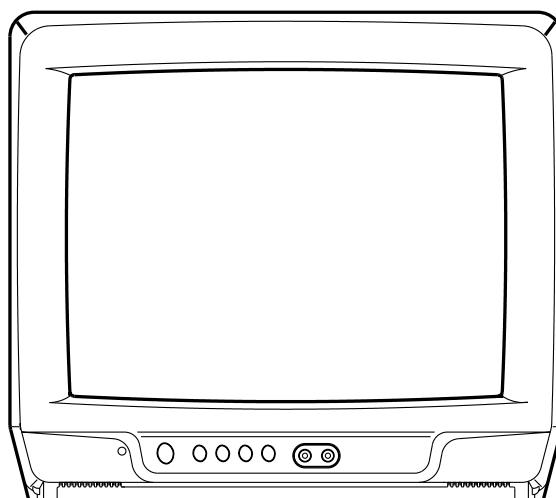




DBTV1900

SERVICE MANUAL

COLOR TELEVISION RECEIVER



**ORIGINAL
MFR'S VERSION C**

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES


As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.

Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.

Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note1]** .
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER

The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.

2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

IMPORTANT

Inferior silicon grease can damage IC's and transistors.

When replacing an IC's or transistors, use only specified silicon grease (YG6260M).

Remove all old silicon before applying new silicon.

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GENERAL SPECIFICATIONS

G-1.Outline of the Product

19 inch(480.0mmV):Measured diagonally
Color CRT 90 degree deflection

G-2.Broadcasting System

US System M

G-3.Color System NTSC PAL SECAM or Monochrome signal

G-4.NTSC Playback(PAL 60Hz) Yes No

G-5.NTSC 3.58+4.43/PAL60Hz Yes No

G-6.Antenna Input Impedance

VHF/UHF 75 ohm unbalanced

G-7.Tuner and Receiving Channel

Tuner : Contactless Electric Tuner

Oscar(W/O HYPER) Oscar(W/ HYPER) France CATV Others
channel coverage

2 ~ 69 , 4A , A-5 ~ A-1 , A ~ I , J ~ W , W+1 ~ W+84

Tuning System

Frequency syn. Voltage syn. Others

G-8.Preset Channel

-- channels

G-9.Intermediate Frequency

Picture(fP)	<u>45.75</u> MHz	<u> </u> MHz	<u> </u> MHz
Sound (fS)	<u>41.25</u> MHz	<u> </u> MHz	<u> </u> MHz
fP-fS	<u>4.50</u> MHz	<u> </u> MHz	<u> </u> MHz

G-10.Stereo/Dual TV Sound

Yes(NICAM GERMAN USA JAPAN) No

G-11.Tuner Sound Muting

Yes No

G-12.Power Source

120 V AC 50Hz AC 60Hz

G-13.Power Consumption:

66 W at AC 120 V 60 Hz

-- W at DC --- V

Stand by: 4 W at AC 120 V 60 Hz

Per Year: -- kWh / Year

G-14.Dimensions(Approx.)

488 mm(W) 465 mm(D) 416 mm(H)

G-15.Weight(Approx.)

Net: 17.5 kg (38.6 lbs)

Gross: 20.0 kg (44.1 lbs)

G-16.Cabinet Material

Cabinet Front:	<input checked="" type="checkbox"/> PS	<input type="checkbox"/> 94HB	<input checked="" type="checkbox"/> DECABROM
	<input type="checkbox"/> ABS	<input type="checkbox"/> 94V2	<input type="checkbox"/> NON-DECA
		<input checked="" type="checkbox"/> 94V0	

Back Panel:	<input checked="" type="checkbox"/> PS	<input type="checkbox"/> 94HB	<input checked="" type="checkbox"/> DECABROM
	<input type="checkbox"/> ABS	<input type="checkbox"/> 94V2	<input type="checkbox"/> NON-DECA
		<input checked="" type="checkbox"/> 94V0	

G-17.Protector:

Power Fuse

GENERAL SPECIFICATIONS

G-18.Regulation

Safety

- | | | | | | |
|--|---|----------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> UL | <input checked="" type="checkbox"/> CSA | <input type="checkbox"/> SAA | <input type="checkbox"/> SI | <input type="checkbox"/> CE | <input type="checkbox"/> SEV |
| <input type="checkbox"/> BS | <input type="checkbox"/> NF | <input type="checkbox"/> NEMKO | <input type="checkbox"/> FEMKO | <input type="checkbox"/> DEMKO | <input type="checkbox"/> IEC65 |
| <input type="checkbox"/> SEMKO | <input type="checkbox"/> NZ | <input type="checkbox"/> HOMOLO | <input type="checkbox"/> SABS | <input type="checkbox"/> CNS | <input type="checkbox"/> SISIR |
| <input type="checkbox"/> NOM | <input type="checkbox"/> AS3159 | <input type="checkbox"/> DENTORI | <input type="checkbox"/> UNE | <input type="checkbox"/> GOST | <input type="checkbox"/> NONE |

Radiation

- | | | | | | |
|---|---|----------------------------------|---------------------------------|---------------------------------|------------------------------|
| <input checked="" type="checkbox"/> FCC | <input checked="" type="checkbox"/> DOC | <input type="checkbox"/> FTZ | <input type="checkbox"/> PTT | <input type="checkbox"/> CE | <input type="checkbox"/> SEV |
| <input type="checkbox"/> SABA | <input type="checkbox"/> SI | <input type="checkbox"/> NF | <input type="checkbox"/> NZ | <input type="checkbox"/> HOMOLO | <input type="checkbox"/> UNE |
| <input type="checkbox"/> CNS | <input type="checkbox"/> CISPR13 | <input type="checkbox"/> DENTORI | <input type="checkbox"/> AS/NZS | <input type="checkbox"/> NONE | |

X-Radiation

- | | | | | |
|------------------------------|--|---|----------------------------------|-------------------------------|
| <input type="checkbox"/> PTB | <input checked="" type="checkbox"/> DHHS | <input checked="" type="checkbox"/> HWC | <input type="checkbox"/> DENTORI | <input type="checkbox"/> NONE |
|------------------------------|--|---|----------------------------------|-------------------------------|

G-19.Temperature

Operation 5 °C ~ 40 °C

Storage -20 °C ~ 60 °C

G-20.Operating Humidity

Less than 80 %RH

G-21.Clock and Timer

- | | | |
|---------------|---|--|
| Sleep Timer | <input checked="" type="checkbox"/> Yes Max <u> 120 </u> Min.(<u> 10 </u> Min. Step) | <input type="checkbox"/> No |
| On/Off Timer | <input type="checkbox"/> Yes <u> </u> Programs | <input checked="" type="checkbox"/> No |
| Wake Up Timer | <input type="checkbox"/> Yes <u> </u> Programs | <input checked="" type="checkbox"/> No |

G-22.Timer back up Time:

More than -- Minutes (at Power Off Mode)

G-23.Terminals

- | | | | |
|--|--|--|---|
| <input checked="" type="checkbox"/> VHF/UHF Antenna Input | <input type="checkbox"/> Din Type | <input checked="" type="checkbox"/> F-Type | <input type="checkbox"/> France Type |
| <input checked="" type="checkbox"/> Front Video Input (RCA ø8.3) | | | |
| <input checked="" type="checkbox"/> Front Audio Input (RCA ø8.3) | | | |
| <input type="checkbox"/> Rear Video Input (RCA ø8.3) | | | |
| <input type="checkbox"/> Rear Audio Input (RCA ø8.3) | | | |
| <input type="checkbox"/> Rear Video Output (RCA ø8.3) | | | |
| <input type="checkbox"/> Rear Audio Output (RCA ø8.3) | | | |
| <input type="checkbox"/> 21 Pin | <input type="checkbox"/> S Input(Rear) | | <input type="checkbox"/> Ear Phone Jack(ø3.5) |

G-24.Indicator

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Power
(<u> </u>) | <input type="checkbox"/> Stand By
(<u> </u>) | <input type="checkbox"/> On Timer
(<u> </u>) | <input checked="" type="checkbox"/> NONE |
|---|--|--|--|

G-25.Display

On Screen Display

- | | | | |
|--|--|---|---|
| <input checked="" type="checkbox"/> Menu | <input type="checkbox"/> Clock Set(<input type="checkbox"/> 12H <input type="checkbox"/> 24H) | <input type="checkbox"/> System Selec | <input type="checkbox"/> On/Off Timer |
| | <input type="checkbox"/> Hotel Lock | <input type="checkbox"/> Area Code | <input checked="" type="checkbox"/> CH Tuning |
| | <input type="checkbox"/> Sound 1/2 | <input type="checkbox"/> NICAM Auto Off | <input checked="" type="checkbox"/> Picture |
| | <input type="checkbox"/> Guide CH Set | <input type="checkbox"/> Audio | <input checked="" type="checkbox"/> Language |
| | <input type="checkbox"/> CATV | <input type="checkbox"/> Pin Code Registration | <input checked="" type="checkbox"/> V-Chip |
| <input checked="" type="checkbox"/> Control Level | <input checked="" type="checkbox"/> Sound | <input checked="" type="checkbox"/> Brightness | <input checked="" type="checkbox"/> Contrast |
| | <input checked="" type="checkbox"/> Color | <input checked="" type="checkbox"/> Tint(NTSC Only) | <input checked="" type="checkbox"/> Sharpness |
| | <input type="checkbox"/> Tuning | <input type="checkbox"/> Bass | <input type="checkbox"/> Treble |
| | <input type="checkbox"/> Balance | <input type="checkbox"/> Back Light | |
| <input type="checkbox"/> Stereo,Audio Output,Bilingual | | <input type="checkbox"/> Picture Menu | |
| <input type="checkbox"/> Stereo,Audio Output,SAP | | <input type="checkbox"/> Mid Night Theater | |
| <input type="checkbox"/> Stereo,Audio Output | | <input type="checkbox"/> GAME | |
| <input checked="" type="checkbox"/> AV | <input checked="" type="checkbox"/> Channel | <input type="checkbox"/> Clock | <input type="checkbox"/> Hotel Lock |
| <input checked="" type="checkbox"/> Sleep Timer | <input checked="" type="checkbox"/> Sound Mute | <input type="checkbox"/> Pin Code | |

GENERAL SPECIFICATIONS

G-26.OSD Language

Eng Ger Fre Spa Ita Por Jpn

OSD Language Setting

Eng Ger Fre Spa Ita Por Jpn
Not Applicable

G-27.Speaker : Position Front Side Bottom

Size 3 inches
 Imp 8 ohm x 1 pcs
 Power Max 1.5 W
 10% 1.0 W (Typical)

G-28.EXT Speaker

Yes -- W Imp -- ohm

G-29.Carton

Master Carton: Need No Need

Content: -- Set

Material: -- / -- Corrugated Carton

Dimensions: -- mm(L) -- mm(W) -- mm(D)

Description of Origin Yes No

Gift Box

Material Double/Brown Corrugated Carton (with Photo Label)
 Double/White Corrugated Carton (with Photo Label)
 Double Full Color Carton W/Photo

Dimensions: 546 mm(L) 526 mm(W) 472 mm(D)

Design: As Per Buyer 's

Description of Origin: Yes No

Drop Test Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces

Height 25cm 31cm 46cm 62cm 80cm

Container Stuffing: 436 Sets / 40' container

G-30.Accessories

Owner's Manual (W/Guarantee Card) [English/French]

AC Plug Adapter

Battery (UM- 4 x 2)

Safety Tip

Guarantee Card

Registration Card

Quick Set-Up Sheet

Information Sheet

75 ohm Coaxial Cable (Single Shield

300 ohm to 75 ohm VHF Antenna Adaptor

21pin Cable

Rod Antenna

One Pole

Two Pole(F-Type

Din Type

France Type)

Loop Antenna

(F-Type

Din Type

France Type)

Channel film

Remote Control Unit

Toll Free Insert Sheet

Audio-Video Cord (RCA)

Warning Sheet

Schematic Diagram

U/V Mixer

Double Shield)

Car Cord

G-31.Other Features

Auto Degauss

Auto Shut Off

Canal+

CATV(181CH)

Anti-Theft

Rental

Unitext

Picture Menu

Auto Search

CH Allocation

SAP

Channel Lock

Just Clock Function

Game Position

TopText

Mid Night Theater

Full OSD

Premiere

Comb Filter

Auto CH Memory

Hotel Lock

Fastext

Closed Caption

V-Chip

GENERAL SPECIFICATIONS

G-32.Switch

Front

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Power(Tact) | <input checked="" type="checkbox"/> Channel Up/Reset | <input checked="" type="checkbox"/> Volume Up/Set Up |
| <input type="checkbox"/> System Select | <input checked="" type="checkbox"/> Channel Down/Enter | <input checked="" type="checkbox"/> Volume Down/Set Down |
| <input type="checkbox"/> Main Power SW | <input type="checkbox"/> Sub Power | <input checked="" type="checkbox"/> Menu:Vol Up + Vol Down |

Rear

- | | |
|----------------------------------|---|
| <input type="checkbox"/> AC/DC | <input type="checkbox"/> TV/CATV Selector |
| <input type="checkbox"/> Degauss | <input type="checkbox"/> Main Power SW |

G-33.Magnetic Field

- | | | |
|---|--------------------------------------|--------------------------------------|
| <input checked="" type="checkbox"/> BV : +0.45G | <input type="checkbox"/> BV : +0.35G | <input type="checkbox"/> BV : +0.25G |
| BH : 0.18G | BH : 0.30G | BH : 0.30G |
| <input type="checkbox"/> BV : -0.15G | <input type="checkbox"/> BV : -0.25G | <input type="checkbox"/> BV : -0.50G |
| BH : 0.15G | BH : 0.15G | BH : 0.30G |

G-34.Remote Control Unit:

RC-74

Glow in Dark Remocon Yes No

Power Source: D.C 3 V Battery UM - 4 x 2

Total 27 Key

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Power | <input checked="" type="checkbox"/> Quick View | <input checked="" type="checkbox"/> TV/AV |
| <input type="checkbox"/> Stand By | <input type="checkbox"/> Status | <input type="checkbox"/> Bar Select |
| <input checked="" type="checkbox"/> 0 | <input type="checkbox"/> Time Select | <input type="checkbox"/> PAL/SECAM |
| <input checked="" type="checkbox"/> 1 | <input type="checkbox"/> Time Set | <input checked="" type="checkbox"/> Volume Up |
| <input checked="" type="checkbox"/> 2 | <input checked="" type="checkbox"/> Mute | <input checked="" type="checkbox"/> Volume Down |
| <input checked="" type="checkbox"/> 3 | <input type="checkbox"/> CH Skip | <input type="checkbox"/> CH Call |
| <input checked="" type="checkbox"/> 4 | <input checked="" type="checkbox"/> CH1/CH2 | <input checked="" type="checkbox"/> CH Down |
| <input checked="" type="checkbox"/> 5 | <input type="checkbox"/> Channel | <input checked="" type="checkbox"/> CH Up |
| <input checked="" type="checkbox"/> 6 | <input type="checkbox"/> Text/Mix/TV | <input type="checkbox"/> CH Down/Page Down |
| <input checked="" type="checkbox"/> 7 | <input type="checkbox"/> Display Cancel | <input type="checkbox"/> CH Up/Page Up |
| <input checked="" type="checkbox"/> 8 | <input type="checkbox"/> Initial | <input type="checkbox"/> Page +/- |
| <input checked="" type="checkbox"/> 9 | <input type="checkbox"/> Store | <input type="checkbox"/> Program |
| <input type="checkbox"/> 10 | <input type="checkbox"/> Reveal | <input type="checkbox"/> F/T/B |
| <input type="checkbox"/> 11 | <input checked="" type="checkbox"/> Sleep | <input type="checkbox"/> Hold |
| <input type="checkbox"/> 12 | <input type="checkbox"/> Aft/Skip | <input type="checkbox"/> List |
| <input type="checkbox"/> 1 | <input type="checkbox"/> Preset | <input type="checkbox"/> Rotate |
| <input type="checkbox"/> 2 | <input type="checkbox"/> 5.5/6.5MHz | <input type="checkbox"/> Browse |
| <input type="checkbox"/> 0/10 | <input type="checkbox"/> Auto Memory | <input type="checkbox"/> Std/Auto |
| <input type="checkbox"/> Tone 1/2 | <input type="checkbox"/> Auto | <input type="checkbox"/> Memory |
| <input type="checkbox"/> Info | <input checked="" type="checkbox"/> Call | <input type="checkbox"/> Band Select |
| <input type="checkbox"/> Mono/Auto | <input checked="" type="checkbox"/> Reset | <input type="checkbox"/> Search |
| <input checked="" type="checkbox"/> TV/Caption/Text | <input checked="" type="checkbox"/> Menu | <input type="checkbox"/> Clock/Program |
| <input type="checkbox"/> Expand | <input checked="" type="checkbox"/> Enter | <input type="checkbox"/> Clock/Set |
| <input type="checkbox"/> Red | <input type="checkbox"/> Add | <input type="checkbox"/> Ch Set |
| <input type="checkbox"/> Cyan | <input type="checkbox"/> Delete | <input checked="" type="checkbox"/> Set + |
| <input type="checkbox"/> Normal | <input type="checkbox"/> Yellow | <input checked="" type="checkbox"/> Set - |
| <input type="checkbox"/> Color System | <input type="checkbox"/> Random | <input type="checkbox"/> Green |
| <input type="checkbox"/> Wide Seley | <input type="checkbox"/> Tuning Up/Time Text | <input type="checkbox"/> Nicam/Mono |
| <input type="checkbox"/> Auto Wide On/Off | <input type="checkbox"/> Tuning Down/Reset | <input type="checkbox"/> Tone A/B |
| <input type="checkbox"/> Picture Position | <input type="checkbox"/> Navi | <input type="checkbox"/> FM Transmitter |
| <input type="checkbox"/> Direct Change/Auto Search | | <input type="checkbox"/> Back Light |
| <input type="checkbox"/> Picture Menu | <input type="checkbox"/> Mid Night Theater | |

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting 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. 1-1.)

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.

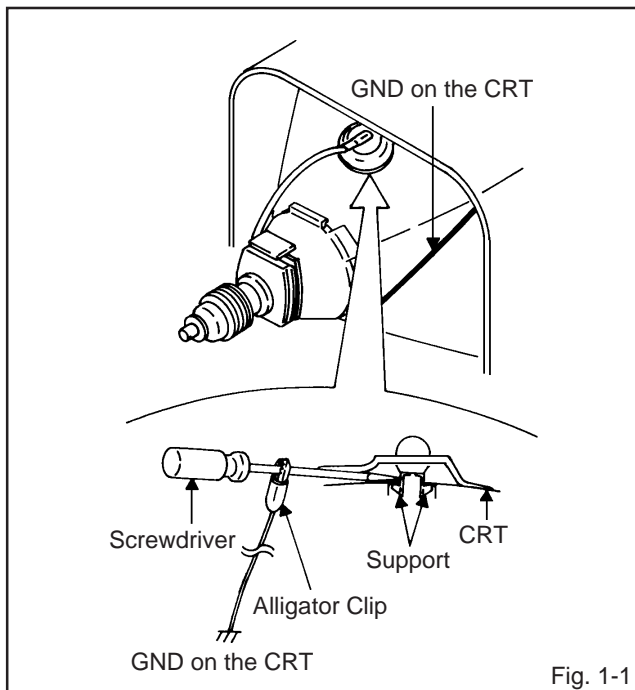


Fig. 1-1

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. 1-2.)

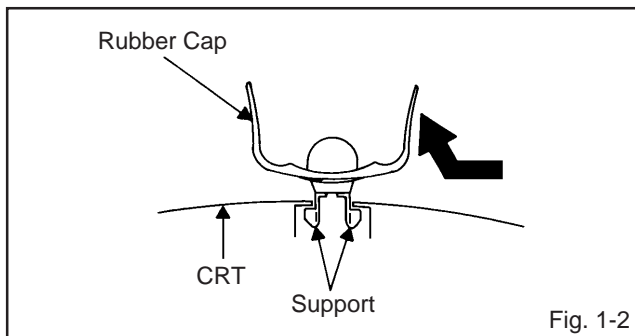


Fig. 1-2

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. 1-3.)

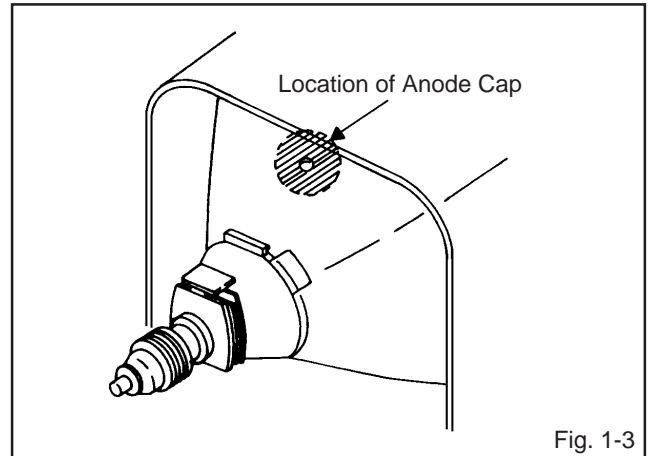


Fig. 1-3

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. 1-4.)

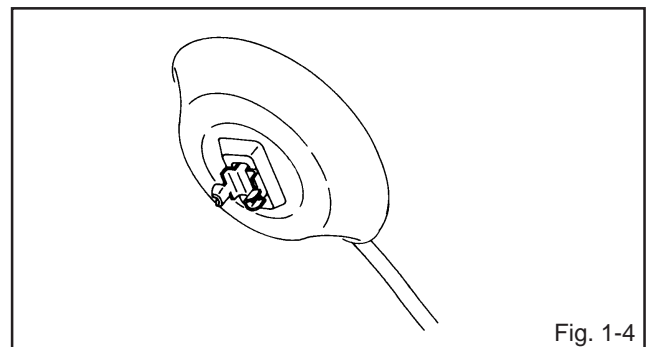


Fig. 1-4

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

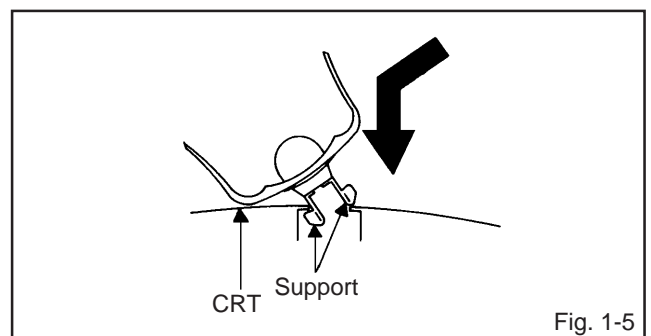


Fig. 1-5

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

SERVICE MODE LIST

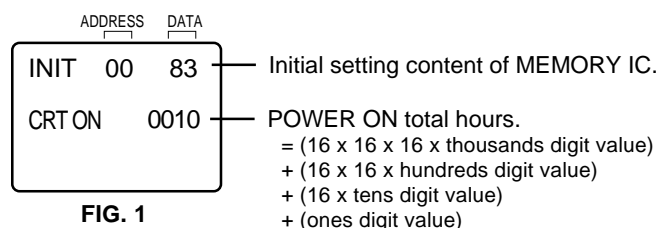
This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily. To enter the Service Mode, press both set key and remote control key for more than 1 second.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF USING HOURS". Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "NOTE FOR THE REPLACING OF MEMORY IC".
VOL. (-) MIN	8	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

CONFIRMATION OF USING HOURS

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button (6) on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.



NOTE FOR THE REPLACING OF MEMORY IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

ADDRESS	INI 00	INI 01	INI 02	INI 03	INI 04	INI 05	INI 06	INI 07	INI 08	INI 09	INI 0A
DATA	A8	0A	A2	09	06	63	24	19	21	20	44

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button (6) on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.
3. ADDRESS is now selected and should "blink". Using the SET + or - keys on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using SET + or - until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input. The unit will now have the correct DATA for the new MEMORY IC.

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.

Prepare the following measurement tools for electrical adjustments.

1. Synchro Scope
2. Digital Voltmeter

On-Screen Display Adjustment

1. In the condition of NO indication on the screen.
Press the VOL. DOWN button on the set and the Channel button (9) on the remote control for more than 1 second to appear the adjustment mode on the screen as shown in Fig. 1-1.

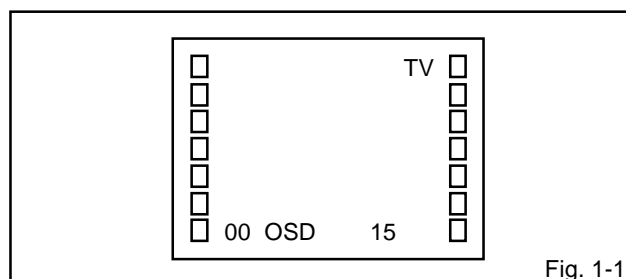


Fig. 1-1

2. Use the Channel UP/DOWN button or Channel button (0-9) on the remote control to select the options shown in Fig. 1-2.
3. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	OSD H	13	BRIGHTNESS
01	CUT OFF	14	CONTRAST
02	RF DELAY	15	COLOR
03	VIF VCO	16	TINT
04	H VCO	17	SHARPNESS
05	H PHASE	18	FM LEVEL
06	V SIZE	19	LEVEL
07	V SHIFT	20	SEPARATION 1
08	R DRIVE	21	SEPARATION 2
09	B DRIVE	22	TEST MONO
10	R BIAS	23	TEST STEREO
11	G BIAS	24	X-RAY TEST
12	B BIAS		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: RF AGC DELAY

1. Receive an 80dB monoscope pattern.
2. Connect the digital voltmeter to TP001.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (02) on the remote control to select "RF AGC".
4. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is $1.95 \pm 0.05V$.

2-2: CUT OFF

1. Adjust the unit to the following settings.
R.DRIVE=10, B.DRIVE=10, R.BIAS=64, G.BIAS=64, B.BIAS=64, BRIGHTNESS=130, CONTRAST=100.
2. Place the set with Aging Test for more than 15 minutes.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (01) on the remote control to select "CUT OFF".
4. Adjust the **Screen Volume** until a dim raster is obtained.

2-3: FOCUS

1. Receive the monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-4: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the color bar pattern.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (10) on the remote control to select "R.BIAS".
5. Using the VOL. UP/DOWN button on the remote control, adjust the R.BIAS.
6. Press the CH. UP/DOWN button on the remote control to select the "R.DRIVE", "B.DRIVE", "G.BIAS" or "B.BIAS".
7. Using the VOL. UP/DOWN button on the remote control, adjust the R.DRIVE, B.DRIVE, G.BIAS or B.BIAS.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

2-5: SUB TINT/SUB COLOR

1. Receive the color bar pattern. (RF Input)
2. Connect the synchro scope to TP023.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (16) on the remote control to select "TINT".
4. Press the VOL. UP/DOWN button on the remote control until the waveform becomes as shown in Fig. 2-1.
5. Connect the synchro scope to TP022.
6. Press the CH DOWN button once to set to "COLOR" mode.
7. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110% of the white level. (Refer to Fig. 2-2)
8. Receive the color bar pattern. (Audio Video Input)
9. Press the TV/AV button on the remote control to set to the AV mode. Then perform the above adjustments 2-7.

ELECTRICAL ADJUSTMENTS

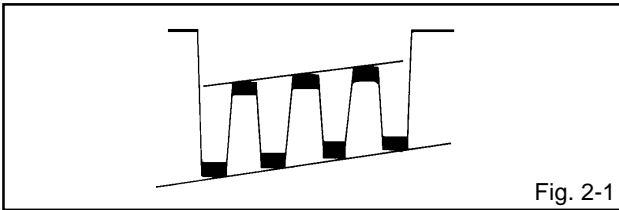


Fig. 2-1

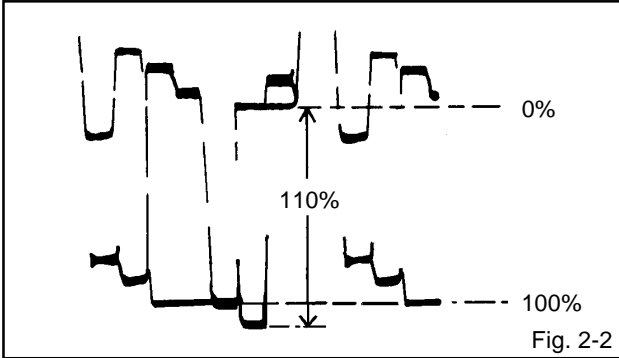


Fig. 2-2

2-6: VERTICAL SHIFT

1. Receive the color bar pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select "V SHIFT".
3. Press the VOL. UP/DOWN button on the remote control until the horizontal line of the color bar comes to approximate center of the CRT.

2-7: VERTICAL SIZE

1. Receive the crosshatch pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(06)** on the remote control to select "V SIZE".
3. Press the VOL. UP/DOWN button on the remote control until the center of crosshatch is square.

2-8: HORIZONTAL PHASE

1. Receive the color bar pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(05)** on the remote control to select "H PHASE".
3. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-9: OSD HORIZONTAL

1. Activate the adjustment mode display of **Fig. 1-1**.
2. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum. (Refer to **Fig. 2-3**)

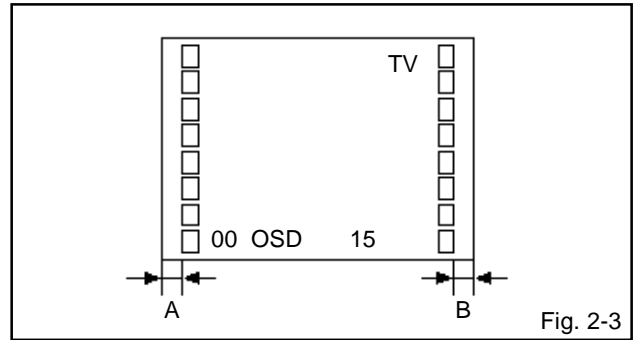


Fig. 2-3

2-10: VERTICAL VCO

1. Place the set with Aging Test for more than 10 minutes.
2. Receive an 80dB monoscope pattern.
3. Connect the digital voltmeter between the **pin 5 of CP601**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "VIF VCO".
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.5V.

2-11: CONSTANT VOLTAGE

1. Using the remote control, set the brightness and contrast to normal position.
2. Connect the digital voltmeter to **TP401**.
3. Set condition is AV MODE without signal.
4. Adjust the **VR501** until the digital voltmeter is $135 \pm 1V$.

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

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 facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: 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 the 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.
8. 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 generator.
2. Adjust the pair of purity magnets to center the color on the screen.
Adjust the pair of purity magnets so the color at the 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.

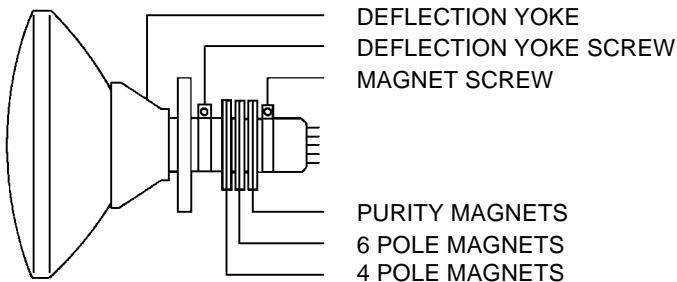


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

1. Receive the crosshatch pattern from the 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)**

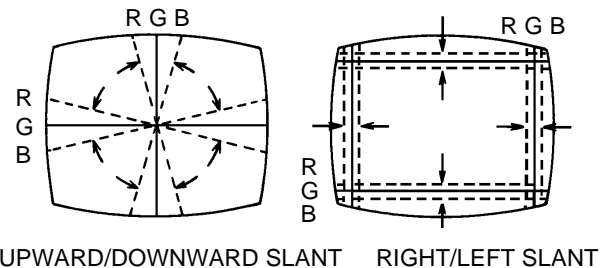


Fig. 3-2-a

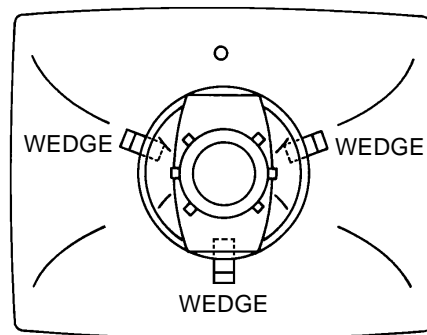
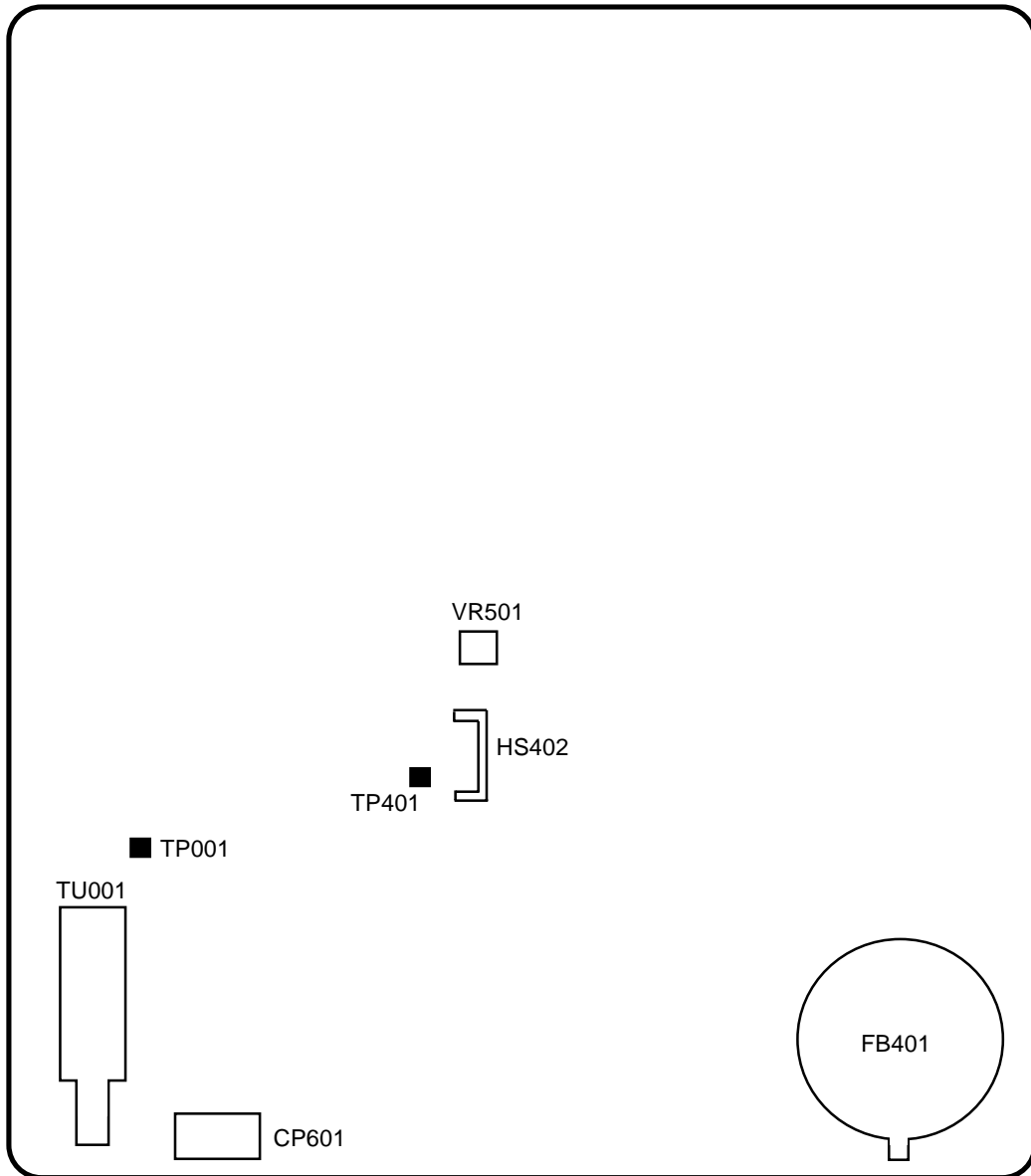


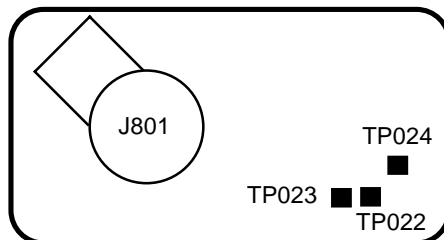
Fig. 3-2-b

MAJOR COMPONENTS LOCATION GUIDE



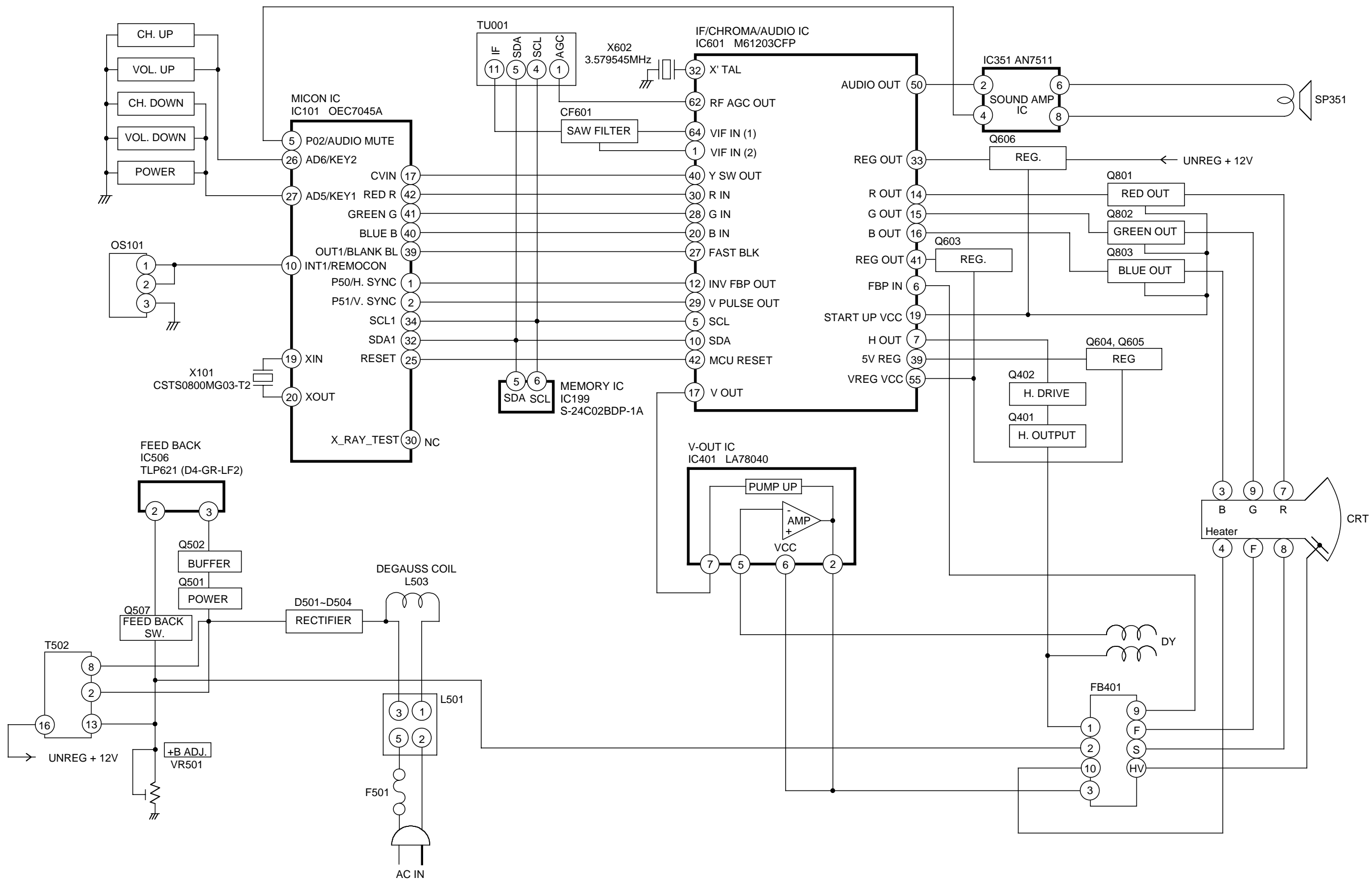
FOCUS VOLUME
SCREEN VOLUME

MAIN

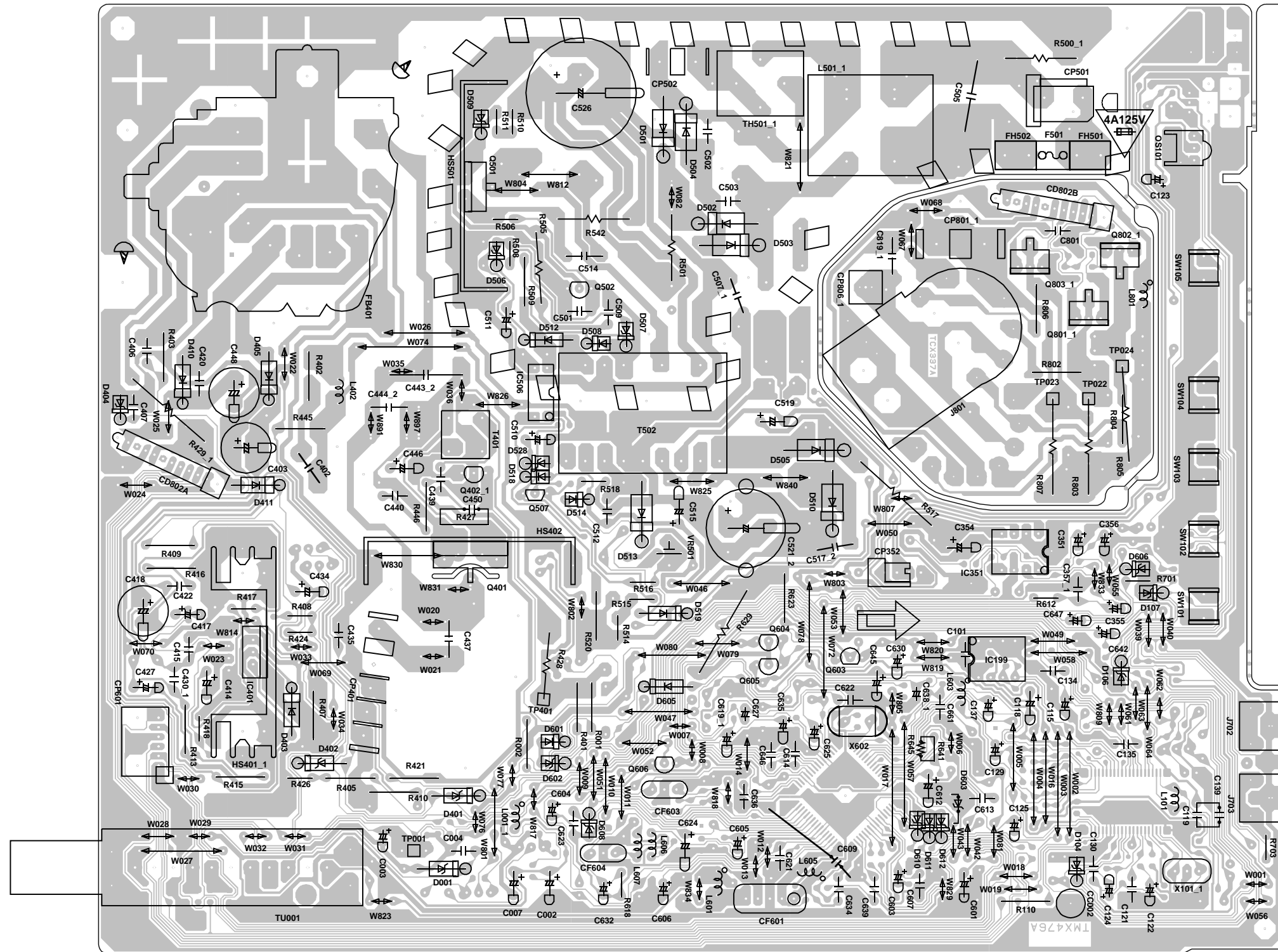


CRT

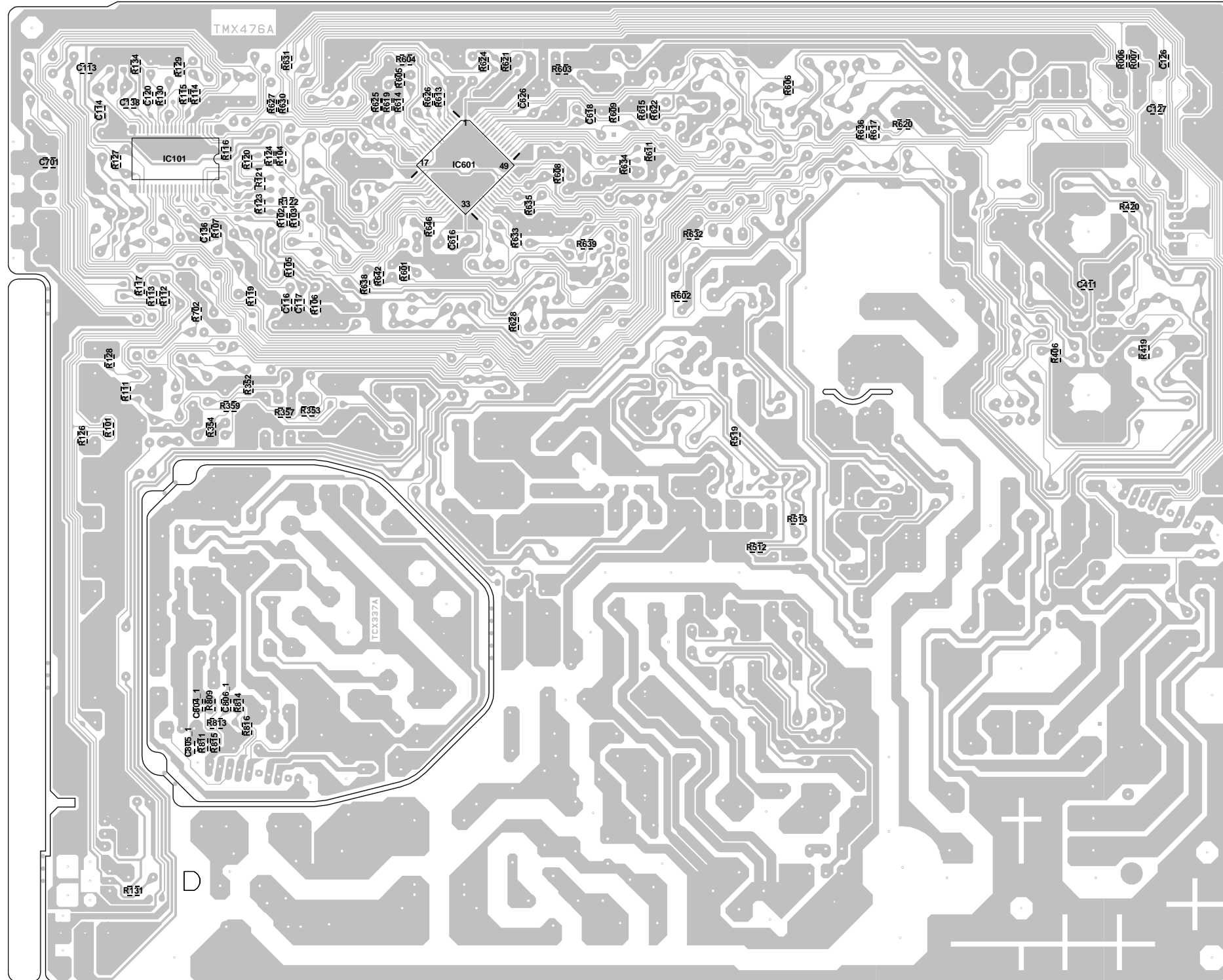
BLOCK DIAGRAM



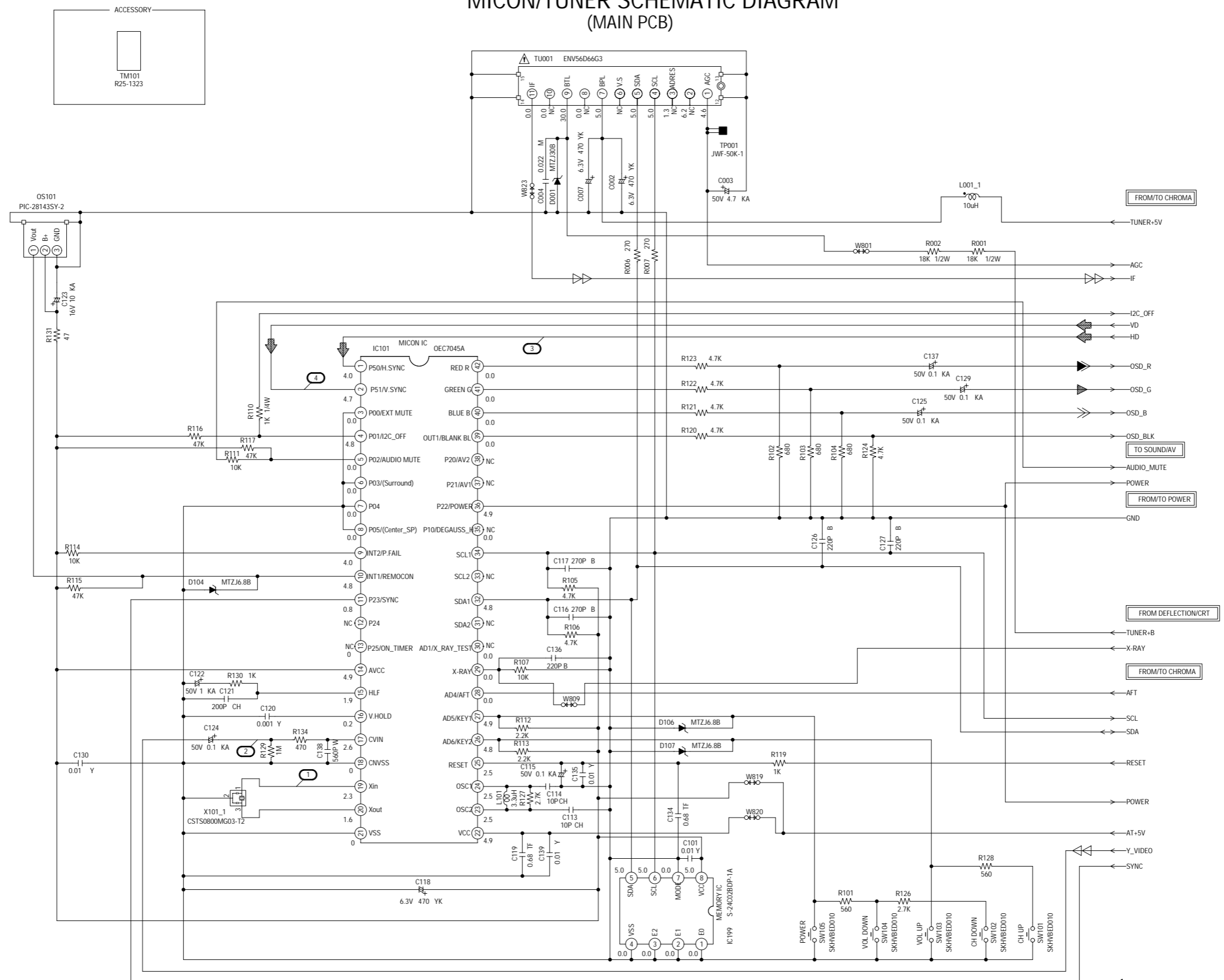
PRINTED CIRCUIT BOARDS
MAIN/CRT (INSERTED PARTS)
SOLDER SIDE



PRINTED CIRCUIT BOARDS
MAIN/CRT (CHIP MOUNTED PARTS)
SOLDER SIDE





MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB)








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

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.

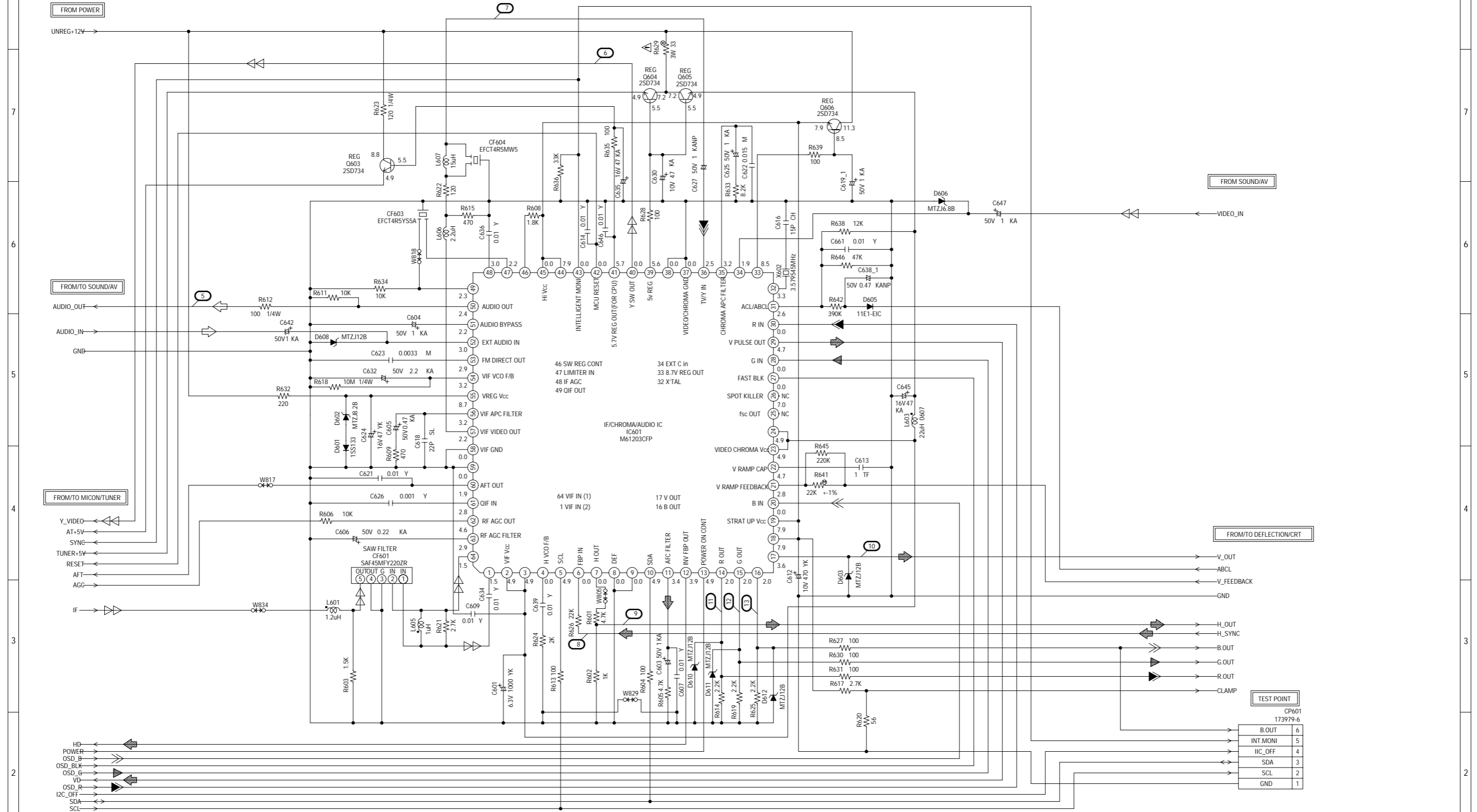
CAUTION: SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

-  DEFLECTION SIGNAL
-  TUNER VIDEO SIGNAL
-  R SIGNAL
-  G SIGNAL
-  B SIGNAL

PCB010
TMX476

CHROMA SCHEMATIC DIAGRAM (MAIN PCB)



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

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.

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

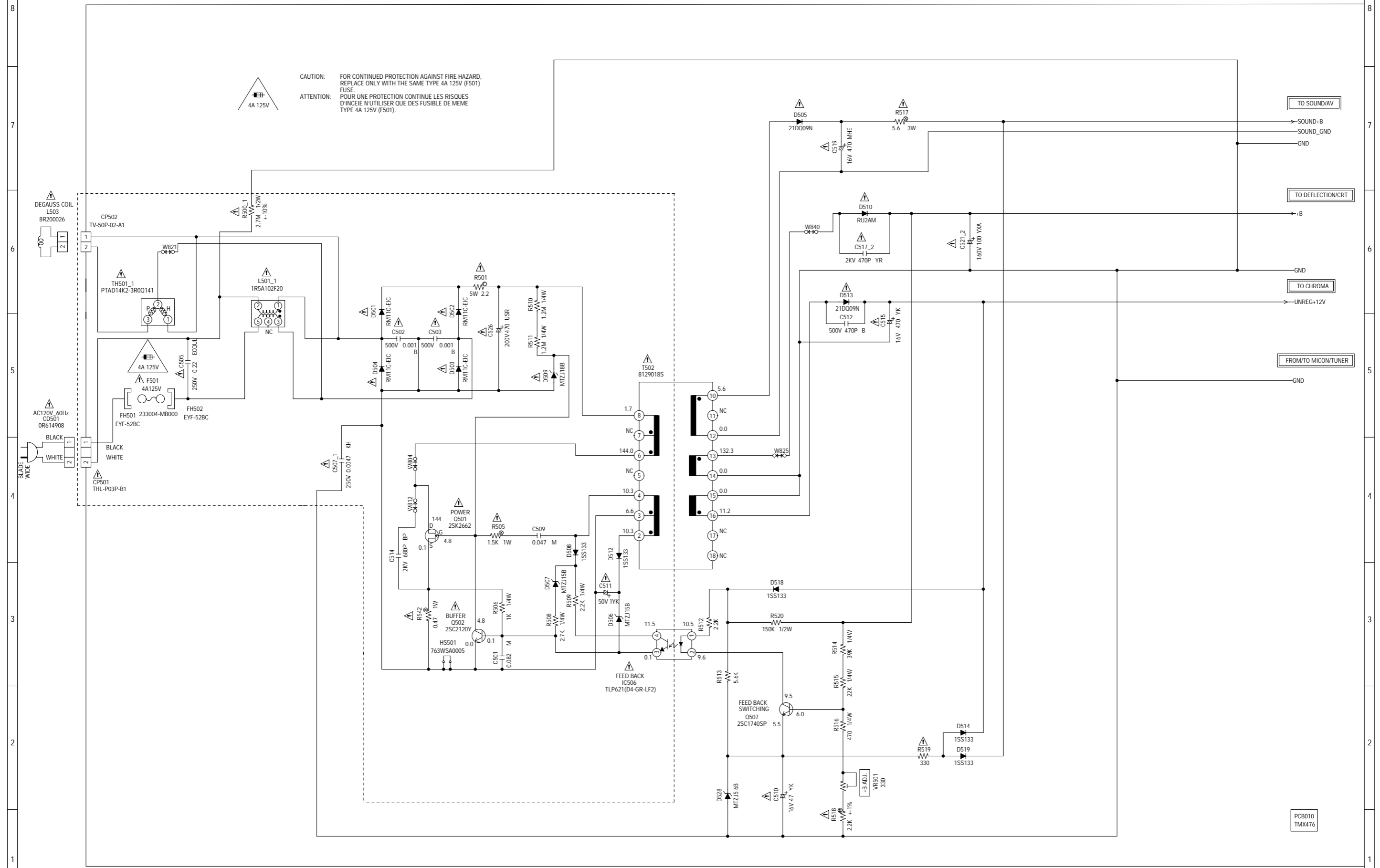
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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

PCB010
TMX476

POWER SCHEMATIC DIAGRAM (MAIN PCB)

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 4A 125V (F501) FUSE.
 ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 4A 125V (F501).



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

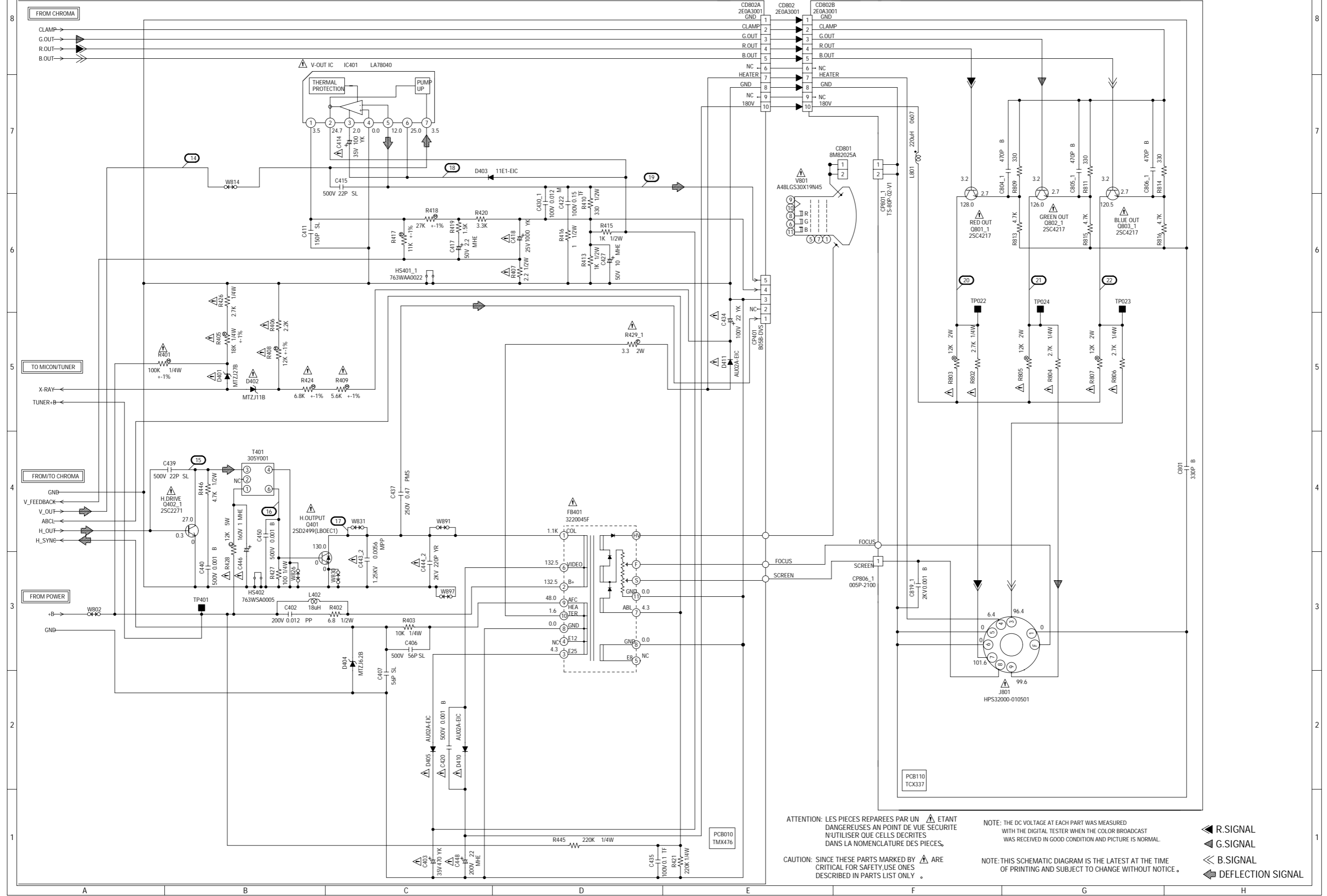
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

ATTENTION: LES PIÈCES REPARÉES PAR UN \triangle ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIÈCES.

PCB010
TMX476

DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB)



ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

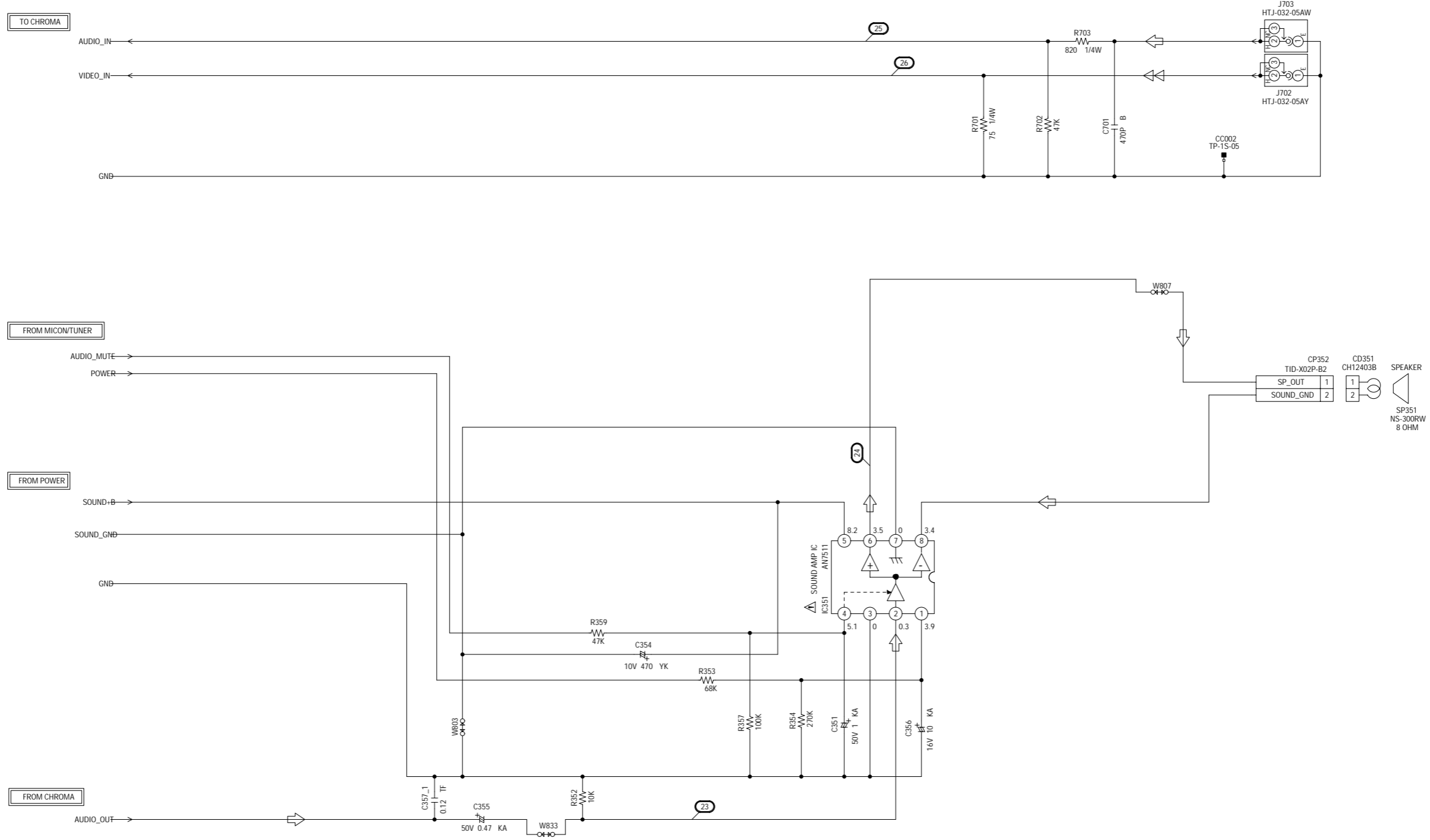
CAUTION: SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

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.

- R.SIGNAL
- G.SIGNAL
- B.SIGNAL
- DEFLECTION SIGNAL

SOUND/AV SCHEMATIC DIAGRAM (MAIN PCB)



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.

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

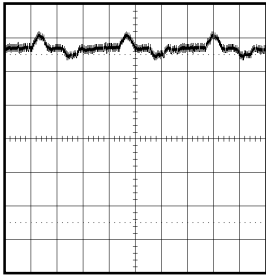
ATTENTION: LES PIÈCES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

AUDIO SIGNAL
 TUNER VIDEO SIGNAL

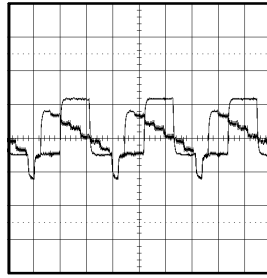
PCB010
TMX476

WAVEFORMS

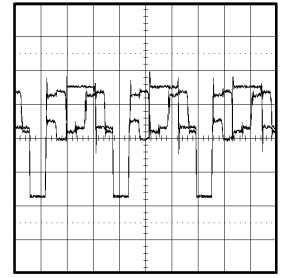
MICON/TUNER



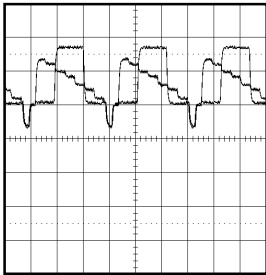
① 200mV 5ms/div



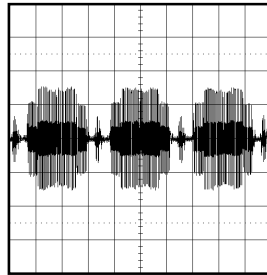
⑥ 0.5V 20μs/div



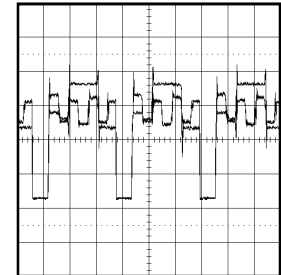
⑪ 1V 20μs/div



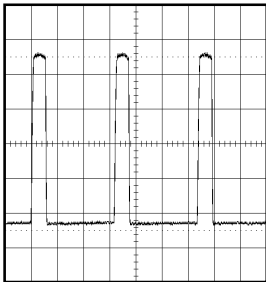
② 0.5V 20μs/div



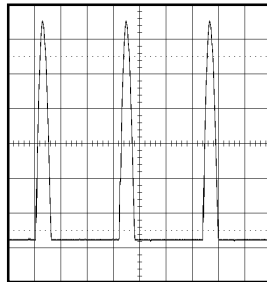
⑦ 200mV 20μs/div



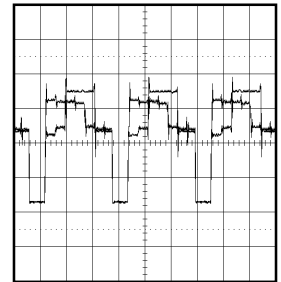
⑫ 1V 20μs/div



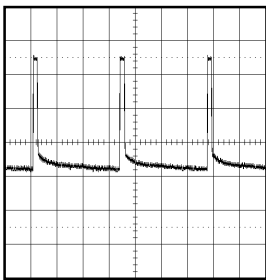
③ 200mV 20μs/div



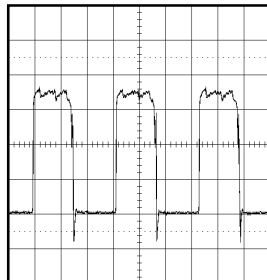
⑧ 20V 20μs/div



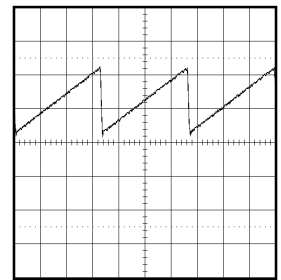
⑬ 1V 20μs/div



④ 200mV 5ms/div

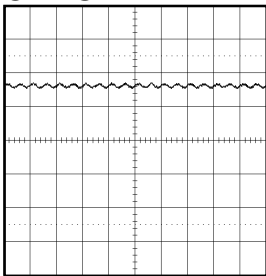


⑨ 200mV 20μs/div

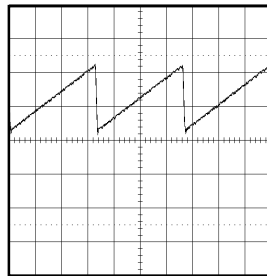


⑭ 0.5V 5ms/div

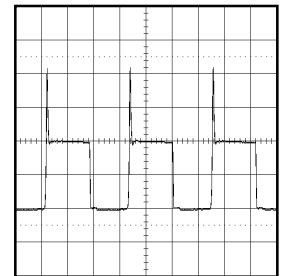
CHROMA



⑤ 0.5V 2ms/div



⑩ 0.5V 5ms/div

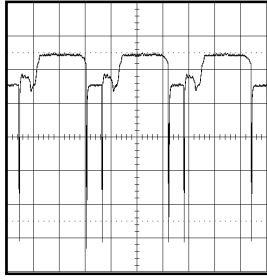


⑮ 20V 20μs/div

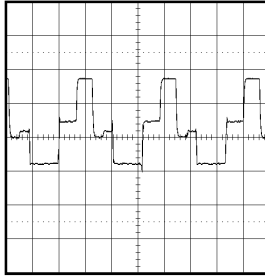
DEFLECTION/CRT

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

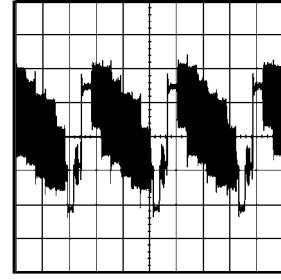
WAVEFORMS



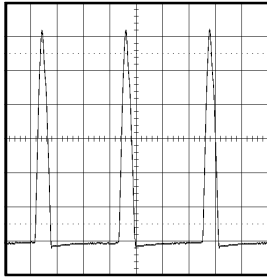
①⑥ 2V 20 μ s/div



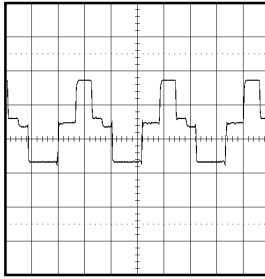
②① 50V 20 μ s/div



②⑥ 500mV 20 μ s/div

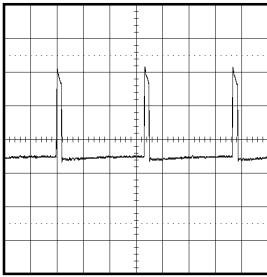


①⑦ 200V 20 μ s/div

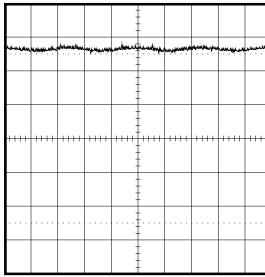


②② 50V 20 μ s/div

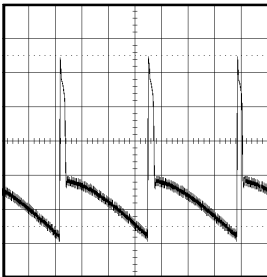
SOUND/AV



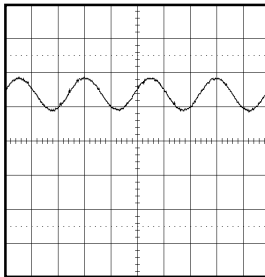
①⑧ 10V 5ms/div



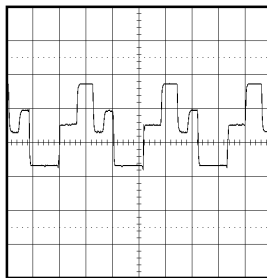
②③ 0.5V 1ms/div



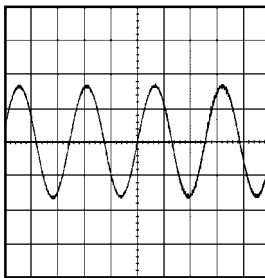
①⑨ 10V 5ms/div



②④ 1V 1ms/div



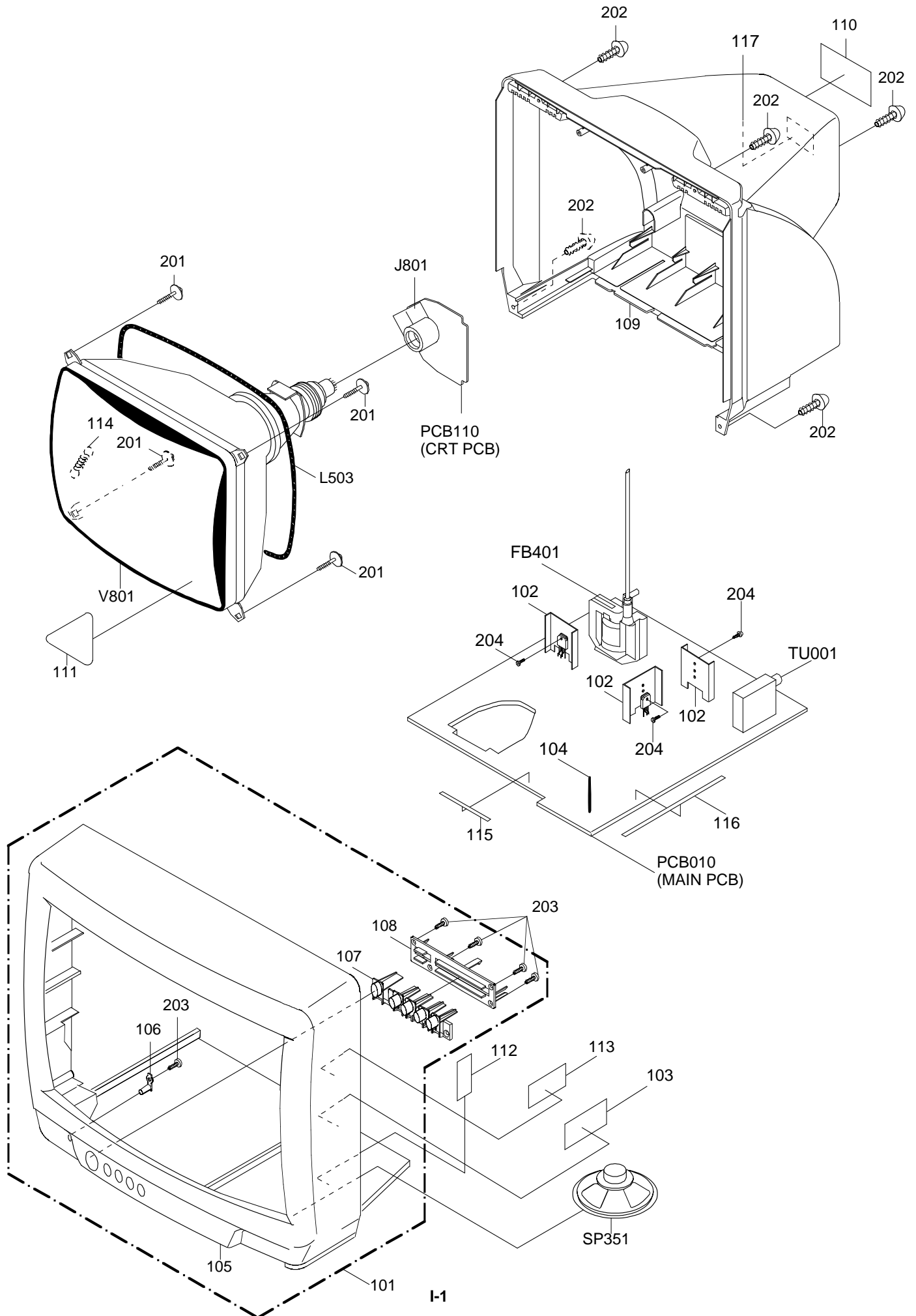
②⑦ 50V 20 μ s/div



②⑤ 500mV 1ms/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION			
101	A3J106C720	CABINET,FRONT ASSY			
102	---	HEAT SINK			
103	7220001119	SHEET,CSA WARNING			
104	---	COATING CLIP			
105	701WPJB006	CABINET,FRONT			
106	713WPA0090	GUIDE,REMOCON			
107	735WPA0381	BUTTON,FRAME			
108	735WPA0382	BUTTON,HOLDER			
109	702WPA0557	CABINET,BACK			
110	722552A003	SHEET,RATING			
111	723000B325	FILM,DECORATION			
112	7230006818	SHEET,CAUTION			
113	7220001107	SHEET,HWC			
114	741WUA0019	SPRING,EARTH			
115	800WQ00044	FELT SHEET			5x50xT0.5
116	800WQ00045	FELT SHEET			5x150xT0.5
117	726000A019	SHEET,CRT SERVICEMAN			
201	8121F50B84	SCREW,TAPPING (B0)	GW20		5x28
202	8117540A64	SCREW,TAPPING (B0)	TRUSS		4x16
203	8110630A04	SCREW,TAP TITE (P)	BRAZIER		3x10
204	8109130A04	SCREW,TAP TITE (B)	WH7		3x10
---	JB5K0100	POLY BAG			
---	J3J01101	INSTRUCTION BOOK			
---	791WHAA017	LAMIFILM BAG			
---	792WHA0244	PACKAGE,BOTTOM			
---	792WHA0245	PACKAGE, TOP			
---	793WCDA718	GIFT BOX			

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			DIODES		
△ R401	R4X5T4104F	R, METAL	△ D510	D2BTRU2AM0	DIODE, SILICON
△ R405	R4X5T4183F	R, METAL	D512	D1VT001330	DIODE, SILICON
△ R406	R903N8222J	RC	△ D513	D28T21DQN9	DIODE, SCHOTTKY
△ R407	R002T22R2J	RC	D514	D1VT001330	DIODE, SILICON
△ R408	R4X5T6123F	R, METAL	D518	D1VT001330	DIODE, SILICON
△ R409	R4X5T6562F	R, METAL	D519	D1VT001330	DIODE, SILICON
△ R424	R4X5T6682F	R, METAL	D528	D97U05R61B	DIODE, ZENER
△ R426	R002T4272J	RC	D601	D1VT001330	DIODE, SILICON
△ R428	R5W2CD123J	R, CEMENT	D602	D97U08R21B	DIODE, ZENER
△ R429	R6558A3R3J	R, FUSE	D603	D97001201B	DIODE, ZENER
△ R500	R0G3K2275K	RC	D605	D2WT011E10	DIODE, SILICON
△ R501	R5W2CD2R2J	R, CEMENT	D606	D97U06R81B	DIODE, ZENER
△ R505	R3X181152J	R, METAL	D608	D97U01201B	DIODE, ZENER
R509	R002T4222J	RC	D610	D97U01201B	DIODE, ZENER
R515	R002T4223J	RC	D611	D97U01201B	DIODE, ZENER
△ R517	R3X28B5R6J	R, METAL OXIDE	D612	D97U01201B	DIODE, ZENER
△ R518	R4X5T6222F	R, METAL	ICS		
△ R519	R903N8331J	RC	IC101	I56F07045A	IC
△ R542	R3X181R47J	R, METAL	IC199	A3J106C015	IC
△ R629	R3X28B330J	R, METAL OXIDE	△ IC351	I01DP75110	IC
△ R802	R002T4272J	RC	△ IC401	I03TD80400	IC
△ R803	R3X18A123J	R, METAL OXIDE	△ IC506	0002500560	PHOTO COUPLER
△ R804	R002T4272J	RC	IC601	I06FC1203C	IC
△ R805	R3X18A123J	R, METAL OXIDE	TRANSISTORS		
△ R806	R002T4272J	RC	△ Q401	TDUU024990	TRANSISTOR, SILICON
△ R807	R3X18A123J	R, METAL OXIDE	△ Q402	TC3T022710	TRANSISTOR, SILICON
CAPACITORS			△ Q501	T25FK26620	TRANSISTOR, FIELD EFFECT
C139	CHG0Y0214M	CC	△ Q502	TC5T021204	TRANSISTOR, SILICON
C402	P3N1F2123J	CPP	Q507	TCAT032034	TRANSISTOR, SILICON
△ C403	E02LF4471M	CE	Q603	TCYT1740S0	TRANSISTOR, SILICON
△ C414	E02LT4101M	CE	Q604	TD3T007340	TRANSISTOR, SILICON
△ C418	E02LF3102M	CE	Q605	TD3T007340	TRANSISTOR, SILICON
△ C420	C0JTB0513K	CC	Q606	TD3T007340	TRANSISTOR, SILICON
△ C434	E02LT8220M	CE	△ Q801	TC3F042170	TRANSISTOR, SILICON
C437	P4J7F3474J	CMPP	Q802	TC3F037890	TRANSISTOR, SILICON
△ C443	P4N8FJ562H	CMPP	△ Q802	TC3F042170	TRANSISTOR, SILICON
△ C444	C0JLYR7H2K	CC	△ Q803	TC3F037890	TRANSISTOR, SILICON
△ C446	E5EZTB010M	CE	TC3F042170	TRANSISTOR, SILICON	2SD2499(LBOEC1)
△ C448	E5EZTC220M	CE	TC3F037890	TRANSISTOR, SILICON	2SC2271(D,E)-AE
△ C502	C0JTB0513K	CC	TC3F042170	TRANSISTOR, SILICON	2SK2662
△ C503	C0JTB0513K	CC	TC3F037890	TRANSISTOR, SILICON	2SC2120Y(TPE2) or
△ C505	P2122B224M	CMP	TC3F042170	TRANSISTOR, SILICON	KTC3203 Y-AT
△ C507	CB3LE0MQ3M	CC	TC3F037890	TRANSISTOR, SILICON	2SC1740SP TP
△ C510	E02LT2470M	CE	TC3F042170	TRANSISTOR, SILICON	2SD734(E,F)-AA
△ C511	E02LT5010M	CE	TC3F037890	TRANSISTOR, SILICON	2SD734(E,F)-AA
C514	C010BP7U2K	CC	TC3F042170	TRANSISTOR, SILICON	2SD734(E,F)-AA
△ C515	E02LT2471M	CE	TC3F037890	TRANSISTOR, SILICON	2SD734(E,F)-AA
△ C517	C0JLYR7Q2K	CC	TC3F042170	TRANSISTOR, SILICON	2SD734(E,F)-AA
△ C519	E5EZT2471M	CE	TC3F037890	TRANSISTOR, SILICON	2SC4217(D,E)-RAC or
△ C521	E02YFB101M	CE	TC3F042170	TRANSISTOR, SILICON	2SC3789(D,E)-RA
△ C526	E52DGC471M	CE	TC3F037890	TRANSISTOR, SILICON	2SC4217(D,E)-RAC or
C609	CHG0Y0214M	CC	TC3F042170	TRANSISTOR, SILICON	2SC3789(D,E)-RA
C819	C0JBB0713K	CC	COILS & TRANSFORMERS		
DIODES			L001	021673100K	COIL
D001	D97U03001B	DIODE, ZENER	L101	021LA63R3K	COIL
D104	D97U06R81B	DIODE, ZENER	L402	02186G180M	COIL
D106	D97U06R81B	DIODE, ZENER	△ L501	029T00A7M1	COIL, LINE FILTER
D107	D97U06R81B	DIODE, ZENER	△ L503	028R200026	COIL, DEGAUSS
△ D401	D97U02701B	DIODE, ZENER	L601	0216731R2K	COIL
△ D402	D97U01101B	DIODE, ZENER	L603	02167D220K	COIL
D403	D2WT011E10	DIODE, SILICON	L605	0216731R0K	COIL
D404	D97U06R21B	DIODE, ZENER	L606	021LA62R2K	COIL
△ D405	D2WTAU02A0	DIODE, SILICON	L607	021LA6150K	COIL
△ D410	D2WTAU02A0	DIODE, SILICON	L801	02167D221K	COIL
△ D411	D2WTAU02A0	DIODE, SILICON	T401	03305Y0018	TRANS, HORIZONTAL DRIVE
△ D501	D2WTRM11C0	DOIDE, SILICON	△ T502	048129018S	TRANSFORMER, SWITCHING
△ D502	D2WTRM11C0	DOIDE, SILICON	JACKS		
△ D503	D2WTRM11C0	DOIDE, SILICON	J702	060G421016	RCA, JACK
△ D504	D2WTRM11C0	DOIDE, SILICON	J703	060G421017	RCA, JACK
△ D505	D28T21DQN9	DIODE, SCHOTTKY	△ J801	066X120014	SOCKET, CRT
D506	D97U01501B	DIODE, ZENER	SWITCHES		
D507	D97U01501B	DIODE, ZENER	SW101	0504201T31	SWITCH, TACT
D508	D1VT001330	DIODE, SILICON		0504101T34	SWITCH, TACT
△ D509	D97U01801B	DIODE, ZENER	SW102	0504201T31	SWITCH, TACT
				0504101T34	SWITCH, TACT
			SW103	0504201T31	SWITCH, TACT
				0504101T34	SWITCH, TACT
			SW104	0504201T31	SWITCH, TACT
				0504101T34	SWITCH, TACT
			SW105	0504201T31	SWITCH, TACT
				0504101T34	SWITCH, TACT
				0504101T34	SWITCH, TACT
			VARIABLE RESISTORS		
			VR501	V1263L2BTC	VOLUME, SEMI FIXED
				V1163L2BTC	VOLUME, SEMI FIXED
			P.C. BOARD ASSEMBLIES		
			PCB010	A3J106C01A	PCB ASSY
			PCB110	A3H657C11A	PCB ASSY
			MISCELLANEOUS		
			CD351	06CH12403B	CORD, CONNECTOR

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
MISCELLANEOUS			
△ CD501	120R614908	CORD, AC	0R614908 or
	1207614908	CORD, AC	07614908
CD801	068M82025A	CORD, CONNECTOR	8M82025A
CF601	1022T45R72	FILTER, SAW	SAF45MFY220ZR
CF603	1011T4R504	FILTER, CERAMIC	EFCT4R5YSSA
CF604	1011T4R517	FILTER, CERAMIC	EFCT4R5MW5
CP352	069W120019	CONNECTOR PCB SIDE	TID-X02P-B2
CP401	069X450029	CONNECTOR PCB SIDE	B05B-DVS
△ CP501	0697320039	CORD, UX CONNECTOR	THL-P03P-B1
CP502	069W420029	CONNECTOR PCB SIDE	TV-50P-02-A1
CP601	0694260139	CONNECTOR PCB SIDE	173979-6
CP801	069W320018	CONNECTOR PCB SIDE	TS-80P-02-V1
CP806	069W010010	CONNECTOR PCB SIDE	005P-2100
△ F501	081PA04003	FUSE	233004-MB000
△ FB401	043220045F	TRANSFORMER FLYBACK	3220045F
FH501	06710T0006	HOLDER, FUSE	EYF-52BC
FH502	06710T0006	HOLDER, FUSE	EYF-52BC
OS101	077Q014003	REMOTE RECEIVER	PIC-28143SY-2 or
	077Q047001	REMOTE RECEIVER	PIC-47143SY
SP351	070W132003	SPEAKER	NS-300RW
△ TH501	DF40A3R0Q0	DEGAUSS ELEMENT	PTAD14K2-3R0Q141
TM101	076R074250	TRANSMITTER	R25-1323
△ TU001	0145S00052	TUNER, VHF-UHF	ENV56D66G3 or
	0145W00052	TUNER, VHF-UHF	NJH3022U268
△ V801	098Y200480	COLOR PICTURE TUBE W/DY	A48LGS30X19N45
X101	1002T00802	CERAMIC OSCILLATOR	CSTS0800MG03-T2
X602	100CT3R505	CRYSTAL HC-49/C	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

SPEC.NO.	M3J1-06C
O/R NO.	W073008