4101M	CE	100 UF 35V
C415	C0JTSL511D	CC	10 PF 500V SL
C416	P1S3T0103J	CP	0.01 UF 50V
C417	E0RIT5010M	CE	1 UF 50V
C418	E02LT3102M	CE	1000 UF 25V
C420	E02ET52R2M	CE	2.2 UF 50V
C422	P613T1224J	CMPL	0.22 UF 100V TF
C424	E0RIT5R33M	CE	0.33 UF 50V
C428	CS0LF03H4Z	CC	0.022 UF 25V F
C431	P1S3T0153J	CP	0.015 UF 50V
⚠ C433	E02LT4102M	CE	1000 UF 35V
⚠ C434	E0RIT6220M	CE	22 UF 63V
C435	P124T1104J	CP	0.1 UF 100V
⚠ C436	E02LT2471M	CE	470 UF 16V
C437	P44*A2684J	CMPP	0.68 UF 200V
C439	C0JTSL5H1K	CC	22 PF 500V SL
C440	C0JTB05Q2K	CC	470 PF 500V B
C441	CHGTB0413J	CC	0.001 UF 50V B
⚠ C442	C01TBP7K2K	CC	270 PF 2KV BP
⚠ C443	P4N2F9622H	CMPP	0.0062UF 1600V
⚠ C446	E0E7TB010M	CE	1 UF 160V
⚠ C448	E0RIT8100M	CE	10 UF 100V
C453	C0JTB0613K	CC	0.001 UF 1KV B
C455	CS0LB0412J	CC	100 PF 50V B
C460	C0JTB04E2K	CC	150 PF 50V B
C465	E0RIT5R47M	CE	0.47 UF 50V
C477	P6M3T0474J	CMPL	0.47 UF 50V TF
⚠ C478	E02LT2471M	CE	470 UF 16V
C479	E0RIT5010M	CE	1 UF 50V
C480	E02LT1471M	CE	470 UF 10V

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
CAPACITORS (CONT.)		
C491	P3N1F2223J	CPP 0.022 UF 200V
C495	E0E7TD010M	CE 1 UF 250V
⚠ C499	E001T3470M	CE 47 UF 25V
⚠ C502	P2222B104K	CMP 0.1 UF 250V AC
C503	C13VB0713K	CC 0.001 UF 2KV B
C504	C13VB0713K	CC 0.001 UF 2KV B
C505	C0JTB0513K	CC 0.001 UF 500V B
⚠ C506	E5MCFC561M	CE 560 UF 200V
⚠ C507	E0E7FB101M	CE 100 UF 160V
C519	E02LTB100M	CE 10 UF 160V
C601	E0R1T54R7M	CE 4.7 UF 50V
C602	P1S3T0103J	CP 0.01 UF 50V
C603	E0R1T5010M	CE 1 UF 50V
C604	CS0LB04B2J	CC 120 PF 50V B
C605	CS0LY0214M	CC 0.01 UF 16V Y
C607	E0R1T52R2M	CE 2.2 UF 50V
C609	E0R1T5010M	CE 1 UF 50V
C610	E0R1T5100M	CE 10 UF 50V
C611	CS0LB0413J	CC 0.001 UF 50V B
C612	CS0LY0214M	CC 0.01 UF 16V Y
C613	CS0LSL4K1J	CC 27 PF 50V SL
C615	CS0LY0214M	CC 0.01 UF 16V Y
C616	CS0LY0214M	CC 0.01 UF 16V Y
C618	E0R1T54R7M	CE 4.7 UF 50V
C619	CS0LY0214M	CC 0.01 UF 16V Y
C621	CS0LSL431J	CC 30 PF 50V SL
C623	CS0LSL431J	CC 30 PF 50V SL
C624	CS0LSL4U1J	CC 68 PF 50V SL
C630	P6M3T0334J	CMPL 0.33 UF 50V TF
C639	E0R1T54R7M	CE 4.7 UF 50V
C640	E0R1T5010M	CE 1 UF 50V
C805	CS0LB04H2J	CC 220 PF 50V B
C806	CS0LB04L2K	CC 330 PF 50V B
C807	CS0LB04N2J	CC 390 PF 50V B
C808	CS0LB04L2K	CC 330 PF 50V B
C813	C13VB0713K	CC 0.001 UF 2KV B
C816	CS0LB04E2J	CC 150 PF 50V B
C904	CS0LY0214M	CC 0.01 UF 16V Y
C905	E026T5010M	CE 1 UF 50V
C906	E026T52R2M	CE 2.2 UF 50V
C907	E026T5010M	CE 1 UF 50V
C908	E026T52R2M	CE 2.2 UF 50V
C909	E026T5010M	CE 1 UF 50V
C910	E026T52R2M	CE 2.2 UF 50V
C911	E02LT1471M	CE 470 UF 10V
C912	CS0LY0214M	CC 0.01 UF 16V Y
C915	E0R1T5010M	CE 1 UF 50V
SEMICONDUCTORS		
D001	D97U05R11A	DIODE.ZENER MTZJ5.1A T-77
D101	D1VT001320	DIODE.SILICON 1SS132T-77
D104	D97U05R61B	DIODE.ZENER MTZJ5.6B T-77
D105	D97U05R61B	DIODE.ZENER MTZJ5.6B T-77
D106	D97U05R11B	DIODE.ZENER MTZJ5.1B T-77
D124	D92T0150B1	DIODE.ZENER RD15EB 1 TA11R
⚠ D125	D1VT024720	DIODE.SILICON 1S2472T-77
⚠ D126	D2BT0EM1C0	DIODE.SILICON EM1C V1
D127	D28T011E10	DIODE.SILICON 11E1TA1B2
D139	D92T030084	DIODE.ZENER RD30EB 4 TA11R
D145	D97U06R21B	DIODE.ZENER MTZJ6.2B T-77
D153	D1VT001320	DIODE.SILICON 1SS132T-77
D155	D97U05R61B	DIODE.ZENER MTZJ5.6B T-77
D156	D97U05R61B	DIODE.ZENER MTZJ5.6B T-77
D201	D5WTTT4100	DIODE.VARICAP 1TT410(DO34)
D202	D5WTTT4100	DIODE.VARICAP 1TT410(DO34)
D401	D1VT001320	DIODE.SILICON 1SS132T-77
D402	D1VT001320	DIODE.SILICON 1SS132T-77
⚠ D403	D28T011E10	DIODE.SILICON 11E1TA1B2
⚠ D405	D92T027083	DIODE.ZENER RD27EB 3 TA11R
⚠ D406	D92T0110B1	DIODE.ZENER RD11EB 1 TA11R
⚠ D407	D28X10ELS6	DIODE.RECTIFIER 10ELS6-TA2B5
⚠ D408	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1B2
D409	D28T011E10	DIODE.SILICON 11E1TA1B2
⚠ D410	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1B2
⚠ D411	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1B2
D412	D97U03601B	DIODE.ZENER MTZJ36B T-77
D416	D17X024720	DIODE.SILICON 1S2472T-72
D417	D28T011E10	DIODE.SILICON 11E1TA1B2
D418	D17X024720	DIODE.SILICON 1S2472T-72
D419	D97U09R11B	DIODE.ZENER MTZJ9.1B T-77
⚠ D422	D28T10ELS6	DIODE.RECTIFIER 10ELS6TA1B2
⚠ D501	D2BTRM11C0	DIODE.RECTIFIER RM11C
⚠ D502	D2BTRM11C0	DIODE.RECTIFIER RM11C
⚠ D503	D2BTRM11C0	DIODE.RECTIFIER RM11C

REF.NO.	PART NO.	DESCRIPTION
SEMICONDUCTORS (CONT.)		
⚠ D504	D2BTRM11C0	DIODE.RECTIFIER RM11C
D601	D1VT001320	DIODE.SILICON 1SS132T-77
D602	D1VT001320	DIODE.SILICON 1SS132T-77
D651	D1VT001320	DIODE.SILICON 1SS132T-77
D652	D1VT001320	DIODE.SILICON 1SS132T-77
D801	D1VT001320	DIODE.SILICON 1SS132T-77
D802	D1VT001320	DIODE.SILICON 1SS132T-77
D803	D1VT001320	DIODE.SILICON 1SS132T-77
IC101	I51D08059A	IC OEC8059A
IC102	IC3D06CB1J	IC ST93C46CB1
⚠ IC104	I02J98L050	IC UPC78L05J-T
IC105	I9UJ0T600C	IC PST600C
⚠ IC201	I03DE76760	IC LA7676
⚠ IC351	I0XDP12130	IC UPC1213C(MS)
⚠ IC401	I03SD78370	IC LA7837
⚠ IC402	I0X398M090	IC UPC78M09H
⚠ IC403	I0X398M090	IC UPC78M09H
⚠ IC501	I2B4901100	IC STR30110
⚠ IC901	I05DE87820	IC TA8782N
Q103	TCLT00945P	TRANSISTOR.SILICON 2SC945A(C)-T P
Q104	TCLT02001L	TRANSISTOR.SILICON 2SC2001(C)-T L
Q105	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q106	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q108	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q110	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q125	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q126	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q202	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q203	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
Q205	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
⚠ Q401	TDKF023330	TRANSISTOR.SILICON 2SD2333-(RQ)
⚠ Q402	TC3Q026210	TRANSISTOR.SILICON 2SC2621-RAC
Q601	TALT007330	TRANSISTOR.SILICON 2SA733(C)-T
Q604	TALT007330	TRANSISTOR.SILICON 2SA733(C)-T
Q605	TCLT009450	TRANSISTOR.SILICON 2SC945A(C)-T
⚠ Q801	TA3T016240	TRANSISTOR.SILICON 2SA1624-AA
⚠ Q802	TA3T016240	TRANSISTOR.SILICON 2SA1624-AA
⚠ Q803	TA3T016240	TRANSISTOR.SILICON 2SA1624-AA
⚠ Q804	TC3F042170	TRANSISTOR.SILICON 2SC4217-RAC
⚠ Q805	TC3F042170	TRANSISTOR.SILICON 2SC4217-RAC
⚠ Q806	TC3F042170	TRANSISTOR.SILICON 2SC4217-RAC
Q903	TALT00952L	TRANSISTOR.SILICON 2SA952(C)-T L
COILS & TRANSFORMERS		
L001	021673470K	COIL 47 UH
L101	021LA6330K	COIL 33 UH
L202	021LA6R47M	COIL 0.47 UH
L203	021S05R91K	COIL 0.91 UH
L204	021S65R18J	COIL 0.18 UH
L205	021S05R43J	COIL 0.43 UH
L206	021LA6150K	COIL 15 UH
L301	021LA6220K	COIL 22 UH
L302	021LA6100K	COIL 10 UH
L406	02186G180M	COIL 18 UH
L410	021679472K	COIL 4.7 MH
⚠ L501	0292000070	COIL.LINE FILTER 9-000070
⚠ L502	028H200016	COIL.DEGAUSS 8H200016
L602	021LA6220K	COIL 22 UH
L604	021LA6330K	COIL 33 UH
L606	021LA6101K	COIL 100 UH
L607	021LA6330K	COIL 33 UH
L801	021673101K	COIL 100 UH
T401	03305Y002W	TRANS.,HORIZONTAL DRIVE 305Y-002W
JACK		
⚠ J801	066C130012	SOCKET.CRT CVT3245-0521T
SWITCHES		
SW102	0504101T32	SWITCH.TACT EVQ PB1 05K
SW103	0504101T32	SWITCH.TACT EVQ PB1 05K
SW104	0504101T32	SWITCH.TACT EVQ PB1 05K
SW105	0504101T32	SWITCH.TACT EVQ PB1 05K
SW106	0504101T32	SWITCH.TACT EVQ PB1 05K
P.C. BOARD ASSEMBLIES		
PCB010	A3F401A01A	PCB ASS'Y TM5319C MAIN
PCB110	A3F401A11A	PCB ASS'Y TC5205C CRT
MISCELLANEOUS		
⚠ ATC001	0632400005	ANT UNIT NXC0010-010020
⚠ BL001	0634200015	PLUG-FJ HXC0548-010016

ELECTRICAL REPLACEMENT PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	
		MISCELLANEOUS (CONT.)	
	CD351	06CP1235TA	CORD.CONNECTOR C-12357A
⚠	CD501	1206614311	CORD.AC 1206614311
	CD801	127A200005	BRAIDED WIRE 7-200005
	CD802	122U084301	CORD.JUMPER 2-084301
	CD803	122Z043504	CORD.CONNECTOR 2-043504
	CF201	1027045R72	FILTER.SAW F-1032U
	CF202	1011T4R517	FILTER.CERAMIC EFCT4R5MW5
	CF301	1012T4R514	FILTER.C.DISCRI. CDA4.5ME42-TF21
	CF302	1011T4R504	FILTER.CERAMIC EFCT4R5YS5A
	CF401	1002R50304	CERAMIC.OSCILLATOR CSB503F45
	CP351	069W120019	CONNECTOR PCB SIDE TID-X02P-B2
	CP501	0694430100	CORD.UX CONNECTOR 2-173270-3
	CP502	069W420029	CONNECTOR PCB SIDE TV-50P-02-A1
	CP806	069W010010	CONNECTOR PCB SIDE 005P-2100
	CP401A	069W010010	CONNECTOR PCB SIDE 005P-2100
	CP401B	069W010010	CONNECTOR PCB SIDE 005P-2100
	CP401C	069W010010	CONNECTOR PCB SIDE 005P-2100
	CP401D	069W010010	CONNECTOR PCB SIDE 005P-2100
	CP801A	069W010010	CONNECTOR PCB SIDE 005P-2100
	CP801C	069W010010	CONNECTOR PCB SIDE 005P-2100
	CP802A	067R008019	WIRE HOLDER 51048-0810
	CP802B	067R008019	WIRE HOLDER 51048-0810
	CP803A	067R104019	WIRE HOLDER 51052-0400
	CP803B	067R104019	WIRE HOLDER 51052-0400
⚠	DY801	027Z092002	DEFLECTION YOKE 7Z092002
⚠	F501	081PC04003	FUSE 4A 125V
⚠	FB401	043220040F	TRANSFORMER.FLYBACK 3220040
	FH501	06710T0006	HOLDER.FUSE EYF-52BC
	FH502	06710T0006	HOLDER.FUSE EYF-52BC
	K001	129A000010	WEDGE 8115529
	K002	129A000010	WEDGE 8115529
	K003	129A000010	WEDGE 8115529
	OS101	077Q000006	REMOTE RECEIVER PIC-12043SP
	PH002	069W01001A	CONNECTOR PCB SIDE 003P-2100
⚠	RY101	0560S20113	RELAY RPBF-12-301
	SP351	070J132011	SPEAKER AA0308A
⚠	TH501	D8R0C5R0M0	DEGAUSS ELEMENT PTH451C2608F5R0M
	TM101	076R074040	TRANSMITTER R25-7345
⚠	TU001	0145100040	TUNER,VHF-UHF ENV568N8G3
⚠	V801	092Z200411	COLOR PICTURE TUBE G-A48ACB32X
	X101	1002T01201	C.OSCILLATOR CSA12.0MTZ9-TF01
	X601	100W357903	CRYSTAL HC-49/U 3.579545MHZ

RESISTOR
RC.....CARBON RESISTOR

CAPACITORS
CC.....CERAMIC CAPACITOR
CE.....ALUMI ELECTROLYTIC CAPACITOR
CP.....POLYESTER CAPACITOR
CPP.....POLYPROPYLENE CAPACITOR
CPL.....PLASTIC CAPACITOR
CMP.....METAL POLYESTER CAPACITOR
CMPL.....METAL PLASTIC CAPACITOR
CMPP.....METAL POLYPROPYLENE CAPACITOR
CST.....STYROL CAPACITOR

INTERCHANGEABLE PARTS LIST

NOTE: THE FOLLOWING PART(S) MAY BE SUBSTITUTED FOR PARTS INDICATED IN THE ELECTRICAL REPLACEMENT PARTS LIST (WITH THE SAME REF.NO.). THESE PARTS SHARE THE SAME ELECTRICAL CHARACTERISTICS AND OTHER ELEMENTS FOR COMMON USAGE. EITHER PART NUMBER MAY BE USED IN THIS UNIT.

REF.NO.	BASE		REPLACEMENT	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
CF401	1002R50304	CSB503F45	1003R50303	KBR-503.5AKT
D106	D97U05R11B	MTZJ5.1B T-77	D94TA5R1B2	HZS5R1EB2-T
L406	02186G180M	18 UH	021U6A180M	18 UH
⚠L502	028H200016	8H200016	028S200008	8S200008
			028A200021	8A200021

HOW TO ORDER PARTS

When placing a parts order, please have the following information.

A. MODEL NUMBER and VERSION NUMBER
Located on the back of the unit.
EX: VR0100 (Model no.), VERSION/A (Version no.)

B. PART NO. and DESCRIPTION
Located in your SERVICE MANUAL. (See pages 26 ~31)
EX: I235953420, STK5342, Voltage Regulator

PART NO. DESCRIPTION

C. QUANTITY

D. Mailing address and NAME
EX: ABC Service Center
111 Broadway
NEW YORK, N.Y. 10005

ATTN: MR. X Y Z

ORION SALES, INC.
3471 NORTH UNION DRIVE
OLNEY, ILLINOIS 62450
TEL. (618) 393-4322

Printed in Japan