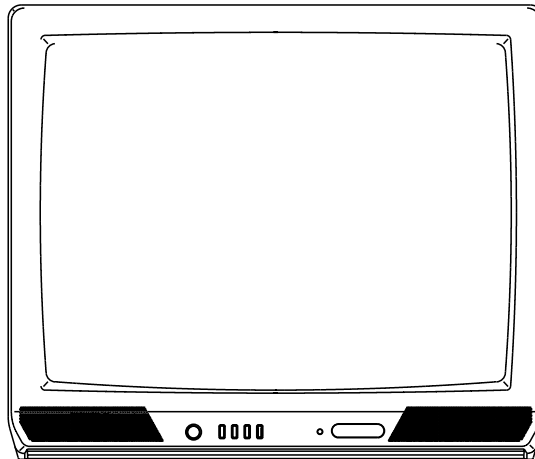


DURABRAND

DBTV2500

SERVICE MANUAL

COLOR TELEVISION RECEIVER



**ORIGINAL
MFR'S VERSION B**

DURABRAND

DBTV2500

SERVICE MANUAL

COLOR TELEVISION RECEIVER

**REVISION 1
MFR'S VERSION D**

MFR'S VERSION	IC101
B	OEC7044A
D	OEC7045A

Change of IC101

DIFFERENCES

REF. NO.	MFR'S VERSION B		MFR'S VERSION D	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
IC101	I56F07044A	IC OEC7044A	I56F07045A	IC OEC7045A
PCB010	A3I058G01A	MAIN PCB ASS'Y TMX456A	A3I058G01B	MAIN PCB ASS'Y TMX456A

SPEC.NO.	M310-62G
O/R NO.	A073521

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

25 inch(626 mmV):Measured diagonally
Color CRT 100 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

Contactless Electric tuner

1Tuner System

2Tuner System

channel Tuner

Oscar(W/O HYPER)

Oscar(W/ HYPER)

France CATV)

Others

Receiving channel

(USA) 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) 45.75 MHz MHz MHz

Sound (fS) 41.25 MHz MHz MHz

fP-fS 4.50 MHz MHz 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:

115 W at AC 120 V 60 Hz

 W at DC V

Stand by: 8 W at AC 120 V 60 Hz

Per Year: - kWh / Year

G-14.Dimensions(Approx.)

618 mm(W) 504 mm(D) 525 mm(H)

G-15.Weight(Approx.)

Net : 27 kg (59.9 lbs)

Gross: 29 kg (64.3 lbs)

G-16.Cabinet Material

Cabinet Front:

PS

94HB

DECABROM

ABS

94V2

NON-DECA

94V0

Back Panel:

PS

94HB

DECABROM

ABS

94V2

NON-DECA

94V0

GENERAL SPECIFICATIONS

G-17.Protector: Power Fuse

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 Yes Max 120 Min.(10 Min. Step) No

On/Off Timer Yes Programs No

Wake Up Timer Yes Programs 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 type="checkbox"/> Front Video Input (RCA ø8.3)			
<input type="checkbox"/> Rear Video Input (RCA ø8.3)			
<input type="checkbox"/> Rear Video Output (RCA ø8.3)			
<input type="checkbox"/> Front Audio Input (RCA ø8.3)			
<input type="checkbox"/> Rear Audio Input (RCA ø8.3)			
<input type="checkbox"/> Rear Audio Output (RCA ø8.3)			
<input type="checkbox"/> 21 Pin	<input type="checkbox"/> DC Jack(Center +)		<input type="checkbox"/> Ear Phone Jack(ø3.5)
<input type="checkbox"/> Head Phone Jack(ø3.5)	<input type="checkbox"/> AC Outlet		<input type="checkbox"/> Ext Speaker
<input type="checkbox"/> Diversity	<input type="checkbox"/> S Input(Front)		<input type="checkbox"/> S Input(Rear)

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 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-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 26 Key

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Power | <input checked="" type="checkbox"/> Quick View | <input 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"/> Muting | <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 | <input type="checkbox"/> Audio Select |

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.

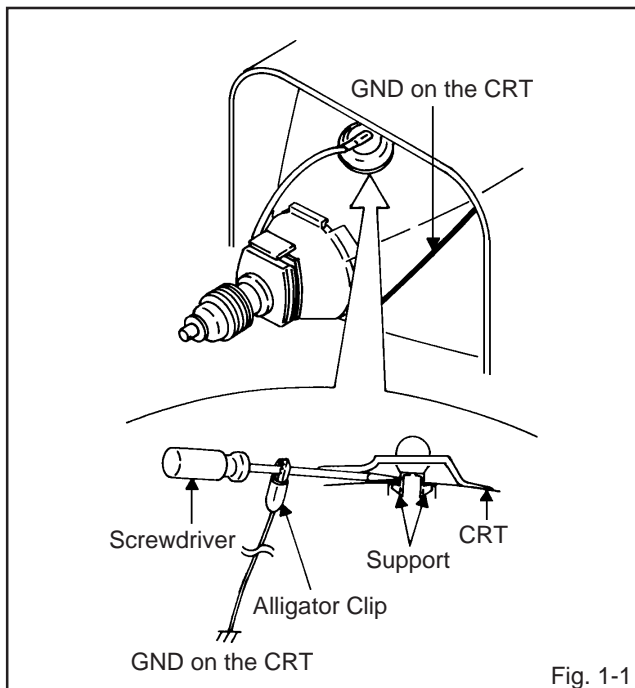


Fig. 1-1

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.)**

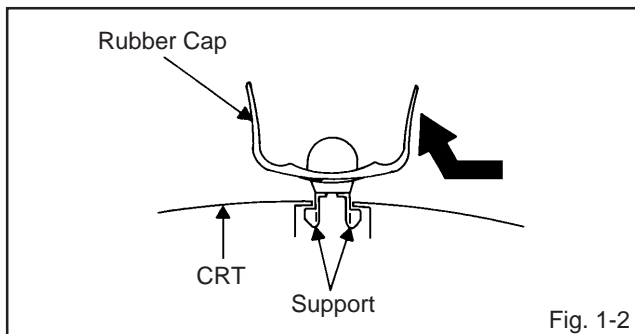


Fig. 1-2

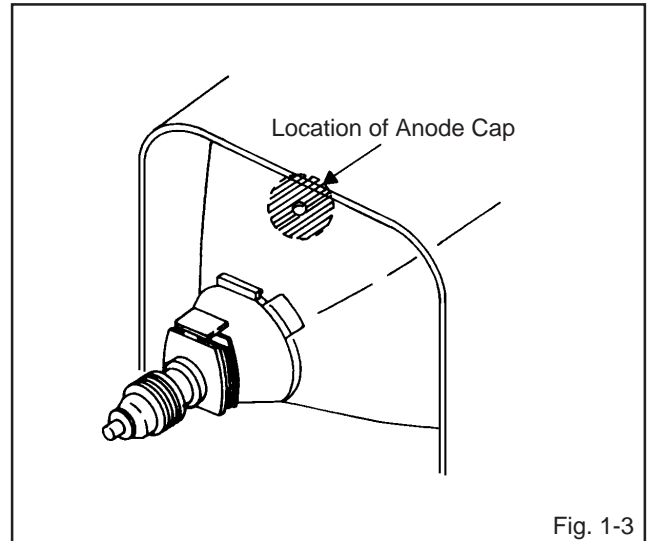
3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

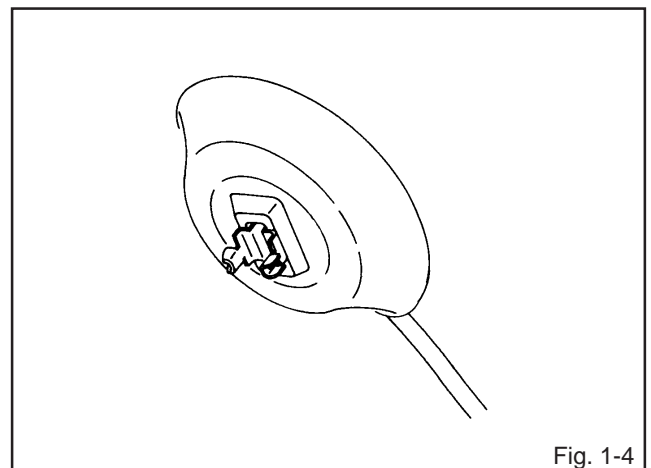
1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 1-3.)**



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.)**



DISASSEMBLY INSTRUCTIONS

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

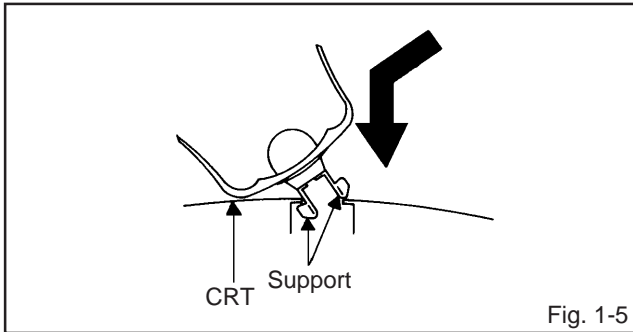


Fig. 1-5

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

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).

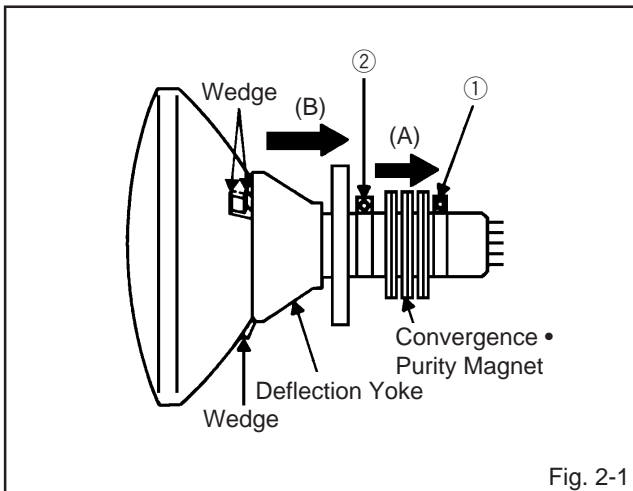


Fig. 2-1

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.

SERVICE MODE LIST

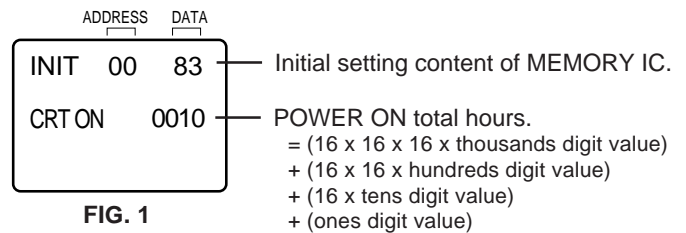
This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily. To enter the Service Mode, press both set key and remote control key for more than 1 second.

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	A0	01	A2	09	02	63	24	18	A1	21	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.

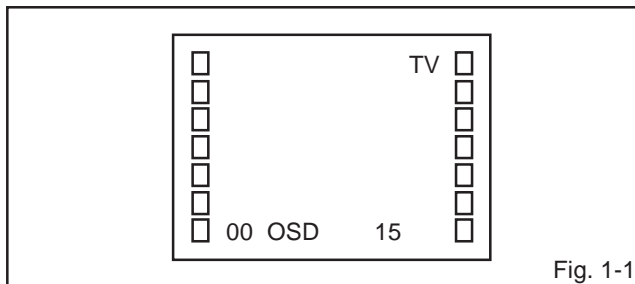


Fig. 1-1

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 DELAY".
4. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is $1.80 \pm 0.05V$.

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=126, 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: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 10 minutes.
2. Receive the with 100% signal from the pattern generator.
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.

2-4: FOCUS

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

2-5: SUB TINT/SUB COLOR

1. Receive the color bar pattern.
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)

ELECTRICAL ADJUSTMENTS

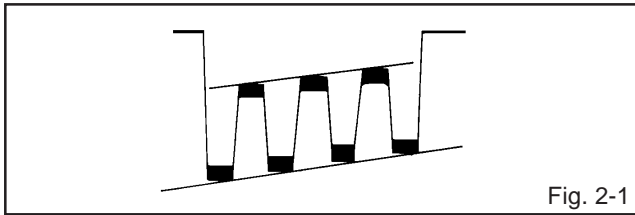


Fig. 2-1

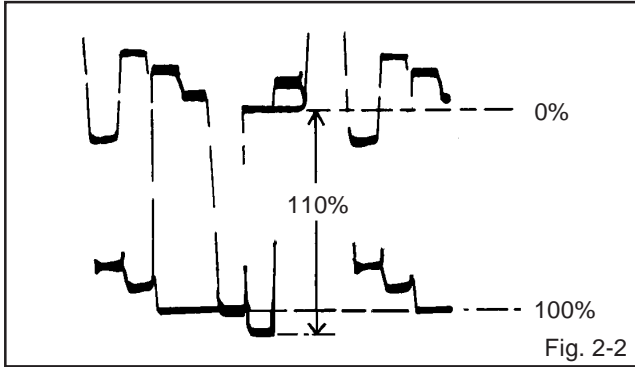


Fig. 2-2

2-6: HORIZONTAL PHASE

1. Receive the center cross signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(05)** on the remote control to select "H.PHASE".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-7: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-6

1. Receive the crosshatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(06)** on the remote control to select "V.SIZE".
4. Press the VOL. UP/DOWN button on the remote control until the rectangle on the center of the screen becomes square.
5. Receive a broadcast and check if the picture is normal.

2-8: VERTICAL SHIFT

NOTE: Adjust after performing adjustments in section 2-7

1. Receive the crosshatch signal from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select "V.SHIFT".
4. Press the VOL. UP/DOWN button on the remote control until the horizontal line becomes fit to the notch of the shadow mask.

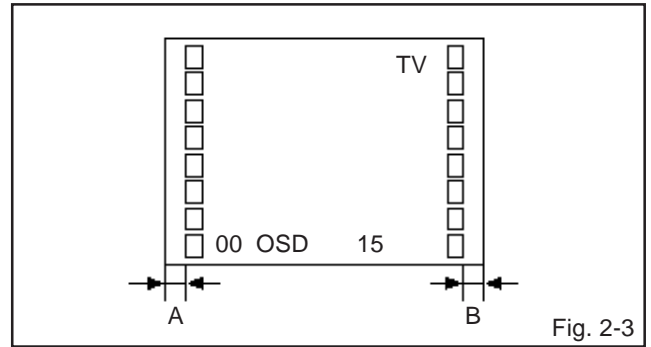


Fig. 2-3

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**)

2-10: VERTICAL VCO

1. Place the set with Aging Test for more than 15 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: SUB BRIGHTNESS

1. Receive the black pattern*. (RF Input)
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "BRIGHTNESS".
3. Press the VOL. UP/DOWN button on the remote control until the screen begin to shine.

2-12: SUB CONTRAST

1. Receive the color bar pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(14)** on the remote control to select "CONTRAST".
3. Press the VOL. UP/DOWN button on the remote control until the nit for more than 200 nit.

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.

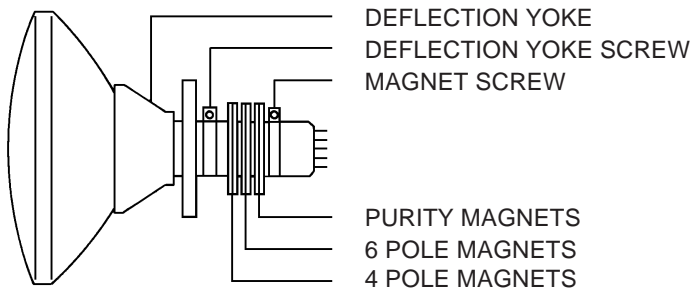


Fig. 3-1

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)**

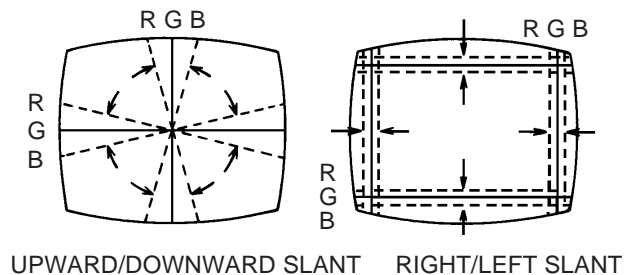


Fig. 3-2-a

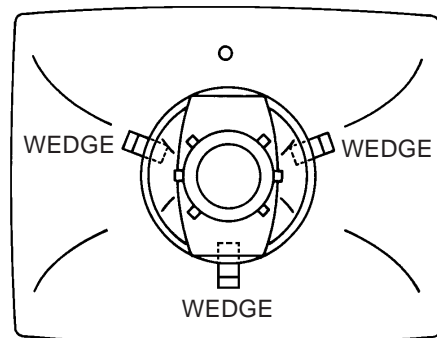
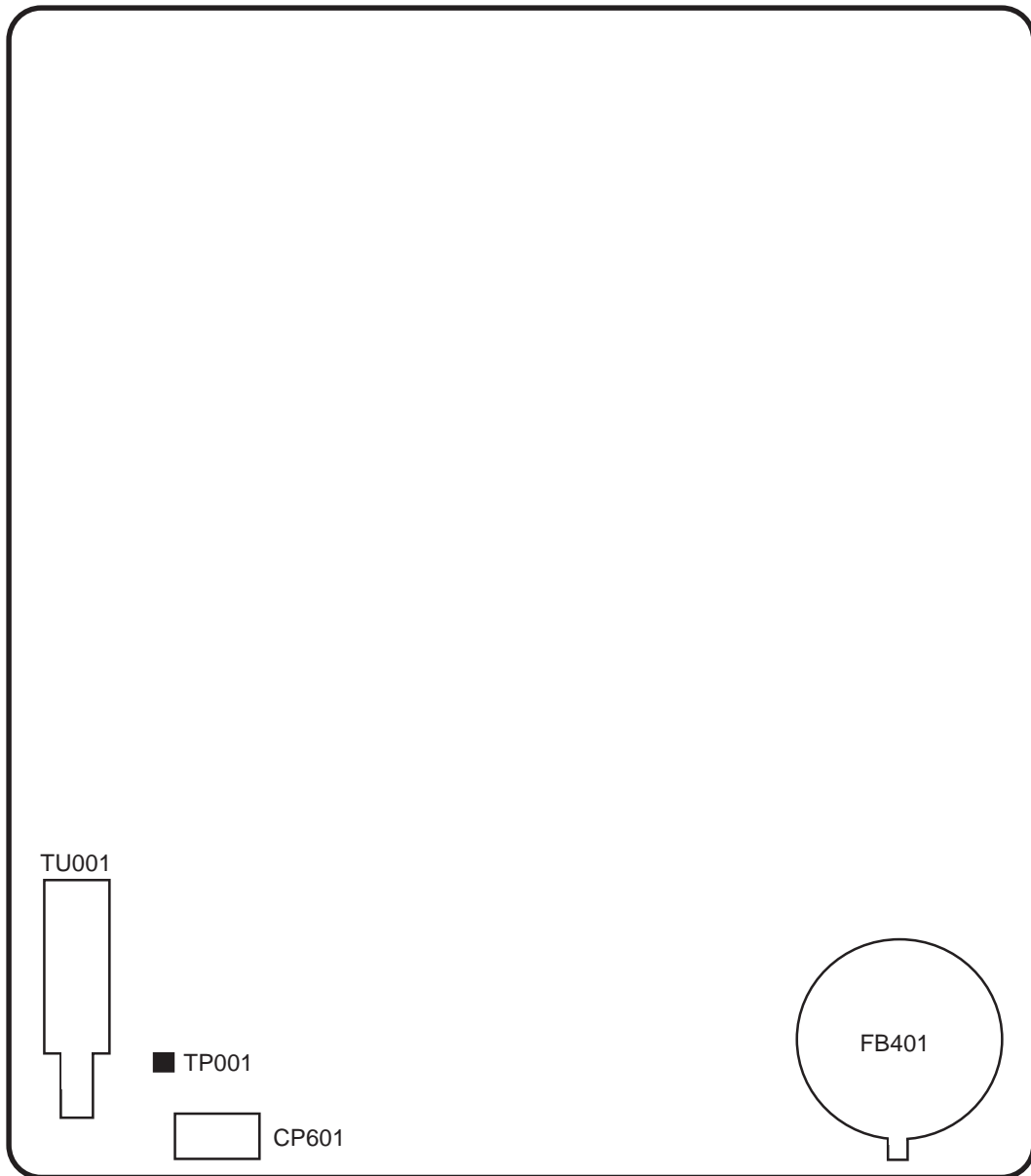


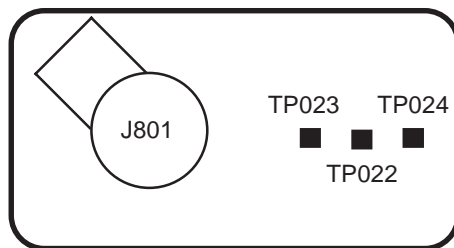
Fig. 3-2-b

MAJOR COMPONENTS LOCATION GUIDE



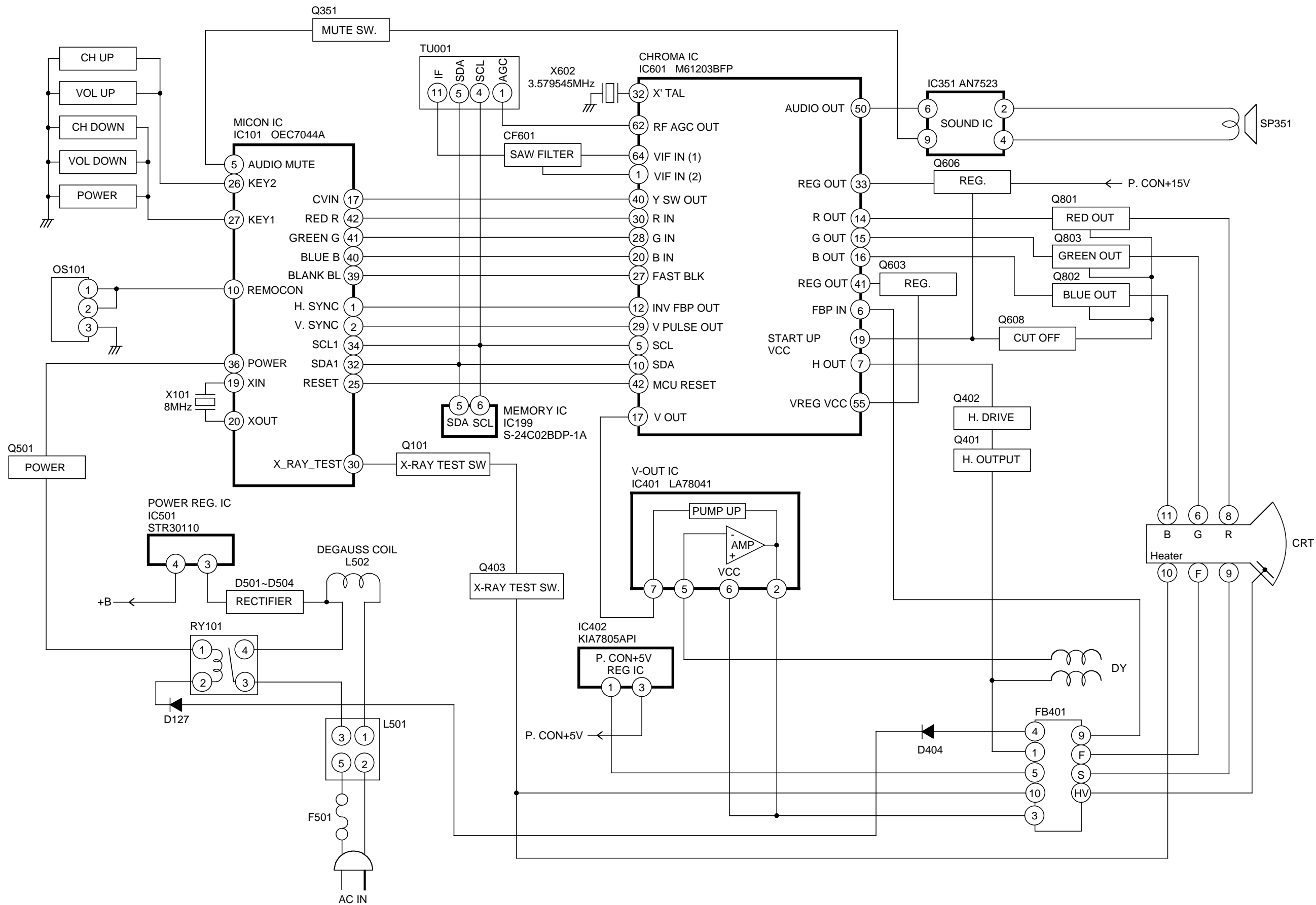
FOCUS VOLUME
SCREEN VOLUME

MAIN PCB

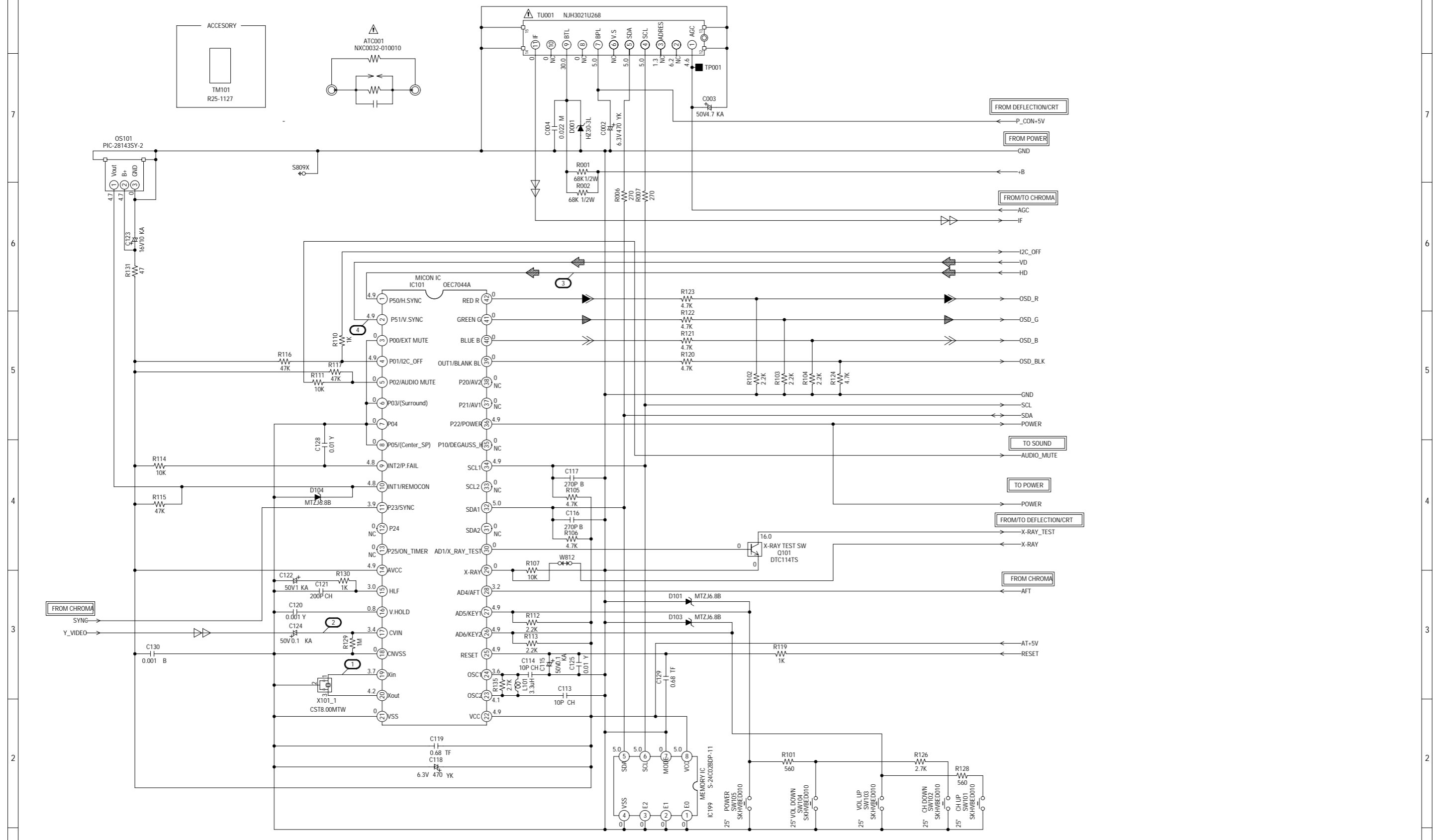


CRT PCB

BLOCK DIAGRAM



MICON/TUNER SCHEMATIC DIAGRAM (MAIN PCB)



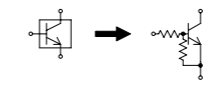
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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.

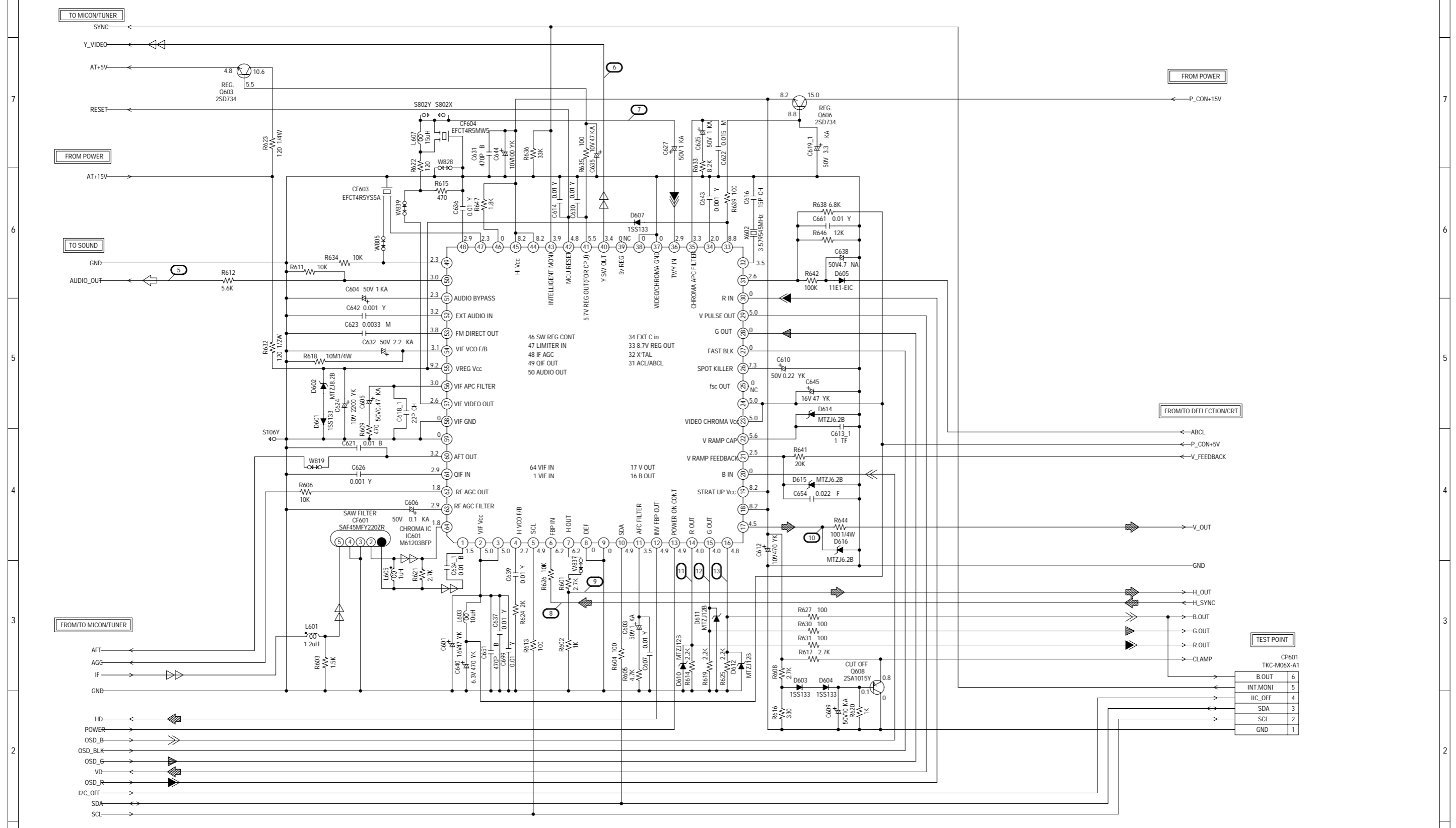
CAUTION: DIGITAL TRANSISTOR



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

PCB010
TMX454

CHROMA SCHEMATIC DIAGRAM (MAIN PCB)



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

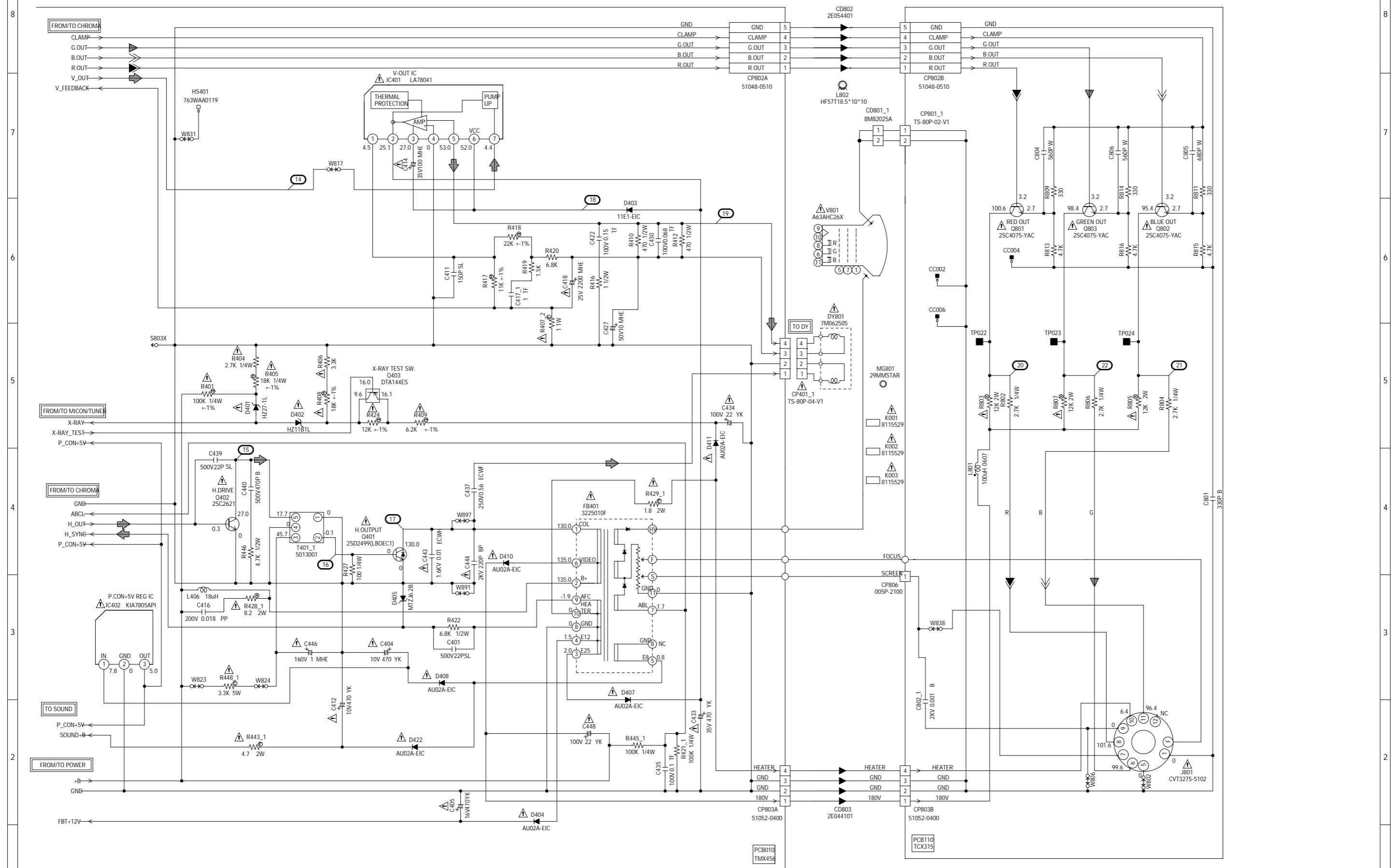
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

TEST POINT	
CP601 TKC-M06X-A1	
B.OUT	6
INT.MONI	5
IIC_OFF	4
SDA	3
SCL	2
GND	1

PCB010
TMX45d

DEFLECTION/CRT SCHEMATIC DIAGRAM (MAIN PCB)

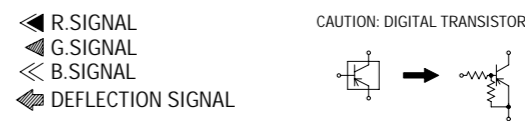


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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 WITH ARE CRITICAL FOR SAFETY USE ONLY DESCRIBED IN PARTS LIST ONLY.

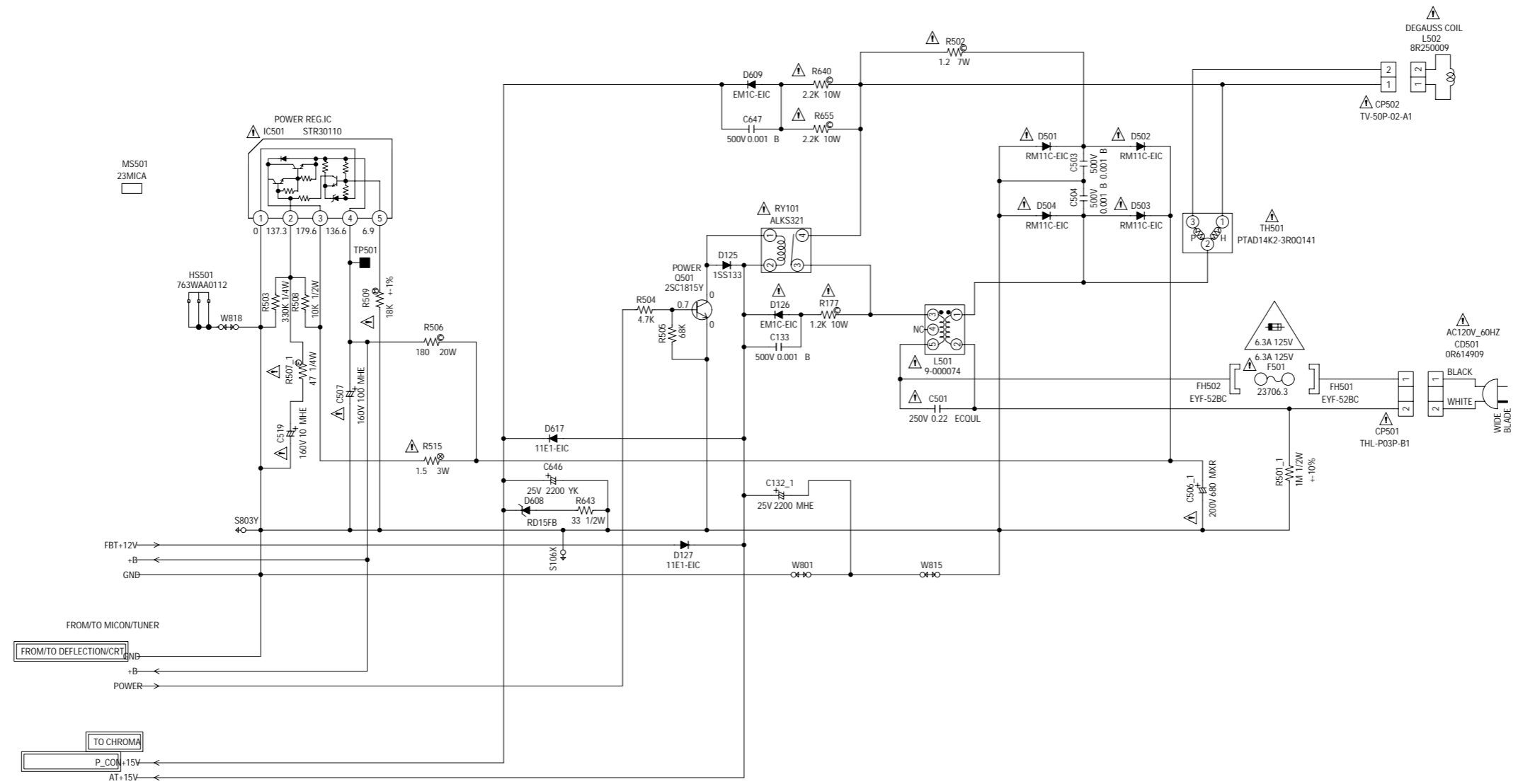
ATTENTION: LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DÉCRITES DANS LA NOMENCLATURE DES PIECES.



POWER SCHEMATIC DIAGRAM (MAIN PCB)



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 6.3A 125V (F501) FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCENDIE N'UTILISER QUE DES FUSIBLES DE MEME TYPE 6.3A 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 ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

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

PCB010
TMX454

SOUND SCHEMATIC DIAGRAM (MAIN PCB)

FROM MICON/TUNER

AUDIO_MUTE →

FROM CHROMA

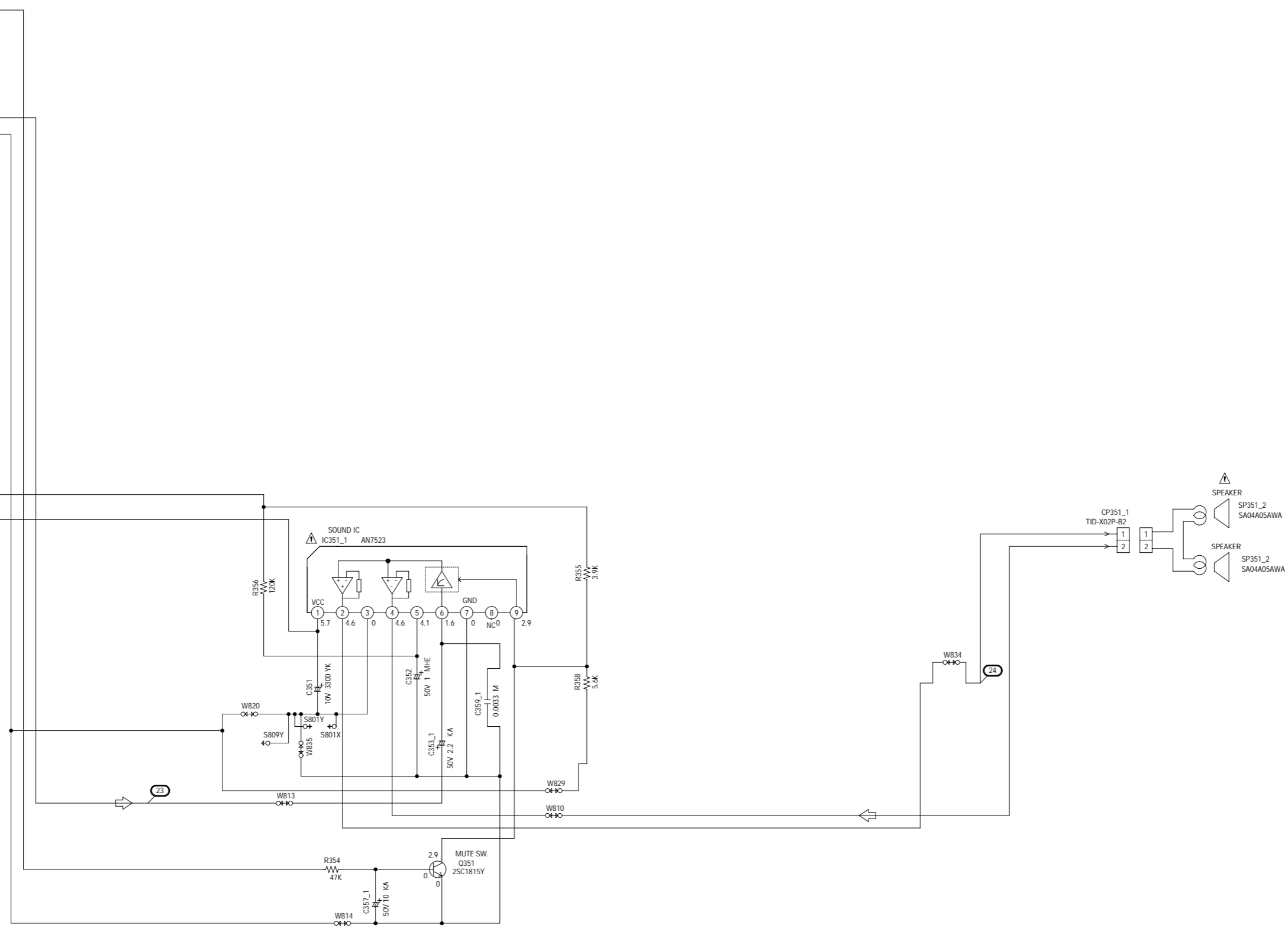
AUDIO_OUT →

GND

FROM DEFLECTION/CRT

P_CON+5V →

SOUND+B →



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.

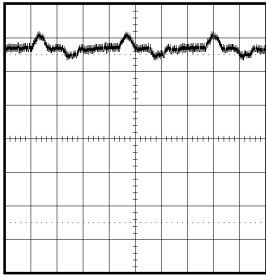
ATTENTION: LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

AUDIO SIGNAL

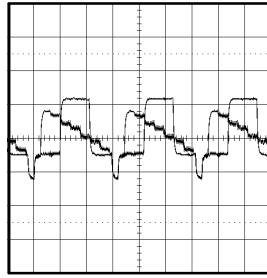
PCB010
TMX456

WAVEFORMS

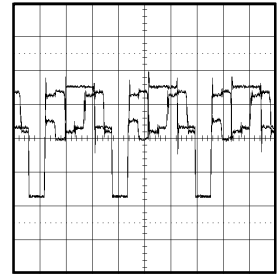
MICON/TUNER



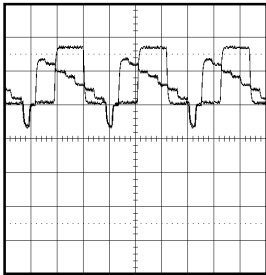
① 200mV 5ms/div



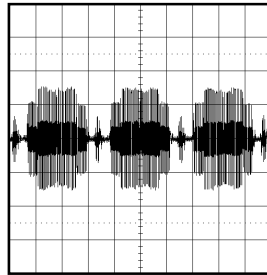
⑥ 0.5V 20μs/div



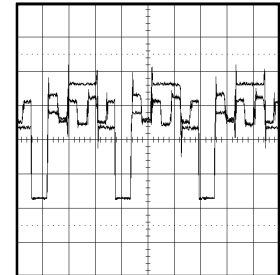
⑪ 1V 20μs/div



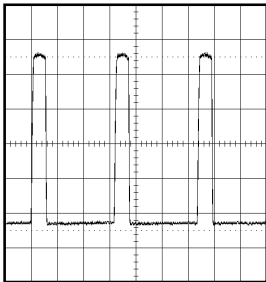
② 0.5V 20μs/div



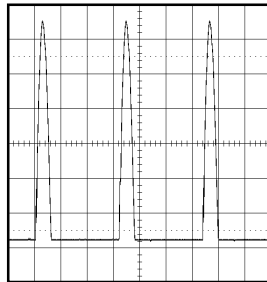
⑦ 200mV 20μs/div



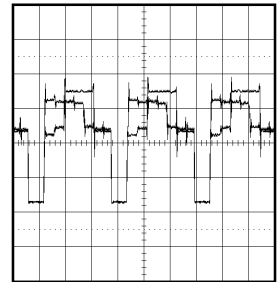
⑫ 1V 20μs/div



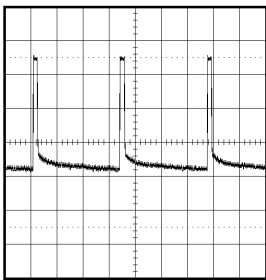
③ 200mV 20μs/div



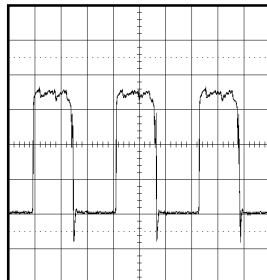
⑧ 20V 20μs/div



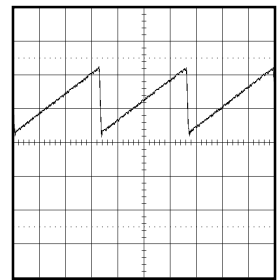
⑬ 1V 20μs/div



④ 200mV 5ms/div

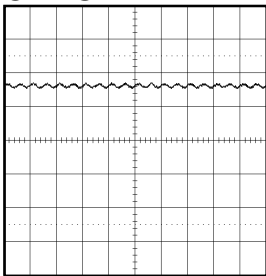


⑨ 200mV 20μs/div

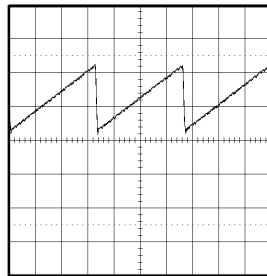


⑭ 0.5V 5ms/div

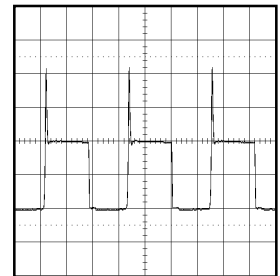
CHROMA



⑤ 0.5V 2ms/div



⑩ 0.5V 5ms/div

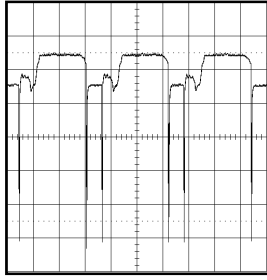


⑮ 20V 20μs/div

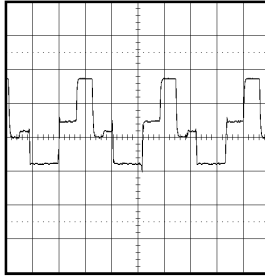
DEFLECTION/CRT

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

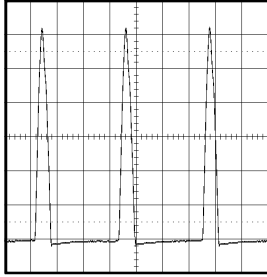
WAVEFORMS



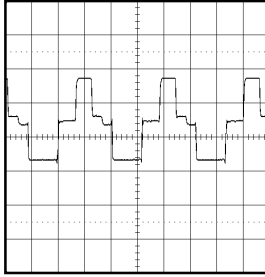
①⑥ 2V 20 μ s/div



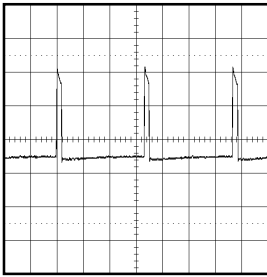
②① 50V 20 μ s/div



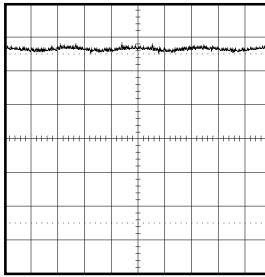
①⑦ 200V 20 μ s/div



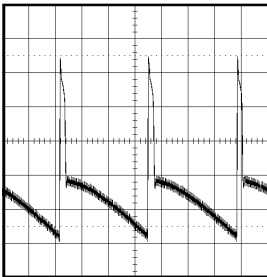
②② 50V 20 μ s/div



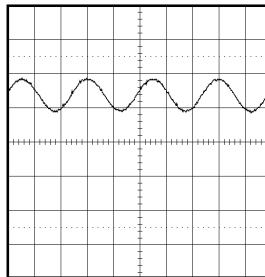
①⑧ 10V 5ms/div



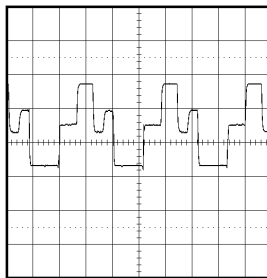
②③ 0.5V 1ms/div



①⑨ 10V 5ms/div



②④ 1V 1ms/div

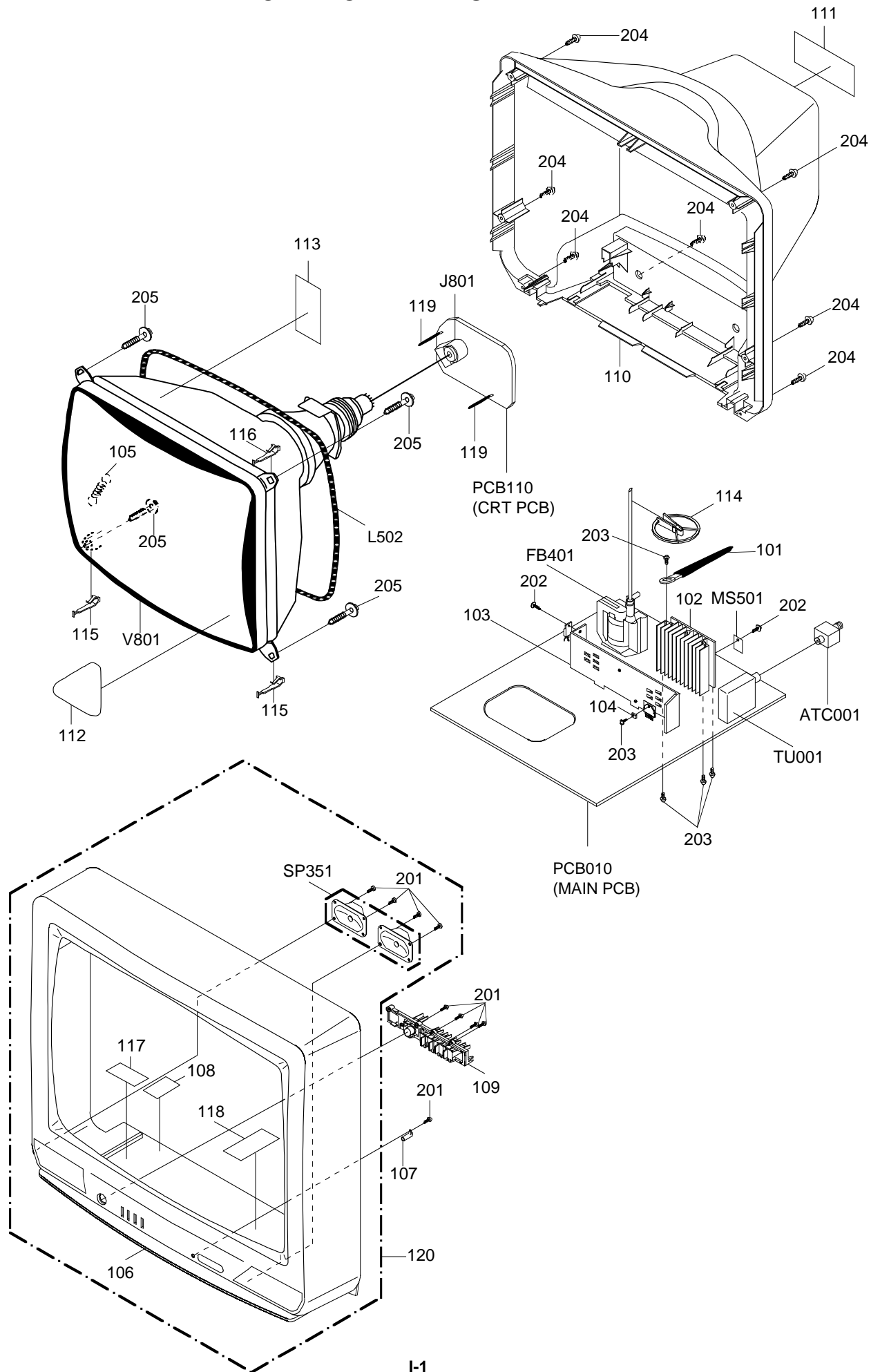


②⑤ 50V 20 μ s/div

SOUND

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	8995034000	CORD CLIP UL CO.
102	---	HEAT SINK
103	---	HEAT SINK
104	---	METAL SPACER
105	741WUA0021	SPRING,EARTH
106	701APJA036	CABINET,FRONT
107	713WPA0096	GUIDE,REMOCON
108	7230006856	SHEET,CAUTION
109	735WPA0426	BUTTON ASS'Y
110	702APA0086	CABINET,BACK
111	722552A004	SHEET,RATING
112	723000B179	FILM,DECORATION
113	7232020733	SHEET,BRAND
114	899HV3T001	HOLDER,ANODE WIRE
115	762WPA0009	HOLDER,CRT WIRE
116	8994201000	HOLDER,CRT WIRE
117	7220001109	SHEET,HWC
118	7240001041	SHEET,CSA WARNING
119	---	COATING CLIP
120	A31062G720	CABINET,FRONT ASS'Y
201	8110630A04	SCREW,TAP TITE (P) BRAZIER 3x10
202	8117D30A04	SCREW,TAPPING (B0) WH8 BRAZIER 3x10
203	8109630802	SCREW,TAP TITE (B) BRAZIER 3x8
204	8117540B04	SCREW,TAPPING (B0) TRUSS 4x20
205	8111J50D04	SCREW,TAPPING (A) GW22 5x40
---	J3106201	INSTRUCTION BOOK
---	JB5U0100	POLYBAG
---	792AHA0073	PACKAGE, TOP
---	792AHA0074	PACKAGE, BOTTOM
---	791AHA0021	FILM BAG
---	793ACDA087	GIFT BOX

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			DIODES		
R135	R001T6272J	RC 2.7K OHM 1/6W	D604	D1VT001330	DIODE, SILICON 1SS133T-77
△ R177	R5W2CF122J	R, CEMENT 1.2K OHM 10W	D605	D2WT011E10	DIODE, SILICON 11E1-EIC
△ R401	R4X5T4104F	R, METAL 100K OHM 1/4W	D607	D1VT001330	DIODE, SILICON 1SS133T-77
△ R404	R002T4272J	RC 2.7K OHM 1/4W	D608	D9201150B1	DIODE, ZENER RD15FB
△ R405	R4X5T4183F	R, METAL 18K OHM 1/4W	D609	D2WT0EM1C0	DIODE, SILICON EM1C-EIC
△ R406	R903N8332J	RC 3.3K OHM 1/8W	D610	D97U01201B	DIODE, ZENER MTZJ12B T-77
△ R407	R65581010J	R, FUSE 1 OHM 1W	D611	D97U01201B	DIODE, ZENER MTZJ12B T-77
△ R408	R4X5T6183F	R, METAL 18K OHM 1/6W	D612	D97U01201B	DIODE, ZENER MTZJ12B T-77
△ R409	R4X5T6622F	R, METAL 6.2K OHM 1/6W	D614	D97U06R21B	DIODE, ZENER MTZJ6.2B T-77
R417	R4X5T6113F	R, METAL 11K OHM 1/6W	D615	D97U06R21B	DIODE, ZENER MTZJ6.2B T-77
R418	R4X5T6223F	R, METAL 22K OHM 1/6W	D616	D97U06R21B	DIODE, ZENER MTZJ6.2B T-77
△ R424	R4X5T6123F	R, METAL 12K OHM 1/6W	D617	D2WT011E10	DIODE, SILICON 11E1-EIC
△ R428	R3X28A8R2J	R, METAL 8.2 OHM 2W	ICS		
△ R429	R6558A1R8J	R, FUSE 1.8 OHM 2W	IC101	I56F07044A	IC OEC7044A
R430	R00106104J	RC 100K OHM 1/6W	IC199	A3I051G015	IC S-24C02BDP-1A
△ R443	R6558A4R7J	R, FUSE 4.7 OHM 2W	△ IC351	I0FSP75230	IC AN7523
△ R448	R5X2CD332J	R, CEMENT 3.3K OHM 5W	△ IC401	I03TD80410	IC LA78041
R501	R21202105K	R, SOLID 1M OHM 1/2W	△ IC402	I1KA97805A	IC KIA7805API
△ R502	R5X2CE1R2J	R, CEMENT 1.2 OHM 7W	△ IC501	I2B4901100	IC STR30110
R506	R5W2CH181J	R, CEMENT 180 OHM 20W	IC601	I06FC12030	IC M61203BFP
△ R507	R655U4470J	R, FUSE 47 OHM 1/4W	TRANSISTORS		
△ R509	R4X5T6183F	R, METAL 18K OHM 1/6W	Q101	TNYTJ03001	COMPOUND TRANSISTOR DTC114TSTP
△ R515	R3X28B1R5J	R, METAL 1.5 OHM 3W	Q351	TC5T018154	TRANSISTOR, SILICON 2SC1815Y(TPE2)
△ R640	R5X2CF222J	R, CEMENT 2.2K OHM 10W	△ Q401	TDUU024990	TRANSISTOR, SILICON 2SD2499(LBOEC1)
R647	R00106182J	RC 1.8K OHM 1/6W	△ Q402	TC3Q026210	TRANSISTOR, SILICON 2SC2621(D,E)-RAC
△ R655	R5X2CF222J	R, CEMENT 2.2K OHM 10W	Q403	TPYTD03001	COMPOUND TRANSISTOR DTA144ESTP
△ R803	R3X18A123J	R, METAL OXIDE 12K OHM 2W	Q501	TC5T018154	TRANSISTOR, SILICON 2SC1815Y(TPE2)
△ R805	R3X18A123J	R, METAL OXIDE 12K OHM 2W	Q603	TD3T007340	TRANSISTOR, SILICON 2SD734(E,F)-AA
△ R807	R3X18A123J	R, METAL OXIDE 12K OHM 2W	Q606	TD3T007340	TRANSISTOR, SILICON 2SD734(E,F)-AA
CAPACITORS			Q608	TA5T010154	TRANSISTOR, SILICON 2SA1015Y(TPE2)
C132	E5EZF3222M	CE 2200 UF 25V	△ Q801	TC3Q040750	TRANSISTOR, SILICON 2SC4075-YAC
C351	E02LF1332M	CE 3300 UF 10V	△ Q802	TC3Q040750	TRANSISTOR, SILICON 2SC4075-YAC
△ C404	E02LT1471M	CE 470 UF 10V	△ Q803	TC3Q040750	TRANSISTOR, SILICON 2SC4075-YAC
△ C405	E02LT2471M	CE 470 UF 16V	COILS & TRANSFORMERS		
△ C412	E02LT1471M	CE 470 UF 10V	L101	021LA63R3K	COIL 3.3 UH
△ C414	E5EZF3222M	CE 2200 UF 25V	L406	021U6D180K	COIL 18 UH
C416	P3N1F2183J	CPP 0.018 UF 200V	△ L501	029K000074	COIL, LINE FILTER 9-000074
△ C418	E5EZF3222M	CE 2200 UF 25V	△ L502	028R250009	COIL, DEGAUSS 8R250009
△ C433	E02LT4471M	CE 470 UF 35V	L601	0216731R2K	COIL 1.2 UH
△ C434	E02LT8220M	CE 22 UF 100V	L603	021673100K	COIL 10 UH
C437	P411F3564J	CMPP 0.56 UF 250V ECWF	L605	0216731R0J	COIL 1 UH
△ C443	P414F9103H	CMPP 0.01 UF 1.6KV ECWH	L607	021LA6150K	COIL 15 UH
△ C444	C01BBP7H2K	CC 220 PF 2KV BP	L801	02167D101K	COIL 100 UH
△ C446	E5EZF3222M	CE 2200 UF 25V	L802	02A6A8A0A1	CORE, FERRITE HF57T18.5*10*10
△ C448	E02LT8220M	CE 22 UF 100V	T401	045013001J	TRANS. HORIZONTAL DRIVE 5013001
△ C501	P2122B224M	CMP 0.22 UF 250V ECQUL	JACK		
△ C506	E52SFC681M	CE 680 UF 200V	△ J801	066C130015	SOCKET, CRT CVT3275-5102
△ C507	E5EZF3222M	CE 2200 UF 25V	SWITCHES		
△ C519	E5EZF3222M	CE 2200 UF 25V	SW101	0504201T31	SWITCH, TACT SKHVBED010 or
C624	E02L01222M	CE 2200 UF 10V		0504101T34	SWITCH, TACT EVQ21505R
C646	E02LF3222M	CE 2200 UF 25V	SW102	0504201T31	SWITCH, TACT SKHVBED010 or
C699	CHGTY0214M	CC 0.01 UF 16V Y		0504101T34	SWITCH, TACT EVQ21505R
DIODES			SW103	0504201T31	SWITCH, TACT SKHVBED010 or
D001	D94TA30013	DIODE, ZENER HZ30-3L TD		0504101T34	SWITCH, TACT EVQ21505R
D101	D97U06R81B	DIODE, ZENER MTZJ6.8B T-77	SW104	0504201T31	SWITCH, TACT SKHVBED010 or
D103	D97U06R81B	DIODE, ZENER MTZJ6.8B T-77		0504101T34	SWITCH, TACT EVQ21505R
D104	D97U06R81B	DIODE, ZENER MTZJ6.8B T-77	SW105	0504201T31	SWITCH, TACT SKHVBED010 or
D125	D1VT001330	DIODE, SILICON 1SS133T-77		0504101T34	SWITCH, TACT EVQ21505R
△ D126	D2WT0EM1C0	DIODE, SILICON EM1C-EIC	P.C. BOARD ASSEMBLIES		
D127	D2WT011E10	DIODE, SILICON 11E1-EIC	PCB010	A3I058G01A	PCB ASS'Y TMX456A
△ D401	D94TA27011	DIODE, ZENER HZ27-1L TD	PCB110	A3I057G11A	PCB ASS'Y TCX315A
△ D402	D94TA11B11	DIODE, ZENER HZ11B1L TD	MISCELLANEOUS		
D403	D2WT011E10	DIODE, SILICON 11E1-EIC	△ ATC001	0632400008	ANT, UNIT NXC0032-010010
△ D404	D2WTAU02A0	DIODE, SILICON AU02A-EIC	△ CD501	120R614909	CORD, AC 0R614909 or
D405	D97U06R21B	DIODE, ZENER MTZJ6.2B T-77		1207614909	CORD, AC 7614909
△ D407	D2WTAU02A0	DIODE, SILICON AU02A-EIC	CD801	068M82025A	CORD, CONNECTOR 8M82025A
△ D408	D2WTAU02A0	DIODE, SILICON AU02A-EIC	CD802	122E054401	CORD, JUMPER 122E054401
△ D410	D2WTAU02A0	DIODE, SILICON AU02A-EIC	CD803	122E044101	CORD, JUMPER 122E044101
△ D411	D2WTAU02A0	DIODE, SILICON AU02A-EIC	CF601	1022T45R72	FILTER, SAW SAF45MFY220ZR
△ D422	D2WTAU02A0	DIODE, SILICON AU02A-EIC	CF603	1011T4R504	FILTER, CERAMIC EFCT4R5Y55A
△ D501	D2WTRM11C0	DIODE, SILICON RM11C-EIC	CF604	1011T4R517	FILTER, CERAMIC EFCT4R5MW5
△ D502	D2WTRM11C0	DIODE, SILICON RM11C-EIC	CP351	069W120019	CONNECTOR PCB SIDE TID-X02P-B2
△ D503	D2WTRM11C0	DIODE, SILICON RM11C-EIC	△ CP401	069W340018	CONNECTOR PCB SIDE TS-80P-04-V1
△ D504	D2WTRM11C0	DIODE, SILICON RM11C-EIC	△ CP501	0697320039	CORD, UX CONNECTOR THL-P03P-B1
D601	D1VT001330	DIODE, SILICON 1SS133T-77	△ CP502	069W420029	CONNECTOR PCB SIDE TV-50P-02-A1
D602	D97U08R21B	DIODE, ZENER MTZJ8.2B T-77	CP601	0697260650	CONNECTOR PCB SIDE TKC-M06X-A1
D603	D1VT001330	DIODE, SILICON 1SS133T-77	CP801	069W320018	CONNECTOR PCB SIDE TS-80P-02-V1

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
MISCELLANEOUS			
CP806	069W010010	CONNECTOR PCB SIDE	005P-2100
CP802A	067R005019	WIRE HOLDER	51048-0510
CP802B	067R005019	WIRE HOLDER	51048-0510
CP803A	067R104019	WIRE HOLDER	51052-0400
CP803B	067R104019	WIRE HOLDER	51052-0400
△ DY801	027M062505	DY	7M062505
△ F501	081PA6R302	FUSE	23706.3
△ FB401	043225010F	TRANSFORMER, FLYBACK	3225010F
FH501	06710T0006	HOLDER, FUSE	EYF-52BC
FH502	06710T0006	HOLDER, FUSE	EYF-52BC
△ K001	129A000010	WEDGE	8115529
△ K002	129A000010	WEDGE	8115529
△ K003	129A000010	WEDGE	8115529
MG801	026A062704	MAGNET, CONVERGENCE	29MMSTAR
MS501	128B000018	SHEET	23MICA
OS101	077Q014003	REMOTE RECEIVER	PIC-28143SY-2
△ RY101	0560V20115	RELAY	ALKS321
△ SP351	070C533016	SPEAKER	SA04A05AWA
△ TH501	DF40A3R0Q0	DEGAUSS, ELEMENT	PTAD14K2-3R0Q141
TM101	076R074180	TRANSMITTER	R25-1127
△ TU001	0145W00049	TUNER, VHF-UHF	NJH3021U268
△ V801	0984250502	COLOR, PICTURE TUBE	A63AHC26X
X101	1002T00801	CERAMIC OSILLATOR	8MHz
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.	M310-62G
O/R NO.	A063519