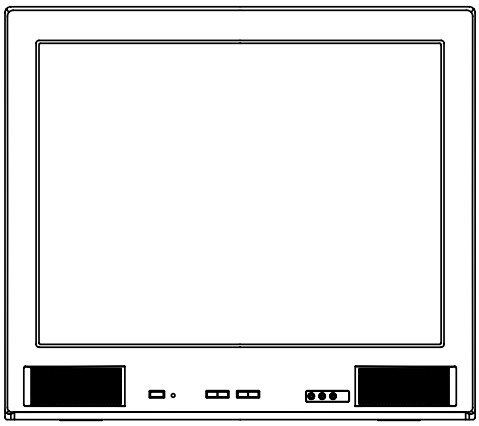
Memorex®

MT2274

SERVICE MANUAL

COLOR TELEVISION RECEIVER



ORIGINAL
MFR'S VERSION A

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 eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
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	**TV System**	CRT		CRT Size / Visual Size	27 inch / 676.0mmV
				CRT Type	Normal
				Deflection	108 degree
				Magnetic Field BV/BH	+0.45G/0.18G
		Color System			NTSC
		Speaker			2Speaker
				Position	Front
				Size	2.0 x 3.5 Inch
				Impedance	8 ohm
		Sound Output		MAX	2.5 + 2.5 W
				10%(Typical)	2.0 + 2.0 W
		NTSC3.58+4.43 /PAL60Hz			No
G-2	**Tuning System**	Broadcasting System			US System M
		Tuner and Receive CH		System	1Tuner
				Destination	USA(W/ CATV)
				Tuning System	F-Synth
				Input Impedance	VHF/UHF 75 ohm
				CH Coverage	2 - 69, 4A, A-5 - A-1, A - I, J - W, W+1 - W+84
		Intermediate Frequency		Picture(FP)	45.75MHz
				Sound(FS)	41.25MHz
				FP-FS	4.50MHz
		Preset CH			No
		Stereo/Dual TV Sound			Yes
		Tuner Sound Muting			Yes
G-3	**Power**	Power Source		AC	120V AC 60Hz
				DC	
		Power Consumption		at AC	
					125 W at AC 120 V 60 Hz
				Stand by (at AC)	5 W at AC 120 V 60 Hz
				Per Year	-- kWh/Year
		Protector		Power Fuse	Yes
				Safety Circuit	Yes
				IC Protector(Micro Fuse)	No
G-4	**Regulation**			Safety	UL
				Radiation	FCC
				X-Radiation	DHHS
G-5	**Temperature**			Operation	+5°C ~ +40°C
				Storage	-20°C ~ +60°C
G-6	**Operating Humidity**				Less than 80% RH
G-7	**On Screen Display**	Menu			Yes
			Menu Type		Character
			Picture		Yes
				Contrast	Yes
				Brightness	Yes
				Color	Yes
				Tint	Yes
				Sharpness	Yes
			Audio		Yes
				Bass	Yes
				Treble	Yes
				Balance	Yes
				BBE On/Off	No
				Stable Sound On/Off	Yes
				Surround On/Off	Yes
			CH Set Up		Yes
				TV/CATV	Yes
				Auto CH Memory	Yes
				Add/Delete	Yes
			Language		Yes
			V-chip		Yes
				CH Label	No
				Favorite CH	No
				Color Stream DVD/DTV	No
			Control Level		Yes
				Volume	Yes
				Brightness	Yes
				Contrast	Yes
				Color	Yes
				Tint	Yes
				Sharpness	Yes
				Tuning	No

GENERAL SPECIFICATIONS

			Bass	Yes
			Treble	Yes
			Balance	Yes
			Back Light	No
		Stereo,Audio Output,SAP		Yes
		Video		Yes
		Color Stream		No
		Channel(TV/Cable)		Yes
		CH Label		No
		Sleep Timer		Yes
		Sound Mute		Yes
		V-chip Rating		Yes
G-8	**OSD Language**			English French Spanish
G-9	**Clock and Timer**	Sleep Timer	Max Time	120 Min
			Step	10 Min
		On/Off Timer	Program(On Timer / Off Timer)	No
		Wake Up Timer		No
		Timer Back-up (at Power Off Mode)	more than	-- Min Sec
G-10	**Remote Control**	Unit		RC-DW
		Glow in Dark Remocon		No
		Format		NEC
		Custom Code		86-05 h
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-4 x 2 pcs
		Total Keys		28 Keys
		Keys	Power	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			100	No
			CH Up	Yes
			CH Down	Yes
			Volume Up	Yes
			Volume Down	Yes
			TV/Caption/Text	Yes
			CH1/CH2	Yes
			TV/Video(TV/AV)	Yes
			CH RTN/CH ENT(Quick View)	Yes
			Sleep	Yes
			RE Call(Call)	Yes
			Reset	Yes
			Menu	Yes
			Enter	Yes
			Mute	Yes
			Exit	No
			MTS(Audio Select)	Yes
			Set +	Yes
			Set -	Yes
		Multi Brand Keys	CH Up(VCR)	No
			CH Down(VCR)	No
			Pause/Still	No
			TV/VCR(VCR)	No
			CH Enter	No
			Code Set (Code)	No
			FF	No
			Rew	No
			Rec	No
			Play	No
			Stop	No
			TV	No
			VCR	No
			Cable	No
G-11	**Features**	Auto Degauss		Yes
		Auto Shut Off		Yes

GENERAL SPECIFICATIONS

		Canal+			No
		CATV			Yes
		Anti-theft			No
		Rental			No
		Memory(Last CH)			Yes
		Memory(Last Volume)			Yes
		V-Chip			Yes
				Type	USA, ORION Type
		BBE			No
		Auto Search			No
		CH Allocation			No
		SAP			Yes
		Tone Control			Yes
		Channel Lock			No
		Just Clock Function			No
		Game Position			No
		CH Label			No
		VM Circuit			No
		Full OSD			No
		Premiere			No
		Comb Filter			No
					Lines
		Auto CH Memory			Yes
		Hotel Lock			No
		Closed Caption			Yes
		Stable Sound			Yes
		Surround			Yes
		Energy Star			No
		Power On Memory			No
		Favorite CH			No
G-12	Accessories	Owner's Manual		Language	English / Spanish
				w/Guarantee Card	Yes
		Remote Control Unit			Yes
		Rod Antenna			No
				Poles	
				Terminal	
		Loop Antenna			No
				Terminal	
		U/V Mixer			No
		DC Car Cord (Center+)			No
		Guarantee Card			No
		Warning Sheet			No
		Circuit Diagram			No
		Antenna Change Plug			No
		Service Facility List			No
		Important Safeguard			No
		Dew/AHC Caution Sheet			No
		AC Plug Adapter			No
		Quick Set-up Sheet			No
		Battery			No
				UM size x pcs	
				OEM Brand	No
		AC Cord			No
		AV Cord (2Pin-1Pin)			No
		Registration Card			No
		Information Sheet			No
		PTB Sheet			No
		300 ohm to 75 ohm Antenna Adapter			No
G-13	Interface	Switch	Front	Power	Yes
				System Select	No
				Main Power SW	No
				Sub Power	No
				Channel Up/Reset	Yes
				Channel Down/Enter	Yes
				Volume Up/Set Up	Yes
				Volume Down/Set Down	Yes
				Menu: Vol Up + Vol Down	Yes
			Rear	AC/DC	No
				TV/CATV Selector	No
				Degauss	No
				Main Power SW	No
		Indicator		Power	No

GENERAL SPECIFICATIONS

				Stand-by	No
				On Timer	No
		Terminals	Front	Video Input	RCA
				Audio Input	RCA x 2
				Other Terminal	No
			Rear	Video Input(Rear1)	RCA
				Video Input(Rear2)	No
				Audio Input(Rear1)	RCA x 2
				Audio Input(Rear2)	No
				Video Output	RCA
				Audio Output	RCA x 2
				S-Input	Yes
				Color Stream	No
				Diversity	No
				Ext Speaker	No
				DC Jack 12V(Center +)	No
				VHF/UHF Antenna Input	F Type
				AC Outlet	No
G-14	**Set Size**			Approx. W x D x H (mm)	650 x 500.5 x 571.5
G-15	**Weight**			Net (Approx.)	36.5kg (80.5 lbs)
				Gross (Approx.)	40.5Kg (89.3 lbs)
G-16	**Carton**		Master Carton		No
				Content	---- Sets
				Material	-- /--
				Dimensions W x D x H(mm)	-- x -- x --
				Description of Origin	No
			Gift Box		Yes
				Material	Double/Brown Corrugate Carton
				Dimensions W x D x H(mm)	731 x 580 x 665
				Design	As per Buyer's
				Description of Origin	Yes
			Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	31
			Container Stuffing		192 Sets/40' container
G-17	**Material**		Cabinet	Cabinet Front	PS 94V0 DECABROM
				Cabinet Rear	PS 94V0 DECABROM
			PCB	Non-Halogen Demand	No
				Eyelet Demand	No
G-18	**Environment**		Pb Free	Lead-free Solder	No
			Cd Free		No

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.

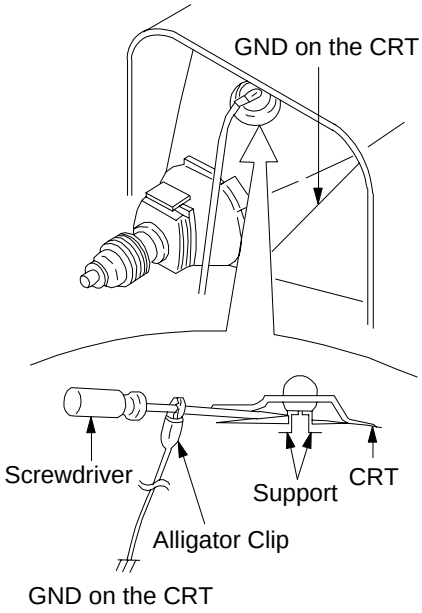


Fig. 1-1

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.)**

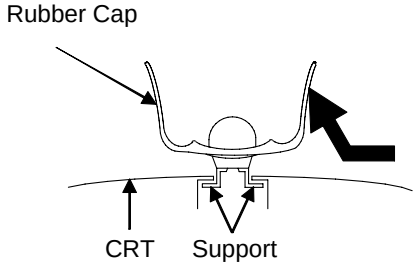


Fig. 1-2

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.)**

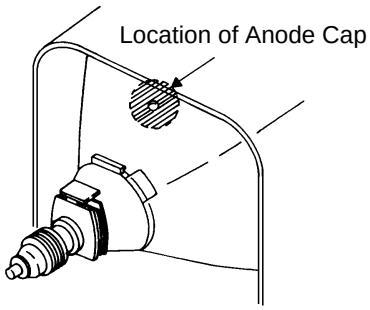


Fig. 1-3

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.)**

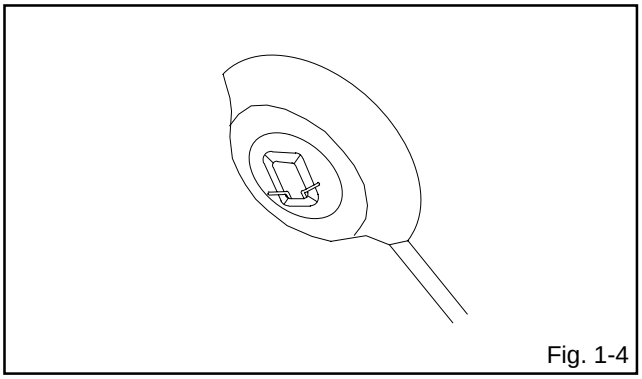


Fig. 1-4

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

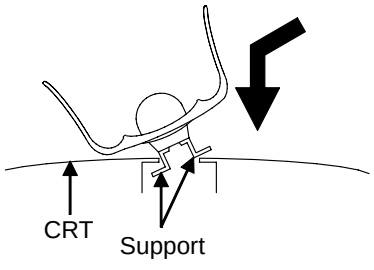


Fig. 1-5

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

DISASSEMBLY INSTRUCTIONS

2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 2-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

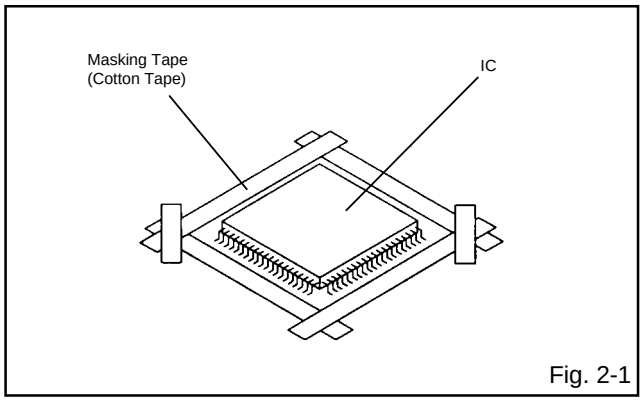


Fig. 2-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 2-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

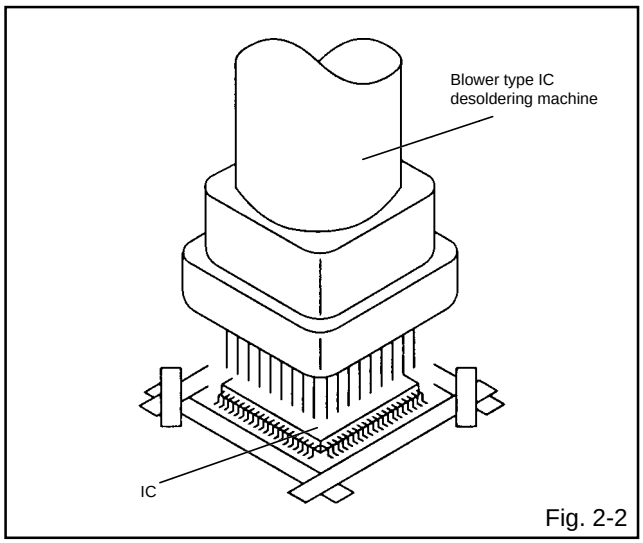


Fig. 2-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 2-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

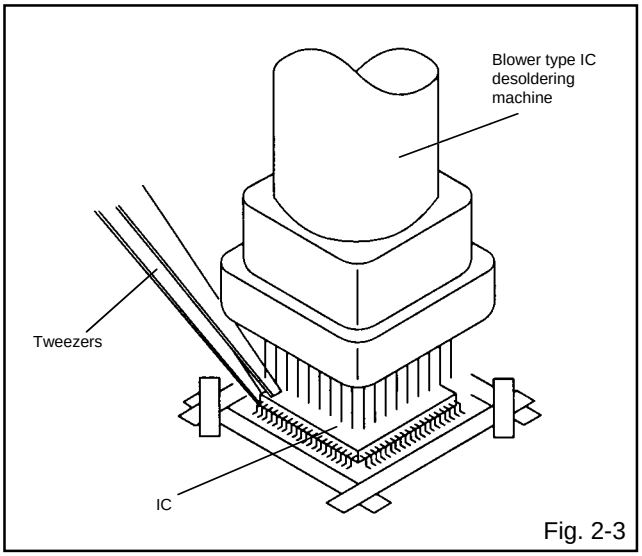


Fig. 2-3

4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 2-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

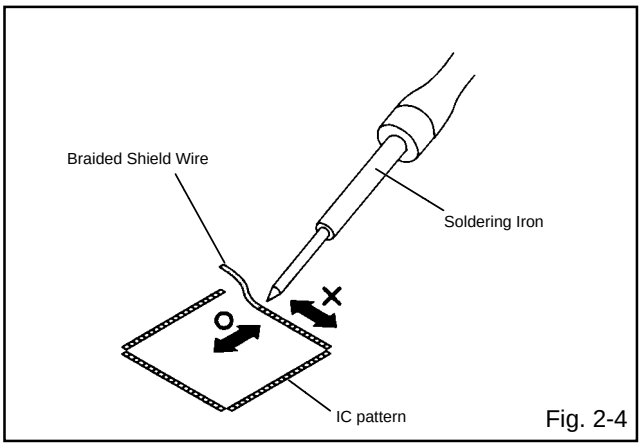


Fig. 2-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern.Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 2-5.)**

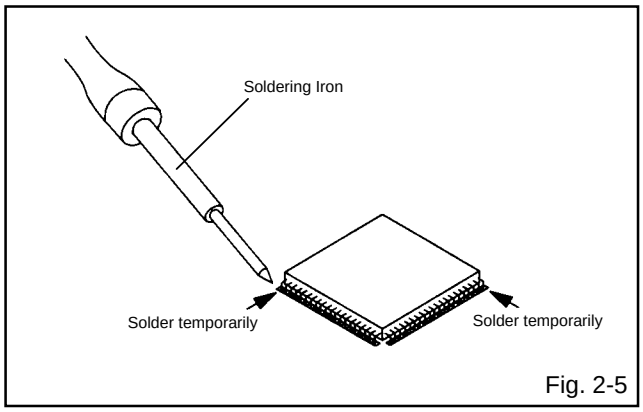


Fig. 2-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 2-6.)**

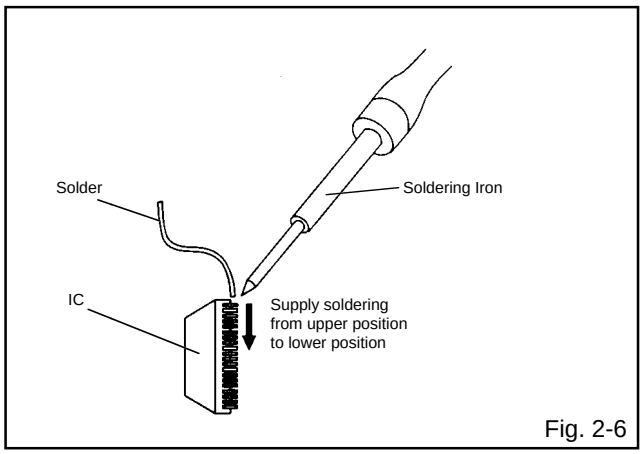


Fig. 2-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 2-7.)**

   NOTE

   Do not absorb the solder to excess.

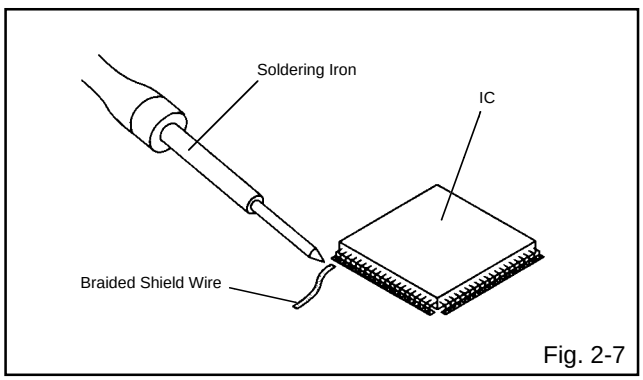


Fig. 2-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 2-8.)**

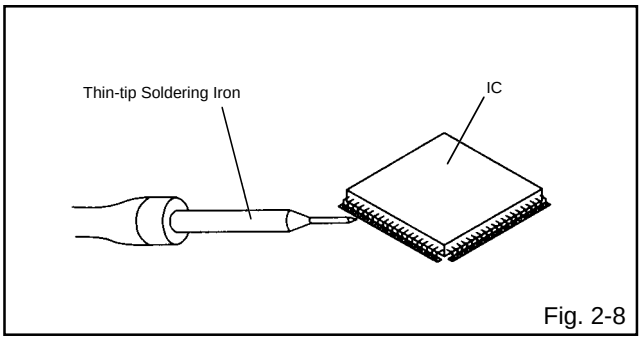


Fig. 2-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

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 and LOCK PASSWORD.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the clock setting, the channel setting, the POWER ON total hours, and PLAY/REC total hours.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED". Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (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 HOURS USED

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

NOTE: If you set a factory initialization, the total hours is reset to "0".

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.

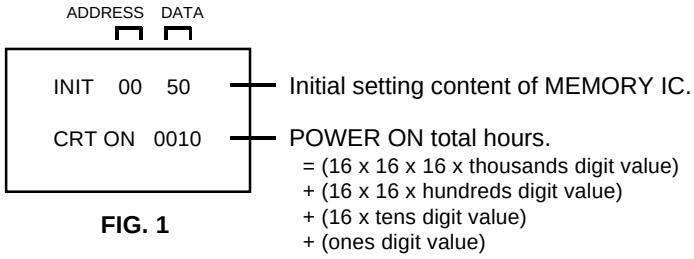


FIG. 1

WHEN REPLACING EEPROM (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.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	50	04	4A	4C	57	B3	24	7B	03	29	00	50	DC	3E	00	03

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. While holding down VOLUME button on front cabinet, press key 6 on 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 VOL. +/- button 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 VOL. +/- button 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. **After the data input, set to the initializing of shipping.**
9. Turn POWER on.
10. While holding down VOLUME button on front cabinet, press key 1 on remote control for more than 1 second.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

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.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease **(YG6260M)** on the contract section of the heat sink, Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

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.**

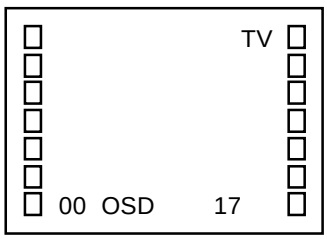


Fig. 1-1

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	16	CONTRAST CENT
01	CUT OFF	17	CONTRAST MAX
04	H.VCO	18	CONTRAST MIN
05	H.PHASE	19	COLOR CENT
06	V.SIZE	20	COLOR MAX
07	V.SHIFT	21	COLOR MIN
08	R.DRIVE	22	TINT
09	B.DRIVE	23	SHARPNESS
10	R.BIAS	24	FM LEVEL
11	G.BIAS	25	LEVEL
12	B.BIAS	26	SEPARATION 1
13	BRIGHT CENT	27	SEPARATION 2
14	BRIGHT MAX	28	TEST MONO
15	BRIGHT MIN	29	TEST STEREO

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Set condition is AV MODE without signal.
3. Connect the digital voltmeter to the **TP401.**
4. Using the adjustment control, set the brightness and contrast to normal position.
5. Adjust the **VR502** until the digital voltmeter is 122 ± 0.5V.

2-2: CUT OFF

1. Adjust the unit to the following settings. R.DRIVE=64, B.DRIVE=64, R.BIAS=64, G.BIAS=64, B.BIAS=64, BRI.CENT=90, CONT.MAX=70.
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 10 minutes.
2. Receive the white 100% signal from the Pattern Generator.
3. Using the adjustment 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, z 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: VERTICAL SHIFT, VERTICAL LINEARITY

1. Receive an 70~80dB monoscope pattern.
2. Using the adjustment control, set the brightness and contrast to normal position.
3. Check the step No. V. SHIFT is "2"
4. Adjust the **VR401** until the horizontal line becomes fit to the notch of the shadow mask.
5. Adjust the **VR402** until the SHIFT quantity of the OVER SCAN on uside and downside becomes minimum.

2-6: VERTICAL SIZE

1. Receive the crosshatch signal from the Pattern Generator.
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 SHIFT quantity of the OVER SCAN on upside and downside becomes 9 ± 2%.
4. Receive a broadcast and check if the picture is normal.

ELECTRICAL ADJUSTMENTS

2-7: PALABOLA CORR

1. Receive the chosshatch pattern.
2. Adjust the **VR403**, so that the 4th length line becomes straight from the outside of the right and left.

2-8: OSD

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. 2-1)**

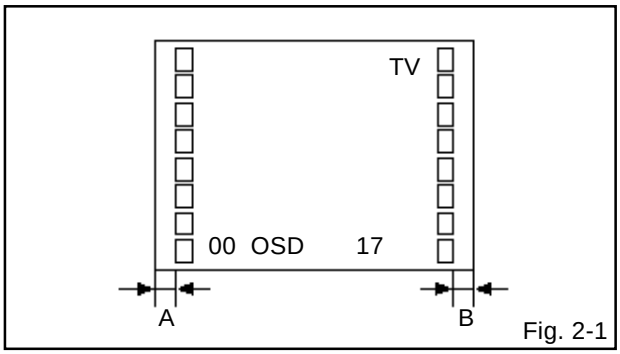


Fig. 2-1

2-9: LEVEL

1. Receive an over 70dB monoscope pattern.
2. Connect the AC voltmeter to the **pin 6 of CP601.**
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(25)** on the remote control to select "LEVEL".
4. Press the VOL. UP/DOWN button on the remote control until the AC voltmeter is 80 ± 2mV.

2-10: SUB BRIGHTNESS

1. Receive an over 70dB monoscope pattern.
2. Using the adjustment control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "BRI.CENT".
4. Press the VOL. UP/DOWN button on the remote control until the white 10% is starting to be visible.
5. Press the TV/AV button on the remote to set to the AV mode. Then perform the above adjustment 2~4.

2-11: CONTRAST MAX

1. Receive the color bar pattern. (RF Input)
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 **(17)** on the remote control to select "CONT MAX".
4. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "70".
5. Receive a broadcast and check if the picture is normal.
6. Receive the color bar pattern. (Audio Video Input)
7. Press the TV/VIDEO button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.

2-12: SEPARATION 1, 2

Please do the method (1) or method (2) adjustment.

Method (1)

1. Set the multi-sound signal generator for each different L-ch and R-ch frequency (Ex. L-ch=2KHz, R-ch=400Hz) and receive the RF.
2. Connect the oscilloscope to the **pin 6 and pin 7 of CP601.**
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(26)** on the remote control to select "SEP 1".
4. Press the VOL. UP/DOWN button on the remote control to adjust it until the audio output wave becomes a fine sine wave.
5. Press the CH UP button once the set to "SEP 2" mode. Then perform the above adjustment 4.

Method (2)

1. Set the multi-sound signal generator L-ch=1KHz, R-ch =Non input and receive the RF.
2. Connect the oscilloscope to the **pin 6 and pin 7 of CP601**
3. Press the AUDIO SELECT button on the remote control to set to the stereo mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(26)** on the remote control to select "SEP 1".
5. Press the VOL. UP/DOWN button on the remote control to adjust it until the R-ch output becomes minimum.
6. Set the multi-sound signal generator L-ch=Non input, R-ch=1KHz and receive the RF.
7. Connect the oscilloscope to the **pin 6 and pin 7 of CP601**
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(27)** on the remote control to select "SEP 2".
9. Press the VOL. UP/DOWN button on the remote control to adjust it until the L-ch output becomes minimum.

2-13: HORIZONTAL PHASE

1. Receive the center cross signal from the Pattern Generator.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(05)** on the remote control to select "H.PHAS".
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.

2-14: HORIZONTAL SIZE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR404** until the SHIFT quantity of the OVER SCAN on the right and left becomes 10 ± 4%.

ELECTRICAL ADJUSTMENTS

2-15: SUB TINT/SUB COLOR

1. Receive the color bar pattern.
2. Connect the oscilloscope to **TP024.**
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "TINT".
4. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes as straight line **(Refer to Fig. 2-2)**
5. Connect the oscilloscope to **TP022.**
6. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(19)** on the remote control to select "COL.CENT".
7. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110 ± 10% of the white level. **(Refer to Fig. 2-3)**
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.
10. Connect the oscilloscope to **TP024.**
11. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "TINT".
12. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes as straight line **(Refer to Fig. 2-4)**
13. Connect the oscilloscope to **TP022.**
14. Activate the adjustment mode display of Fig. 1-1and press the channel button **(19)** on the remote control to select "COL.CENT".
    Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110 ± 10% of the white level. **(Refer to Fig. 2-3)**

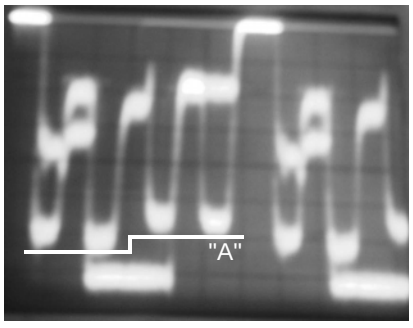


Fig. 2-2

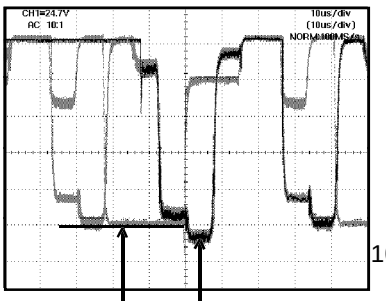


Fig. 2-3

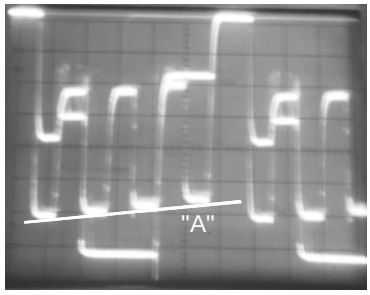


Fig. 2-4

2-16: Confirmation of Fixed Value (step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV
04	H VCO	04	04
07	V SHIFT	02	02
14	BRIGHT MAX	130	130
15	BRIGHT MIN	60	60
16	CONT CENT	35	35
18	CONT MIN	25	25
20	COLOR MAX	65	65
21	COLOR MIN	00	00
23	SHARPNESS	45	45
24	FM LEVEL	01	01

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.

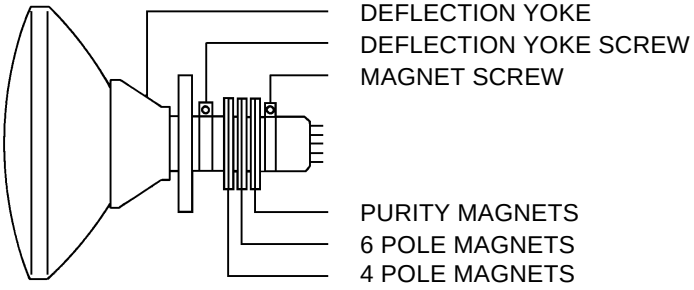


Fig. 3-1

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)**

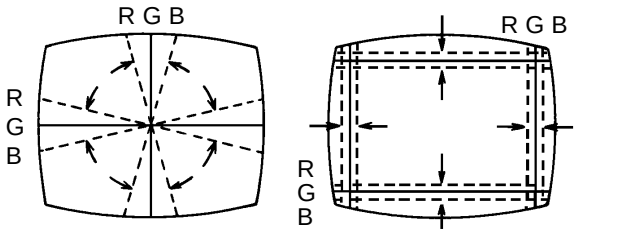


Fig. 3-2-a

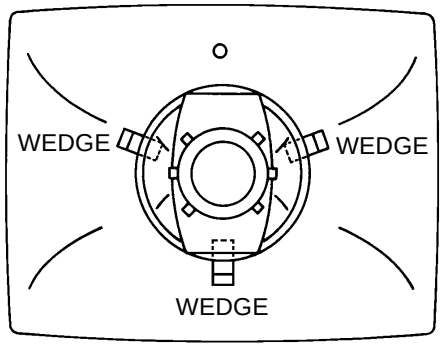
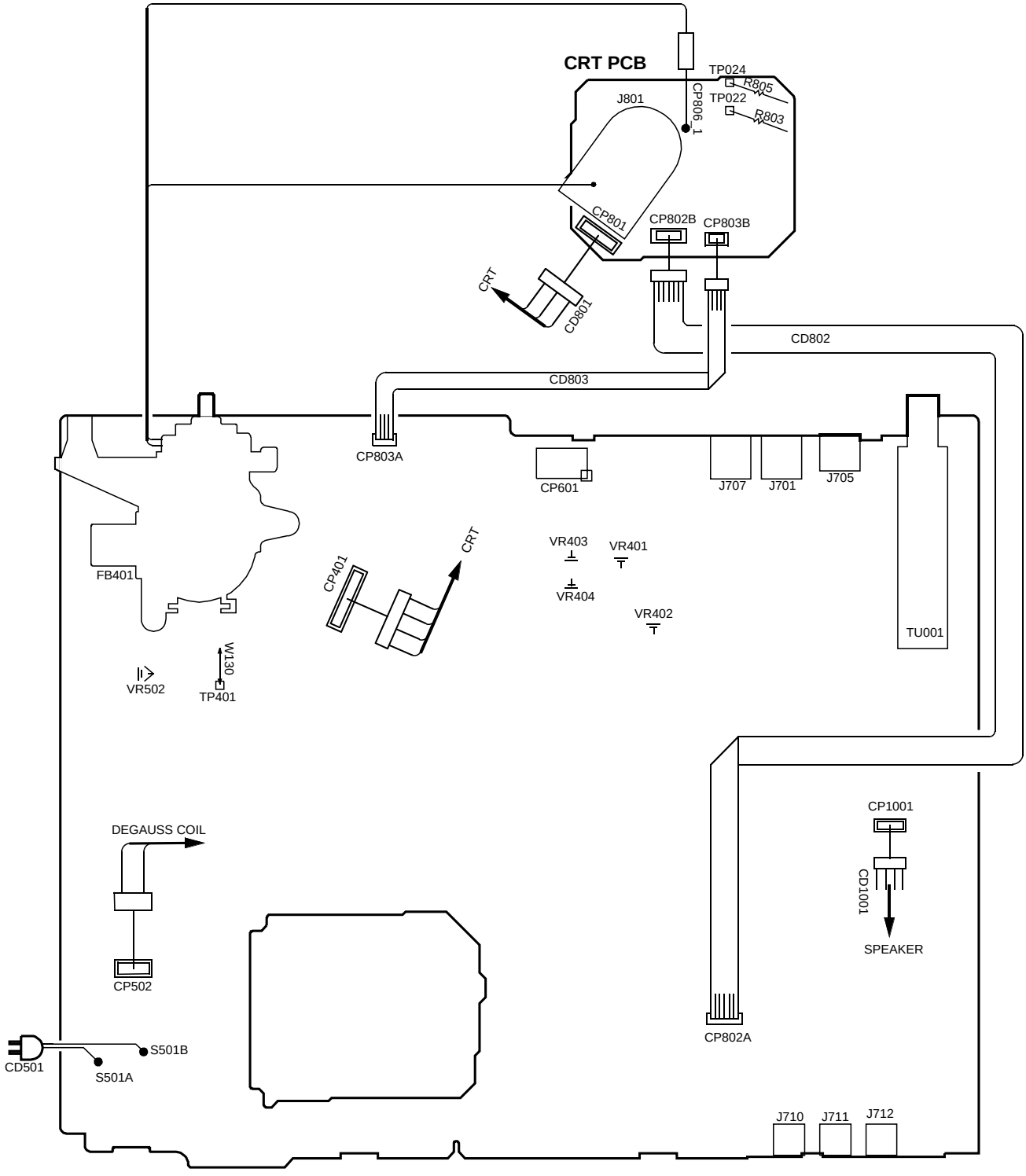


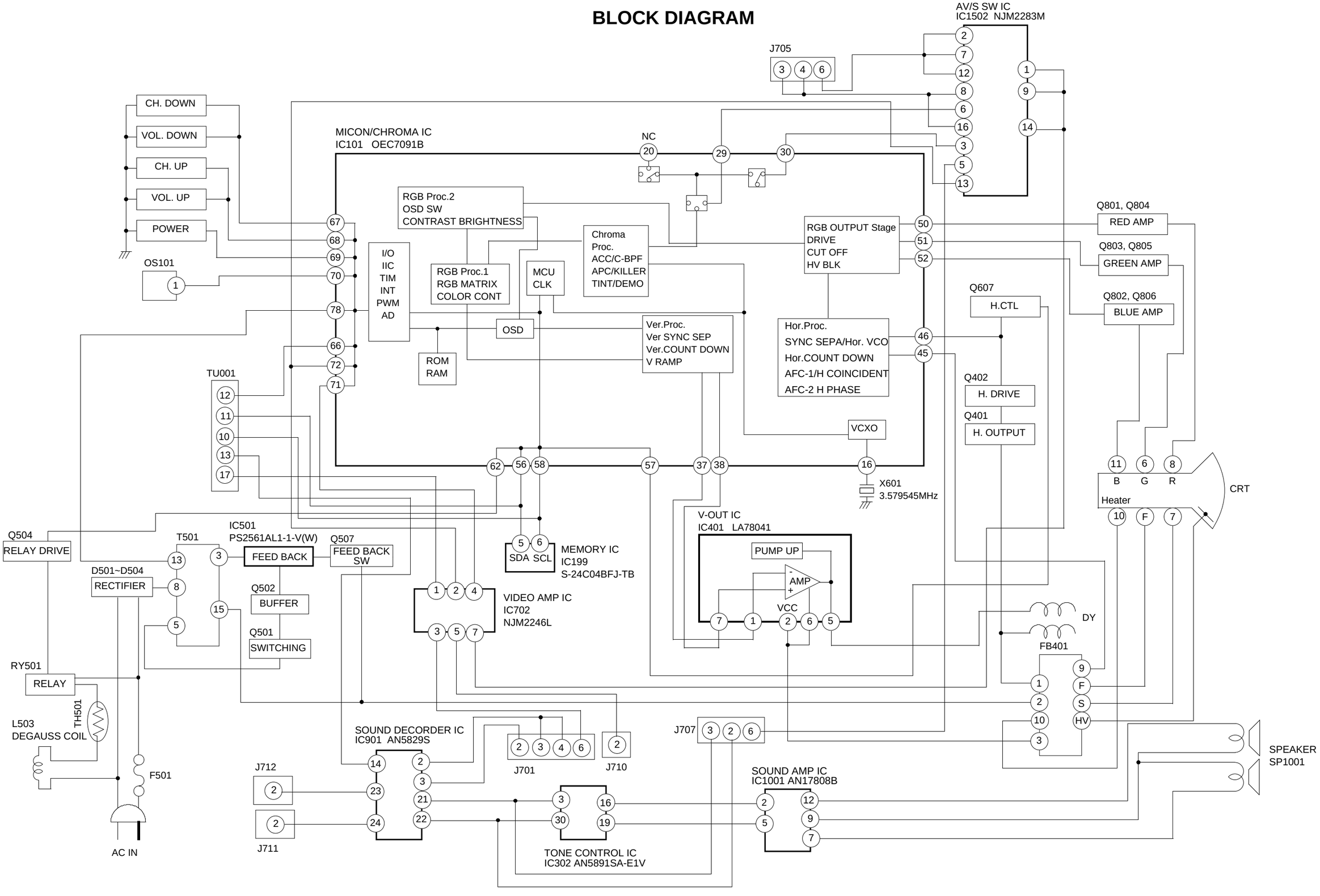
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

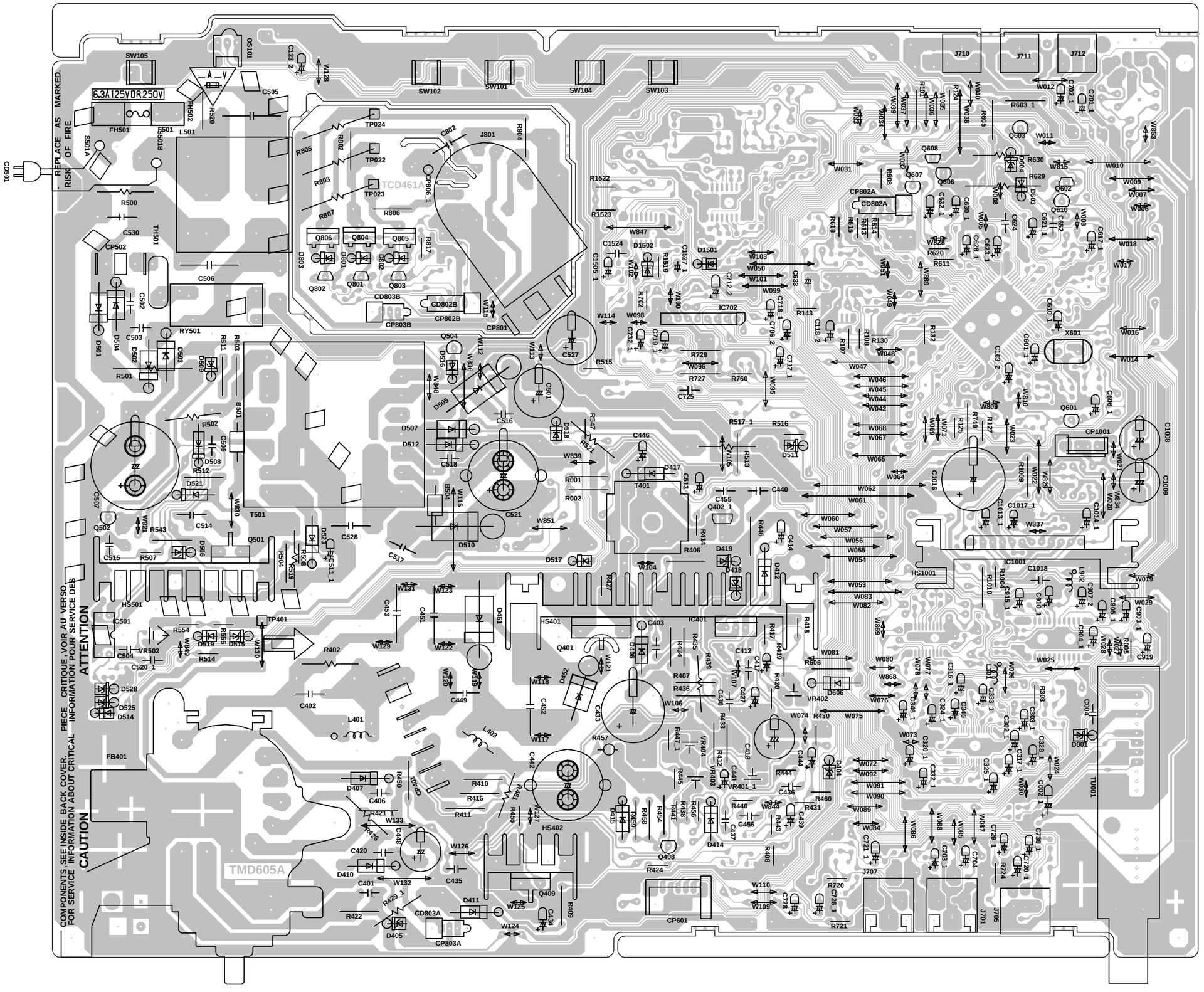
3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



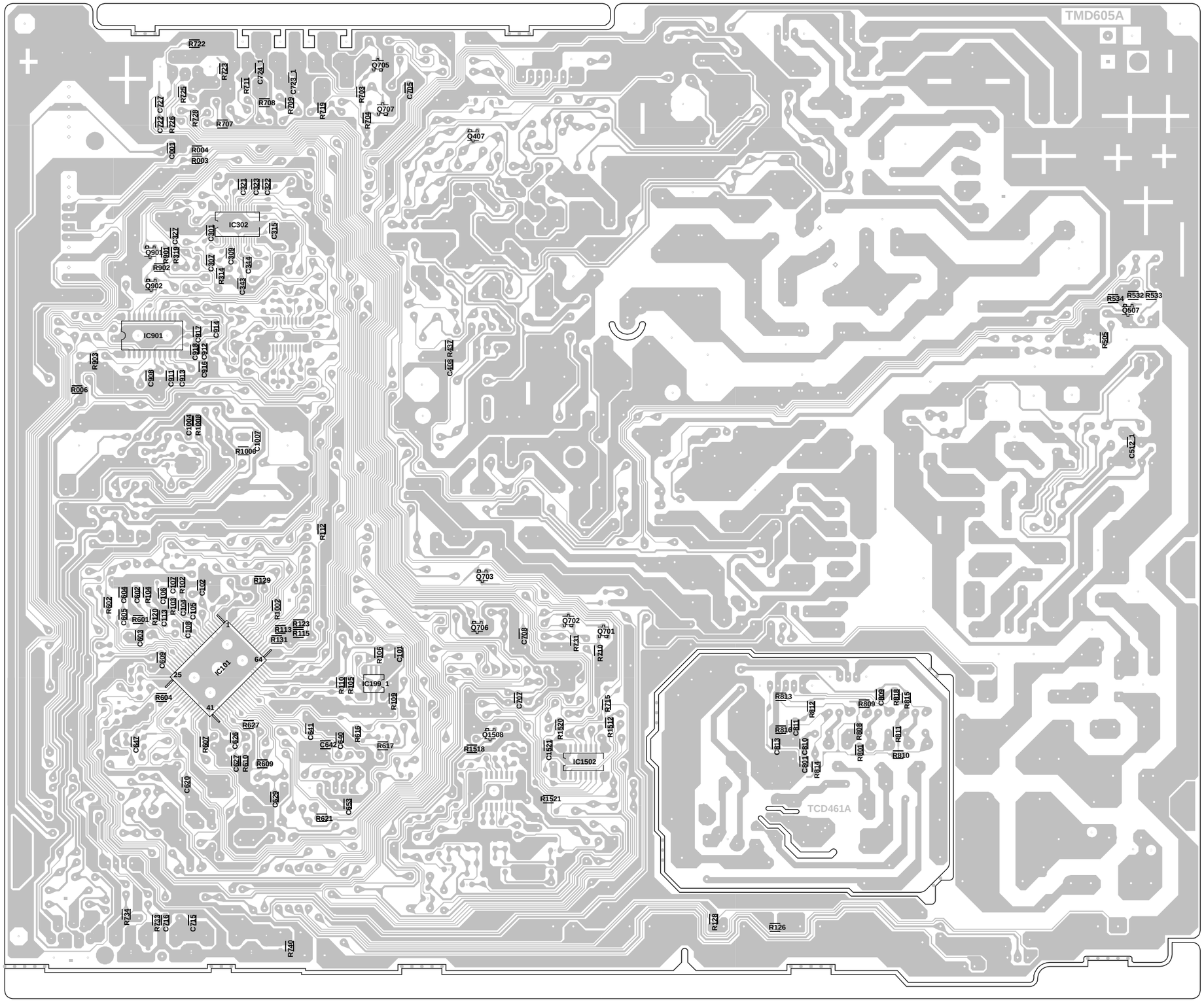
BLOCK DIAGRAM



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



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



MICON/CHROMA/TUNER SCHEMATIC DIAGRAM

(MAIN PCB)

1	CNVSS	41	NC
2	XIN	42	HVCO F/B
3	XOUT	43	AFC FILTER
4	TEST1	44	DEF GND
5	VSS	45	FBP IN
6	MCU VCC	46	H OUT
7	TEST0	47	DEF VCC
8	FILT	48	NC
9	HLT	49	HI VCC
10	VHOLD	50	R OUT
11	CVIN	51	G OUT
12	RESET IN	52	B OUT
13	MCU RESET OUT	53	ACL
14	Y SW OUT	54	NC
15	V/C GND	55	PROTECT
16	3.58 XTAL	56	SDA
17	C-APC	57	H_CTL
18	MCU5.7V REG OUT	58	SCL
19	NC	59	NC
20	CVBS IN3	60	NC
21	AUDIO IN3	61	NC
22	V/C VCC	62	DEGAUSS_H
23	MCU TEST	63	STANDBY_H
24	CVBS IN2	64	VOLUME
25	AUDIO IN2	65	NC
26	CVBS IN1	66	AFT
27	AUDIO IN1	67	KEY1
28	5.7V REG OUT	68	KEY2
29	C(Y/C) IN	69	POWER_ON
30	Y(Y/C) IN	70	REMOCON
31	VREG VCC	71	AV2
32	FSC OUT	72	AV1
33	MONITOR OUT	73	AUDIO_MUTE
34	AUDIO ATT OUT	74	X-RAY
35	AUDIO ATT FILTER	75	IIC_OFF
36	NC	76	ON_TIMER
37	V RAMP F/B	77	SYNC
38	V RAMP OUT	78	POWER FAIL
39	V RAMP CAP	79	X-RAY_TEST
40	8.7V REG OUT	80	EXT_MUTE

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

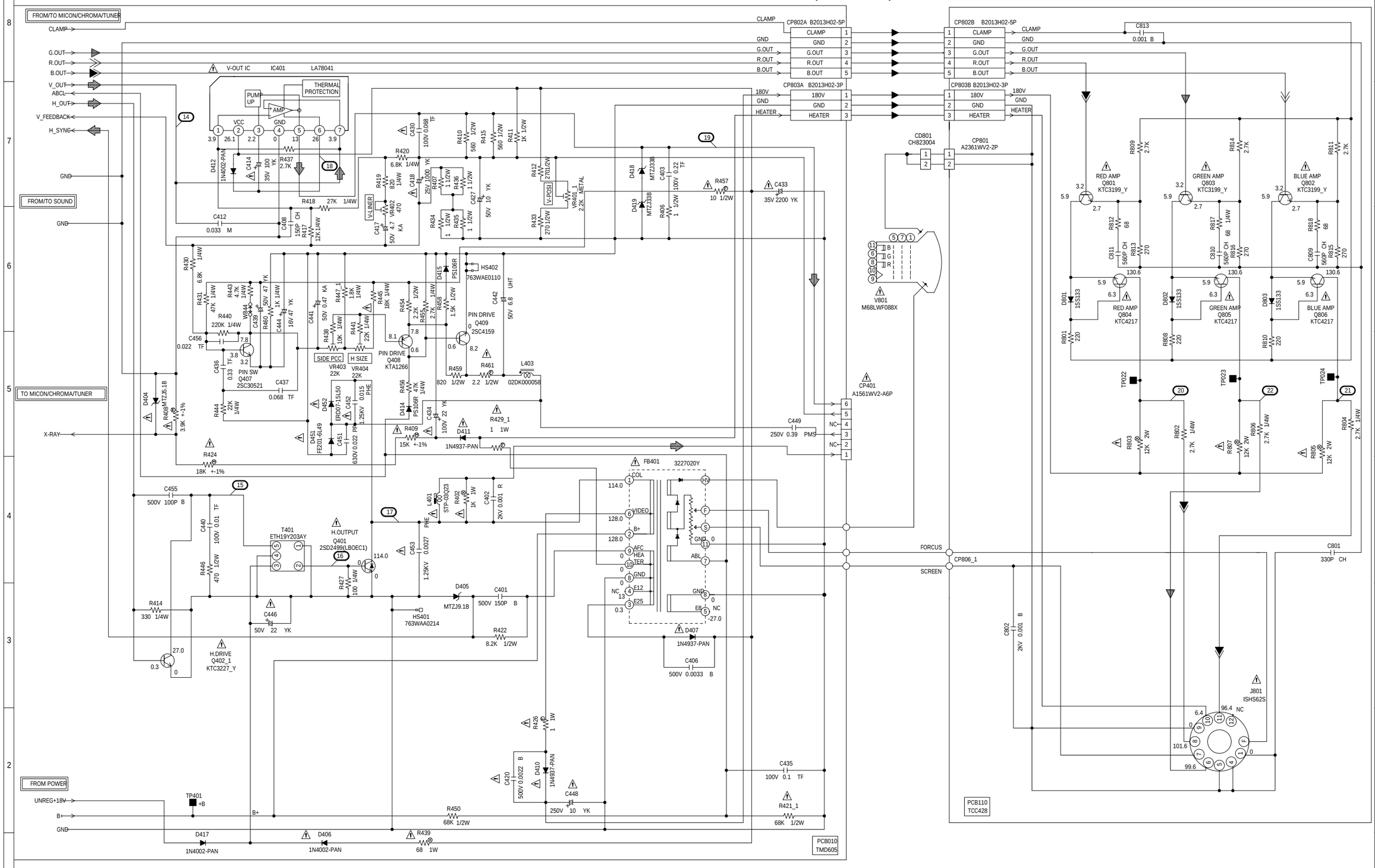
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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

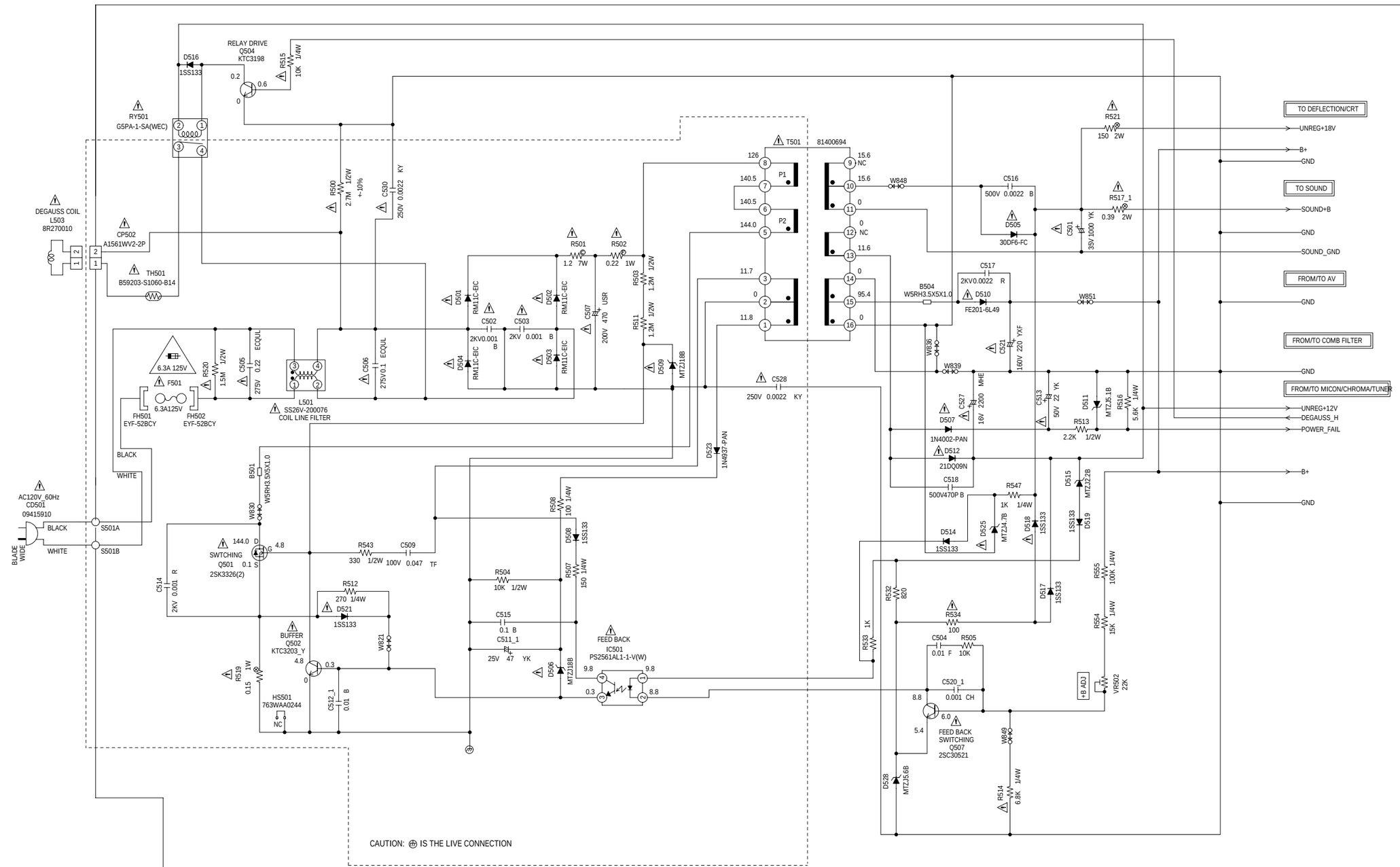
R.SIGNAL
G.SIGNAL
B.SIGNAL
DEFLECTION SIGNAL
AUDIO SIGNAL
TUNER VIDEO SIGNAL

DEFLECTION/CRT SCHEMATIC DIAGRAM (TV MT PCB)



POWER SCHEMATIC DIAGRAM

(TV MT PCB)



6.3A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 6.3A 125V(F501).

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 6.3A 125V(F501) .

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ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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PCB010
TMD605

SOUND SCHEMATIC DIAGRAM
(MAIN PCB)

FROM/TO MICON/CHROMA/TUNER

SCL
SDA
AUDIO_MUTE

FROM/TO DEFLECTION/CRT

GND

FROM/TO AV

REAR_AUDIO_R
REAR_AUDIO_L
FRONT_AUDIO_R
FRONT_AUDIO_L
AUDIO_OUT_R
AUDIO_OUT_L
GND

FROM POWER

SOUND+B
GND
SOUND_GND

FROM/TO MICON/CHROMA/TUNER

P.CON+8V[B]
TU_AUDIO
AUDIO_OUT_L
AUDIO_OUT_R
GND
STEREO+5V

R801 470
R902 470
R903 220K
R308 1K 1/4W
R1010 10K 1/4W
R1009 3.9K 1/4W
R1004 3.9K 1/4W
R1002 4.7K

BUFFER Q901 2SA1530A1
BUFFER Q902 2SA1530A1

SOUND DECORDER IC IC901 AN5529S

TONE CONTROL IC IC302 AN8891SA-ELV

SOUND AMP IC IC1001 AN17808B

HS1001 763WAA0160

L902 100uH 0305
L301 100uH 0305

CP1001 A2502WV2-4P
SP1001 S0509F12-D 8 OHM

W829 W853 W834 W837 W868 W869

PCB010 TMD605

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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.

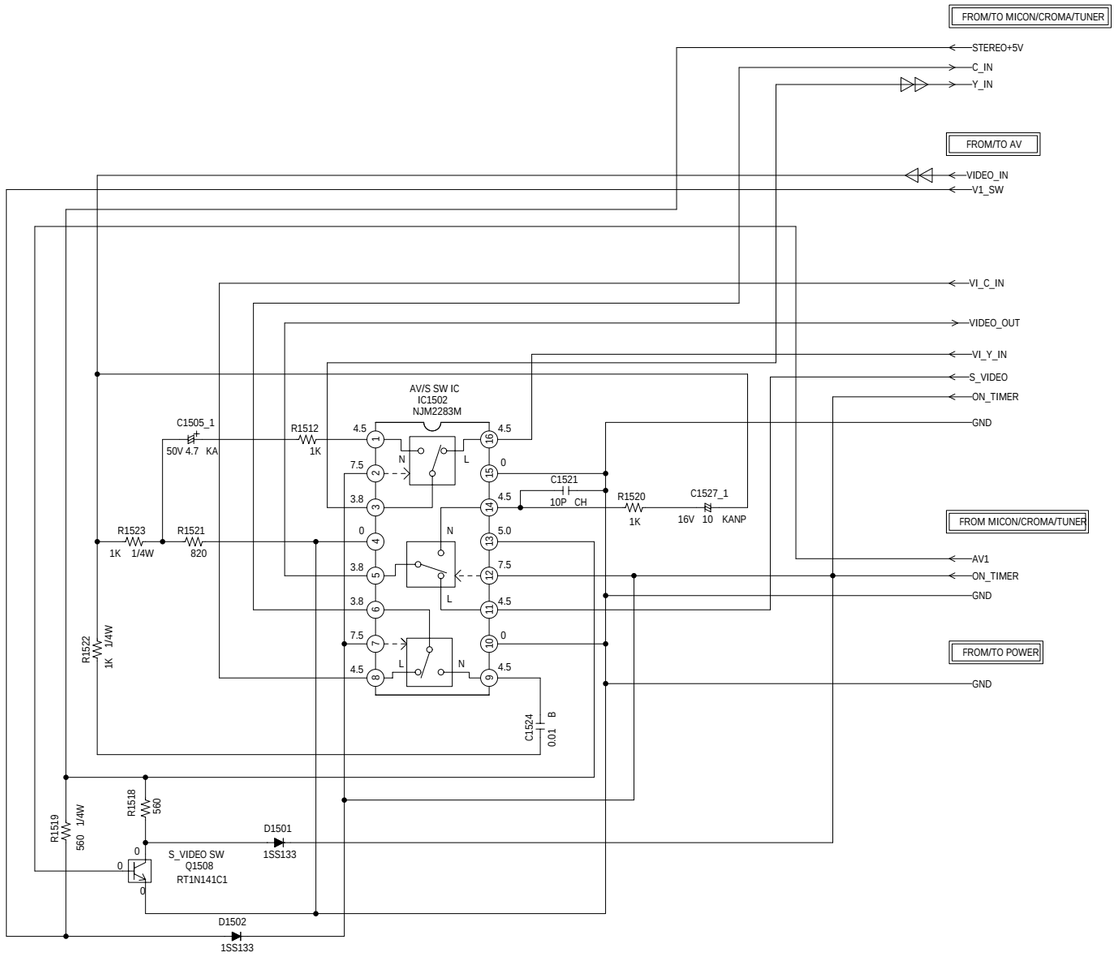
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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

⇦ AUDIO SIGNAL

COMB/FILTER SCHEMATIC DIAGRAM

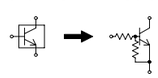
(TV MT PCB)



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.

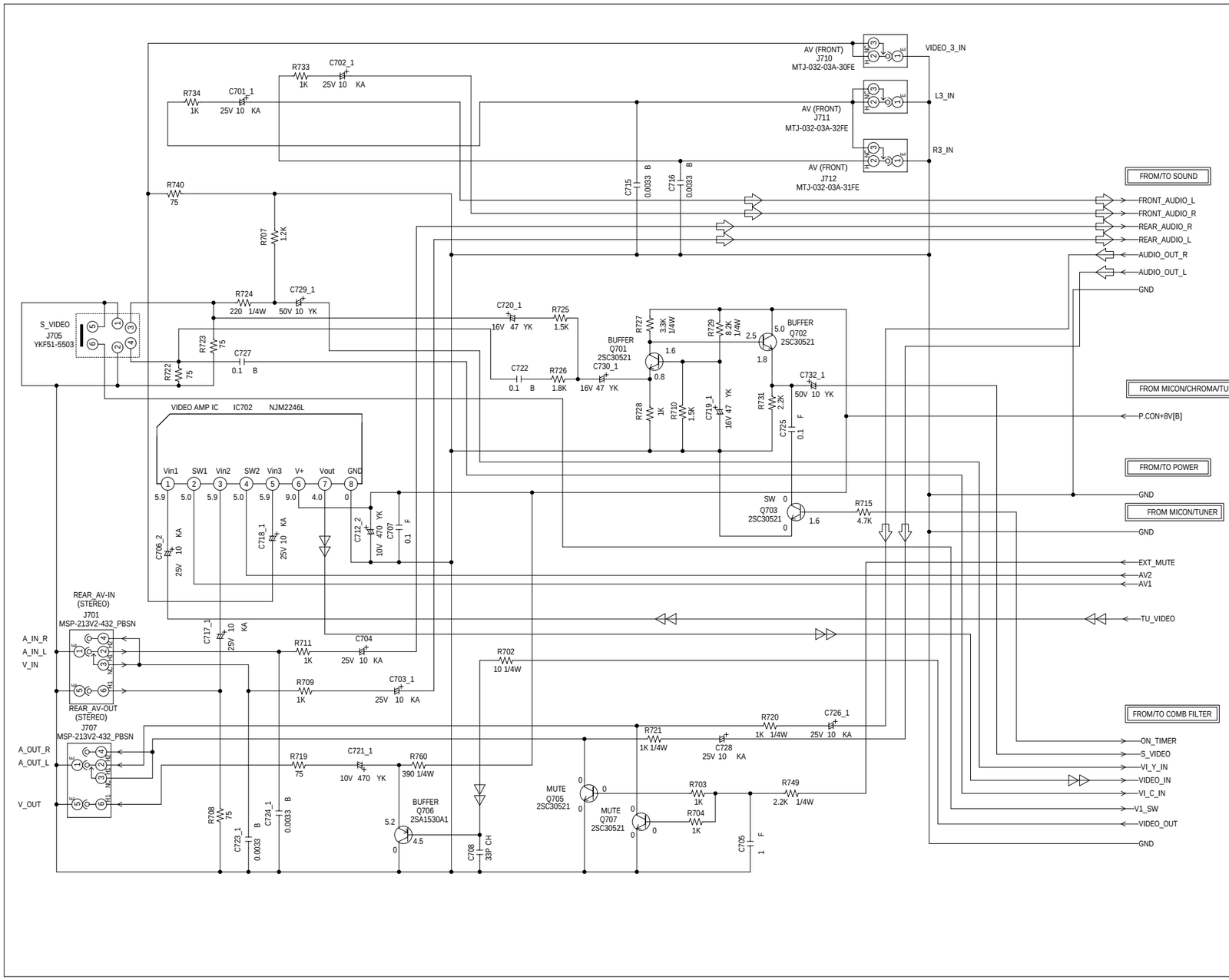
CAUTION: DIGITAL TRANSISTOR



◁◁ TUNER VIDEO SIGNAL

PCB010
TMD605

AV SCHEMATIC DIAGRAM
(TV MT PCB)



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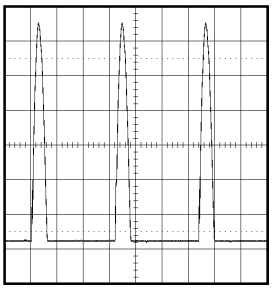
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

AUDIO SIGNAL

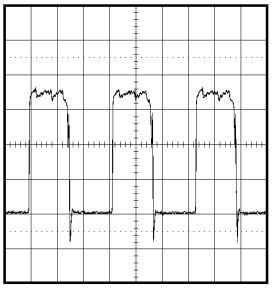
TUNER VIDEO SIGNAL

WAVEFORMS

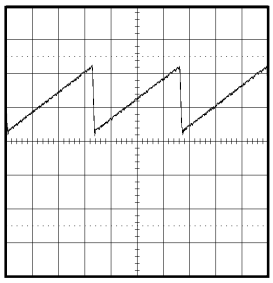
MICON/CHROMA/TUNER



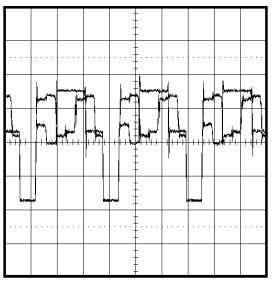
② 20V 20µs/div



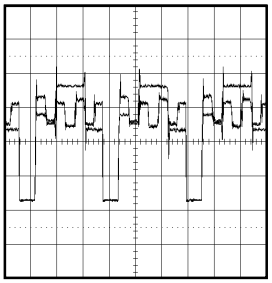
③ 200mV 20µs/div



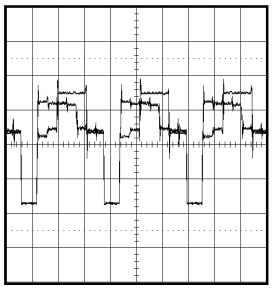
④ 0.5V 5ms/div



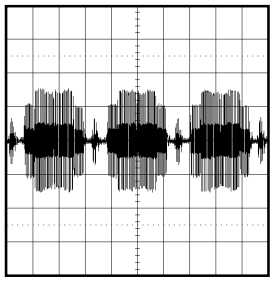
⑤ 1V 20µs/div



⑥ 1V 20µs/div

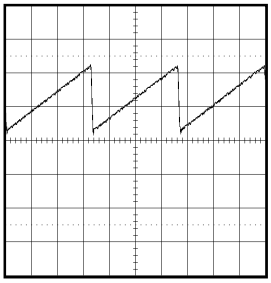


⑦ 1V 20µs/div

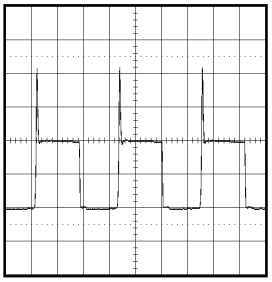


⑧ 200mV 20µs/div

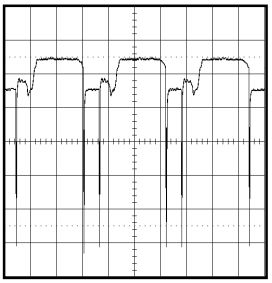
DEFLECTION/CRT



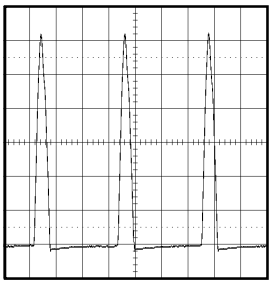
⑭ 0.5V 5ms/div



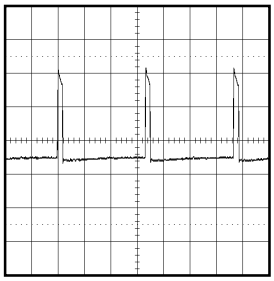
⑮ 20V 20µs/div



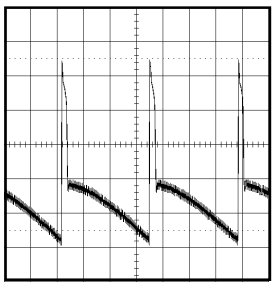
⑯ 2V 20µs/div



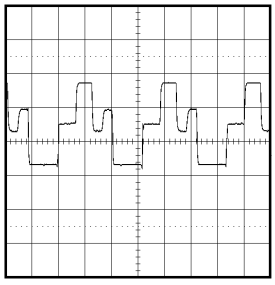
⑰ 200V 20µs/div



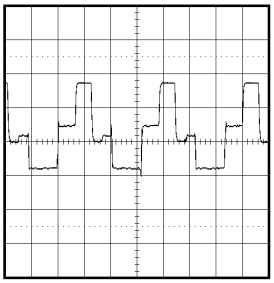
⑱ 10V 5ms/div



⑲ 10V 5ms/div



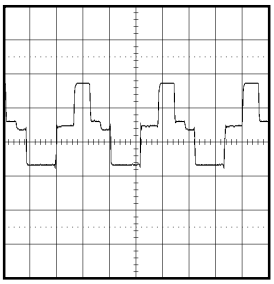
⑳ 50V 20µs/div



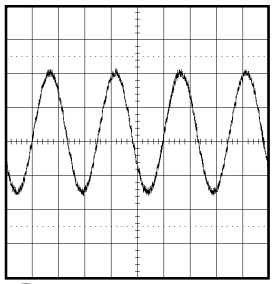
㉑ 50V 20µs/div

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

WAVEFORMS

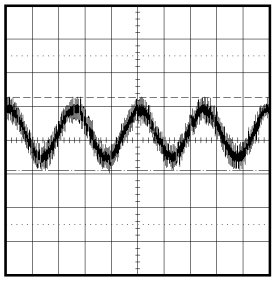


(22) 50V 20µs/div

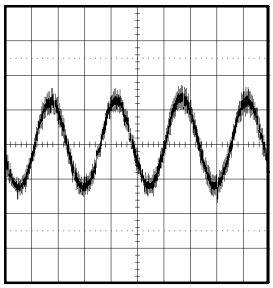


(31) 200mV 1ms/div

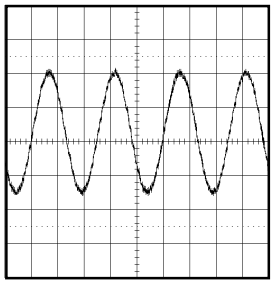
SOUND



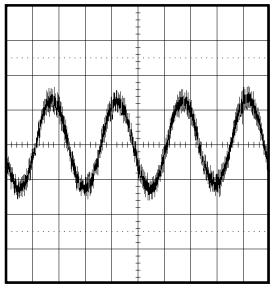
(25) 0.5V 1ms/div



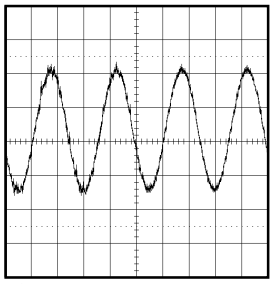
(32) 0.5V 1ms/div



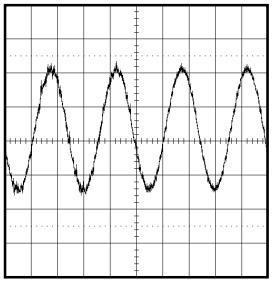
(26) 200mV 1ms/div



(33) 0.5V 1ms/div



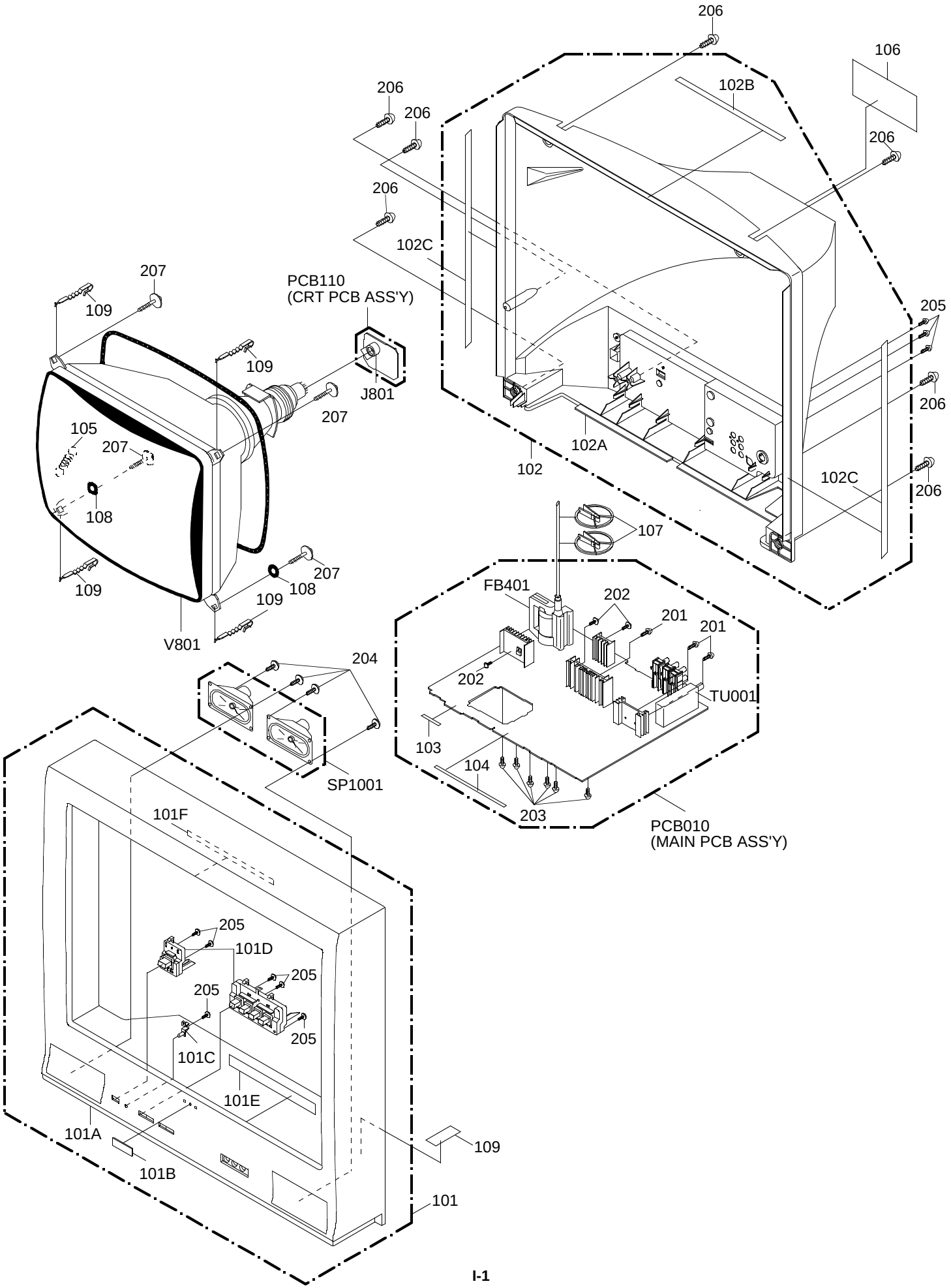
(27) 200mV 1ms/div



(28) 200mV 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	7A701A106A	FRONT,CABI ASS'Y			
101A	701WPJC649	CABINET,FRONT			
101B	711WPCA043	BADGE,BRAND			
101C	713WPA0239	GUIDE,REMOCON			
101D	735WPBB121	BUTTON,ASS'Y			
101E	800WQ0A044	FELT,SHEET		18x220xT=0.5	
101F	800WQ0A068	FELT,SHEET		5x100xT=0.5	
102	7A702A018A	BACK,CABI ASS'Y			or
	7A702A039A	BACK,CABI ASS'Y			or
	7A702A041A	BACK,CABI ASS'Y			
102A	702WPA0931	CABINET,BACK(1/5)			
101B	800WQ0A046	FELT,SHEET		9x220xT=0.5	
102C	800WQ0A045	FELT,SHEET		18x350xT=0.5	
103	800WQ0A067	FELT,SHEET		5x30xT=0.5	
104	800WQ0A070	FELT,SHEET		5x150xT=0.5	
105	741WUA0021	SPRING,EARTH			
106	722A08A144	SHEET,RATING			
107	899HV3T000	HOLDER,ANODE WIRE			
108	800WR0A002	SHEET,CRT SUPPORT			
109	762WPA0009	HOLDER,CRT WIRE			
201	8107630804	SCREW,TAP TITE(S)	BRAZIER	3x8	
202	8109I30A04	SCREW,TAP TITE(B)	WH7	3x10	
203	8109630802	SCREW,TAP TITE(B)	BRAZIER	3x8	
204	8110630A24	SCREW,TAP TITE(P)	BRAZIER	3x12	
205	8110630A04	SCREW,TAP TITE(P)	BRAZIER	3x10	
206	8117540B04	SCREW,TAPPING(B0)	TRUSS	4x20	
207	8141J50D54	SCREW,TAP TITE(P)	GW20	5X45	
---	791WHA0026	LAMIFILM BAG			
---	792WHAA101	PACKAGE,BOTTOM			
---	792WHAA102	PACKAGE,TOP FRONT			
---	792WHAA103	PACKAGE,TOP BACK			
---	793WCDC249	GIFT BOX			
---	J3R20521A	INSTRUCTION BOOK			
---	JB5U0100	POLYBAG,INSTRUCTION			
---	A3R2052975	INSTRUCTION BOOK KIT			

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
		RESISTORS		
⚠ R402	R3T181102J	R,METAL OXIDE	1K OHM 1W	or
	R3X181102J	R,METAL OXIDE	1K OHM 1W	
⚠ R408	R4X5T6392F	R,METAL	3.9K OHM 1/6W	or
	R4T5T6392F	R,METAL	3.9K OHM 1/6W	
⚠ R409	R4X5T6153F	R,METAL	15K OHM 1/6W	or
	R4T5T6153F	R,METAL	15K OHM 1/6W	
⚠ R414	R002T4331J	RC	330 OHM 1/4W	
⚠ R420	R002T4682J	RC	6.8K OHM 1/4W	
⚠ R424	R4X5T6183F	R,METAL	18K OHM 1/6W	or
	R4T5T6183F	R,METAL	18K OHM 1/6W	
⚠ R426	R63581010J	R,FUSE	1 OHM 1W	
⚠ R429	R63581010J	R,FUSE	1 OHM 1W	
⚠ R436	R002T2010J	RC	1 OHM 1/2W	
⚠ R438	R002T4103J	RC	10K OHM 1/4W	
⚠ R439	R3T181680J	R,METAL OXIDE	68 OHM 1W	or
	R3X181680J	R,METAL OXIDE	68 OHM 1W	
⚠ R461	R6T5822R2J	R,FUSE	2.2 OHM 1/2W	or
	R655822R2J	R,FUSE	2.2 OHM 1/2W	
⚠ R500	R0G3K2275K	RC	2.7M OHM 1/2W	
⚠ R501	R5T4AE1R2J	R,CEMENT	1.2 OHM 7W	or
	R5X2AE1R2J	R,CEMENT	1.2 OHM 7W	
⚠ R502	R6T581R22J	R,FUSE	0.22 OHM 1W	or
	R63581R22J	R,FUSE	0.22 OHM 1W	
⚠ R515	R002T4103J	RC	10K OHM 1/4W	
R517	R3T28AR39J	R,METAL OXIDE	0.39 OHM 2W	or
	R3X28AR39J	R.METAL OXIDE	0.39 OHM 2W	
⚠ R519	R3T181R15J	R,METAL	0.15 OHM 1W	or
	R3X181R15J	R,METAL OXIDE	0.15 OHM 1W	
⚠ R520	R002T2155J	RC	1.5M OHM 1/2W	
R521	R3T28A151J	R,METAL OXIDE	150 OHM 2W	or
	R3X28A151J	R.METAL OXIDE	150 OHM 2W	
R629	R3T28B330J	R,METAL OXIDE	33 OHM 3W	or
	R3X28B330J	R,METAL OXIDE	33 OHM 3W	
R630	R3T28A151J	R,METAL OXIDE	150 OHM 2W	or
	R3X28A151J	R.METAL OXIDE	150 OHM 2W	
⚠ R803	R3T18A123J	R,METAL	12K OHM 2W	or
	R3X18A123J	R,METAL OXIDE	12K OHM 2W	
⚠ R805	R3T18A123J	R,METAL	12K OHM 2W	or
	R3X18A123J	R,METAL OXIDE	12K OHM 2W	
⚠ R807	R3T18A123J	R,METAL	12K OHM 2W	or
	R3X18A123J	R,METAL OXIDE	12K OHM 2W	
		CAPACITORS		
C402	C0PLRR713K	CC	0.001 UF 2KV R	
⚠ C408	CS0PCH4E2J	CC	150 PF 50V CH	
⚠ C412	P1F4T0333J	CP	0.033 UF 50V	
⚠ C414	E02LU4101M	CE	100 UF 35V	
⚠ C418	E02LF3102M	CE	1000 UF 25V	
⚠ C420	C0JTB05H3K	CC	0.0022UF 500V B	
C433	E02LF4222M	CE	2200 UF 35V	
⚠ C434	E02LU8220M	CE	22 UF 100V	
⚠ C442	E53FF56R8M	CE	6.8 UF 50V NP	
⚠ C446	E02LU5220M	CE	22 UF 50V	
⚠ C448	E0ELTD100M	CE	10 UF 250V	
C449	P4J7F3394J	CMPP	0.39 UF 250V PMS	
C451	P3G1F5223J	CPP	0.022 UF 630V PP	
⚠ C452	P4G8FJ153H	CMPP	0.015 UF 1.25KV PHE	
⚠ C453	P4G8FJ272H	CMPP	0.0027UF 1.25KV PHE	
⚠ C501	E02LF4102M	CE	1000 UF 35V	
⚠ C505	P2122B224M	CMP	0.22 UF 275V ECQUL	
⚠ C506	P2122B104M	CMP	0.1 UF 275V ECQUL	
⚠ C507	E52DGC471M	CE	470 UF 200V	
C514	C0PLRR713K	CC	0.001 UF 2KV R	
C517	C03L0R7H3K	CC	0.0022UF 2KV R	
⚠ C521	E62NFB221M	CE	220 UF 160V	
C527	E5EZF2222M	CE	2200 UF 16V	
C528	CC3LE0MH3M	CC	0.0022UF 250V	
C530	CC3LE0MH3M	CC	0.0022UF 250V	
C802	C0JBB0713K	CC	0.001 UF 2KV B	
C1008	E02L03102M	CE	1000 UF 25V	
C1009	E02L03102M	CE	1000 UF 25V	
C1016	E02LF4222M	CE	2200 UF 35V	
		DIODES		
D001	D97U03301B	DIODE,ZENER	MTZJ33B T-77	
⚠ D404	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77	
D405	D97U09R11B	DIODE,ZENER	MTZJ9.1B T-77	
⚠ D406	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN	or
	D2WT011E10	DIODE SILICON	11E1-EIC	

REF. NO.	PART NO.	DESCRIPTION		
		DIODES		
⚠ D407	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN	or
	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
⚠ D410	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN	or
	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
⚠ D411	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN	or
	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
D412	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN	or
	D2WT011E10	DIODE SILICON	11E1-EIC	
D414	D2MXS106R0	DIODE,FAST RECOVERY	PS106R	or
	D2LT105SG0	DIODE,FAST RECOVERY	FR105SG-A2	
D415	D2MXS106R0	DIODE,FAST RECOVERY	PS106R	or
	D2LT105SG0	DIODE,FAST RECOVERY	FR105SG-A2	
D417	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN	or
	D2WT011E10	DIODE SILICON	11E1-EIC	
D418	D97U03301B	DIODE,ZENER	MTZJ33B T-77	
D419	D97U03301B	DIODE,ZENER	MTZJ33B T-77	
⚠ D451	D2CF2016L0	DIODE SILICON	FE201-6L49	
⚠ D452	D2CF0715L0	DIODE SILICON	ERD07-15L50	
⚠ D501	D2WTRM11C0	DIODE SILICON	RM11C-EIC	
⚠ D502	D2WTRM11C0	DIODE SILICON	RM11C-EIC	
⚠ D503	D2WTRM11C0	DIODE SILICON	RM11C-EIC	
⚠ D504	D2WTRM11C0	DIODE SILICON	RM11C-EIC	
D505	D28F30DF60	DIODE RECTIFIER	30DF6-FC	
⚠ D506	D97U01801B	DIODE,ZENER	MTZJ18B T-77	
D507	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN	or
	D2WT011E10	DIODE SILICON	11E1-EIC	
D508	D1VT001330	DIODE,SILICON	1SS133T-77	
⚠ D509	D97U01801B	DIODE,ZENER	MTZJ18B T-77	
⚠ D510	D2CF2016L0	DIODE SILICON	FE201-6L49	
D511	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77	
D512	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1	
D514	D1VT001330	DIODE,SILICON	1SS133T-77	
D515	D97U02R21B	DIODE,ZENER	MTZJ2.2B T-77	
D516	D1VT001330	DIODE,SILICON	1SS133T-77	
D517	D1VT001330	DIODE,SILICON	1SS133T-77	
D518	D1VT001330	DIODE,SILICON	1SS133T-77	
D519	D1VT001330	DIODE,SILICON	1SS133T-77	
⚠ D521	D1VT001330	DIODE,SILICON	1SS133T-77	
D523	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN	or
	D2WTAU02A0	DIODE SILICON	AU02A-EIC	
D525	D97U04R71B	DIODE,ZENER	MTZJ4.7B T-77	
D528	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77	
D603	D1VT001330	DIODE,SILICON	1SS133T-77	
D604	D97U08R21B	DIODE,ZENER	MTZJ8.2B T-77	
D606	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN	or
	D2WT011E10	DIODE SILICON	11E1-EIC	
D607	D97U01201B	DIODE,ZENER	MTZJ12B T-77	
D608	D97U01201B	DIODE,ZENER	MTZJ12B T-77	
D609	D97U01201B	DIODE,ZENER	MTZJ12B T-77	
D801	D1VT001330	DIODE,SILICON	1SS133T-77	
D802	D1VT001330	DIODE,SILICON	1SS133T-77	
D803	D1VT001330	DIODE,SILICON	1SS133T-77	
D1501	D1VT001330	DIODE,SILICON	1SS133T-77	
D1502	D1VT001330	DIODE,SILICON	1SS133T-77	
		ICS		
IC101	I56F07091B	IC	OEC7091B	
IC199	A3R2012015	INIT DATA		
IC302	I01FF58910	IC	AN5891SA-E1V	
⚠ IC401	I03TD80410	IC	LA78041	
⚠ IC501	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)	
IC702	I0QS02246L	IC	NJM2246L	
IC901	I01FF58290	IC	AN5829S	
IC1001	I0FSP7808B	IC	AN17808B	
IC1502	I0QF022830	IC	NJM2283M	
		TRANSISTORS		
⚠ Q401	TDUU024990	TRANSISTOR SILICON	2SD2499(LB0EC1)	
⚠ Q402	TCAT03227Y	TRANSISTOR SILICON	KTC3227_Y-AT	
Q407	T8RA030520	TRANSISTOR SILICON	2SC3052-T1	
⚠ Q408	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)	
⚠ Q409	TC30041590	TRANSISTOR,SILICON	2SC4159(D,E)	
⚠ Q501	T220033260	FET	2SK3326(2)	
⚠ Q502	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT	
Q504	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)	
Q507	T8RA030520	TRANSISTOR SILICON	2SC3052-T1	
Q601	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT	
Q602	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT	
Q603	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT	

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		TRANSISTORS	
Q606	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q607	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q608	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
Q610	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q701	T8RA030520	TRANSISTOR SILICON	2SC3052-T1
Q702	T8RA030520	TRANSISTOR SILICON	2SC3052-T1
Q703	T8RA030520	TRANSISTOR SILICON	2SC3052-T1
Q705	T8RA030520	TRANSISTOR SILICON	2SC3052-T1
Q706	T6RA015300	TRANSISTOR SILICON	2SA1530A-T1
Q707	T8RA030520	TRANSISTOR SILICON	2SC3052-T1
Q801	TCATC3199Y	TRANSISTOR SILICON	KTC3199_Y-AT
Q802	TCATC3199Y	TRANSISTOR SILICON	KTC3199_Y-AT
Q803	TCATC3199Y	TRANSISTOR SILICON	KTC3199_Y-AT
⚠ Q804	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
⚠ Q805	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
Q806	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
Q901	T6RA015300	TRANSISTOR SILICON	2SA1530A-T1
Q902	T6RA015300	TRANSISTOR SILICON	2SA1530A-T1
Q1508	TNRAB05004	COMPOUND TRANSISTOR	RT1N141C-T1
		COILS &TRANSFORMERS	
L301	02167F101J	COIL	100 UH
⚠ L401	022810041A	COIL,LINEARITY	STP-03Q23
L403	02DK000058	COIL CHOKE	02DK000058
⚠ L501	029X000418	COIL,LINE FILTER	SS26V-200076
⚠ L503	028R270010	COIL,DEGAUSS	8R270010
L902	02167F101J	COIL	100 UH
T401	0450190161	TRANS,HORIZONTAL DRIVE	ETH19Y203AY
⚠ T501	0481400694	TRANSFORMER,SWITCHING	81400694
		JACKS	
J701	060J431019	RCA JACK	MSP-213V2-432 PBSN
J705	063Q700002	JACK	YKF51-5503
J707	060J431019	RCA JACK	MSP-213V2-432 PBSN
J710	060J401104	RCA JACK	MTJ-032-03A-30FE
J711	060J401106	RCA JACK	MTJ-032-03A-32FE
J712	060J401105	RCA JACK	MTJ-032-03A-31FE
⚠ J801	066F130021	SOCKET,CATHODE RAY,TUBE	ISHS62S
		SWITCHES	
SW101	0504101T34	SWITCH,TACT	EVQ21505R
SW102	0504101T34	SWITCH,TACT	EVQ21505R
SW103	0504101T34	SWITCH,TACT	EVQ21505R
SW104	0504101T34	SWITCH,TACT	EVQ21505R
SW105	0504101T34	SWITCH,TACT	EVQ21505R
		VARIABLE RESISTORS	
VR401	V1K63H3BTE	VOLUME,SEMI FIXED	NVG6TLTAB222
VR402	V1163Q2BTC	VOLUME,SEMI FIXED	EVNCYAA03BQ2
VR403	V1163H4BTC	VOLUME,SEMI FIXED	EVNCYAA03BE4
VR404	V1163H4BTC	VOLUME,SEMI FIXED	EVNCYAA03BE4
VR502	V1163H4BTC	VOLUME,SEMI FIXED	EVNCYAA03BE4
		P.C.BOARD ASSEMBLIES	
PCB010	A3R2012010	PCB ASS'Y	TMD605A
PCB110	A3R2012110	PCB ASS'Y	TCD461A
		MISCELLANEOUS	
B501	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B504	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
⚠ CD501	120R415906	CORD AC BUSH	0R415906 or
	1209415910	CORD AC BUSH	9415910
CD801	06CH823004	CORD CONNECTOR	CH823004
CD802	WCL6854038	FLAT CABLE AWM2468	AWG26 5C GRAY 540MM
CP401	069S460089	CORD UX CONNECTOR	A1561WV2-A6P
⚠ CP502	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
CP601	069S270639	CONNECTOR PCB SIDE	A2001WR2-7P
CP801	069S320010	CONNECTOR PCB SIDE	A2361WV2-2P
CP1001	069S140419	CONNECTOR PCB SIDE	A2502WV2-4P
CP802A	067U005049	WIRE HOLDER	B2013H02-5P
CP802B	067U005049	WIRE HOLDER	B2013H02-5P
CP803A	067U003029	WIRE HOLDER	B2013H02-3P
CP803B	067U003029	WIRE HOLDER	B2013H02-3P
EL001	124120301A	EYE LET	XRY20X30BD
EL002	124116281A	EYE LET	XRY16X28BD
⚠ F501	081PC6R305	FUSE	51MS063L
⚠ FB401	043227020Y	TRANSFORMER,FLYBACK	3227020Y
FH501	06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	06710T0009	HOLDER,FUSE	EYF-52BCY
OS101	077Q000025	REMOTE RECEIVER	KSM-713SY
⚠ RY501	0560X20118	RELAY	G5PA-1-SA(WEC)
⚠ SP1001	070F435009	SPEAKER	NS-23S0308-2 or
	070Y435005	SPEAKER	S0509F12-D

REF. NO.	PART NO.	DESCRIPTION	
		MISCELLANEOUS	
⚠ TH501	D8EE0B1400	DEGAUSS ELEMENT	B59203-S1060-B14
TM101	076N0DW130	TRANSMITTER	RC-DW130
⚠ TU001	0163100011	RF UNIT	ENG36A01GY or
	0163300005	RF UNIT	115-V-K015AR_B
⚠ V801	0981270B01	CRT W/DY	M68LWF088X
X601	100BT3R537	CRYSTAL	HC-49U

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

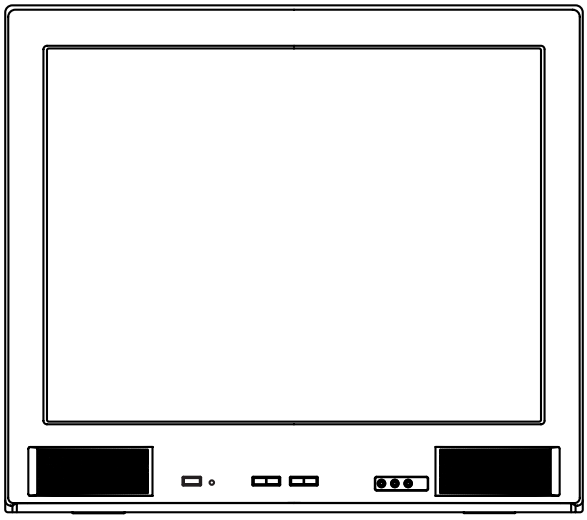
SPEC.NO.	M3R2-052
O/R NO.	W443039

Memorex®

MT2274 Series A

SERVICE MANUAL

COLOR TELEVISION RECEIVER



SUPPLEMENT
MFR'S VERSION A

This SUPPLEMENT must be used together SERVICE MANUAL for MT2274.
All other test and repair procedures are as shown in the ORIGINAL MANUAL.
Please file this SUPPLEMENT with the ORIGINAL VERSIONS.

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	MT2274		MT2274 Series A	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
R005	R002T4101J	RC 100 OHM 1/4W		DEL
R301		———	R803R9821J	RC 820 OHM 1/16W
R302		———	R803R9821J	RC 820 OHM 1/16W
R308	R002T4102J	RC 1K OHM 1/4W	R803R9222J	RC 2.2K OHM 1/16W
R319	R803R9102J	RC 1K OHM 1/16W	R803R9222J	RC 2.2K OHM 1/16W
⚠ R429	R63581010J	R,FUSE 1 OHM 1W	R635812R7J	R,FUSE 2.7 OHM 1W
R430	R002T4682J	RC 6.8K OHM 1/4W	R002T4562J	RC 5.6K OHM 1/4W
R441	R002T4223J	RC 22K OHM 1/4W	R002T4183J	RC 18K OHM 1/4W
R443	R002T4472J	RC 4.7K OHM 1/4W	R002T4392J	RC 3.9K OHM 1/4W
R454	R002T2222J	RC 2.2K OHM 1/2W	R002T2152J	RC 1.5K OHM 1/2W
R523		———	R002T4101J	RC 100 OHM 1/4W
R547	R002T4102J	RC 1K OHM 1/4W	R002T4152J	RC 1.5K OHM 1/4W
R612		———	R002T4471J	RC 470 OHM 1/4W
R901	R801R7471J	RC 470 OHM 1/10W	R803R9822J	RC 8.2K OHM 1/16W
R902	R801R7471J	RC 470 OHM 1/10W	R803R9472J	RC 4.7K OHM 1/16W
R903	R803R9224J	RC 220K OHM 1/16W		DEL
R904		———	R002T4101J	RC 100 OHM 1/4W
R905		———	R002T4101J	RC 100 OHM 1/4W
R906		———	R803R9101J	RC 100 OHM 1/16W
R907		———	R803R9101J	RC 100 OHM 1/16W
R912		———	R803R9473J	RC 47K OHM 1/16W
R913		———	R803R9102J	RC 1K OHM 1/16W
R914		———	R002T4222J	RC 2.2K OHM 1/4W
R915		———	R803R9335J	RC 3.3M OHM 1/16W
R1004	R002T4392J	RC 3.9K OHM 1/4W		DEL
R1006	R803R9182J	RC 1.8K OHM 1/16W	R803R9102J	RC 1K OHM 1/16W
R1008	R803R9182J	RC 1.8K OHM 1/16W	R803R9102J	RC 1K OHM 1/16W
R1009	R002T4392J	RC 3.9K OHM 1/4W		DEL
R1014		———	R803R9122J	RC 1.2K OHM 1/16W
R1015		———	R803R9122J	RC 1.2K OHM 1/16W
C303	E02LU5100M	CE 10 UF 50V	E50HU5010M	CE 1 UF 50V
C317	E02LU5100M	CE 10 UF 50V	E50HU5010M	CE 1 UF 50V
C324	E02LU5100M	CE 10 UF 50V	E50HU5010M	CE 1 UF 50V
C325	E02LU5100M	CE 10 UF 50V	E50HU52R2M	CE 2.2 UF 50V
C346	E02LU5100M	CE 10 UF 50V	E50HU5010M	CE 1 UF 50V
C405		———	P6M9T0683J	CMPL 0.068 UF 50V TF
C437	P6M9T0683J	CMPL 0.068 UF 50V TF	P6M9T0473J	CMPL 0.047 UF 50V TF
C439	E02LU5470M	CE 47 UF 50V	E02LU4101M	CE 100 UF 35V
C444	E02LU2470M	CE 47 UF 16V	E02LU3101M	CE 100 UF 25V
C449	P4J7F3394J	CMPP 0.39 UF 250V PMS	P4J7F3474J	CMPP 0.47 UF 250V PMS
⚠ C453	P4G8FJ272H	CMPP 0.0027UF 1.25KV PHE	P4N8FJ562H	CMPP 0.0056UF 1.25KV
C456	P6M9T0223J	CMPL 0.022 UF 50V TF	P6M9T0393J	CMPL 0.039 UF 50V TF
C517	C03L0R7H3K	CC 0.0022UF 2KV R	C03L0R7K3K	CC 0.0027UF 2KV R
C618		———	E50HU5010M	CE 1 UF 50V
C643		———	E02LU3221M	CE 220 UF 25V
C901		———	E50HU54R7M	CE 4.7 UF 50V
C902		———	E50HU54R7M	CE 4.7 UF 50V
C903	E50HU54R7M	CE 4.7 UF 50V	CS0PB0216K	CC 1 UF 16V B
C904	E50HU54R7M	CE 4.7 UF 50V	CS0PB0415K	CC 0.1 UF 50V B

ELECTRICAL REPLACEMENT PARTS LIST

	MT2274		MT2274 Series A	
REF. NO.	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
C905	E50HU54R7M	CE 4.7 UF 50V		DEL
C906		———	CS0PB0216K	CC 1 UF 16V B
C907	E50HU3100M	CE 10 UF 25 V	E52H02220M	CE 22 UF 16V
C908	CS0PB0413K	CC 0.001 UF 50V B	CS0PB0415K	CC 0.1 UF 50V B
C909		———	E50HU2220M	CE 22 UF 16 V
C910	E02LU2101M	CE 100 UF 16V	E50HU54R7M	CE 4.7 UF 50V
C911	CS0PB0NL5K	CC 0.33 UF 10V B	CS0PB0216K	CC 1 UF 16V B
C912	CS0PB04Q4K	CC 0.047 UF 50V B	CS0PB0216K	CC 1 UF 16V B
C913	CS0PB04H4K	CC 0.022 UF 50V B		DEL
C914	CS0PF0415Z	CC 0.1 UF 50V F	CS0PB0216K	CC 1 UF 16V B
C915	E50HU53R3M	CE 3.3 UF 50V	E50HU54R7M	CE 4.7 UF 50V
C916	CS0PF0415Z	CC 0.1 UF 50V F	CS0PF0NH6Z	CC 2.2 UF 10V F
C917	CS0PF0415Z	CC 0.1 UF 50V F	CS0PB0N16K	CC 1 UF 10V B
C919	E50HU5100M	CE 10 UF 50V	CS0PB0415K	CC 0.1 UF 50V B
C920		———	E50HU52R2M	CE 2.2 UF 50V
C921		———	E50HU52R2M	CE 2.2 UF 50V
C922		———	CS0PCH412J	CC 100 PF 50V CH
C923		———	CS0PB0412K	CC 100 PF 50V B
C924		———	CS0PB04K3K	CC 0.0027UF 50V B
C926		———	E02LU2470M	CE 47 UF 16V
C927		———	E50HU3100M	CE 10 UF 25 V
C931		———	CS0PB0415K	CC 0.1 UF 50V B
C932		———	E02LU2470M	CE 47 UF 16V
C933		———	CS0PB0414K	CC 0.01 UF 50V B
C936		———	E00NU2100M	CE 10 UF 16 V
C937		———	E00NU2100M	CE 10 UF 16 V
C1004	CS0PF04H4Z	CC 0.022 UF 50V F	CS0PB03S4K	CC 0.056 UF 25V B
C1007	CS0PF04H4Z	CC 0.022 UF 50V F	CS0PB03S4K	CC 0.056 UF 25V B
C1535		———	CHGTB0413K	CC 0.001 UF 50V B
D602		———	D97U09R11B	DIODE,ZENER MTZJ9.1B T-77
D610		———	D1VT001330	DIODE,SILICON 1SS133T-77
IC101	I56F07091B	IC OEC7091B	I56F07116A	IC OEC7116A
IC901	I01FF58290	IC AN5829S	I03FF27000	IC LA72700V-TLM-E
IC902		———	I0QF02534V	IC NJM2534V(TE2)
IC903		———	I0QF02534V	IC NJM2534V(TE2)
Q609		———	TCAT03209Y	TRANSISTOR SILICON KTC3209_Y-AT
Q901	T6RA015300	TRANSISTOR SILICON 2SA1530A-T1		DEL
Q902	T6RA015300	TRANSISTOR SILICON 2SA1530A-T1		DEL
⚠ Q804	TCA0042170	TRANSISTOR SILICON KTC4217(O,Y)	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
⚠ Q805	TCA0042170	TRANSISTOR SILICON KTC4217(O,Y)	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
⚠ Q806	TCA0042170	TRANSISTOR SILICON KTC4217(O,Y)	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
L901		———	02167F101J	COIL 100 UH
L902	02167F101J	COIL 100 UH		DEL
J701	060J431019	RCA JACK MSP-213V2-432 PBSN	060J431020	RCA JACK MSP-213V2-432_NI_LF
J707	060J431019	RCA JACK MSP-213V2-432 PBSN	060J431020	RCA JACK MSP-213V2-432_NI_LF
EL001	124120301A	EYE LET XRY20X30BD	124116281A	EYE LET XRY16X28BD
EL002	124116281A	EYE LET XRY16X28BD	124120301A	EYE LET XRY20X30BD

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	MT2274		MT2274 Series A	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
⚠ FB401	043227016F	TRANSFORMER,FLYBACK FJN27A003_M	043227023F	TRANSFORMER,FLYBACK FJN27A004_M
⚠ TU001	163100011	RF UNIT ENG36A01GY	163300012	RF UNIT 115-V-K035ARB
⚠ V801	0981270B01	CRT W/DY M68LWF088X50	098B270602	CRT W/DY A68KTB359X058(PL)
PCB010	A3R2012010	PCB ASS'Y TMD605A	A3R2A3D010	PCB ASS'Y TMD612A
PCB110	A3R2012110	PCB ASS'Y TCD461A	A3R2A0D110	PCB ASS'Y TCD465A

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	MT2274		MT2274 Series A	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
101	7A701A106A	FRONT,CABI ASS'Y	7A701A271A	FRONT,CABI ASS'Y
101A	701WPJC649	CABINET,FRONT	701WPJC873	CABINET,FRONT
101D	735WPBB121	BUTTON,ASS'Y	735WPBB277	BUTTON,ASS'Y
101E	800WQ0A044	FELT,SHEET	800WQ0A049	FELT,SHEET
101F	800WQ0A068	FELT,SHEET		DEL
102	7A702A041A	BACK,CABI ASS'Y	7A702A073A	BACK,CABI ASS'Y
102A	702WPA0931	CABINET,BACK	702WPAA776	CABINET,BACK #2
106	722A08A144	SHEET,RATING	722A08A155	SHEET,RATING
108	800WR0A002	SHEET,CRT SUPPORT	800WR0A003	SHEET,CRT SUPPORT
110		————————	726000A077	SHEET,CRT SERVICEMAN
111		————————	769WSA0016	WASHER CRT T=0.5
204	8110630A24	SCREW,TAP TITE(P) BRAZIER 3*12 CH	8110630804	SCREW,TAP TITE(P) BRAZIER 3*8 CH
207	8141J50D54	SCREW,TAP TITE(P) GW20 5X45 CH HEXAGON	8141H60D54	SCREW,TAP TITE(P) GW20 6*45 CH HEXAGON
---	JB5U0100	POLYBAG,INSTRUCTION	JB5UD100	POLYBAG,INSTRUCTION(RED CAUTION)
---	J3R20521A	INSTRUCTION BOOK	J3R2A221A	INSTRUCTION BOOK
---	A3R2052975	INSTRUCTION BOOK KIT	A3R2A2D975	INSTRUCTION BOOK KIT

WHEN REPLACING EEPROM (MEMORY) IC

ADDRESS	MT2274	MT2274 Series A
	DATA	DATA
00	50	10
0A	00	0B
0D	3E	3F
10	————————	02

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.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease **(YG6260M)** on the contract section of the heat sink, Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

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.**

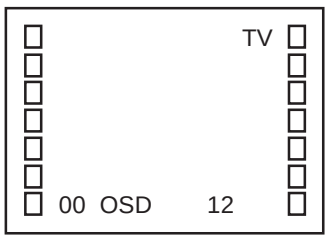


Fig. 1-1

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	16	CONTRAST CENT
01	CUT OFF	17	CONTRAST MAX
04	H.VCO	18	CONTRAST MIN
05	H.PHASE	19	COLOR CENT
06	V.SIZE	20	COLOR MAX
07	V.SHIFT	21	COLOR MIN
08	R.DRIVE	22	TINT
09	B.DRIVE	23	SHARPNESS
10	R.BIAS	24	FM LEVEL
11	G.BIAS	28	TEST MONO
12	B.BIAS	29	TEST STEREO
13	BRIGHT CENT		
14	BRIGHT MAX		
15	BRIGHT MIN		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Set condition is AV MODE without signal.
3. Connect the digital voltmeter to the **TP401.**
4. Using the adjustment control, set the brightness and contrast to normal position.
5. Adjust the **VR502** until the digital voltmeter is 120 ± 0.5V.

2-2: CUT OFF

1. Adjust the unit to the following settings. R.DRIVE=64, B.DRIVE=64, R.BIAS=64, G.BIAS=64, B.BIAS=64, BRI.CENT=90, CONT.MAX=70.
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 white 100% signal from the Pattern Generator.
3. Using the adjustment 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: VERTICAL SHIFT, VERTICAL LINEARITY

1. Receive an 70~ 80dB monoscope pattern.
2. Using the adjustment control, set the brightness and contrast to normal position.
3. Check the step No. V. SHIFT is "4"
4. Adjust the **VR401** until the horizontal line becomes fit to the notch of the shadow mask.
5. Adjust the **VR402** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-6: VERTICAL SIZE

1. Receive the crosshatch signal from the Pattern Generator.
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 SHIFT quantity of the OVER SCAN on upside and downside becomes 9 ± 2%.
4. Receive a broadcast and check if the picture is normal.

ELECTRICAL ADJUSTMENTS

2-7: PALABOLA CORR

1. Receive the chosshatch pattern.
2. Adjust the **VR403** so that the 4th length line becomes straight from the outside of the right and left.

2-8: OSD

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. 2-1)**

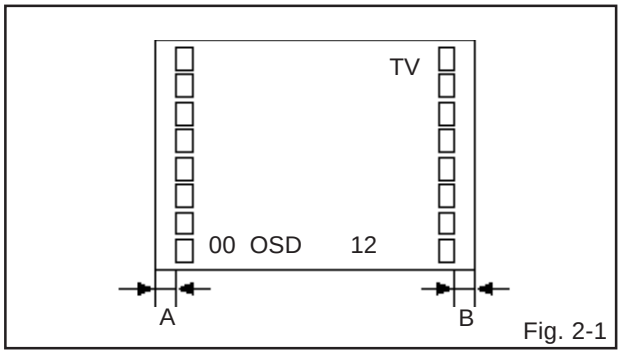


Fig. 2-1

2-9: SUB BRIGHTNESS

1. Receive an over 70dB monoscope pattern.
2. Using the adjustment control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "BRI.CENT".
4. Press the VOL. UP/DOWN button on the remote control until the white 10% is starting to be visible.
5. Press the TV/AV button on the remote to set to the AV mode. Then perform the above adjustment 2~4.

2-10: CONTRAST MAX

1. Receive the color bar pattern. (RF Input)
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 **(17)** on the remote control to select "CONT MAX".
4. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "70".
5. Receive a broadcast and check if the picture is normal.
6. Receive the color bar pattern. (Audio Video Input)
7. Press the TV/VIDEO button on the remote control to set to the AV mode. Then perform the above adjustments 2~5.

2-11: HORIZONTAL PHASE

1. Receive the center cross signal from the Pattern Generator.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(05)** on the remote control to select "H.PHAS".
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.

2-12: HORIZONTAL SIZE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR404** until the SHIFT quantity of the OVER SCAN on the right and left becomes 11%~12%.

2-13: SUB TINT/SUB COLOR

1. Receive the color bar pattern.
2. Connect the oscilloscope to **TP024**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "TINT".
4. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes as straight line. **(Refer to Fig. 2-2)**
5. Connect the oscilloscope to **TP022**.
6. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(19)** on the remote control to select "COL.CENT".
7. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110 ± 10% of the white level. **(Refer to Fig. 2-3)**
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.
10. Connect the oscilloscope to **TP024**.
11. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "TINT".
12. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes as straight line. **(Refer to Fig. 2-4)**
13. Connect the oscilloscope to **TP022**.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(19)** on the remote control to select "COL.CENT".
15. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 110 ± 10% of the white level. **(Refer to Fig. 2-3)**

ELECTRICAL ADJUSTMENTS

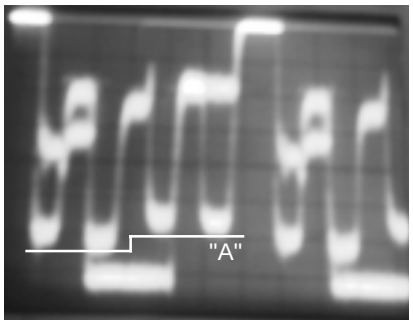


Fig. 2-2

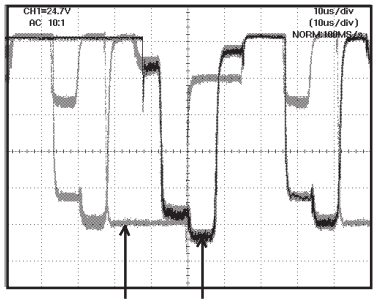


Fig. 2-3

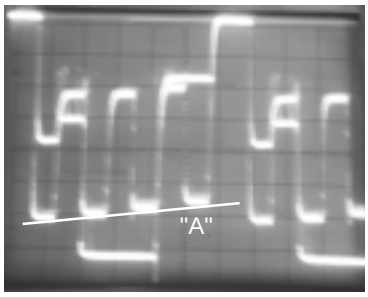


Fig. 2-4

2-14: Confirmation of Fixed Value (step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV
04	H VCO	04	04
14	BRIGHT MAX	130	130
15	BRIGHT MIN	60	60
16	CONT CENT	35	35
18	CONT MIN	20	20
20	COLOR MAX	65	65
21	COLOR MIN	00	00
23	SHARPNESS	45	45
24	FM LEVEL	01	01

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.

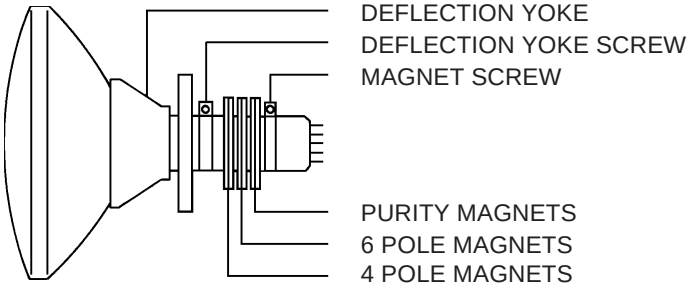


Fig. 3-1

NOTE

Adjust after performing adjustments in section 3-2.

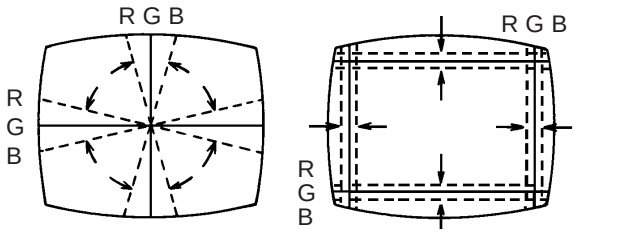
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

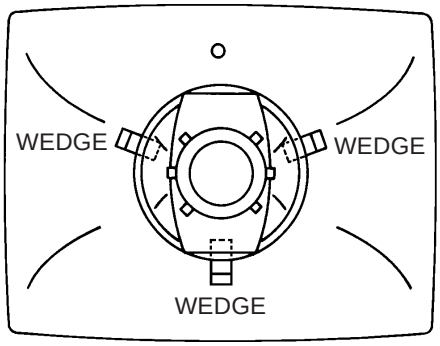
Adjust after performing adjustments in section 3-3.

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)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 3-2-a

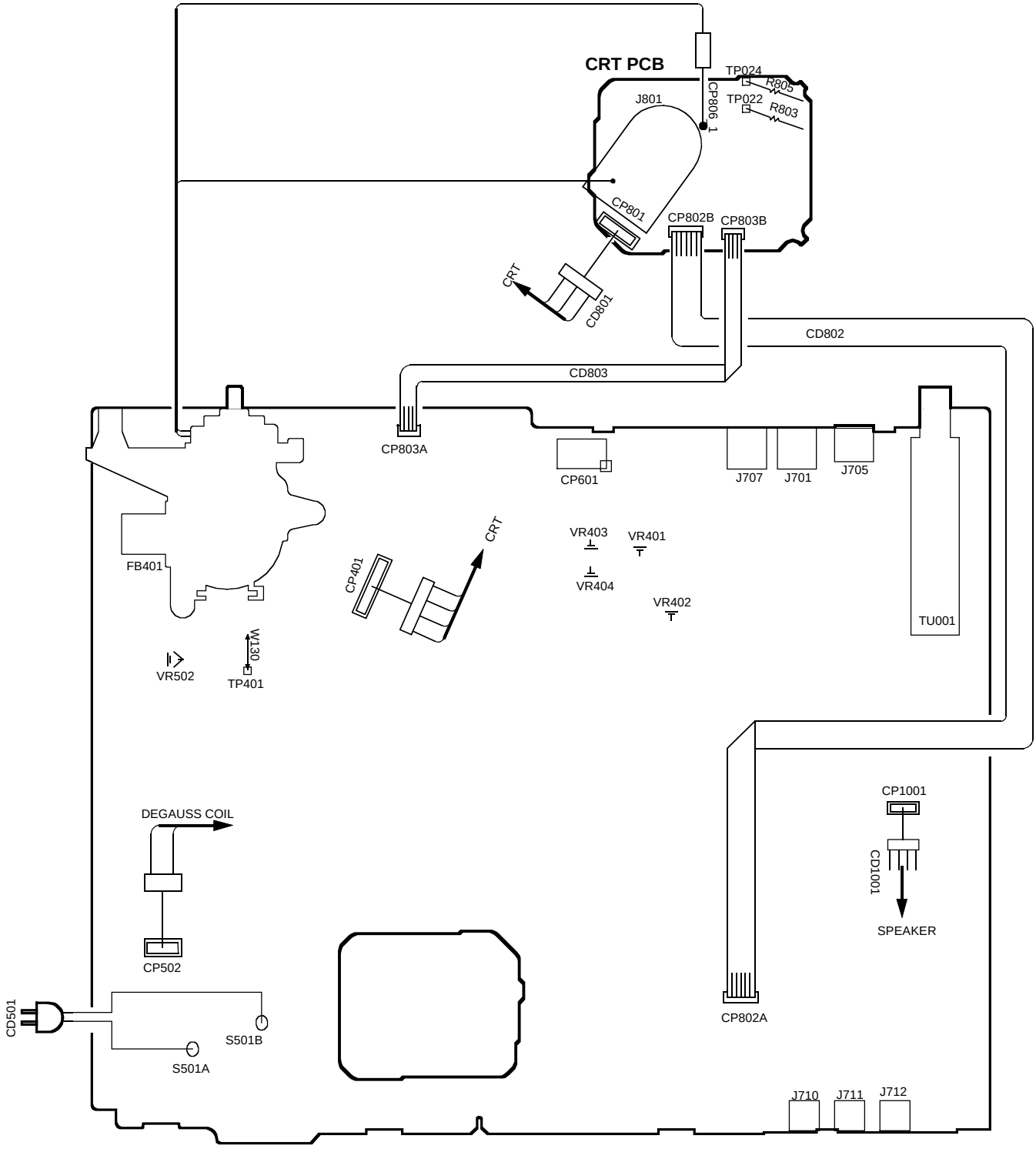


WEDGE POSITION

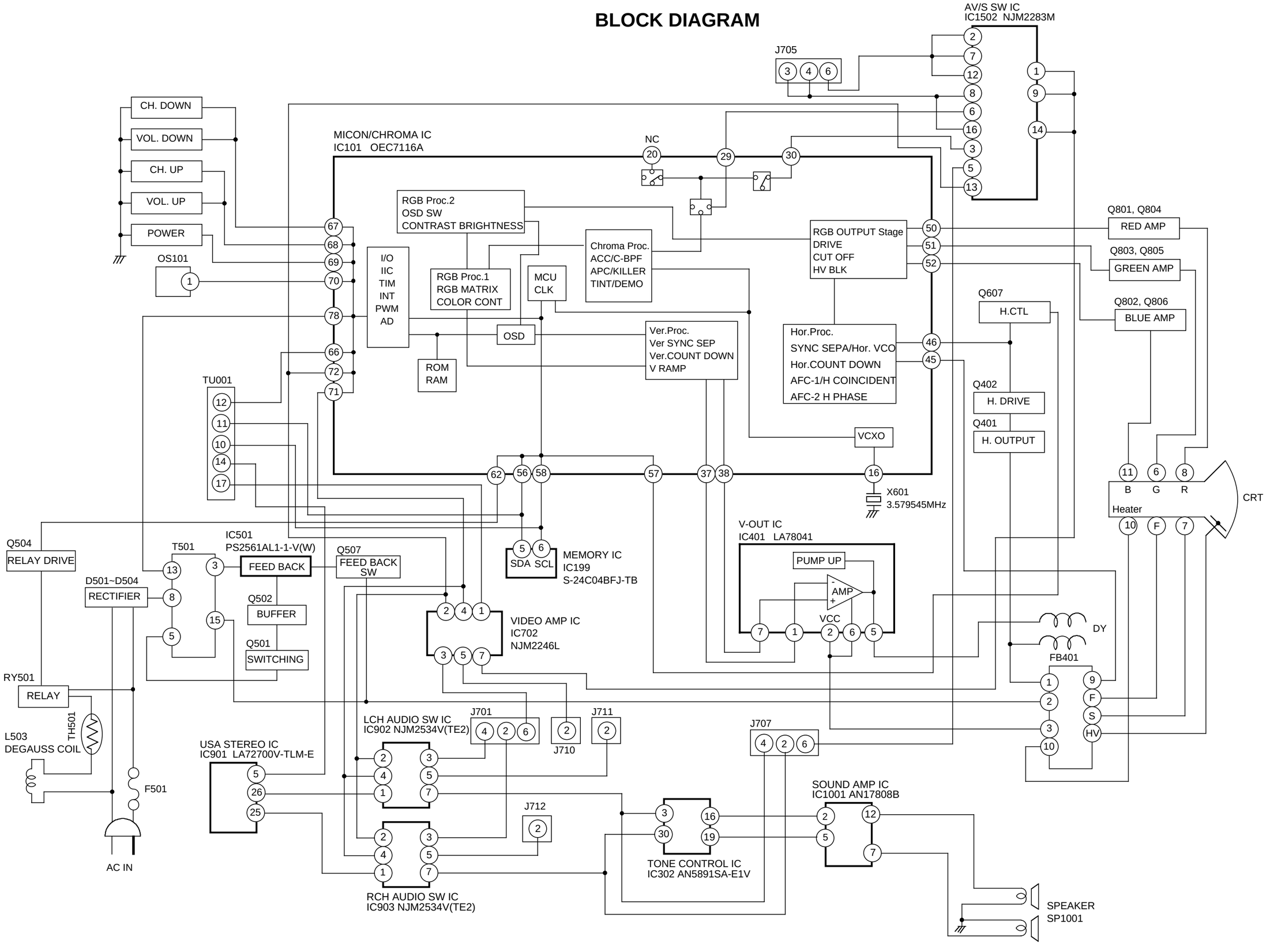
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

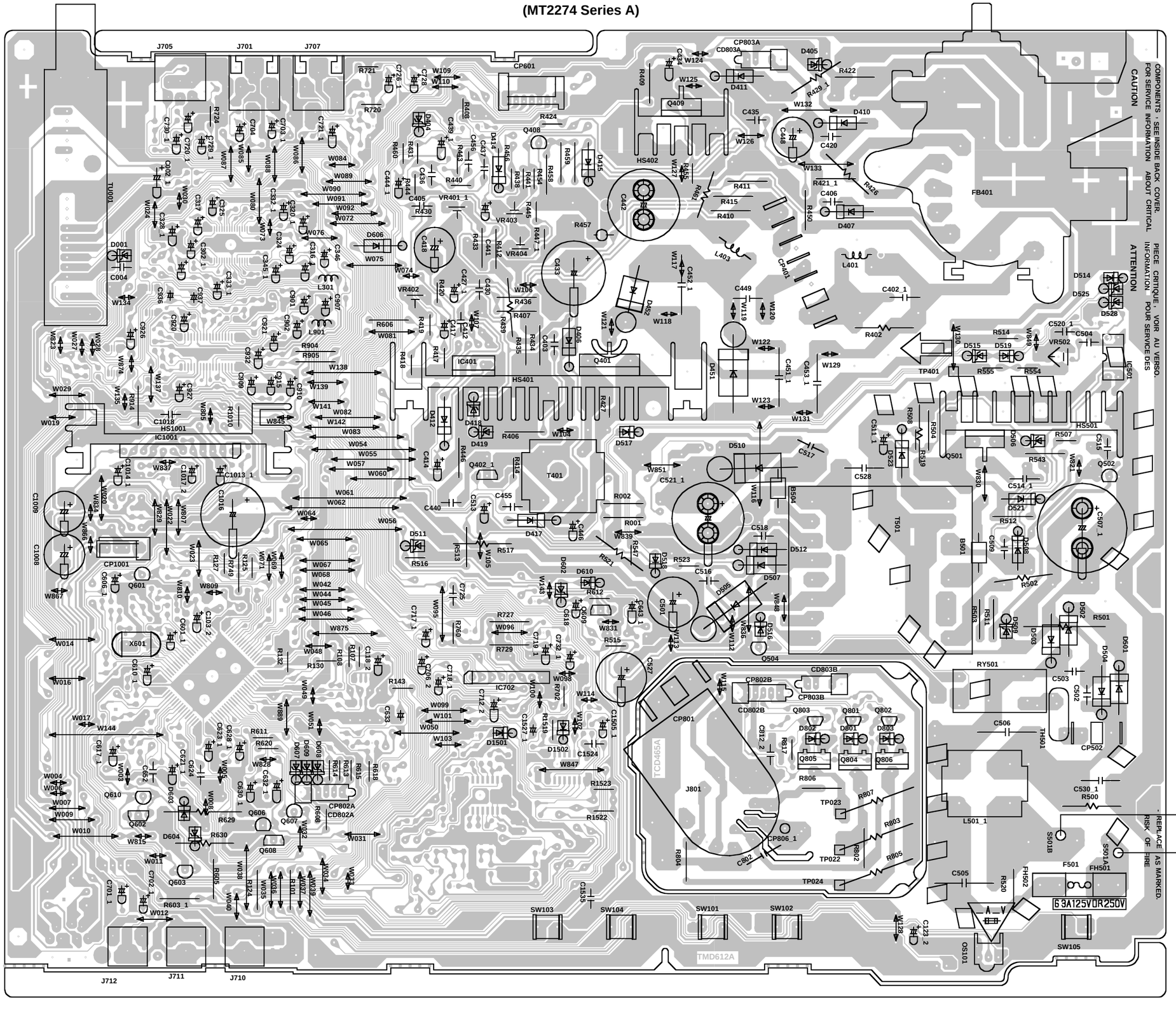
4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



BLOCK DIAGRAM

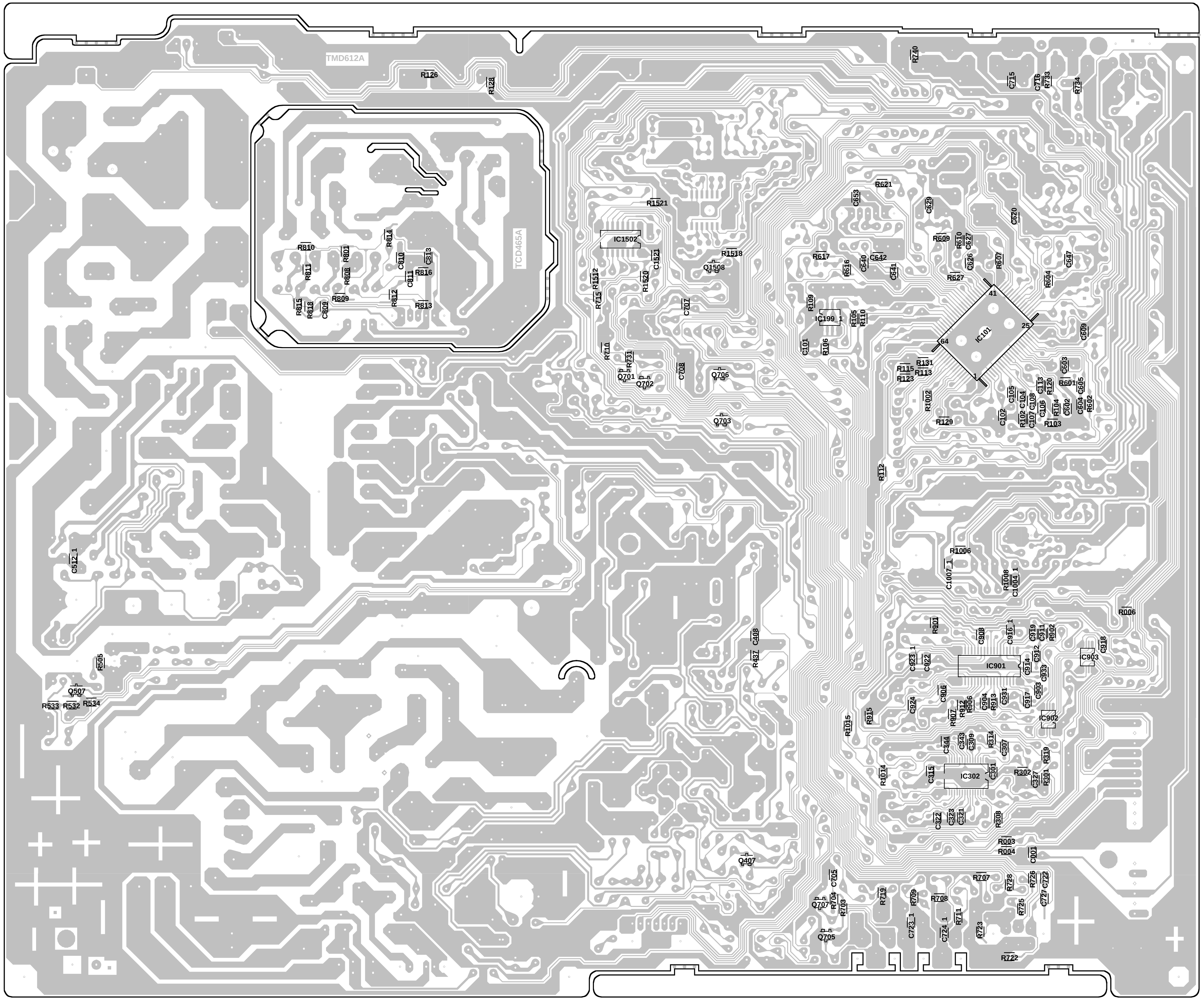


PRINTED CIRCUIT BOARDS
MAIN/CRT (INSERTED PARTS)
SOLDER SIDE
(MT2274 Series A)



ADD R523
R612
R904
R905
R914
C405
C618
C643
C901
C902
C909
C920
C921
C926
C927
C932
C936
C937
C1535
D602
D610
Q609
L901

PRINTED CIRCUIT BOARDS
MAIN/CRT (CHIP MOUNTED PARTS)
SOLDER SIDE
(MT2274 Series A)



ADD R301
R302
R906
R907
R912
R913
R915
R1014
R1015
C906
C922
C923
C924
C931
C933
IC902
IC903

MICON/CHROMA/TUNER SCHEMATIC DIAGRAM

(MAIN PCB) (MT2274 Series A)

1	CNVSS	41	NC
2	XIN	42	HVCO F/B
3	XOUT	43	AFC FILTER
4	TEST1	44	DEF GND
5	VSS	45	FBP IN
6	MCU VCC	46	H OUT
7	TEST0	47	DEF VCC
8	FILT	48	NC
9	HLT	49	HI VCC
10	VHOLD	50	R OUT
11	CVIN	51	G OUT
12	RESET IN	52	B OUT
13	MCU RESET OUT	53	ACL
14	Y SW OUT	54	NC
15	V/C GND	55	PROTECT
16	3.58 XTAL	56	SDA
17	C-APC	57	H_CTL
18	MCU5.7V REG OUT	58	SCL
19	NC	59	NC
20	CVBS IN3	60	NC
21	AUDIO IN3	61	NC
22	V/C VCC	62	DEGAUSS_H
23	MCU TEST	63	STANDBY_H
24	CVBS IN2	64	VOLUME
25	AUDIO IN2	65	NC
26	CVBS IN1	66	AFT
27	AUDIO IN1	67	KEY1
28	5.7V REG OUT	68	KEY2
29	C(Y/C) IN	69	POWER_ON
30	Y(Y/C) IN	70	REMOCON
31	VREG VCC	71	AV2
32	FSC OUT	72	AV1
33	MONITOR OUT	73	AUDIO_MUTE
34	AUDIO ATT OUT	74	X-RAY
35	AUDIO ATT FILTER	75	IIC_OFF
36	NC	76	ON_TIMER
37	V RAMP F/B	77	SYNC
38	V RAMP OUT	78	POWER FAIL
39	V RAMP CAP	79	X-RAY_TEST
40	8.7V REG OUT	80	EXT_MUTE

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.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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

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

DEFLECTION/CRT SCHEMATIC DIAGRAM (TV MT PCB) (MT2274 Series A)

FROM/TO MICON/CHROMA/TUNER
CLAMP
G.OUT
R.OUT
B.OUT
V_OUT
ABCL
H_OUT
V_FEEDBACK
H_SYNC
GND
FROM/TO SOUND
GND
TO MICON/CHROMA/TUNER
X-RAY
FROM POWER
UNREG+18V
B+
GND

V-OUT IC IC401 LA78041
PUMP UP
THERMAL PROTECTION
AMP
VCC GND
3.9 26.1 2.2 0 13 26 3.9

CP802A B2013H02-5P
CLAMP 1
GND 2
G.OUT 3
R.OUT 4
B.OUT 5
CP803A B2013H02-4P
180V 1
NC 2
GND 3
HEATER 4
CP802B B2013H02-5P
CP803B B2013H02-4P

CD801 CH823004
CP801 A2361WV2-2P
V801 A68KTB359X058(PL)
CP401 A1561WV2-A6P

RED AMP Q801 KTC3199_Y
GREEN AMP Q803 KTC3199_Y
BLUE AMP Q802 KTC3199_Y
RED AMP Q804 2SC4217
GREEN AMP Q805 2SC4217
BLUE AMP Q806 2SC4217
D801 1SS133
D802 1SS133
D803 1SS133

PIN DRIVE Q409 2SC4159
PIN DRIVE Q408 KTA1266
PIN SW Q407 2SC30521
H.OUTPUT Q401 2SD2499(LBOEC1)
H.DRIVE Q402_1 KTC3227_Y

SIDE PCC VR403 22K
H SIZE VR404 22K
HS402 763WAAA063
HS401 763WAAA051
L403 02DK000058
L401 STP-03G23
T401 ETH19Y203AY
FB401 FJN27A004_M

D404 R408 MTZJ6.8 3.9K +-1%
D452 ERD07-15L50
D451 FE2D1-6L-49
D414 PS106R
D415 PS106R
D405 MTZJ9.1B
D407 1N4937-PAN
D411 1N4937-PAN
D410 1N4937-PAN
D417 1N4002-PAN
D406 1N4002-PAN
D418 MTZJ33B
D419 MTZJ33B

R424 18K +-1%
R409 15K +-1%
R429_1 2.7 1W
R457 10 1/2W
R461 2.2 1/2W
R459 820 1/2W
R422 8.2K 1/2W
R450 68K 1/2W
R421_1 68K 1/2W
R439 68 1W
R426 1 1W

C433 35V 2200 YK
C449 250V 0.47 PMS
C435 100V 0.1 TF
C448 250V 10 YK
C420 500V 0.0022 B
C406 500V 0.0033 B
C455 500V 100PB
C446 50V 22 YK
C412 0.033 M
C813 0.001 B
C812_2 500V 330P B
C802 2KV 0.001 B

TP401 +B
TP022
TP023
TP024

J801 ISHS62S
PCB110 TCC428
PCB010 TMD612

FORCUS
SCREEN
CP806_1

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

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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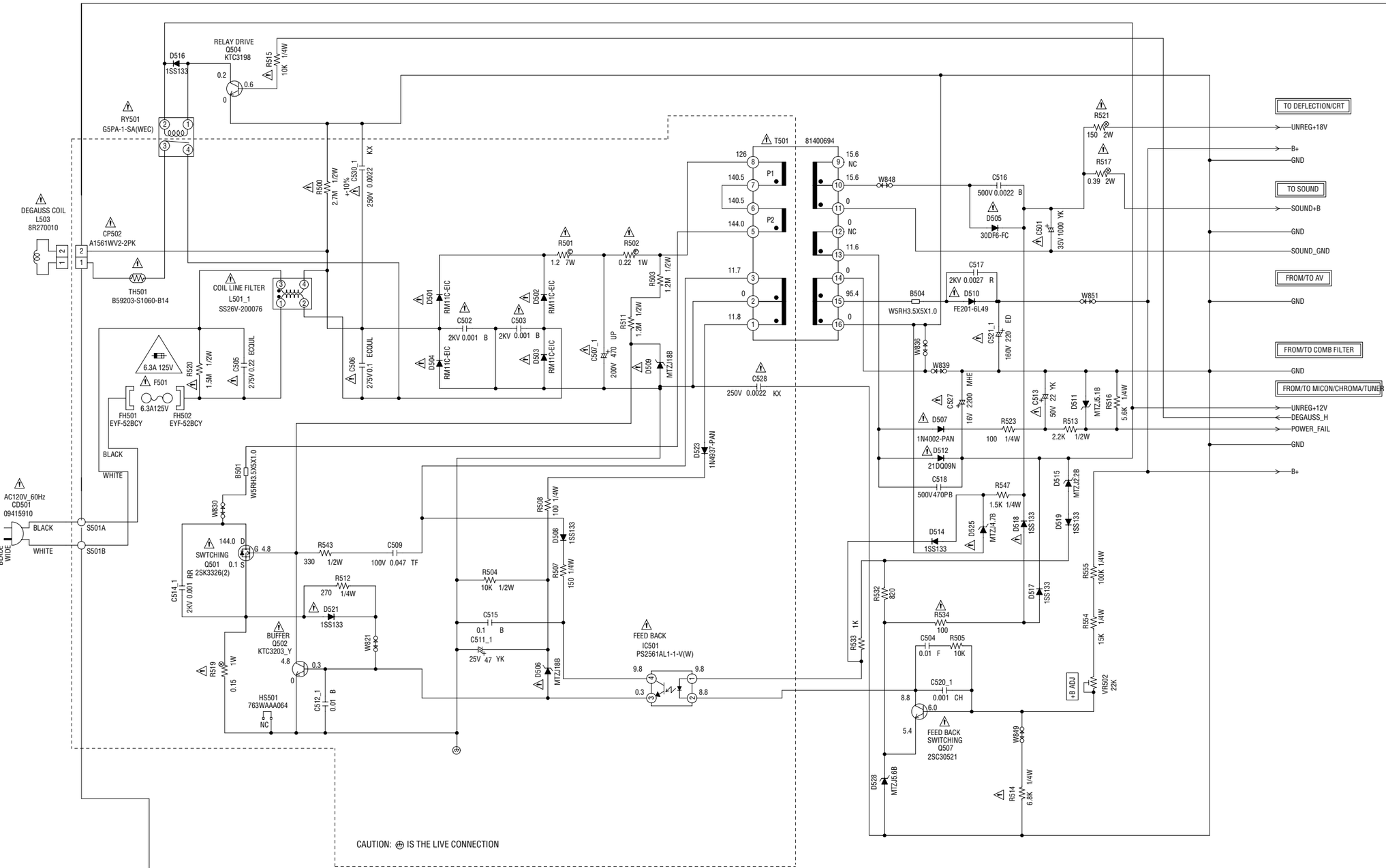
R.SIGNAL
G.SIGNAL
B.SIGNAL
DEFLECTION SIGNAL

POWER SCHEMATIC DIAGRAM

(TV MT PCB) (MT2274 Series A)



6.3A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 6.3A 125V(F501)

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE 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 。

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ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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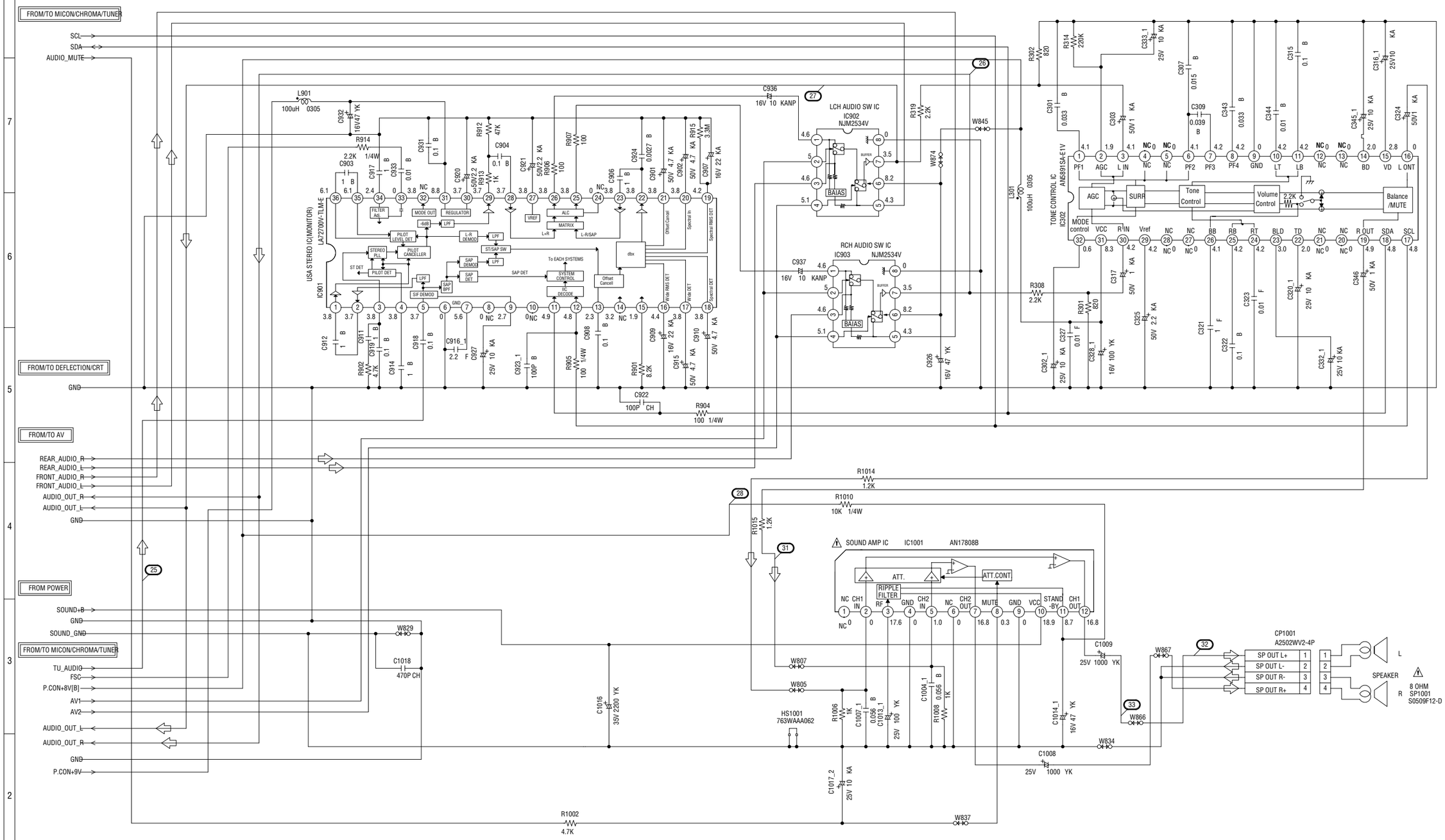
SOUND SCHEMATIC DIAGRAM

(MAIN PCB) (MT2274 Series A)



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

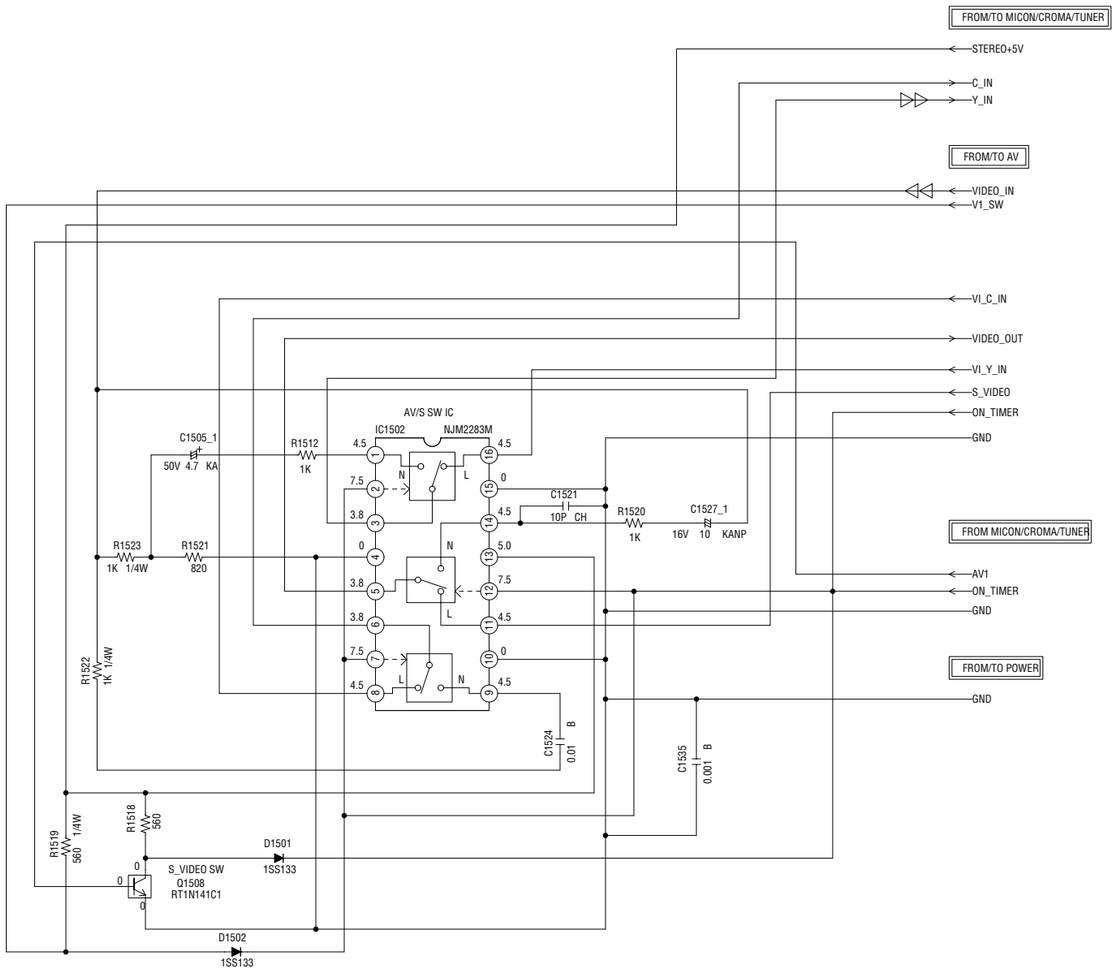
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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

COMB/FILTER SCHEMATIC DIAGRAM

(TV MT PCB) (MT2274 Series A)

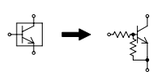


PCB010
TMD612

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.

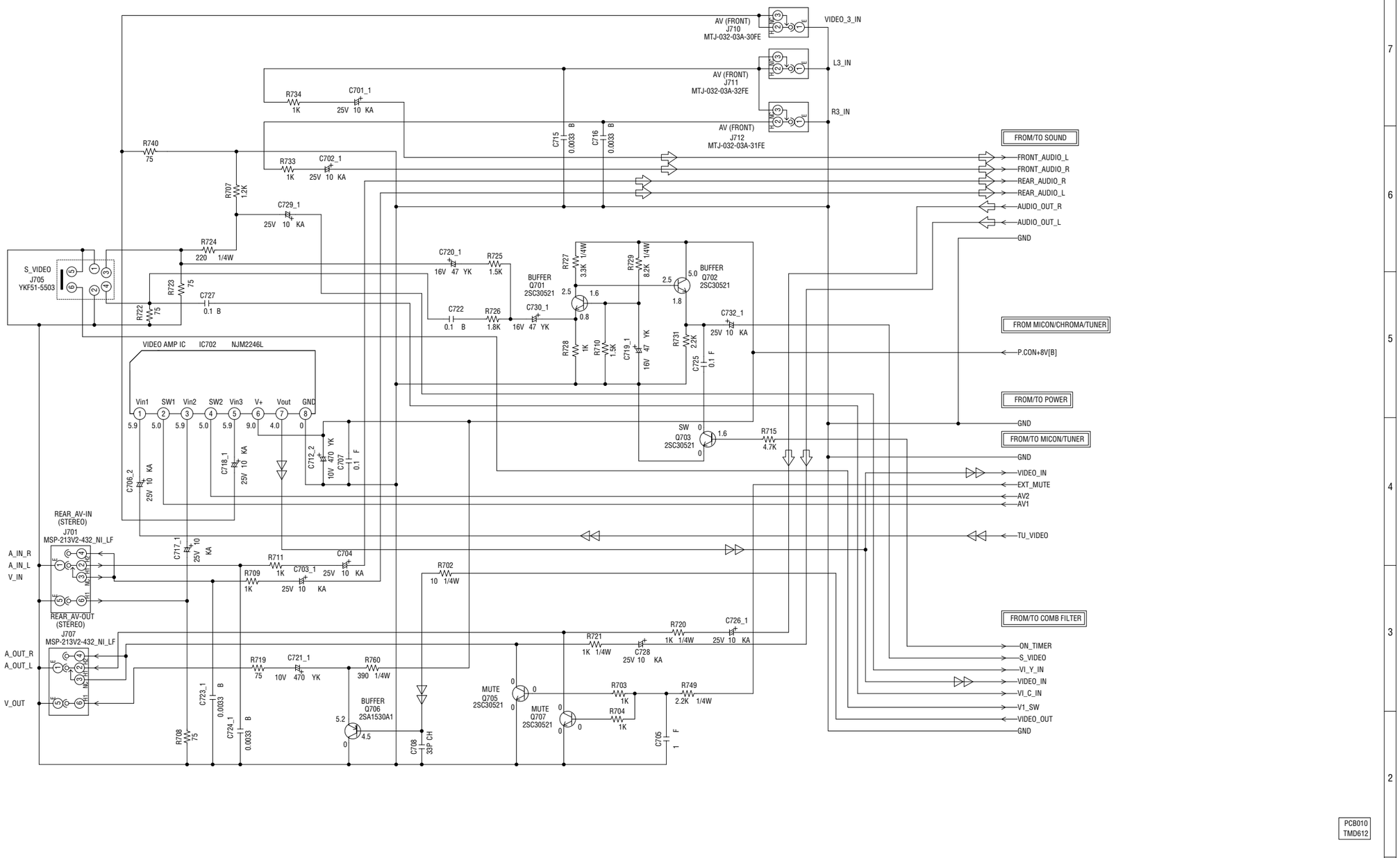
CAUTION: DIGITAL TRANSISTOR



◁◁ TUNER VIDEO SIGNAL

AV SCHEMATIC DIAGRAM

(TV MT PCB) (MT2274 Series A)



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

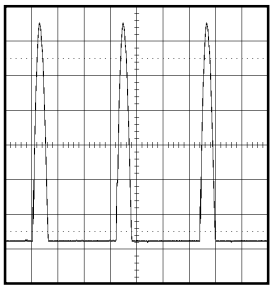
NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

⇦ AUDIO SIGNAL

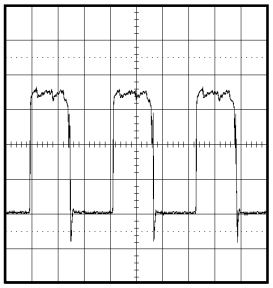
◁◁ TUNER VIDEO SIGNAL

WAVEFORMS

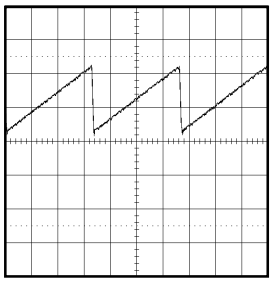
MICON/CHROMA/TUNER



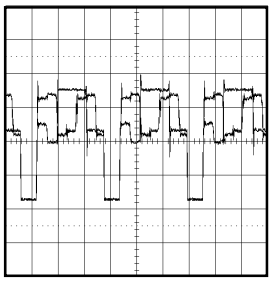
② 20V 20µs/div



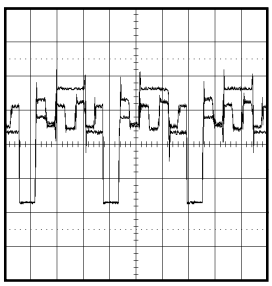
③ 200mV 20µs/div



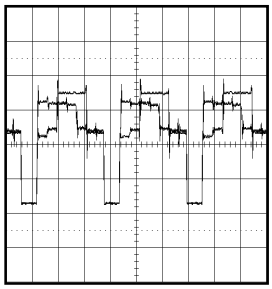
④ 0.5V 5ms/div



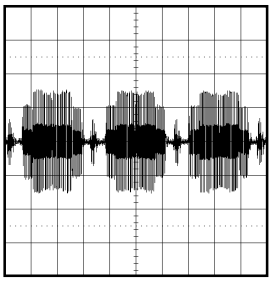
⑤ 1V 20µs/div



⑥ 1V 20µs/div

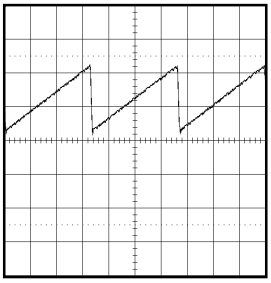


⑦ 1V 20µs/div

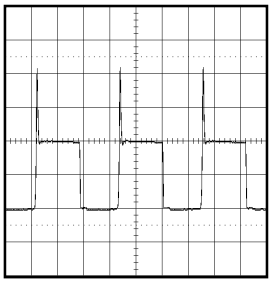


⑧ 200mV 20µs/div

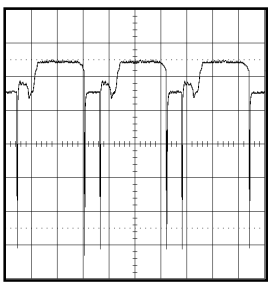
DEFLECTION/CRT



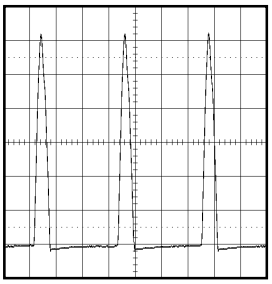
⑭ 0.5V 5ms/div



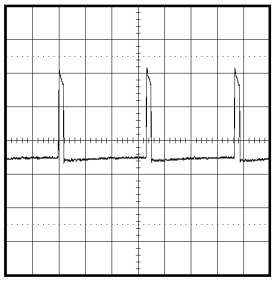
⑮ 20V 20µs/div



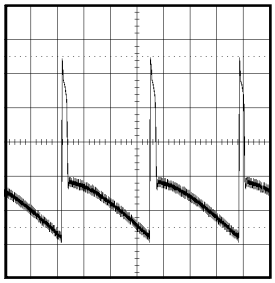
⑯ 2V 20µs/div



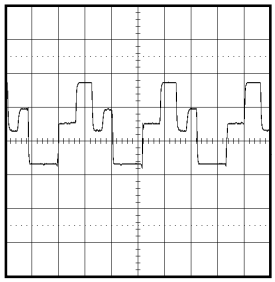
⑰ 200V 20µs/div



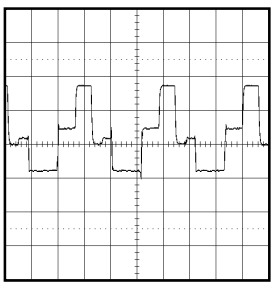
⑱ 10V 5ms/div



⑲ 10V 5ms/div



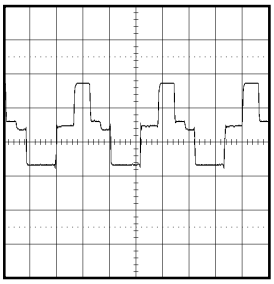
⑳ 50V 20µs/div



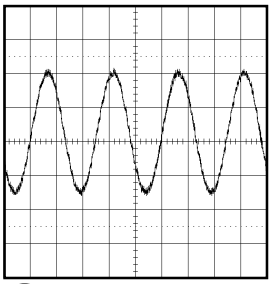
㉑ 50V 20µs/div

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

WAVEFORMS

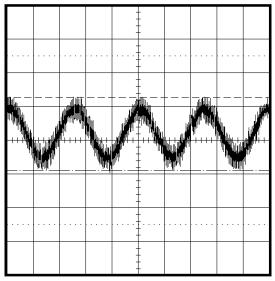


(22) 50V 20µs/div

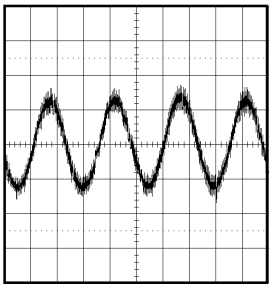


(31) 200mV 1ms/div

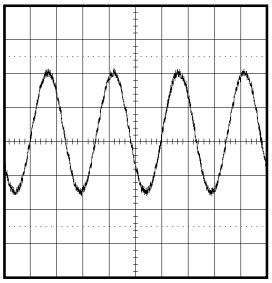
SOUND



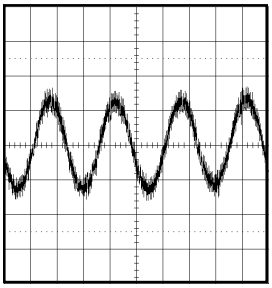
(25) 0.5V 1ms/div



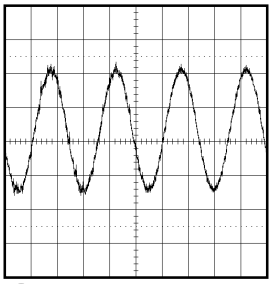
(32) 0.5V 1ms/div



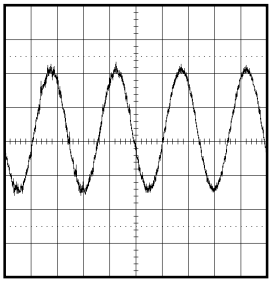
(26) 200mV 1ms/div



(33) 0.5V 1ms/div



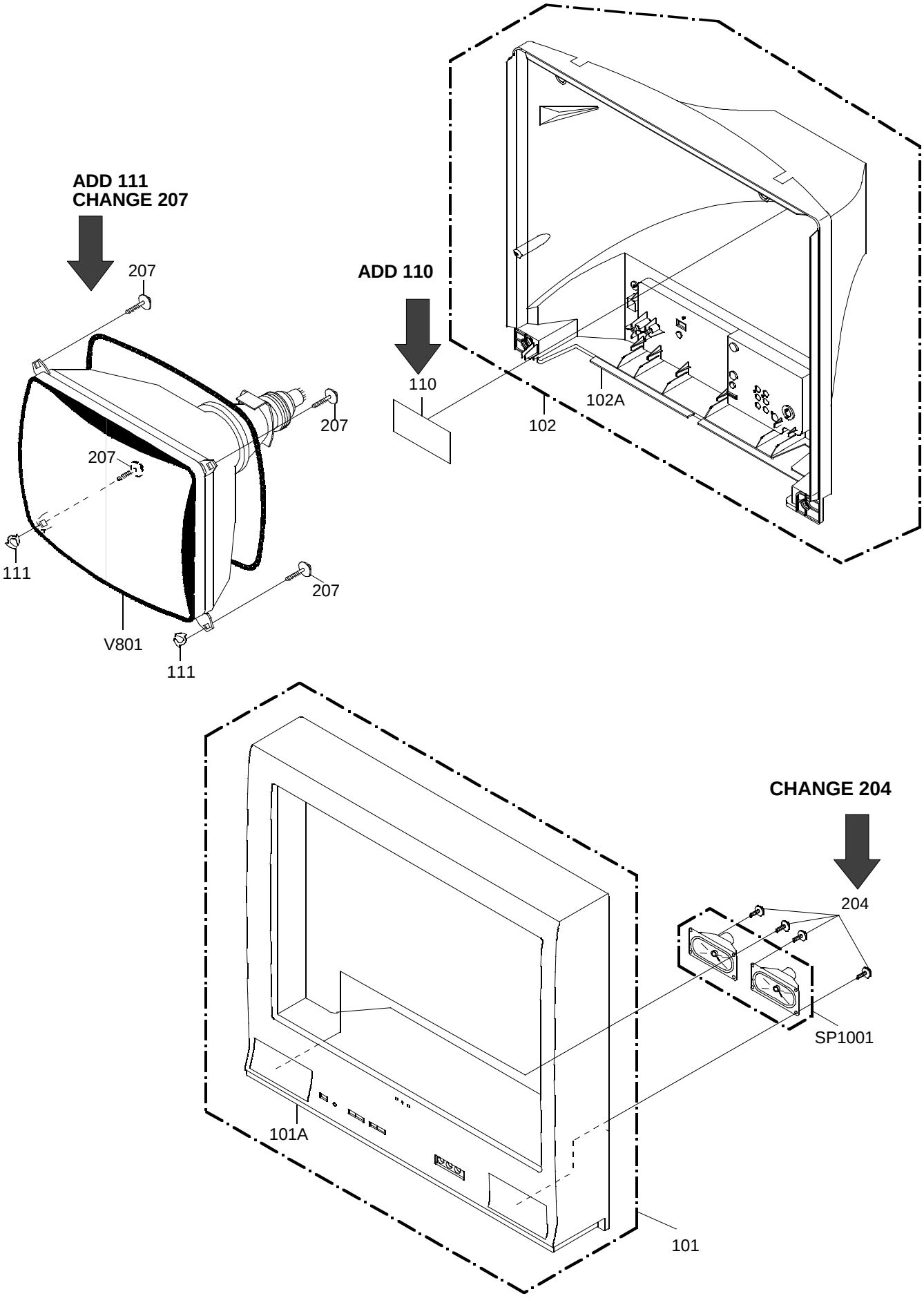
(27) 200mV 1ms/div



(28) 200mV 1ms/div

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

MECHANICAL EXPLODED VIEW
(MT2274 Series A)



SPEC.NO	M3R2-A2D
O/R NO.	W4X3032