Memorex®

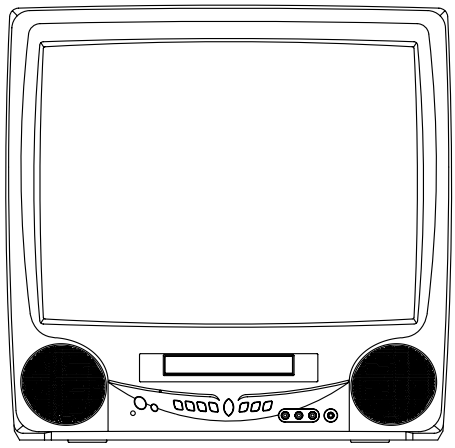
CLASS 1
LASER PRODUCT

MVD2019

SERVICE MANUAL

COLOR TELEVISION/DVD PLAYER

DVD VIDEO™ COMPACT disc DIGITAL AUDIO



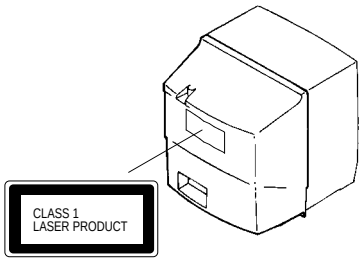
DOLBY DIGITAL dts DIGITAL OUT

ORIGINAL
MFR'S VERSION A

IMPORTANT WARNING

CAUTION:
DVD PLAYER IS A CLASS 1 LASER PRODUCT. HOWEVER THIS PLAYER USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

THE FOLLOWING CAUTION LABEL IS LOCATED ON THE REAR PANEL OF THE PLAYER.



(Printed on the Rear Panel)

WHEN THIS PLAYER IS PLUGGED TO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS PLAYER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

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. 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.

3. 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.

4. 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.

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.

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet and Power PCB/DVD Block. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Rotate the black gear of Deck CD section in the direction of the arrow by hand, remove the disc from Deck CD. **(Refer to Fig. 1)**

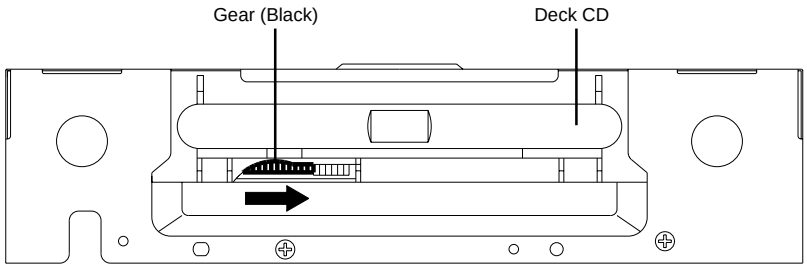


Fig. 1

PARENTAL CONTROL - RATING LEVEL

4-DIGIT SECURITY CODE CANCELLATION

If the stored 4-digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Confirm that no disc on the disc tray.
3. Press and hold the "7" key on the remote control unit.
4. Simultaneously press and hold the "STOP" key on the front panel.
5. Hold both keys for more than 3 seconds.
6. The On Screen Display message "Complete" will appear.
7. The 4-digit passord has now been cleared.

NB: The above procedure will reset ALL of the player's settings to the default factory state.

TABLE OF CONTENTS

GENERAL SPECIFICATIONS

G-1	**TV System**	CRT	CRT Size / Visual Size		19 inch / 480.0 mmV
			CRT Type		Normal
			Deflection		90 degree
			Magnetic Field BV/BH		+0.45G / 0.18G
		Color System			NTSC
		Speaker			2 Speaker
			Position		Front
			Size		3 inch
			Impedance		8 ohm
		Sound Output	Max		2.5W + 2.5W
			10%(Typical)		2.0W + 2.0W
G-2	**DVD System**	Color System			NTSC
		Disc			DVD, CD-DA, CD-R/RW
		Disc Diameter			120 mm , 80 mm
		Deck	Disc Loading System		Front Loading
			Motor		2 Motors
		Pick up			1-Lens 2-Beams System
		Playback time(Max)	DVI DVD 1-Layer		135min (4.7GB)
			DVD 2-Layer		245min (8.5GB)
			CD		74min
			Video CD		--
		Search speed			Fwd 2-15 times / 4 step(DVD)
					2-20 times / 4 step (CD)
				Actual	2-45 times (DVD)
					4-40 times (CD)
					Rev 2-15 times / 4 step(DVD)
					2-20 times / 4 step (CD)
				Actual	2-45 times (DVD)
					4-40 times (CD)
		Slow speed			Fwd 1/8-1/2 times
				Actual	--
					Rev 1/8-1/2 times
				Actual	--
G-3	**Tuning System**	Broadcasting System			US System M
		Tuner and	System		1Tuner
		Receive CH	Destination		US(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	Picture(FP)		45.75MHz
		Frequency	Sound(FS)		41.25MHz
			FP-FS		4.50MHz
		Preset CH			No
		Stereo/Dual TV Sound			US-Stereo
		Tuner Sound Muting			Yes
G-4	**Signal**	Video Signal	Input Level		1 V p-p/75 ohm
			Output Level		1 V p-p/75 ohm
			S/N Ratio (Weighted)		65dB
			Horizontal Resolution at DVD Mode		400 Lines (TV Monitor)
					500 Lines (Video Out)
		RGB Signal	Output Level		--
		Audio Signal	Input Level		-8.0dBm/50k ohm
			TV Output Level (0dB=0.775Vrms)		-3.8dBm/1K ohm
			DVD Output Level (-20dBFs 0dBFs=2.0Vrms)		-12.0dBm/1k ohm
			Digital Output Level		0.5V p-p/75 ohm
			S/N Ratio at DVD (Weighted)		90 dB
			Harmonic Distortion		0.06% (1kHz)
			Frequency Response :	at DVD	4Hz - 22kHz
				at Video CD	--
				at CD	4Hz - 20kHz
G-5	**Power**	Power Source	AC		120V, 60Hz
			DC		--
		Power Consumption		at AC	90W at 120V 60Hz
				at DC	--
			Stand by (at AC)		5W at 120V 60Hz
			Per Year		-- kWh/Year
		Protector	Power Fuse		Yes
G-6	**Regulation**		Safety		UL
			Radiation		FCC
			X-Radiation		DHHS
			Laser		DHHS
G-7	**Temperature**		Operation		+5°C ~ +40°C
			Storage		-20°C ~ +60°C
G-8	**Operating Humidity**				Less than 80% RH
G-9	**On Screen Display**	Menu(TV)			Yes
			Menu Type		Icon
			Picture		Yes

GENERAL SPECIFICATIONS

				Brightness	Yes	
				Contrast	Yes	
				Color	Yes	
				Tint	Yes	
				Sharpness	Yes	
			Sound			No
				Bass		No
				Treble		No
				Balance		No
			CH		Yes	
				TV/CATV	Yes	
				Add/Delete	Yes	
				Auto CH Memory	Yes	
			Option		Yes	
				V-Chip	Yes	
				Language	Yes	
		Open			Yes	
		Close			Yes	
		Clock				No
		Clock Set				No
		On/Off Timer				No
		Sleep Timer			Yes	
		CH / AV(LINE) / DVD			Yes	
		Stereo/Audio Output			Yes	
				Bilingual		No
				SAP	Yes	
		Caption / Text			Yes	
		Auto Search/Position				No
		Game				No
		Volume			Yes	
		Mute			Yes	
G-10	**On Screen Display**	Menu (DVD)			Yes	
			Menu Type		Character	
			Language		Yes	
				OSD Language	Yes	
				Menu	Yes	
				SubTitle	Yes	
				Audio	Yes	
			Picture		Yes	
				TV Screen Size	Yes	
				OSD Display On/Off	Yes	
			Sound		Yes	
				DRC (Dynamic Range Control)	Yes	
				dts Decode		No
				Output(5.1ch/ 2ch)		No
				Surround On/Off		No
				Center On/Off		No
				Sub Woofer On/Off		No
			Parental		Yes	
				Password Lock/ Un Lock	Yes	
				Rating Level	Yes	
			Open		Yes	
			Close		Yes	
			No disc		Yes	
			Reading		Yes	
			Play		Yes	
			Still/Pause		Yes	
			Stop		Yes	
			Prohibit Mark		Yes	
			Step		Yes	
			Skip(>>|)		Yes	
			Skip(|<<)		Yes	
			Random		Yes (CD)	
			Repeat		Yes	
			Slow+		Yes	
			Slow-		Yes	
			Search+		Yes	
			Search-		Yes	
			Jump		Yes	
			Resume		Yes	
			Title No.		Yes	
			Chapter No.		Yes	
			Track No.		Yes	
			Time		Yes	
			Sub Title No.		Yes	
			Angle No.		Yes	
			Vocal On/Off			No

GENERAL SPECIFICATIONS

			Audio No.		Yes
			Audio Stereo L/R		No
			Zoom		Yes
			Marker No.		Yes
			Program Play Back		Yes (CD)
			Surround On/Off		No
			Screen Saver		No
			MP3	Folder Name	No
				File Name	No
				File No	No
				Time	No
				Track No	No
G-11	OSD Language	(TV)			English, French, Spanish
		(DVD)			English, French, Spanish
G-12	Remote Control	Unit			RC-DT
		Glow in Dark Remocon			No
		Format			NEC
		Custom Code			71-8E h
		Power Source	Voltage(D.C)		3V
			UM size x pcs		UM-4 x 2 pcs
		Total Keys			46 Keys
			Power		Yes
			1		Yes
			2		Yes
			3		Yes
			4		Yes
			5		Yes
			6		Yes
			7		Yes
			8		Yes
			9		Yes
			0		Yes
			Open/Close		Yes
			Play		Yes
			Stop		Yes
			Search+		Yes
			Search-		Yes
			Skip+		Yes
			Skip-		Yes
			Slow+		Yes
			Slow-		Yes
			Still/Pause/Step		Yes
			Display (Call)		Yes
			TV/DVD		Yes
			Cancel		Yes
			Audio		Yes
			Angle		Yes
			Subtitle		Yes
			Top Menu(Title)		Yes
			Setup/Menu(TV)		Yes
			Return		Yes
			Menu		Yes
			Up/ Set+/ CH Up		Yes
			Down/ Set-/ CH Down		Yes
			Left/Select-		Yes
			Right/Select+		Yes
			Select/Enter		Yes
			Play Mode		Yes
			Marker		Yes
			Input Select		Yes
			Volume +		Yes
			Volume -		Yes
			Repeat A-B		Yes
			Zoom/ Quick View		Yes
			Mute		Yes
			Sleep		Yes
			Jump/Closed Caption		Yes
G-13	Features	CATV			Yes
		Auto Shut Off			Yes
		Auto Clock			No
		Just Clock			No
		Auto CH Memory			Yes
		V-Chip	USA V-chip		Yes
			CANADA V-chip		No
		Auto Search			No
		SAP			Yes
		Game Position			No

GENERAL SPECIFICATIONS

		FM Transmitter			No
		Energy Star			No
		Closed Caption			Yes
		Comb Filter			No
		Protect of FBT Leak Circuit			No
		Choke Coil			No
		Power On Memory			No
		Parental Lock (DVD Only)			Yes
		Tray Lock			No
		Video CD Playback			No
		MP3 Playback			No
		Digital Out		(Dolby Digital)	Yes
				(MPEG)	Yes
				(PCM)	Yes
				(DTS)	Yes
		Down Mix Out		(Dolby Digital)	Yes
				(DTS)	No
		Surround (Tru Surround)			No
		Screen Saver			No
G-14	Accessories	Owner's Manual		Language	English / Spanish
				w/Guarantee Card	No
		Remote Control Unit			Yes
		Battery			No
				UM size x pcs	--
				OEM Brand	--
		Rod Antenna			No
				Poles	No
				Terminal	--
		Loop Antenna			No
				Terminal	--
		U/V Mixer			No
		300 ohm to 75 ohm Antenna Adapter			No
		Antenna Change Plug			No
		Guarantee Card			Yes
		Registration Card			No
		Warranty Card			No
		ESP Card			No
		Service Station List			No
		DC Car Cord (Center+)			No
		Columbia Offer Sheet			No
G-15	Interface	Switch	Front	Power (Tact)	Yes
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
				Play	Yes
				Open/Close	Yes
				Skip(>>|)	Yes
				Skip(|<<)	Yes
				Still/Pause	No
				Stop	Yes
				Main Power SW	No
			Rear	Main Power SW	No
		Indicator		Power	Yes (Red)
				Stand-by	No
				On Timer	No
		Terminals	Front	Video Input	RCA x 1
				Audio Input	RCA x 2(Stereo)
				Other Terminal	Headphone
			Rear	Video Input	No
				Audio Input	No
				Video Output	RCA x 1
				Audio Output	RCA x 2(Stereo)
				Digital Audio Output	Coaxial (DVD Only)
				Diversity	No
				DC Jack 12V(Center +)	No
				VHF/UHF Antenna Input	F Type
G-16	Set Size			Approx. W x D x H (mm)	489x465x480
G-17	Weight			Net (Approx.)	21.5kg (47.4lbs)
				Gross (Approx.)	24.5kg (54.0lbs)
G-18	Carton		Master Carton		No
				Content	--- Sets
				Material	--- / ---
				Dimensions W x D x H(mm)	---
				Description of Origin	---
			Gift Box		Yes
				Material	Double/White

GENERAL SPECIFICATIONS

			W/Color Photo Label	No
			Dimensions W x D x H(mm)	559x538x555
			Design	As Per Buyer 's
			Description of Origin	Yes
		Drop Test	Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
			Height (cm)	46
		Container Stuffing (40' container)		352 Sets
G-19	**Material**	Cabinet	Front	PS 94V0 DECABROM
			Rear	PS 94V0 DECABROM
			Jack Panel	-
		PCB	Non-Halogen Demand	No
			Eyelet	Yes

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 7 screws ①.
2. Remove the screw ② which are used for holding the Back Cabinet.
3. Remove the AC cord from the AC cord hook ③.
4. Remove the Back Cabinet in the direction of arrow.

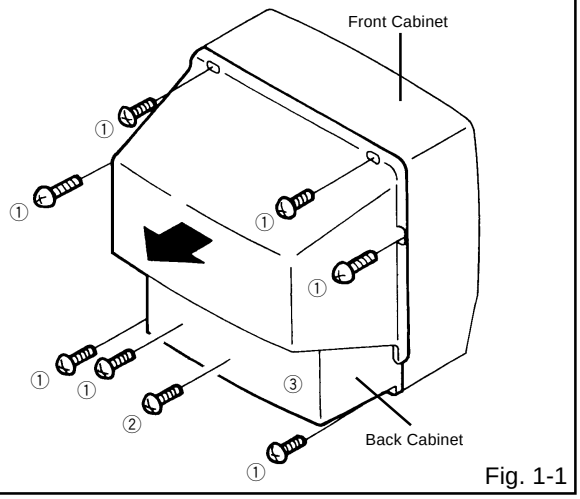


Fig. 1-1

1-2: CRT PCB (Refer to Fig. 1-2)

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap. (Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connector: (CP801).
3. Remove the CRT PCB in the direction of arrow.

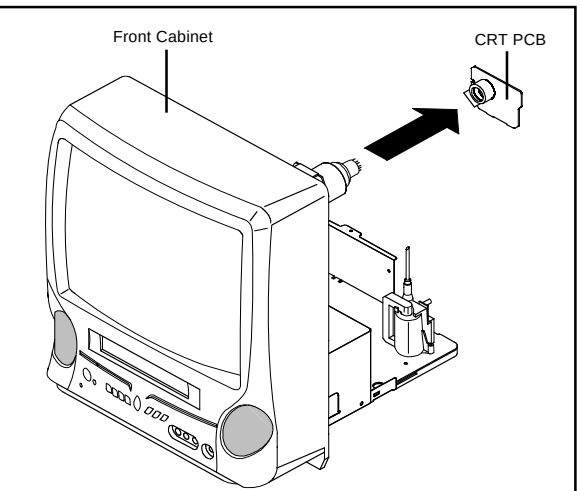


Fig. 1-2

1-3: AV PCB/DVD BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Disconnect the following connectors: (CP301, CP302, CP401 and CP3800).
3. Remove the AV PCB/DVD Block in the direction of arrow.

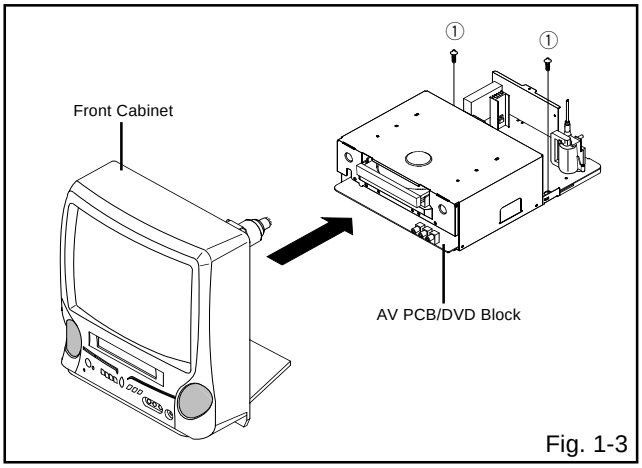


Fig. 1-3

1-4: DVD BLOCK (Refer to Fig. 1-4)

1. Remove the 11 screws ①.
2. Remove the Top Shield in the direction of arrow (A).
3. Disconnect the following connectors: (CP8001 and CP8002).
4. Remove the 4 screws ②.
5. Remove the DVD Block in the direction of arrow (B).
6. Remove the 2 screws ③.
7. Remove the Jack Shield.
8. Remove the AV PCB in the direction of arrow (C).

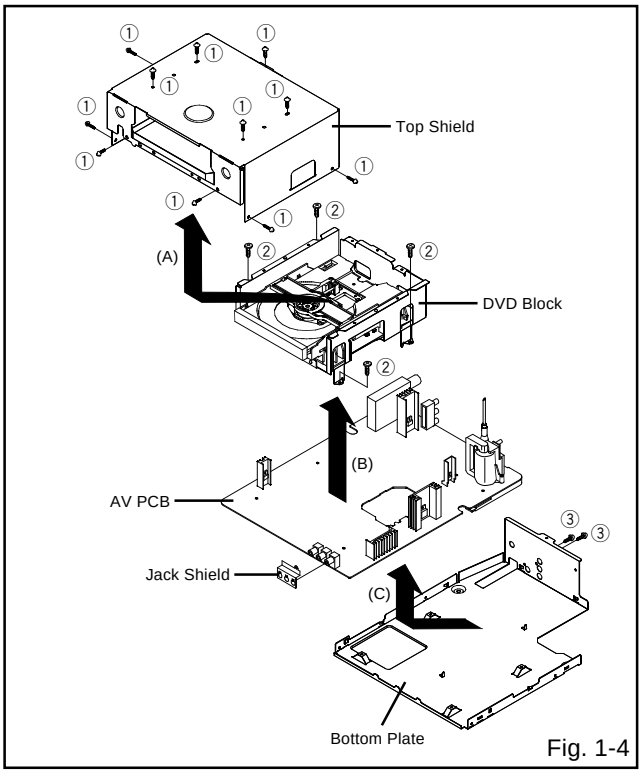


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

1-5: DVD PCB/DVD DECK (Refer to Fig. 1-5)

1. Make the short circuit on the position as shown **Fig. 1-5** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Unlock the 2 supports ①.
3. Remove the Front Tray Plate in the direction of arrow (A).
4. Disconnect the following connectors: (CP2001, CP2301 and CP2302).
5. Remove the 4 screws ②.
6. Remove the DVD Deck in the direction of arrow (B).
7. Remove the 4 screws ③.
8. Remove the DVD PCB in the direction of arrow (C).

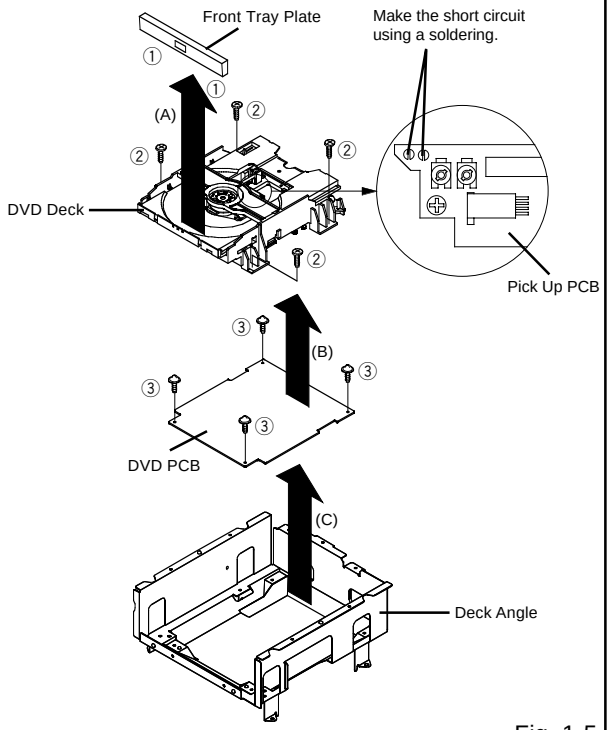


Fig. 1-5

NOTE

When the installation of the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

2-1: TRAY (Refer to Fig. 2-1-A)

1. Set the Tray opened. **(Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)**
2. Unlock the support ① and remove the Tray.

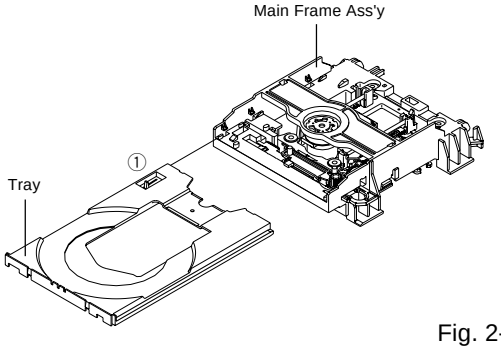


Fig. 2-1-A

NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 2-1-B so that the each markers are met.

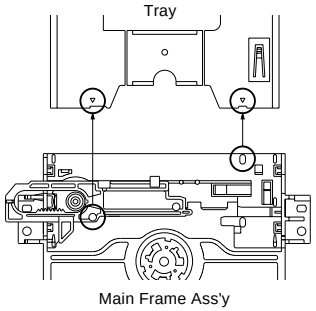


Fig. 2-1-B

2-2: MAIN CHASSIS ASS'Y (Refer to Fig. 2-2)

1. Remove the Main Chassis Ass'y from the Insulator (R).
2. Unlock the support ①.
3. Remove the Main Chassis Ass'y.

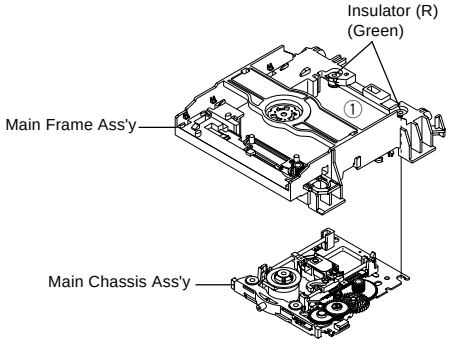


Fig. 2-2

2-3: RACK LOADING/MAIN GEAR/ RACK LOADING SPRING (Refer to Fig. 2-3)

1. Press down the catcher ① and slide the Rack Loading.
2. Remove the Rack Loading, Rack Loading Spring and Main Gear.

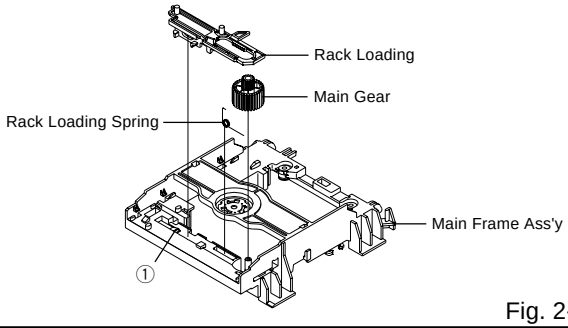


Fig. 2-3

2-4: CLAMPER ASS'Y/INSULATOR(R)/LEVER SWITCH (Refer to Fig. 2-4-A)

1. Remove the screw ①.
2. Remove the Lever Switch.
3. Remove the 2 Insulator (R).
4. Press the Clamper and rotate the Clamper Plate clockwise, then unlock the 3 supports ②.
5. Remove the Clamper Plate, Clamper Magnet and Clamper.

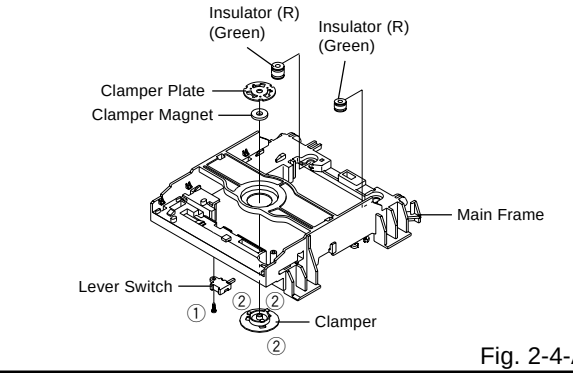


Fig. 2-4-A

NOTE

1. When installing the Clamper Magnet, install it with the green face up.
2. When installing the wire of the Lever Switch, install it correctly as Fig. 2-4-B.
3. When installing the Lever Switch, install it correctly as Fig. 2-4-C.
4. In case of the Lever Switch installation, hook the wire on the Main Frame as shown Fig. 2-4-D.

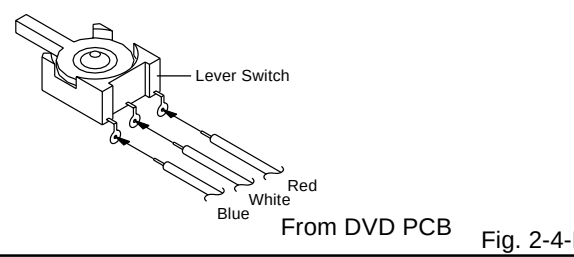


Fig. 2-4-B

DISASSEMBLY INSTRUCTIONS

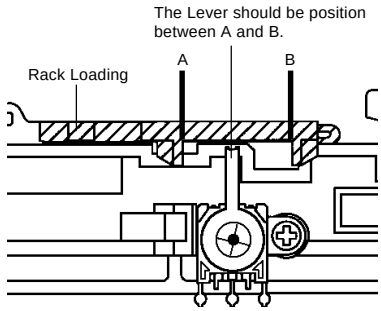


Fig. 2-4-C

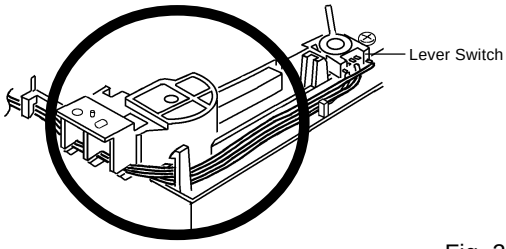


Fig. 2-4-D

2-5: TRAVERSE HOLDER/INSULATOR (F) (Refer to Fig. 2-5-A)

1. Remove the Traverse Holder.
2. Remove the 2 Insulator (F).

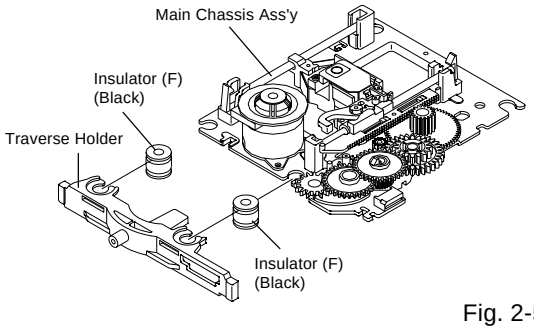


Fig. 2-5-A

NOTE

1. After the installing of the Traverse Holder, check if the wire is like Fig. 2-5-B.

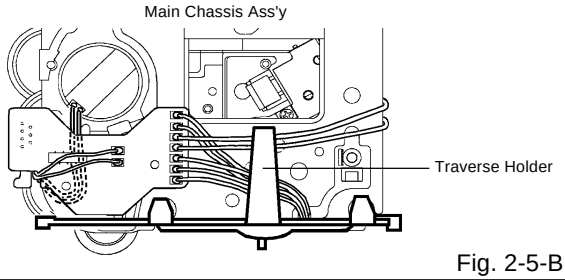


Fig. 2-5-B

2-6: SWITCH PCB ASS'Y (Refer to Fig. 2-6-A)

1. Remove the screw ①.
2. Remove the Switch PCB Ass'y.

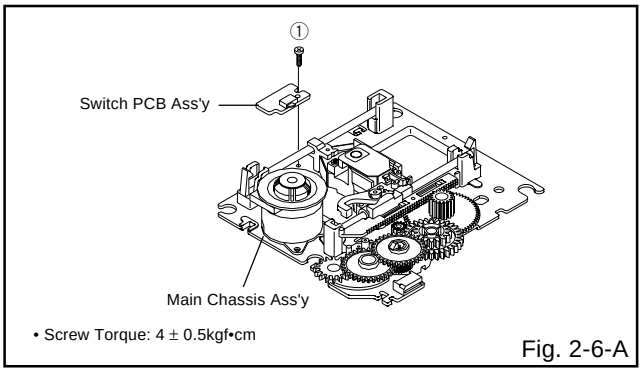


Fig. 2-6-A

NOTE

1. When installing the wire of the Switch PCB, install it correctly as Fig. 2-6-B.

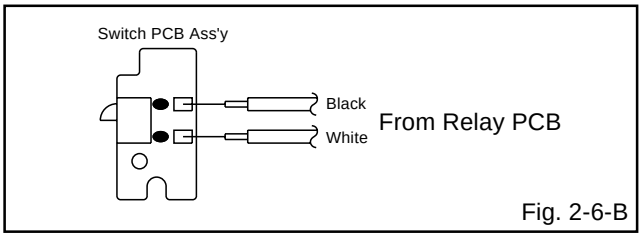


Fig. 2-6-B

2-7: RACK FEED ASS'Y (Refer to Fig. 2-7-A)

1. Remove the screw ①.
2. Remove the Rack Feed 1/2 Spring, Rack Feed 1/2 and Rack Feed Lever.

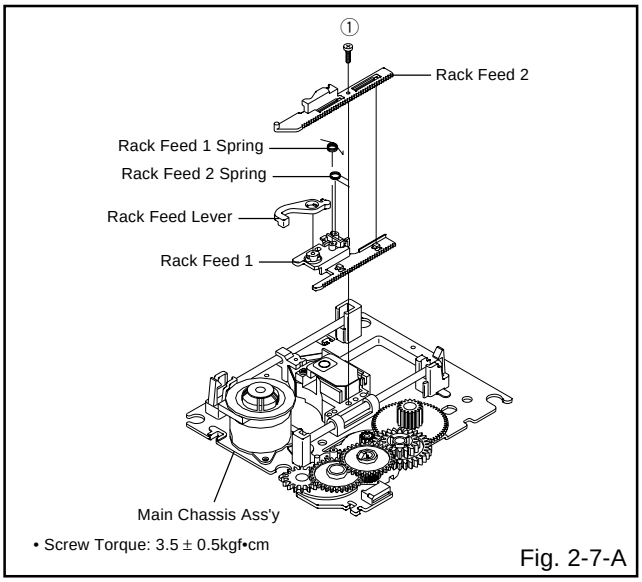


Fig. 2-7-A

NOTE

1. After the assembly of the Rack Feed, check if the Rack Feed 1/2 is moving smoothly. **(Refer to Fig. 2-7-B)**
2. In case of the Rack Feed Ass'y installation, install correctly as Fig. 2-7-C.

DISASSEMBLY INSTRUCTIONS

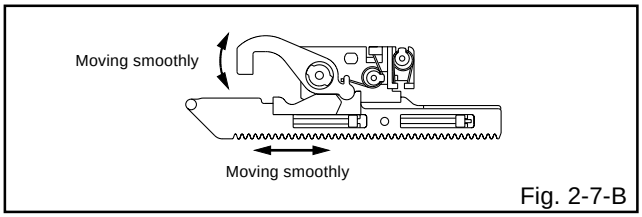


Fig. 2-7-B

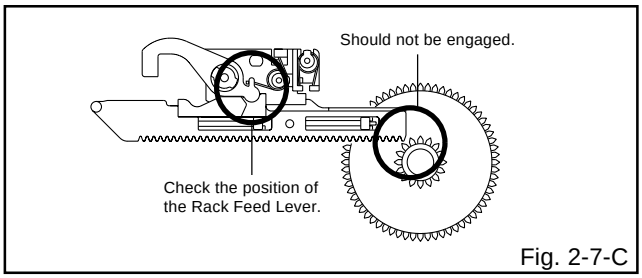


Fig. 2-7-C

2-8: RELAY PCB ASS'Y (Refer to Fig. 2-8-A)

1. Remove the screw ①.
2. Remove the Relay PCB Ass'y.

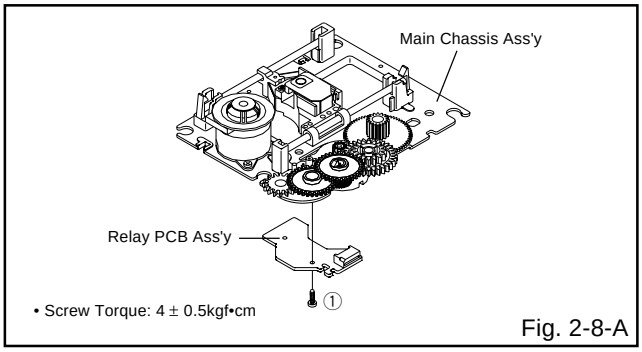


Fig. 2-8-A

NOTE

1. When installing the wire of the Relay PCB, install it correctly as Fig. 2-8-B.

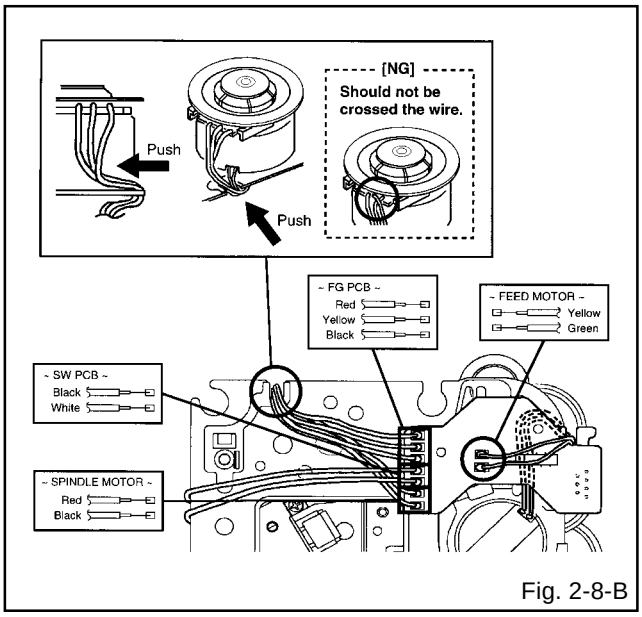


Fig. 2-8-B

2-9: GEAR (Refer to Fig. 2-9-A)

1. Unlock the support ①.
2. Remove the Middle Gear 1/2/3, Idler Gear and Feed Gear.

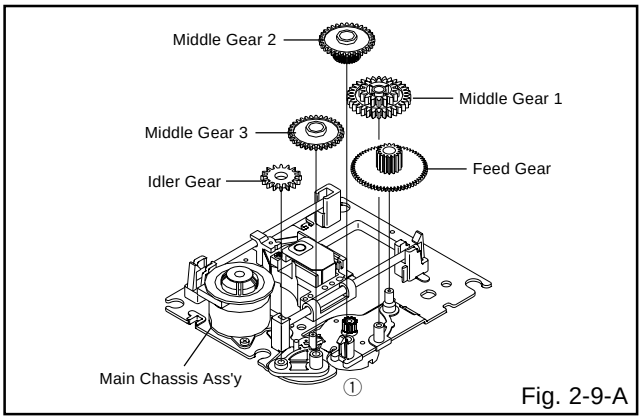


Fig. 2-9-A

NOTE

1. In case of the Idler Gear installation, install correctly as Fig. 2-9-B.
2. When installing the Middle Gear 2, check if the Middle Gear 2 is locked correctly as Fig. 2-9-C.

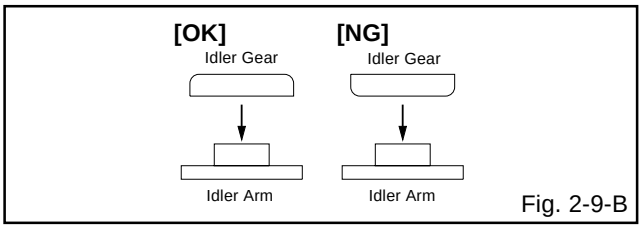


Fig. 2-9-B

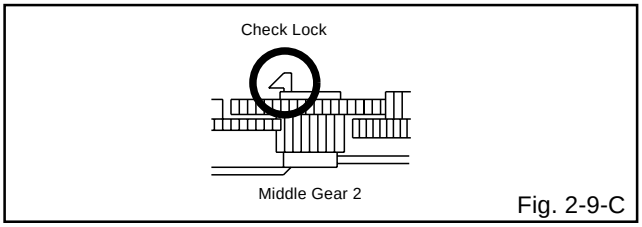


Fig. 2-9-C

2-10: IDLER ARM (Refer to Fig. 2-10-A)

1. Remove the Idler Arm Spring.
2. Remove the Chassis Spring.
3. Remove the Idler Arm.

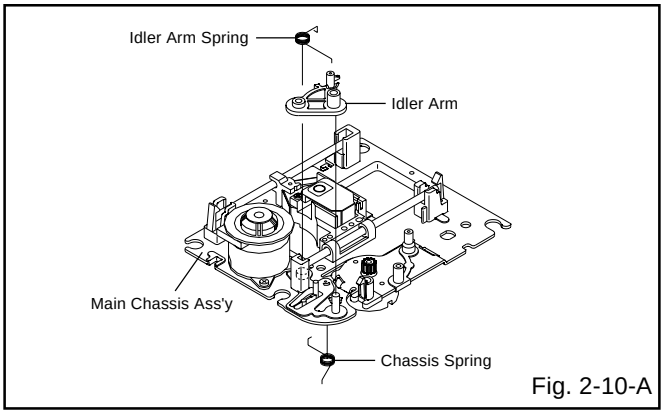


Fig. 2-10-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. In case of the Idler Arm installation, install as the circled section of Fig. 2-10-B.
2. In case of the Idler Arm Spring installation, install as the circled section of Fig. 2-10-C.
3. In case of the Chassis Spring installation, install as the circled section of Fig. 2-10-D.

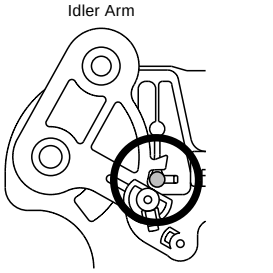


Fig. 2-10-B

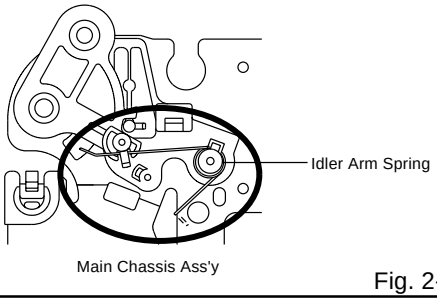


Fig. 2-10-C

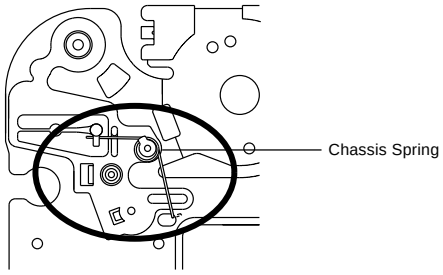


Fig. 2-10-D

2-11: FEED MOTOR (Refer to Fig. 2-11-A)

1. Remove the 2 screws ①.
2. Remove the Feed Motor.
3. Remove the Motor Gear.

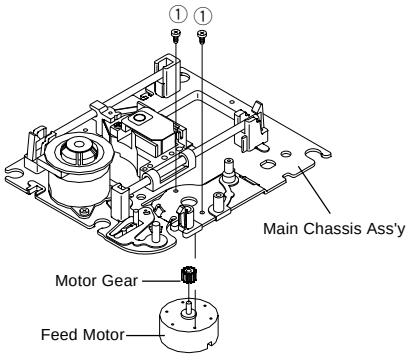


Fig. 2-11-A

NOTE

1. In case of the Motor Gear installation, check if the value of the Fig. 2-11-B is correct.
2. When installing the Feed Motor, check if the cable is positioned as Fig. 2-11-C.

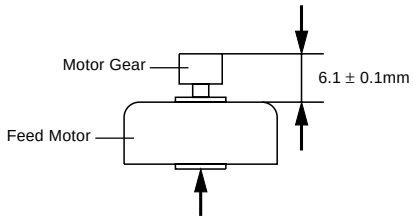


Fig. 2-11-B

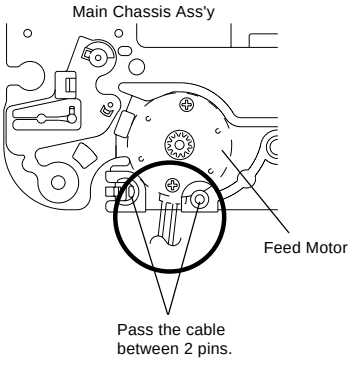


Fig. 2-11-C

DISASSEMBLY INSTRUCTIONS

3. 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. 3-1.)**
   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.

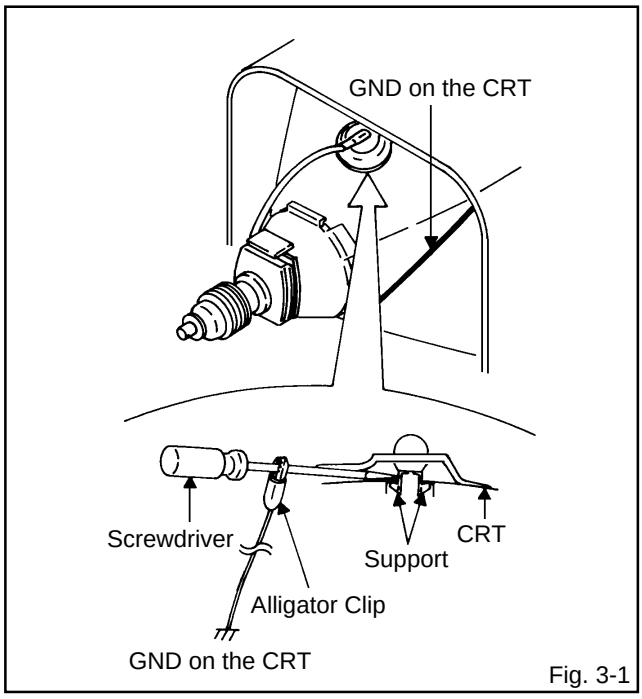


Fig. 3-1

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. 3-2.)**

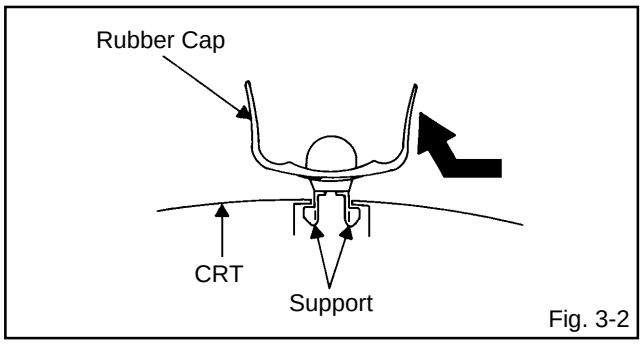


Fig. 3-2

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. 3-3.)**

NOTE

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

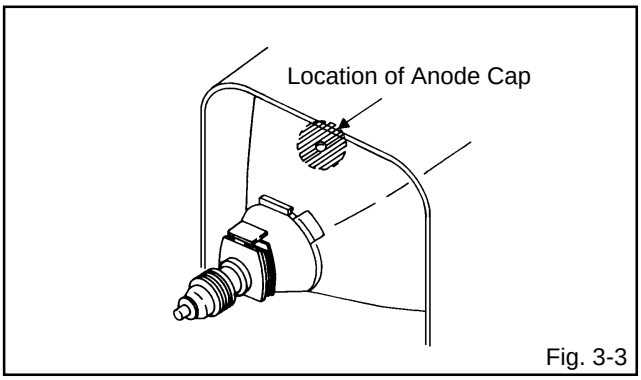


Fig. 3-3

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. 3-4.)**

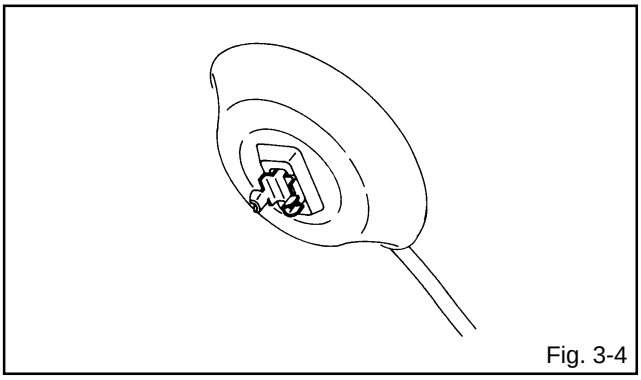


Fig. 3-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 3-5.**

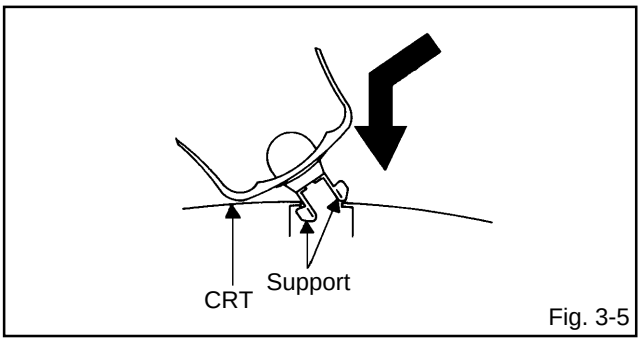


Fig. 3-5

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

DISASSEMBLY INSTRUCTIONS

4. 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. 4-1.)**

   NOTE

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

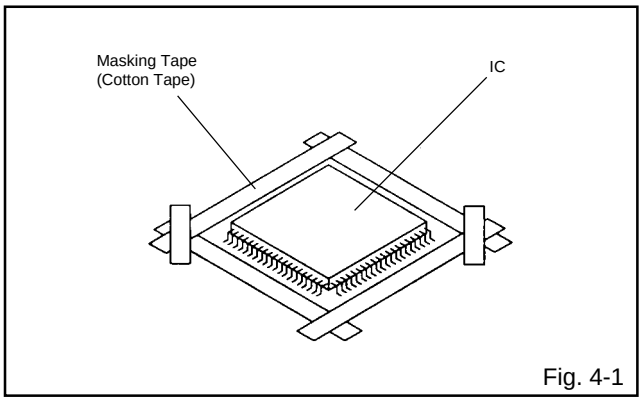


Fig. 4-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 4-2.)**

   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.

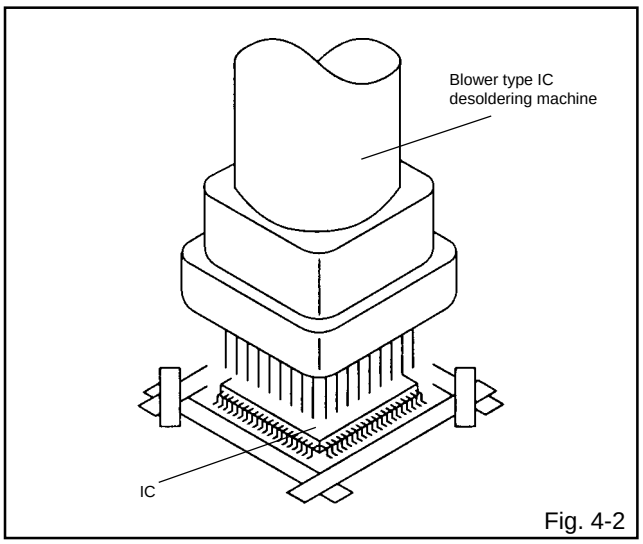


Fig. 4-2

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. 4-3.)**

   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.

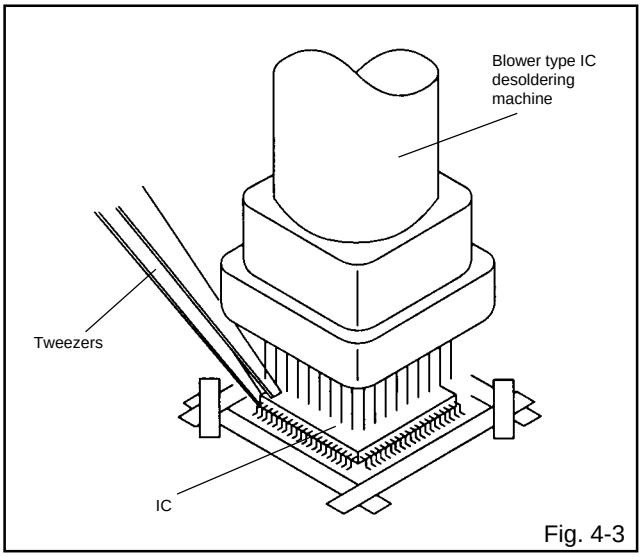


Fig. 4-3

4. Peel off the Masking Tape.

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

   NOTE

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

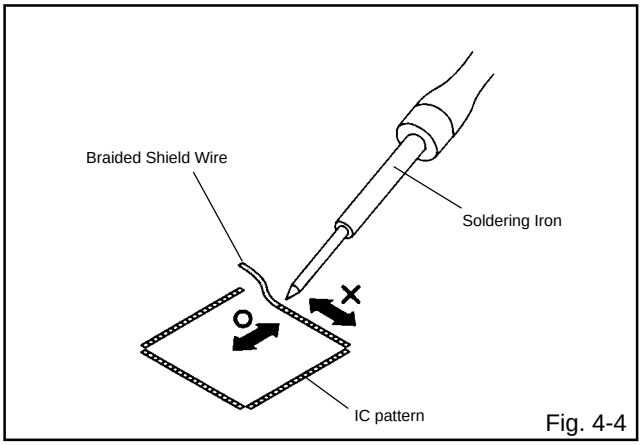


Fig. 4-4

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. 4-5.)**

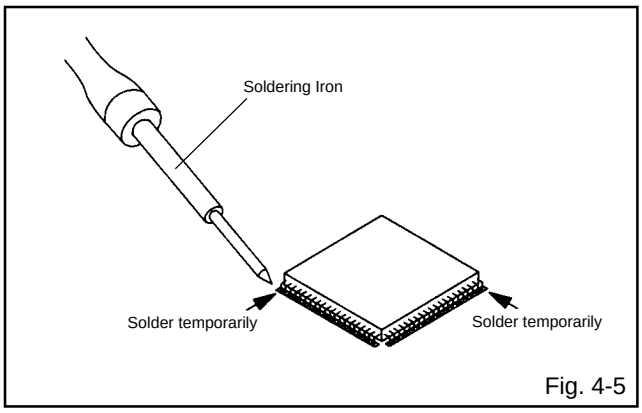


Fig. 4-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 4-6.)**

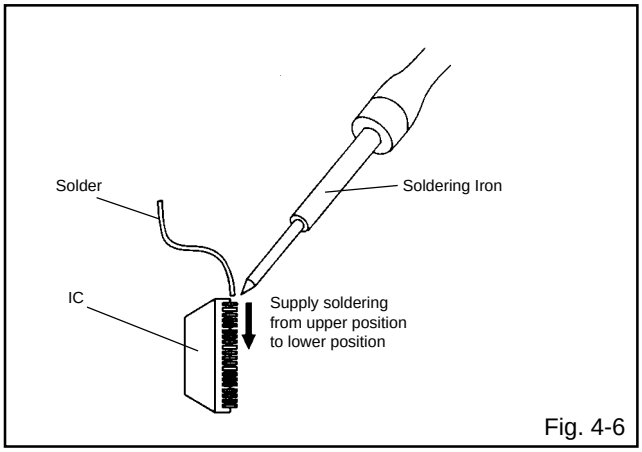


Fig. 4-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 4-7.)**

   NOTE

   Do not absorb the solder to excess.

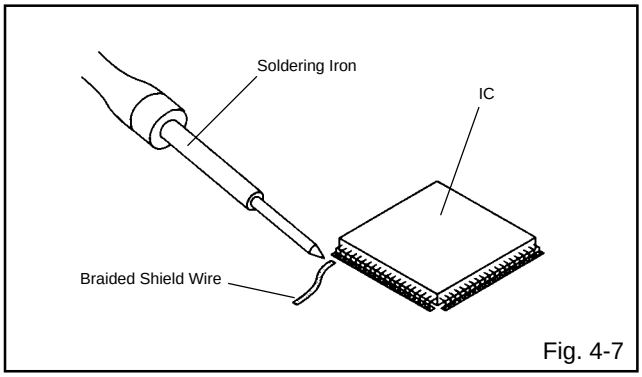


Fig. 4-7

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

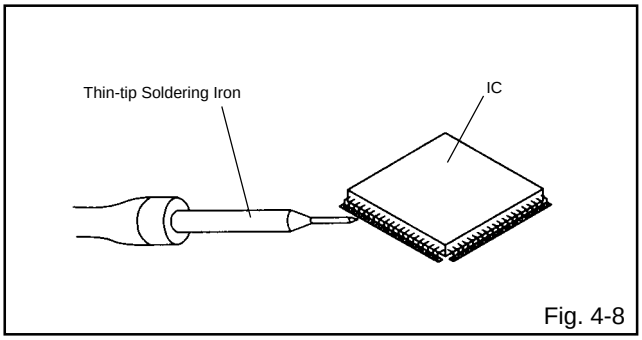


Fig. 4-8

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 to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than a standard time (second).

Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	0	1	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	1	Initialization of the factory on TV. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	4	1	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work at the DVD stop mode.
VOL. (-) MIN	6	1	POWER ON total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (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	1	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	1	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	9	3	Tray cannot be opened. Refer to the “TRAY LOCK”. NOTE: No indications on the screen when the Tray Lock is setting.

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 2 second.
3. After the confirmation of using hours, turn off the power.

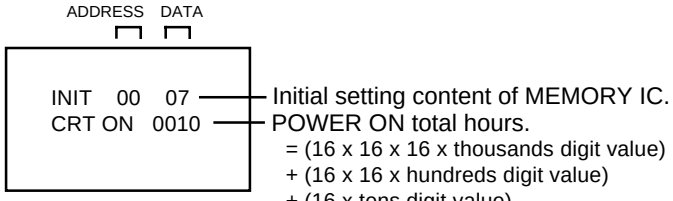


FIG. 1

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.

NOTE: No need setting for after INI 1F.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	07	07	04	00	D0	35	70	25	15	51	01	00	41	40	0F	47
10	30	50	50	04	15	7B	03	50	00	7A	58	00	02	00	00	00

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.

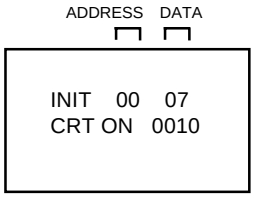


FIG.1

3. ADDRESS is now selected and should "blink". Using the VOL. UP/DOWN 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. UP/DOWN 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. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 1 second.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

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

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- 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. AC Voltmeter
4. Pattern Generator
5. Multi-Sound Signal Generator

On-Screen Display Adjustment

1. Set the VOLUME to minimum.
2. 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** .

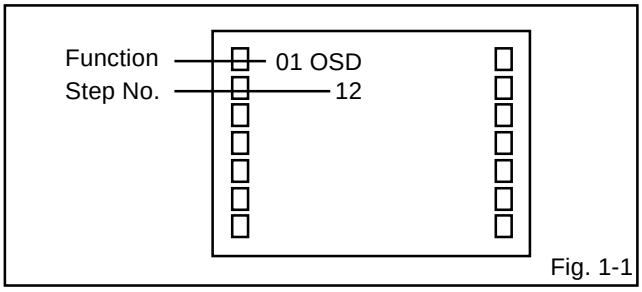


Fig. 1-1

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

NO.	FUNCTION	NO.	FUNCTION
01	OSD H	36	COL. AV(CENT.)
02	OSD CONTRAST	37	COL. AV(MAX)
03	CUT OFF	38	COL. AV(MIN)
04	H POSITION	39	TINT AV
05	H BLK L	40	SHARPNESS AV
06	H BLK R	41	SUB BIAS
07	V SIZE	42	BRI. DVD(CENT.)
08	V POSITION	43	BRI. DVD(MAX)
09	V LINEARITY	44	BRI. DVD(MIN)
10	V S CORRECTION	45	CONT. DVD(CENT.)
11	V COMP	46	CONT. DVD(MAX)
12	R CUT OFF	47	CONT. DVD(MIN)
13	G CUT OFF	48	COL. DVD(CENT.)
14	B CUT OFF	49	COL. DVD(MAX)
15	R DRIVE	50	COL. DVD(MIN)
16	G DRIVE	51	TINT DVD
17	B DRIVE	52	SHARPNESS DVD
18	BRIGHTNESS(CENT.)	53	SUB BIAS
19	BRIGHTNESS(MAX)	54	BRI. GAME(CENT.)
20	BRIGHTNESS(MIN)	55	BRI. GAME(MAX)
21	CONTRAST(CENT.)	56	BRI. GAME(MIN)
22	CONTRAST(MAX)	57	CONT. GAME(CENT.)
23	CONTRAST(MIN)	58	CONT. GAME(MAX)
24	COLOR(CENT.)	59	CONT. GAME(MIN)
25	COLOR(MAX)	60	SUB BIAS
26	COLOR(MIN)	61	TUNING V MUTE
27	TINT	62	POWER ON V MUTE
28	SHARPNESS	63	INPUT LEVEL
29	SUB BIAS	64	SEPARATION L
30	BRI. AV(CENT.)	65	SEPARATION H
31	BRI. AV(MAX)	66	TEST PWM
32	BRI. AV(MIN)	67	X-RAY TEST
33	CONT. AV(CENT.)	68	H STOP
34	CONT. AV(MAX)	69	H FREQ
35	CONT. AV(MIN)		

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Set condition is AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Connect the digital voltmeter to **W810**.
4. Adjust the **VR3800** until the digital voltmeter is 135 ± 0.5V.

2-2: FOCUS

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

2-3: CUT OFF

1. Adjust the unit to the following settings.
   R DRIVE=3F, G DRIVE=07, B DRIVE=3F, R CUT OFF=7F, G CUT OFF=7F, B CUT OFF=7F
2. Place the set with Aging Test for more than 15 minutes.
3. Set condition is AV MODE without signal.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "CUT OFF".
6. Adjust the **Screen Volume** until a dim raster is obtained.

ELECTRICAL ADJUSTMENTS

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 gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select "G DRV".
5. Press the CH. UP/DOWN button on the remote control to select the "R CUT", "G CUT", "B CUT", "R DRV" or "B DRV".
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the R CUT, G CUT, B CUT, R DRV, and B DRV at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

2-5: HORIZONTAL POSITION

1. Receive the monoscope pattern.
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 **(04)** on the remote control to select "HPOSI".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-6: VERTICAL POSITION

1. Receive the monoscope pattern.
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 **(08)** on the remote control to select "VPOSI".
4. Check if the step No. V POSI is "02".
5. Adjust the **VR401** until the horizontal line becomes fit to notch of the shadow mask.

2-7: VERTICAL SIZE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select "VSIZE".
4. Press the VOL. UP/DOWN button on the remote control until the Up/Down OVER SCAN Quantity becomes equal to the Right/Left OVER SCAN Quantity.
5. Receive a broadcast and check if the picture is normal.

2-8: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-7. After the adjustment of Vertical Linearity, reconfirm the Vertical Position and Vertical Size adjustments.

1. Receive the monoscope pattern.
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 **(09)** on the remote control to select "VLIN".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-9: SEPARATION N, L

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 signal.
2. Connect the oscilloscope to the **Audio Out Jack**.
3. Press the AUDIO 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 **(64)** on the remote control to select “SEPAL”.
5. Press the VOL. UP/DOWN button on the remote control to adjust it until the audio output wave becomes a fine sine wave.
6. Press the CH UP button 1 time to set to "SEPAH" mode.
7. Press the VOL. UP/DOWN button on the remote control to adjust it until the audio output wave becomes a fine sine wave.

Method (2)

1. Set the multi-sound signal generator L-ch=1KHz, R-ch =Non input and receive the RF signal.
2. Connect the oscilloscope to the **Audio Out Jack (R-ch)**.
3. Press the AUDIO 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 **(64)** on the remote control to select “SEPAL”.
5. Press the VOL. UP/DOWN button on the remote control to adjust it until the R-ch output becomes minimum.
6. Press the CH UP button 1 time to set to "SEPAH" mode.
7. Press the VOL. UP/DOWN button on the remote control to adjust it until the R-ch output becomes minimum.
8. Set the multi-sound signal generator L-ch=Non input, R-ch=1KHz and receive the RF signal.
9. Connect the oscilloscope to the **Audio Out Jack (L-ch)**. Then perform the above adjustments 3~7.

ELECTRICAL ADJUSTMENTS

2-10: OSD HORIZONTAL

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

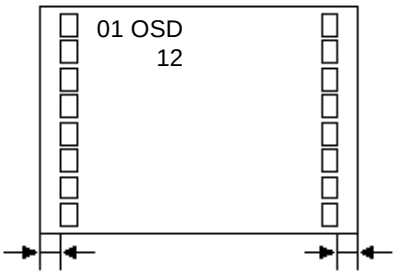


Fig. 2-1

2-11: LEVEL

1. Receive the VHF HIGH (70dB).
2. Connect the AC voltmeter to **pin 6 of CP101**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(63)** on the remote control to select "LVL".
4. Press the VOL. UP/DOWN button on the remote control until the AC voltmeter is 75 ± 2mV.

2-12: BRIGHT CENTER

1. Receive the monoscope 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 **(18)** on the remote control to select "BRTC".
4. Press the VOL. UP/DOWN button on the remote control until the white 15% is starting to be visible
5. Receive the monoscope pattern. (Audio Video Input)
6. Press the INPUT SELECT button on the remote control to set to the AV mode.
7. Using the remote control, set the brightness and contrast to normal position.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(30)** on the remote control to select "BRTCA".
9. Press the VOL. UP/DOWN button on the remote control until the white 15% is starting to be visible
10. Press the TV/DVD button on the remote control to set to the DVD mode.
11. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(42)** on the remote control to select "BRTCD".
12. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.
13. Press the GAME button on the remote control to set to the GAME mode.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(54)** on the remote control to select "BRTCG".
15. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.

2-13: TINT CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP024**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(27)** on the remote control to select "TNTC".
5. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes a straight line. **(Refer to Fig. 2-2)**
6. Receive the color bar pattern. (Audio Video Input)
7. Press the INPUT SELECT button on the remote control to set to the AV mode.
8. Using the remote control, set the brightness, contrast, color and tint to normal position.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(39)** on the remote control to select "TNTCA".
10. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes a straight line. **(Refer to Fig. 2-2)**
11. Press the TV/DVD button on the remote control to set to the DVD mode.
12. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "TNTCD".
13. Press the VOL. UP/DOWN button on the remote control until the section "A" becomes a straight line. **(Refer to Fig. 2-3)**

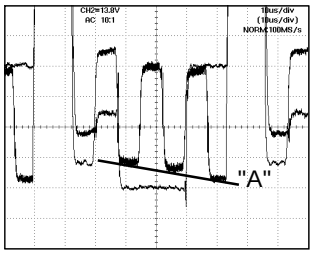


Fig. 2-2

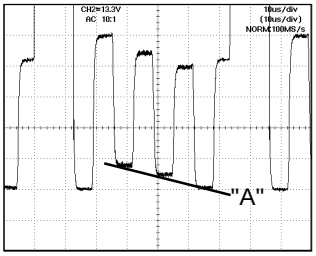


Fig. 2-3

ELECTRICAL ADJUSTMENTS

2-14: COLOR CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP022**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(24)** on the remote control to select "COLC".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 100 ± 5% of the white level. **(Refer to Fig. 2-3)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT SELECT button on the remote control to set to the AV mode.
9. Using the remote control, set the brightness, contrast, color and tint to normal position.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(36)** on the remote control to select "COLCA".
11. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
12. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 100 ± 5% of the white level. **(Refer to Fig. 2-3)**
13. Press the TV/DVD button on the remote control to set to the DVD mode.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(48)** on the remote control to select "COLCD".
15. Press the VOL. DOWN button on the remote control to decrease the step numbers by 10 steps to the AV.

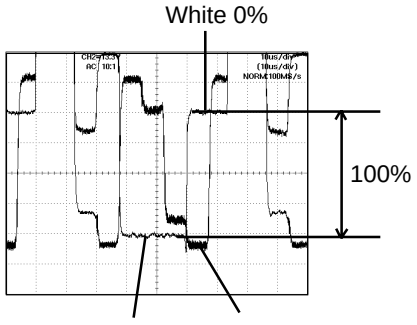


Fig. 2-3

2-15: CONTRAST MAX

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CNTX".
2. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "5A"
3. Receive a broadcast and check if the picture is normal.
4. Press the INPUT SELECT button on the remote control to set to the AV mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(34)** on the remote control to select "CNTXA".
6. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "5A"
7. Receive a broadcast and check if the picture is normal.
8. Press the TV/DVD button on the remote control to set to the DVD mode.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(46)** on the remote control to select "CNTXD".
10. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.
11. Press the GAME button on the remote control to set to the GAME mode.
12. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(58)** on the remote control to select "CNTXG".
13. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.

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	STEP NO.	NO.	FUNCTION	STEP NO.
02	OSD CONTRAST	02	38	COL. AV(MIN)	10
05	H BLK L	04	40	SHARPNESS AV	15
06	H BLK R	02	41	SUB BIAS	00
08	V POSITION	02	43	BRI. DVD(MAX)	40
10	V S CORRECTION	08	44	BRI. DVD(MIN)	10
11	V COMP	03	45	CONT. DVD(CENT.)	40
16	G DRIVE	07	47	CONT. DVD(MIN)	10
19	BRIGHTNESS(MAX)	40	49	COL. DVD(MAX)	70
20	BRIGHTNESS(MIN)	10	50	COL. DVD(MIN)	10
21	CONTRAST(CENT.)	40	52	SHARPNESS DVD	15
23	CONTRAST(MIN)	10	53	SUB BIAS	00
25	COLOR(MAX)	70	55	BRI. GAME(MAX)	40
26	COLOR(MIN)	10	56	BRI. GAME(MIN)	10
28	SHARPNESS	1D	57	CONT. GAME(CENT.)	40
29	SUB BIAS	00	59	CONT. GAME(MIN)	10
31	BRI. AV(MAX)	40	60	SUB BIAS	00
32	BRI. AV(MIN)	10	61	TUNING V MUTE	00
33	CONT. AV(CENT.)	40	62	POWER ON V MUTE	40
35	CONT. AV(MIN)	10	66	TEST PWM	00
37	COL. AV(MAX)	70	69	H FREQ	3F

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.

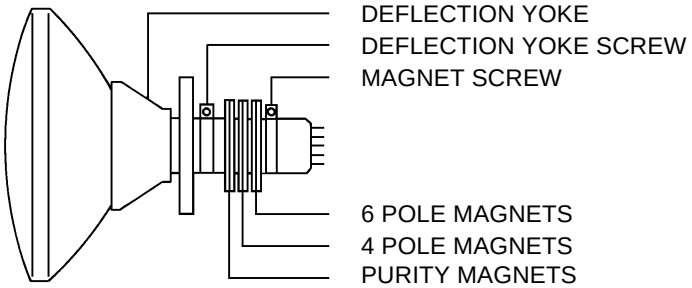


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

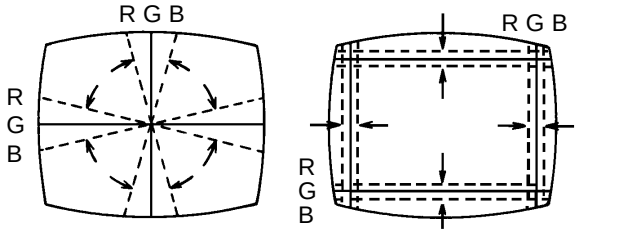
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

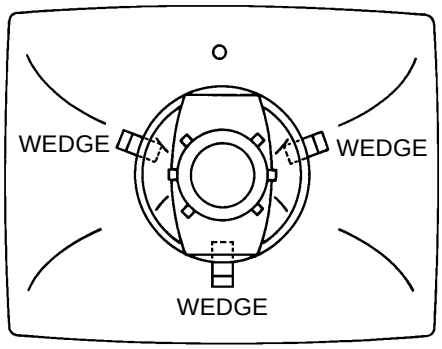
Adjust after performing adjustments in section 3-3.

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)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 3-2-a

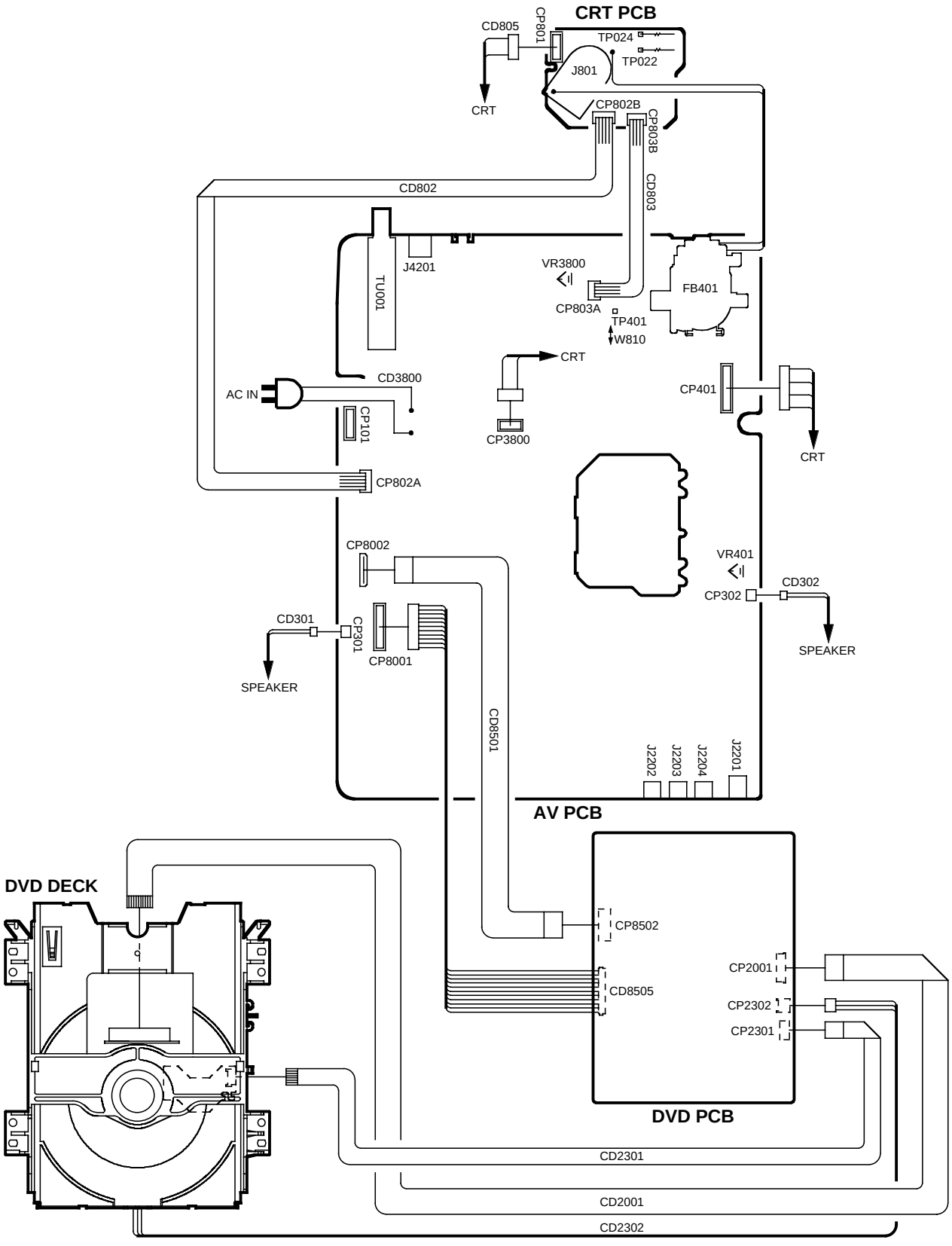


WEDGE POSITION

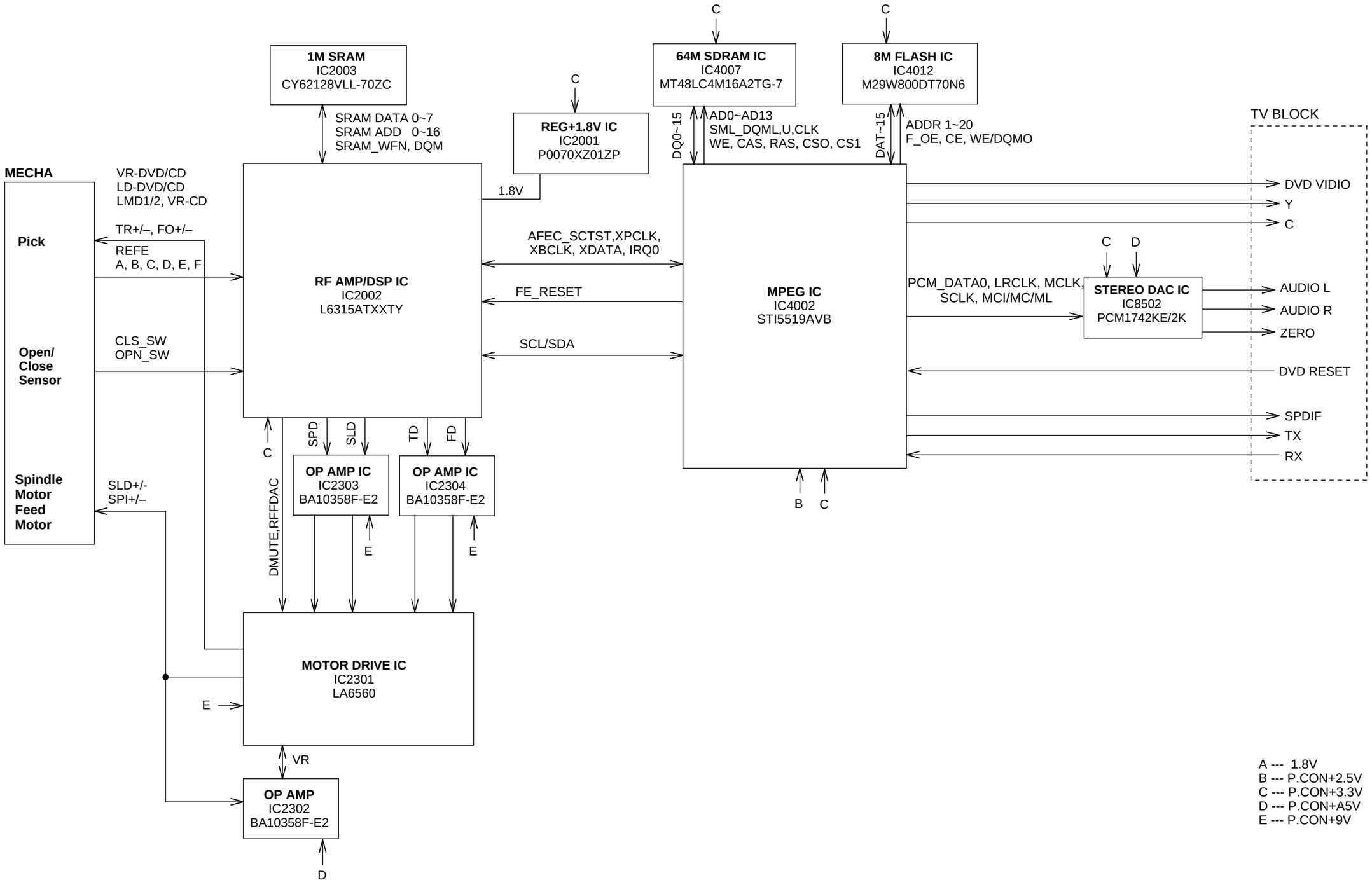
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

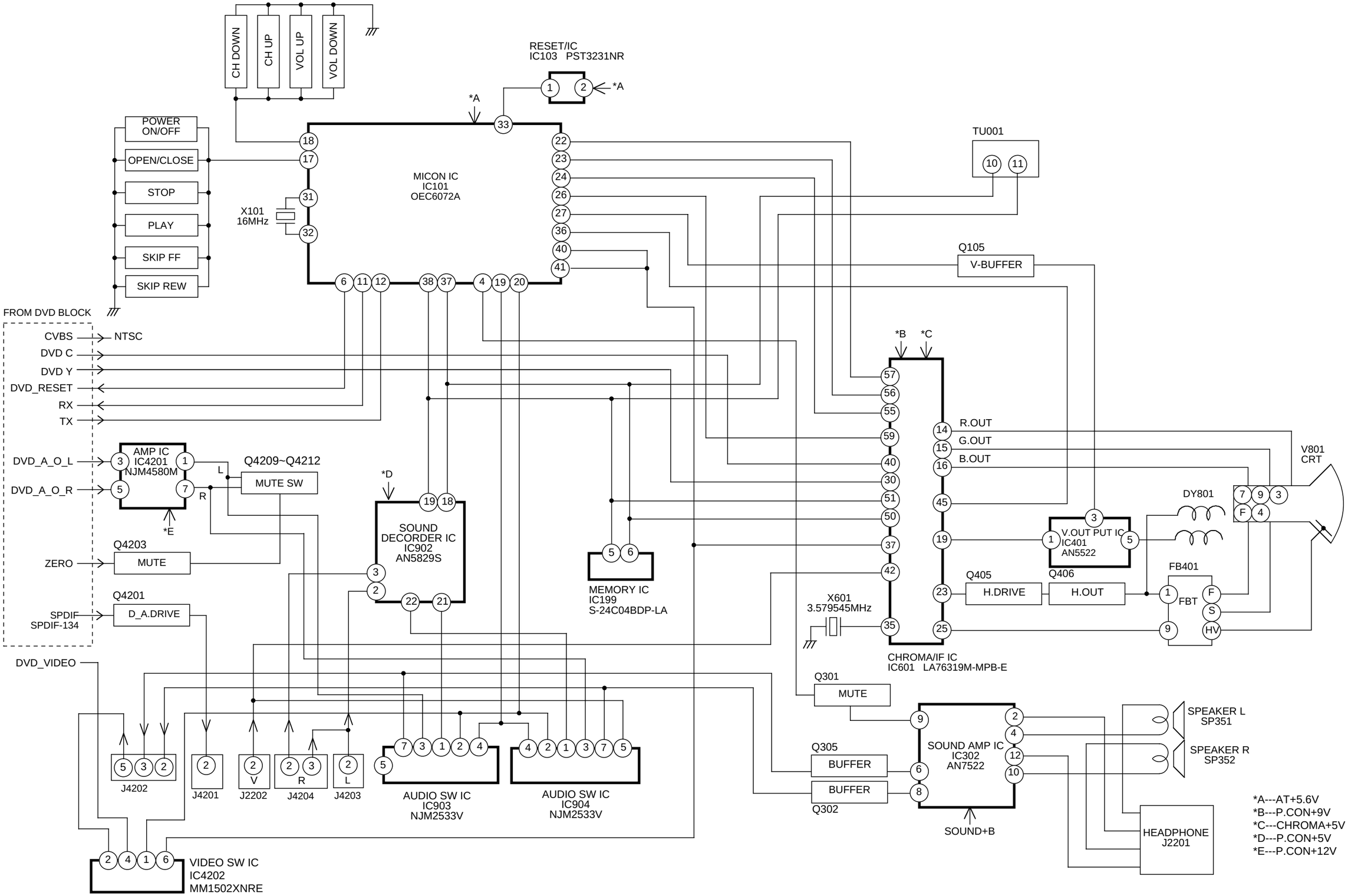
4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



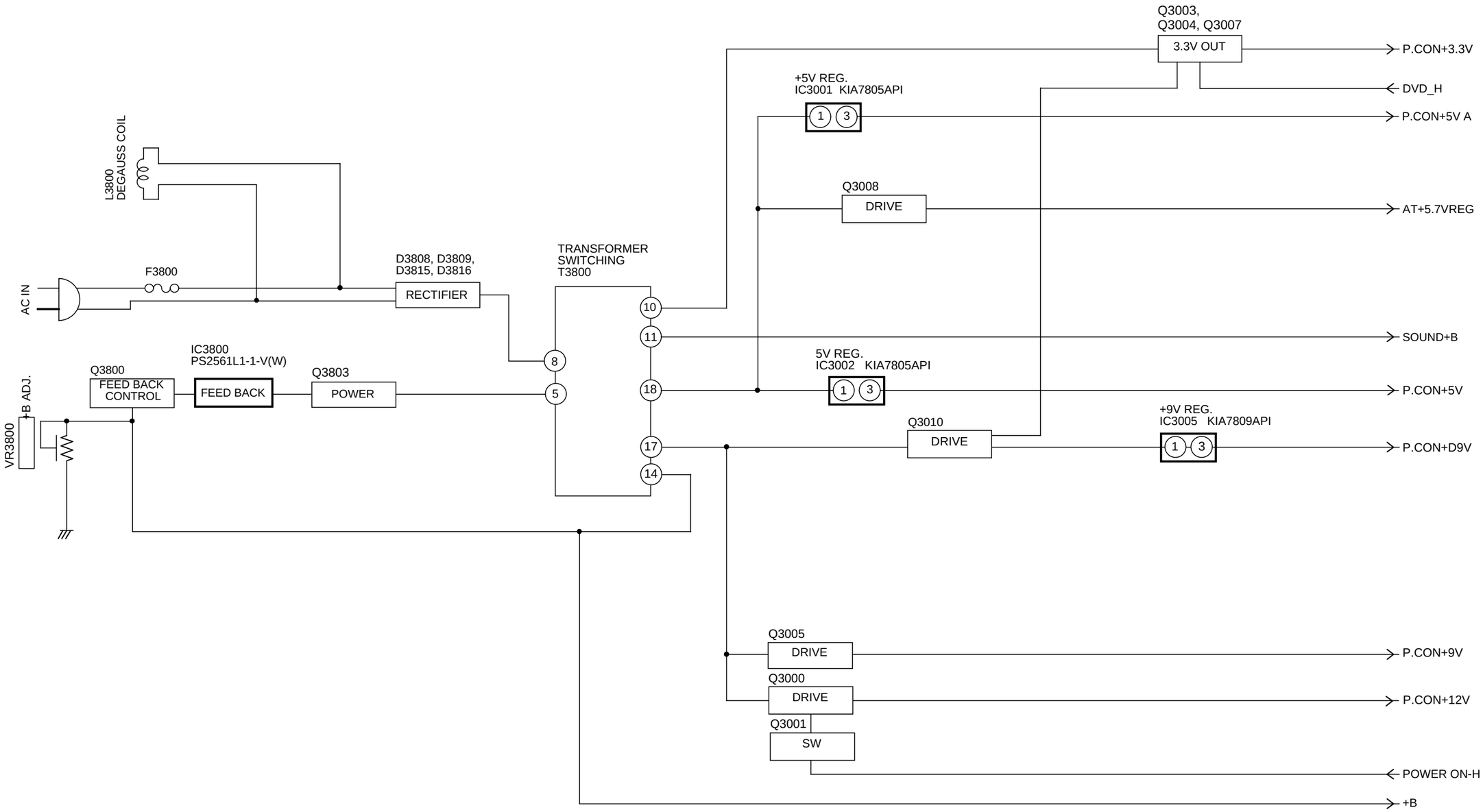
DVD BLOCK DIAGRAM



TV BLOCK DIAGRAM

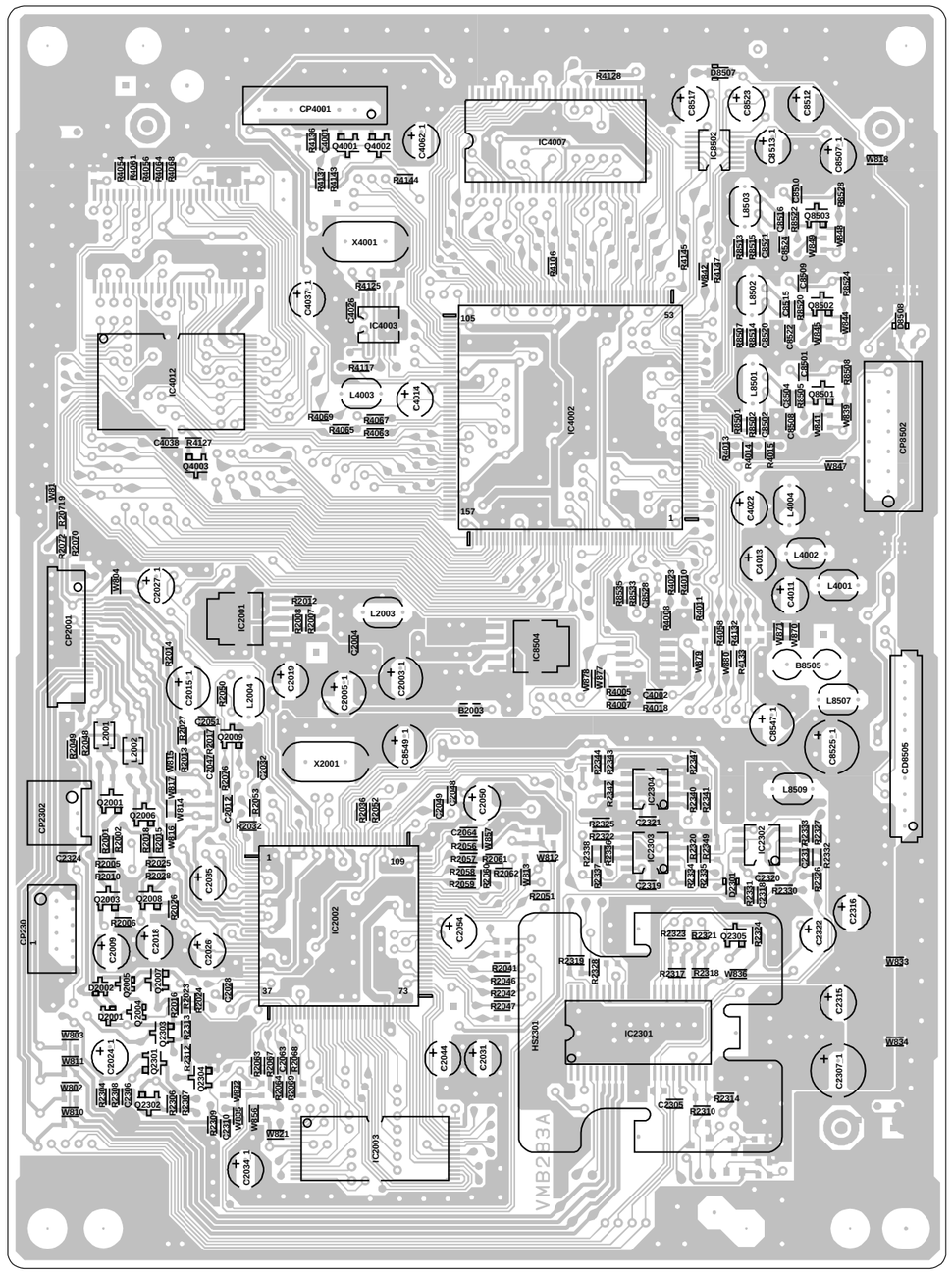


POWER BLOCK DIAGRAM

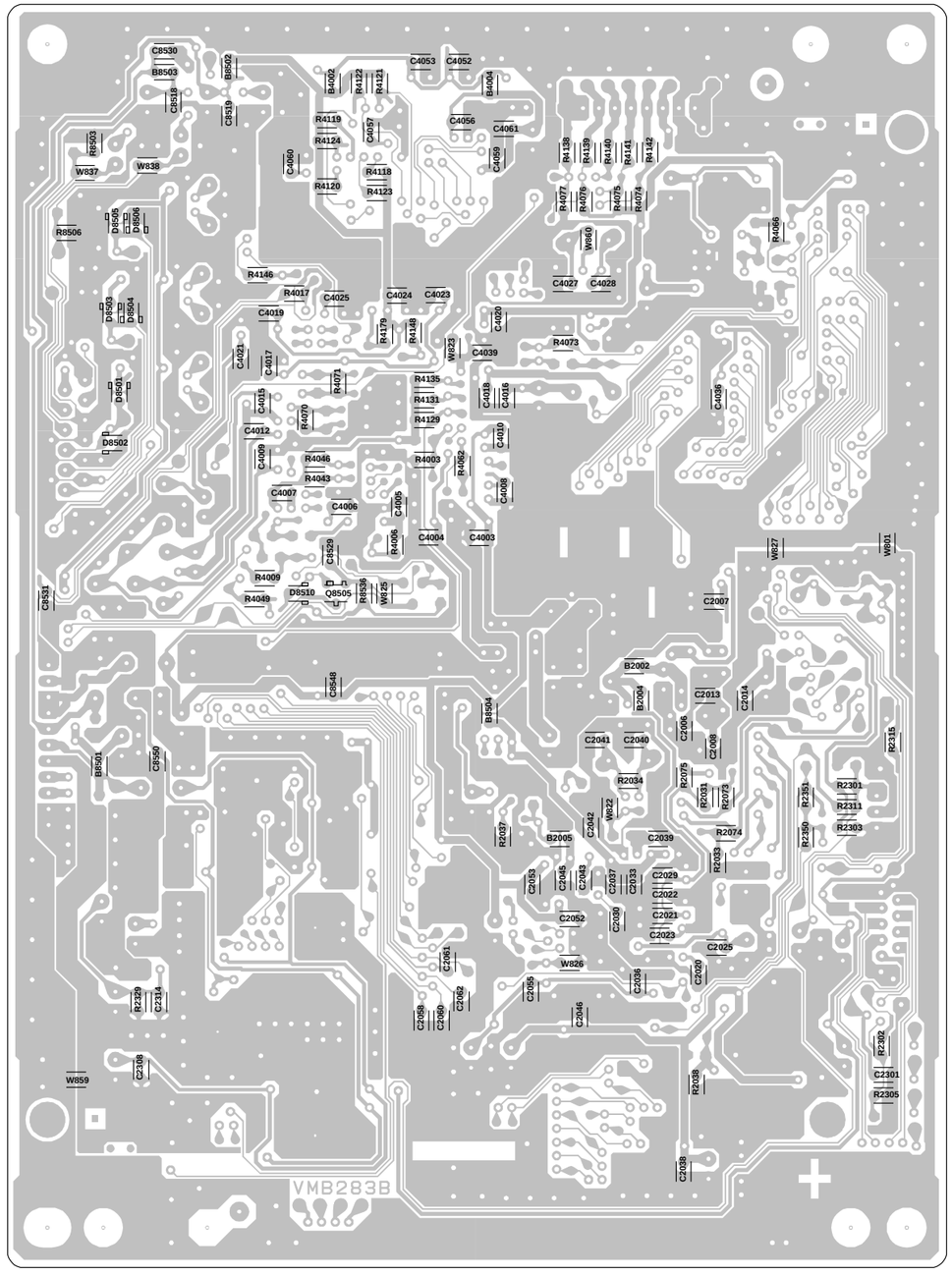


PRINTED CIRCUIT BOARDS

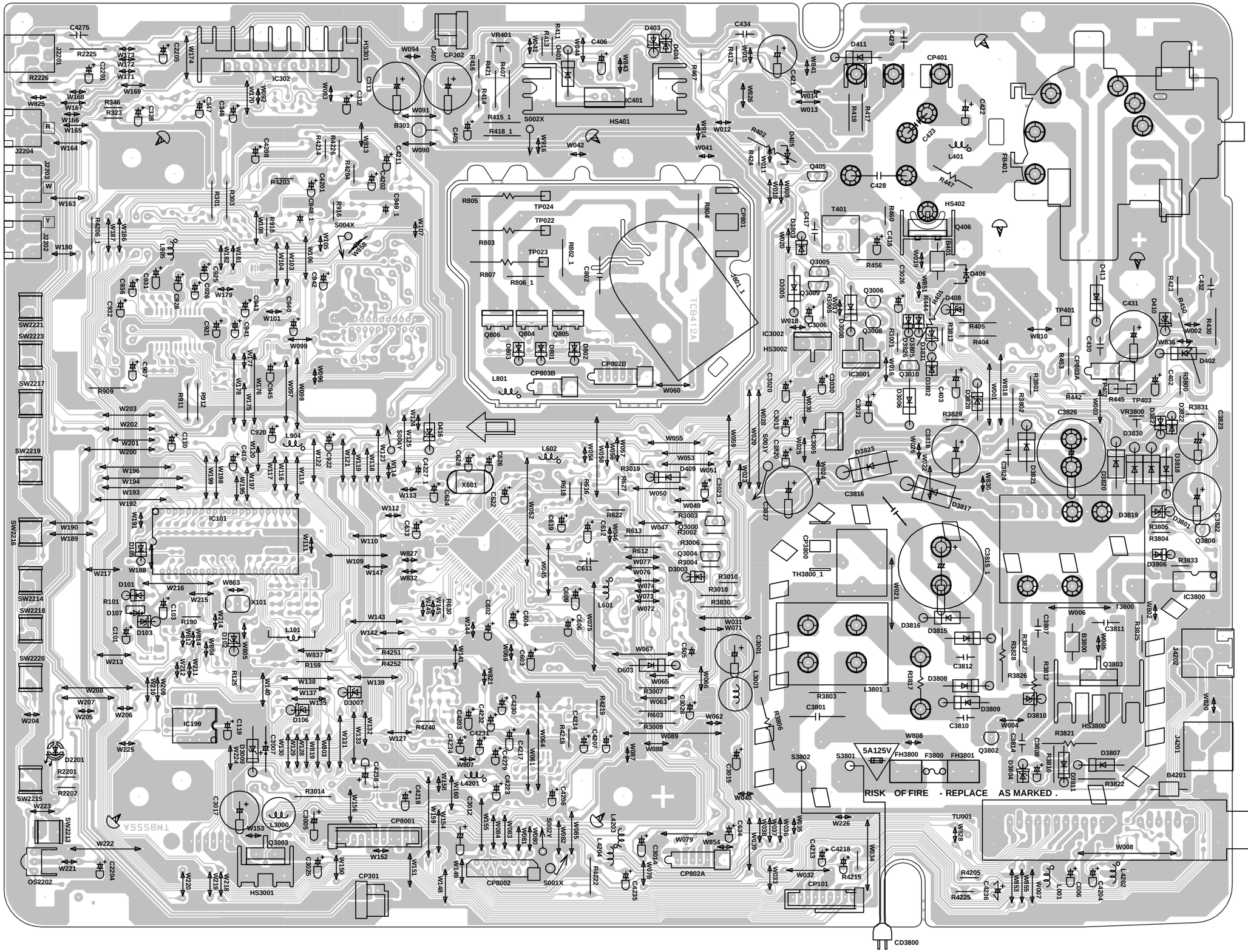
DVD (TOP SIDE)



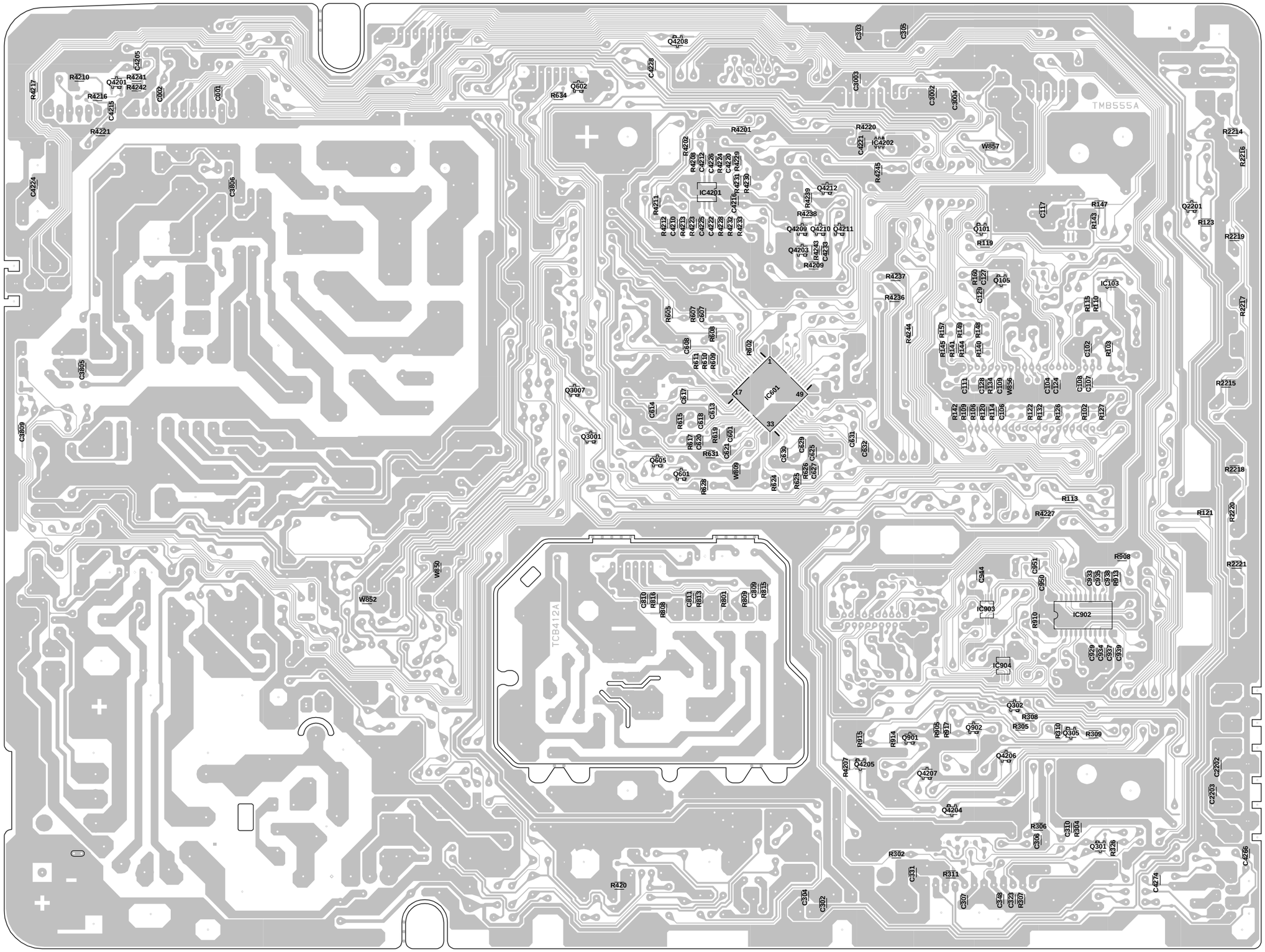
DVD (BOTTOM SIDE)



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

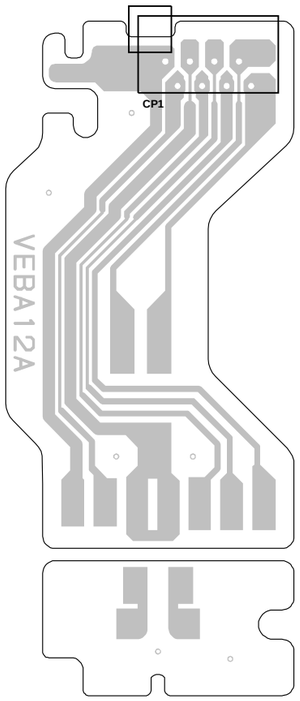


PRINTED CIRCUIT BOARDS
AV/CRT (CHIP MOUNTED PARTS)
SOLDER SIDE

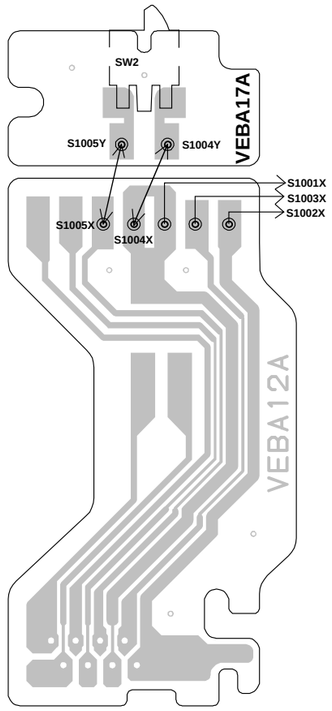


PRINTED CIRCUIT BOARDS

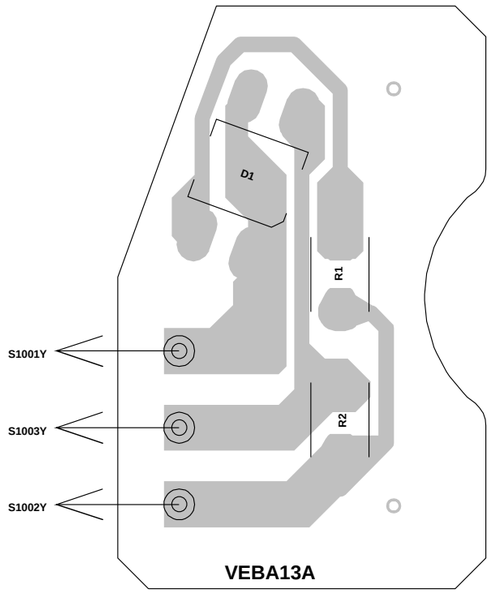
RELAY/SW (INSERTED PARTS)
SOLDER SIDE



RELAY/SW (CHIP MOUNTED PARTS)
SOLDER SIDE



FG (CHIP MOUNTED PARTS)
SOLDER SIDE



RF_AMP/DSP SCHEMATIC DIAGRAM

(DVD MT PCB)

CD2001 2H002303

FFC(230mm)

CP2001 24FLZ-SM1-TB

24	T-	NC
23	T+	
22	F-	
21	F+	
20	MON(DVD)	
19	NC(SW)	NC
18	VOL(DVD)	VR-DVD
17	GND(DVD)	LMD1
16	LD(DVD)	LD-DVD
15	LD(CD)	LD-CD
14	VOL(CD)	VR-CD
13	GND(CD)	
12	MON(COM)	LMD2
11	GND(NC)	NC
10	RF	NC
9	C	C
8	B	B
7	A	A
6	D	D
5	F	F
4	E	E
3	VCC	
2	Vref	REFD
1	GND(PDIC)	NC

W811 W803 W810 W802 W804

R2070 1K, R2071 1K, R2072 390

C2027_1 6.3V 22 KA

JG2001 JG2002 JG2004

DVD_LD CTL Q2001 2SA1036K

LD_CTL Q2003 KTC3875S Y_RTK

CD_LD_CTL Q2006 2SA1036K

LD_CTL Q2008 KTC3875S_Y_RTK

BUFFER Q2009 2SA1037AK

L2001 10uH NL3225, L2002 10uH NL3225

C2009 47 16V10 KA, C2018 47 16V10 KA

LD-DVD, LD-CD

JG2013 C2026 6.3V 47 KA

W817 A, W814 B, JG2008 C2014 0.1 B, REFD

JG2007 W815 D, C2015_1 6.3V 47 KA, JG2011

W816 C

C2047 0.0039 B JG2009, JG2010 F, R2014 1K +-1%, R2027 1K +-1% E

C2051 0.0039 B

R2016 4.7K, C2024_1 6.3V 47 KA

D2001 KDS121RTK, D2002 KDS120RTK

VR-CD R2048 91, VR-DVD R2049 91

FET Q2005 2SK3018

DPD_TE_CTL Q2007 KTC3875S_Y_RTK

R2024 10K, R2023 3.3K

W812 BOOT MODE

FET Q2004 2SK3018

R2038 10K

CD-DVD, SCL

C2063 0.1 B

REG+1.8V IC

IC2001 PQ070XZ01ZP

V_IN 3.11, V_C 3.11, V_OUT 1.89, V_ADJ 1.24, GND 0

R2063 10K, R2067 10K, R2064 10K, R2068 10K, R2069 10K

DMUTE, PC2I, PC3, CD-DVD, CLS_SW

W856

W801 W827

P.CON+3.3V_1

FROM REGULATOR2

P.CON+A5V, P.CON+3.3VA, P.CON+3.3V, GND, D_GND

L2003 2.2uH 0305, C2003_1 6.3V 100 KA, C2004 0.1 F

R2007 510 +-1%, R2008 10, R2012 1K +-1%

B2002 FCM2012H-102T04, B2004 FCM2012H-102T04, B2003 FCM2012H-102T04

+1.8VA, +1.8VD, P.CON+3.3VA, +1.8VA1, +1.8VA2

C2005_1 6.3V 100 KA, C2007 0.1 F

W809 W808

C2038 0.022 B, C2034_1 6.3V 47 KA

C2006 56P CH, C2008 18P CH, L2004 2.2uH 0305, C2013 7P CH, C2012 100 150P CH

R2074 1M, R2033 1M, R2031 1M, R2073 1M, P.CON+3.3VA

JG2027

C2035 47 6.3V KA, C2037 0.01 B, C2040 15P CH, C2041 15P CH

X2001 1M 100BT 02003, R2034 1M, W822

C2042 0.01 B, C2039 0.01 B, C2033 0.01 B, C2020 0.01 B

JG2028 JG2029

TD FD REFDAC SLD SPD FE_RESET

R2036 10K, R2052 10K

C2030 0.1 B, JG2030

C2048 0.01 B, C2049 0.1 B, R2037 10K, C2050 16V10 KA

C2045 0.01 B, C2043 0.01 B

B2005 FCM2012H-102T04

W857, W813

C2064 0.1 B, R2056 10K, R2057 10K, R2058 10K, R2059 10K, R2060 10K, R2061 10K, R2062 10K

OPN_SW

C2053 0.01 B

PE4, SCL, SDA, PE1, IRQ0

R2051 22K, C2052 0.01 B, C2054 16V 10 KA

C2061 15P CH, C2058 15P CH, C2060 15P CH, C2062 15P CH

R2041 56, R2042 56, R2046 100, R2047 56

W826 JG2037, C2055 0.01 B

W832 PC2I

+1.8VD

C2031 16V10 KA, C2022 PC5, JG2023

C2036 0.01 B

JG2024

C2044 16V10 KA

C2046 0.01 B

DMUTE, PC0I, PC2I, CLS_SW, LSW

RF_AMP/DSP IC IC2002 L6315ATXXTY

(1) IREF (2) GNDAI (3) RFSACD (4) RFIN

RFOUT, VCCA18, TST_ADC, TST_SLICE, TST_PM, A, GNDMN, B, VCC33MN, REFD, VCC18MN, D, VCCA18IS, C, VCCA33IS, GNDAIS, VCC33SD, VCC18SD, GNDSD, F, E, VSHIELDIS, VDDADC, VSSADC, VCCADC, GNDADC, NC, BOOT MODE, VSS, VDD3, PC0

(37) PC1 (38) PC2 (39) PC3

VBGFILT, GNDLD, LMD2, LMD1, LCREF, VCCA33, LD2, LD1, SREG2, VCCR33, SREG1, VCCPLL, FREIN, FREOUT, PLLOFF, GNDPLL, NC12, VCC33DAC, NC11, GNDDAC, TACT, FACT, REFDAC, REFGND, REFEXT, SLEDGE, SPINDLE, VCC18DAC, RESET_IN, VDD3, VSS, VDD3S, VSS, VCCD_OUT, VCCD_BYP, VPP_TEST

PD6, PD5, PD4, PD3, PD2, PD1, PD0, PE4, PE3, PE2, PE1, PE0, VSS, VDD3, OUT_DATA7, OUT_DATA6, OUT_DATA5, OUT_DATA4, OUT_DATA3, OUT_DATA2, OUT_DATA1, OUT_DATA0, OUT_CLK, OUT_DVALID, OUT_SYNC, OUT_ERR, OUT_REQ, VSS, VDD18

(108) VSS (107) VDD3 (106) PD7

JG2031 JG2032 JG2033 JG2034 JG2035

NC NC

(76) RAM_DQ7 (75) RAM_DQ6 (74) RAM_DQ5 (73) RAM_DQ4

RAM_DQ0, RAM_DQ1, RAM_DQ2, RAM_DQ3, VSS, VDD3, RAM_CLK, VDD_SPL, RAM_A9, RAM_A8, RAM_A7, RAM_A6, RAM_A5, RAM_A4, RAM_A3, RAM_A2, RAM_A1, RAM_A0, RAM_A10, RAM_A11, RAM_A12, RAM_A13, RAM_CASN, RAM_RASN, RAM_WEN, RAM_DQM, VSS_SPL, VDD18, VSS, PC7, PC6, PC5, PC4

+1.8VD

SRAM_DATA0, SRAM_DATA1, SRAM_DATA2, SRAM_DATA3, SRAM_DATA4, SRAM_DATA5, SRAM_DATA6, SRAM_DATA7, SRAM_ADD0, SRAM_ADD1, SRAM_ADD2, SRAM_ADD3, SRAM_ADD4, SRAM_ADD5, SRAM_ADD6, SRAM_ADD7, SRAM_ADD8, SRAM_ADD9, SRAM_ADD10, SRAM_ADD11, SRAM_ADD12, SRAM_ADD13, SRAM_ADD14, SRAM_ADD15, SRAM_ADD16, SRAM_WEN, SRAM_DQM

1M SRAM IC IC2003 CY62128VLL-70ZC

OE, A10, CE1, D07, D06, D05, D04, D03, GND, D02, D01, D00, A0, A1, A2, A3

A11, A9, A8, A13, WE, CE2, A15, VCC, NC, A16, A14, A12, A7, A6, A5, A4

W821

FROM/TO MPEG

SCL, SDA, IRQ0, FE_RESET, XDATA, XBCLK, XPCLK, AFEC_SCTST

FROM/TO MOTOR DRV

OPN_SW, DMUTE, SPD_FG, CLS_SW, TD, FD, REFDAC, SLD, SPD, TR-, TR+, FO-, FO+, LSW, P.CON+3.3V_1

JG2038 JG2039 JG2040 JG2041 JG2042

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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

PCB130 VMB283

MOTOR DRV SCHEMATIC DIAGRAM

(DVD MT PCB)

FROM/TO LOADER
CP2301
IMSA-9615S-08C-PP
8 +5V
7 SP_FG
6 GND
5 LIMIT SW
4 SP1+
3 SP1-
2 SLD+
1 SLD-
CD2301
2H071001
FFC(100mm)

FROM LOADER
CP2302
A2001WR2-3P
1 CLOSE
2 GND(D)
3 OPEN

MOTOR DRIVE IC
IC2301 LA6560

FWD, REV, VCC2, VLD-, VLD+, VD4+, VD4-, VD3+, VD3-, VD2+, VD2-, VD1+, VD1-, VCC1, VIN1, VIN1-A, VIN1+A, VIN1-B
S-GND, VCONT, MUTE, VIN4, VIN4-, VIN4+, VREF-IN, VIN1-SW, VREF-OUT, NC, REG-OUT, REG-IN, VIN3+, VIN3-, VIN3, VIN2+, VIN2-, VIN2, VIN1+B

C2307_1 16V 100 KA
C2308 0.1 B
C2301 0.1 B
C2305 0.1 B
C2324 0.1 B
C2322 16V10 KA
C2314 0.1 F
C2315 16V10 KA
C2316 16V10 KA
C2310 100P CH
C2306 0.0022 B
C2318 0.01 B
C2320 0.1 F
C2317 0.001 B

R2310 22K +-1%
R2314 10K
R2319 12K
R2328 10K
R2317 27K
R2318 27K
R2321 10K
R2323 10K
R2324 1K
R2329 1K
R2320 100K +-1%
R2322 100K +-1%
R2325 1K +-1%
R2327 5.6K
R2326 5.6K
R2351 100
R2350 10K
R2306 10K
R2307 10K
R2308 1M
R2304 22K
R2305 22K
R2309 4.7K
R2312 1K
R2313 10K
R2302 1K
R2301 4.7K
R2303 4.7K
R2311 100
R2315 100
R2330 10K
R2331 18K
R2332 4.7K
R2333 4.7K

W836
W835
HS2301 763WSA0022

5VREG. Q2305 KTA1504S_Y_RTK
SPDFG CTL Q2302 KTA1504S_Y_RTK
DMVTE_CTL Q2303 2SA1037AK
DMVTE_CTL Q2304 KRC102SRTK
SPDFG.CTL Q2301 KTC3875S_Y_RTK

D2301 MCL4148

OPE AMP IC BA10358F-E2
IC2303 OPE AMP IC BA10358F-E2
IC2304 OPE AMP IC BA10358F-E2
IC2302 BA10358F-E2 OPE AMP IC

R2337 1K +-1%
R2343 1K +-1%
R2338 100K +-1%
R2344 100K +-1%
R2336 100K +-1%
R2342 100K +-1%
R2334 100K +-1%
R2335 100K +-1%
R2339 100K +-1%
R2340 100K +-1%
R2341 100K +-1%
R2347 1K +-1%
R2349 1K +-1%

FROM/TO RF_AMP/DSP
OPN_SW
DMUTE
SPD_FG
CLS_SW
TD
FD
REFDAC
SLD
SPD
TR-
TR+
FO-
FO+
P.CON+3.3V_1
LSW

FROM REGULATOR2
P.CON+A5V
P.CON+3.3V
P.CON+9V
M_GND
D_GND
GND

P.CON+A5V
D_GND
DMUTE
REFDAC
VR
M_GND
GND
SP-
SP+
SPD_FG
KFG
P.CON+3.3V_1
CLS_SW
OPN_SW
TR-
TR+
FO-
FO+

PCB130
VMB283

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NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION: DIGITAL TRANSISTOR

MPEG SCHEMATIC DIAGRAM

(DVD MT PCB)

MPEG IC
IC4002
STI5519AVB

CLOCK GENERATOR IC
IC4003 SN74AHCU04PWR

FROM/TO MEMORY

FROM/TO RF_AMP/DSP

FROM/TO AUDIO/VIDEO

FROM/TO REGULATOR2

FROM AUDIO/VIDEO

PCB130
VMB283

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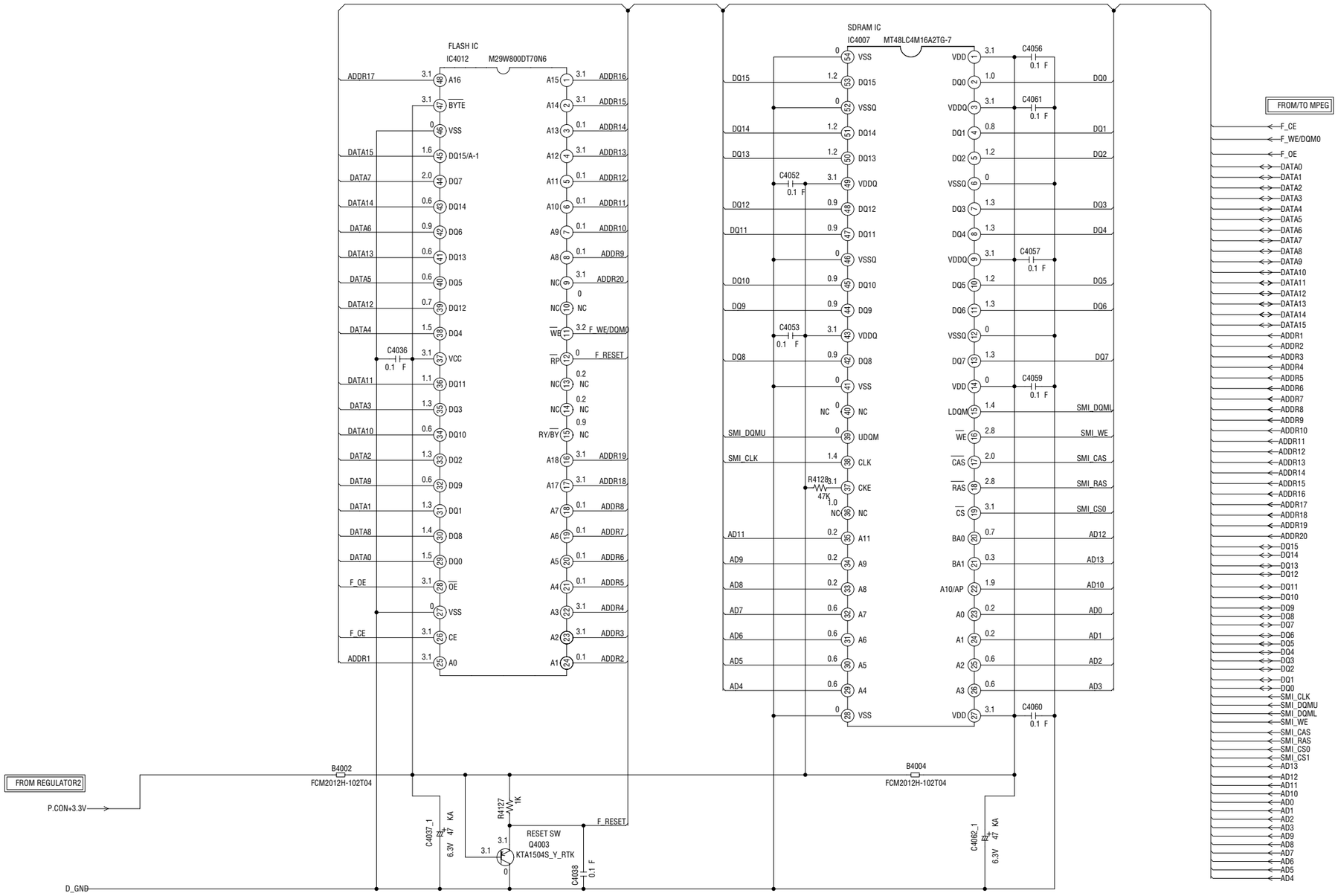
MEMORY SCHEMATIC DIAGRAM

(DVD MT PCB)



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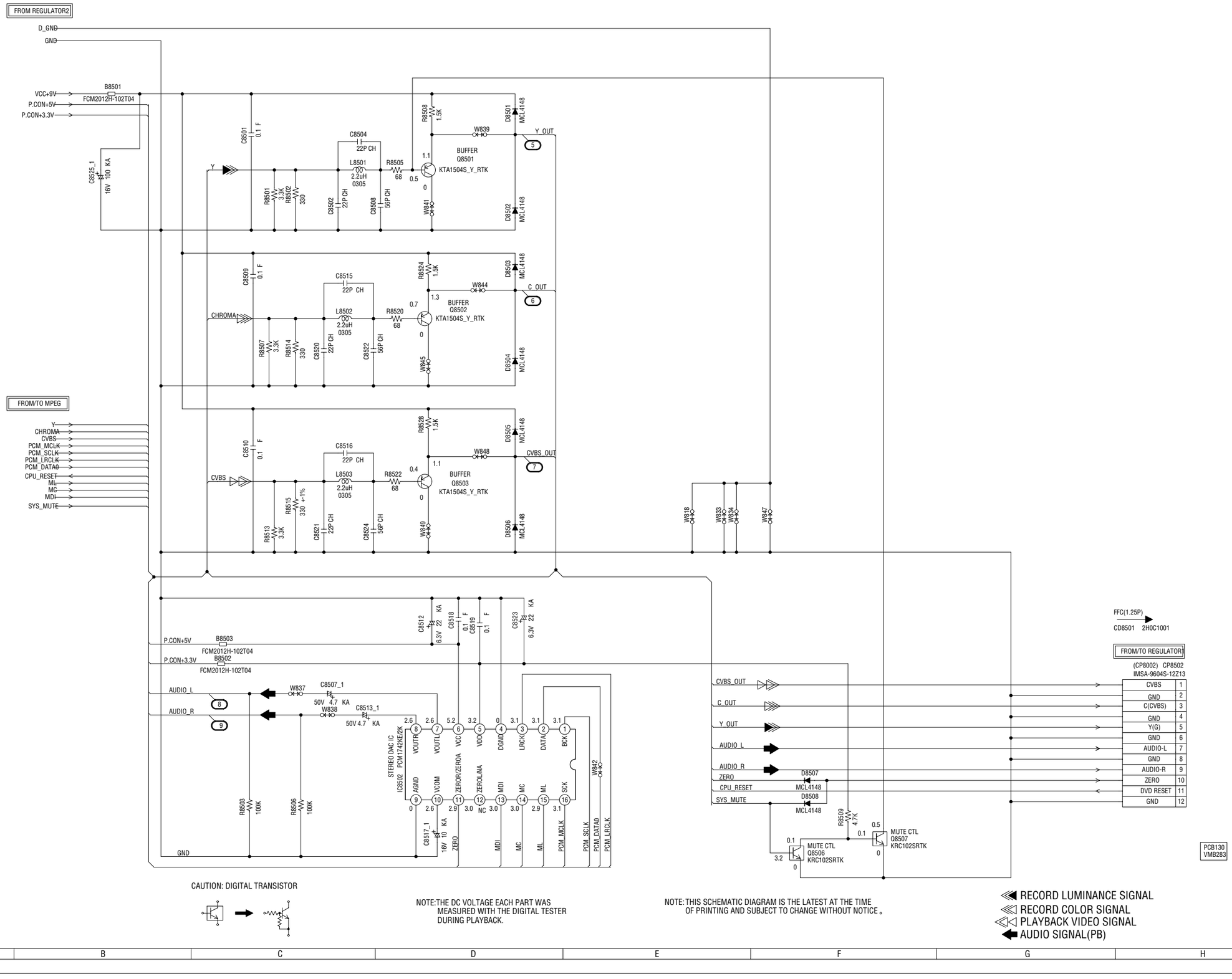
PCB130
VMB283

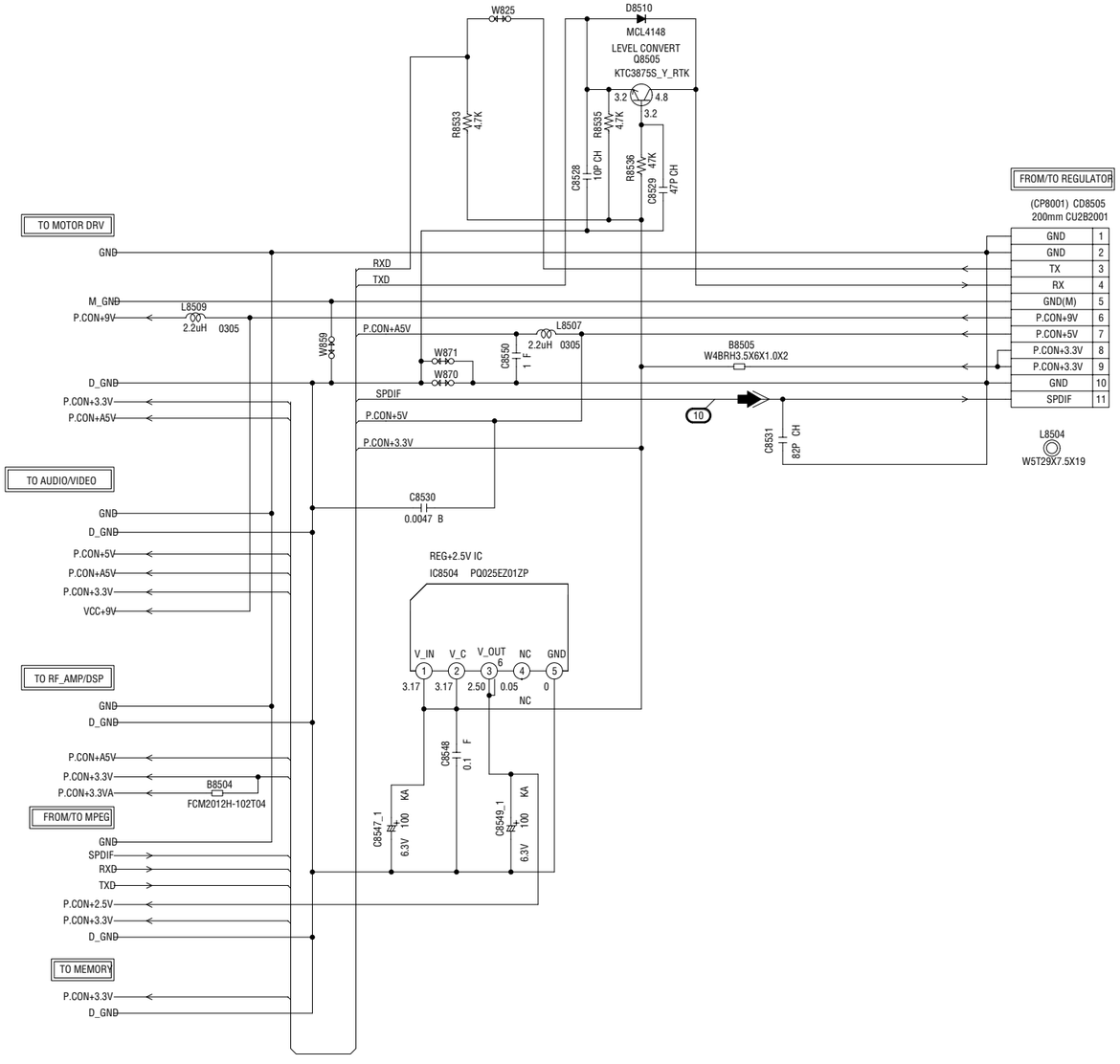
AUDIO/VIDEO SCHEMATIC DIAGRAM

(DVD MT PCB)



REGULATOR2 SCHEMATIC DIAGRAM

(DVD MT PCB)



PCB130
VMB283

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◀ DIGITAL AUDIO SIGNAL(PB)

REGULATOR SCHEMATIC DIAGRAM

(AV PCB)

FROM POWER

GND

UNREG+12V

UNREG+8V

UNREG+5V

5V REG IC

IC3001 KIA7805API

IN GND OUT

8.1 0 5.0

W852

D3008

1N4005-EIC

C3015 6.3V 100 YK

C3005 16V 470 YK

9V REG IC

IC3005 KIA7809API

IN GND OUT

12.3 0 9.1

L3001 10uH TSL0808

C3001 16V 1000 YK

D3006

1N4005-B-EIC

C3012 16V 470 YK

C3026 50V 2.2 KA

R3001 100 1/4W

UNREG+12V

DRIVER Q3006 KTC3203_Y

7.9 10.8 8.0

L3000 10uH TSL0808

C3017 16V 1000 YK

DRIVER Q3004 KTA1281_Y

8.0 8.2 7.2

R3014 220 1/2W

3.3V OUT Q3003 KTC4369

5.0 4.0 3.3

C3025 6.3V 330 YK

DRIVER Q3010 KTA1281_Y

12.1 11.8 11.2

R3006 10K 1/4W

R3004 1K 1/4W

D3003 1SS133

W857

R3010 1M 1/4W

R3018 1K 1/4W

C3021 16V 470 YK

HS3001 763WAA0157

D3009 MTZJ3.9B

C3007 50V 1 YK

SW Q3007 KTC3875S_Y_RTK

4.0 0 0

R3019 2.2K 1/4W

DVD_H

TO SOUND AMP

GND

P.CON+9V

FROM/TO STEREO

P.CON+5V

P.CON+12V

GND

FROM/TO VIF/SIF/CHROMA

8.5VREG

AT5.7VREG

DVD_Y

DVD_C

DVD_VIDEO

P.CON+5V

P.CON+9V

UNREG+12V

GND

TO DEFLECTION

P.CON+5V

GND

FROM/TO MICON/TUNER

GND

DVD_H

POWER_ON_H

DVD_RESET

RX

TX

P.CON+5V

AT+5.6V

FROM/TO SYSCON1

CP8001 (CD8505)

A2001WV2-11P

1	GND
2	GND
3	TX
4	RX
5	GND
6	P.CON+9V
7	P.CON+5V A
8	P.CON+3.3V
9	P.CON+3.3V
10	GND
11	SPDIF-134

C3002 470P CH

W819

TX

RX

W803

C3004 470P CH

C3003 0.1 B

SPDIF-134

S001X

S003Y

S001Y

DRIVER Q3000 KTA1281_Y

13.1 12.8 12.6

R3002 10K 1/4W

R3003 1K 1/4W

SW Q3001 KRC102SRTK

12.8 5.1 0

DRIVER Q3005 KTC3209_Y

11.9 9.6 9.0

P.CON+9V

R3007 100 1/4W

C3023_1 16V 10 KA

C3030 16V 100 YK

DRIVER Q3008 KTC3203_Y

8.0 3.6 5.0

C3013 6.3V 100 YK

R3009 100 1/4W

C3028 16V 10 KA

AT5.7VREG

POWER_ON_H

8.5VREG

FROM/TO AUDIO/VIDEO

CP8002 (CP8502)

IMSA-9604S-12Z14

1	GND
2	DVD RESET
3	ZERO
4	AUDIO-R
5	GND
6	AUDIO-L
7	GND
8	Y(G)
9	GND
10	C(CVBS)
11	GND
12	CVBS

D3007 MTZJ5.6B

DVD_RESET

ZERO

DVD_A_OUT_R

DVD_A_OUT_L

DVD_Y

DVD_C

DVD_VIDEO

C4223 50V 10 KA

DVD_VIDEO_A

C3014 6.3V 100 YK

5V REG IC

IC3002 KIA7805API

DRIVER Q3009 KTC3209_Y

8.4 9.6 9.0

D3005 1N4005-EIC

8.1 0 4.9

R3005 100 1/4W

HS3002 8900124AM0

C3006 50V 2.2 KA

W850

C3020 6.3V 470 YK

P.CON+12V

TO IN/OUT

AT+5.6V

P.CON+9V

P.CON+5V

P.CON+12V

SPDIF-134

DVD_A_OUT_L

DVD_A_OUT_R

ZERO

DVD_VIDEO_A

GND

PCB250
TMB555

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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

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

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

CAUTION: DIGITAL TRANSISTOR

DIGITAL AUDIO SIGNAL(PB)

PLAYBACK LUMINANCE SIGNAL

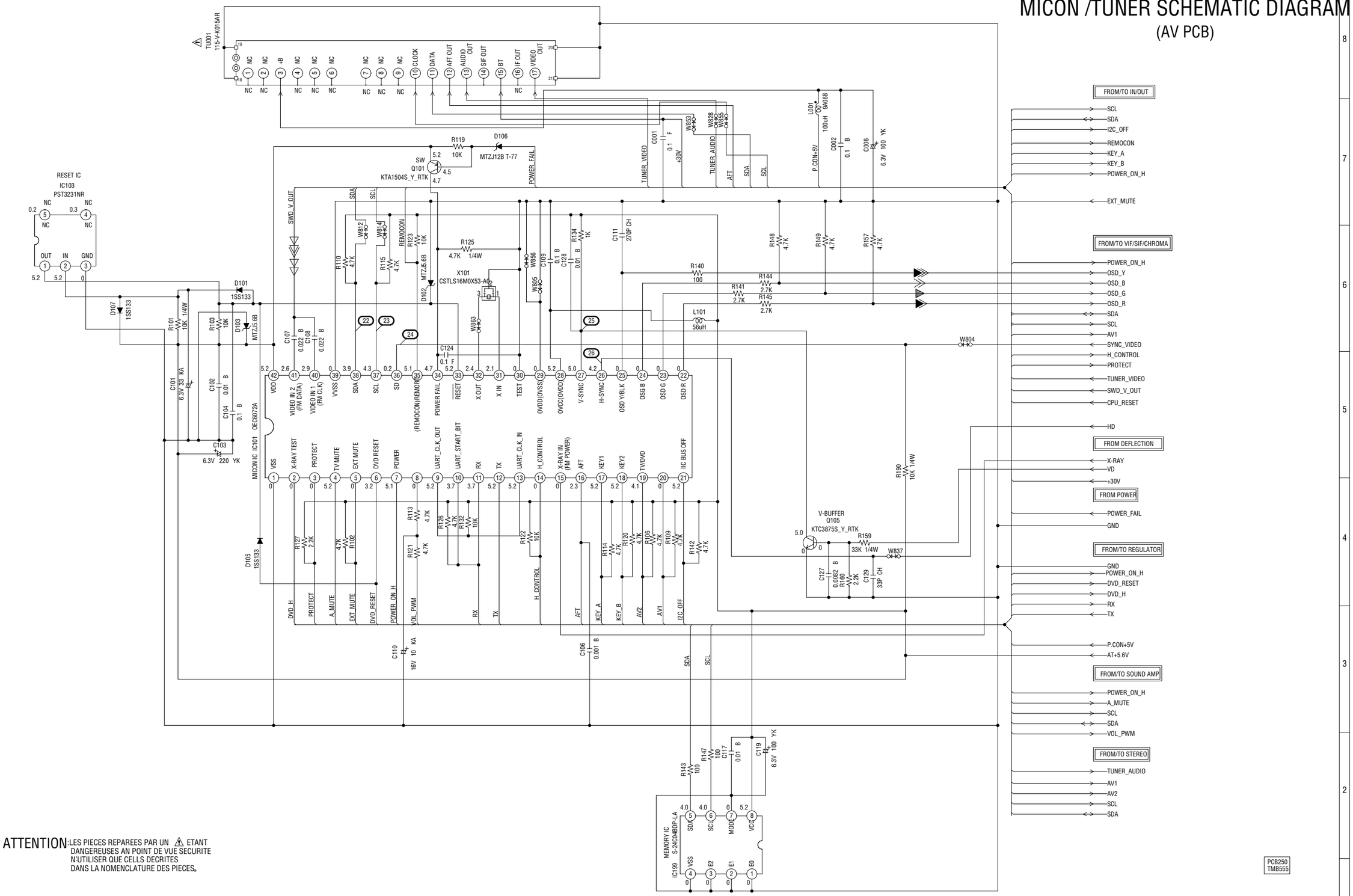
PLAYBACK COLOR SIGNAL

PLAYBACK VIDEO SIGNAL

AUDIO SIGNAL(PB)

MICON /TUNER SCHEMATIC DIAGRAM

(AV PCB)



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

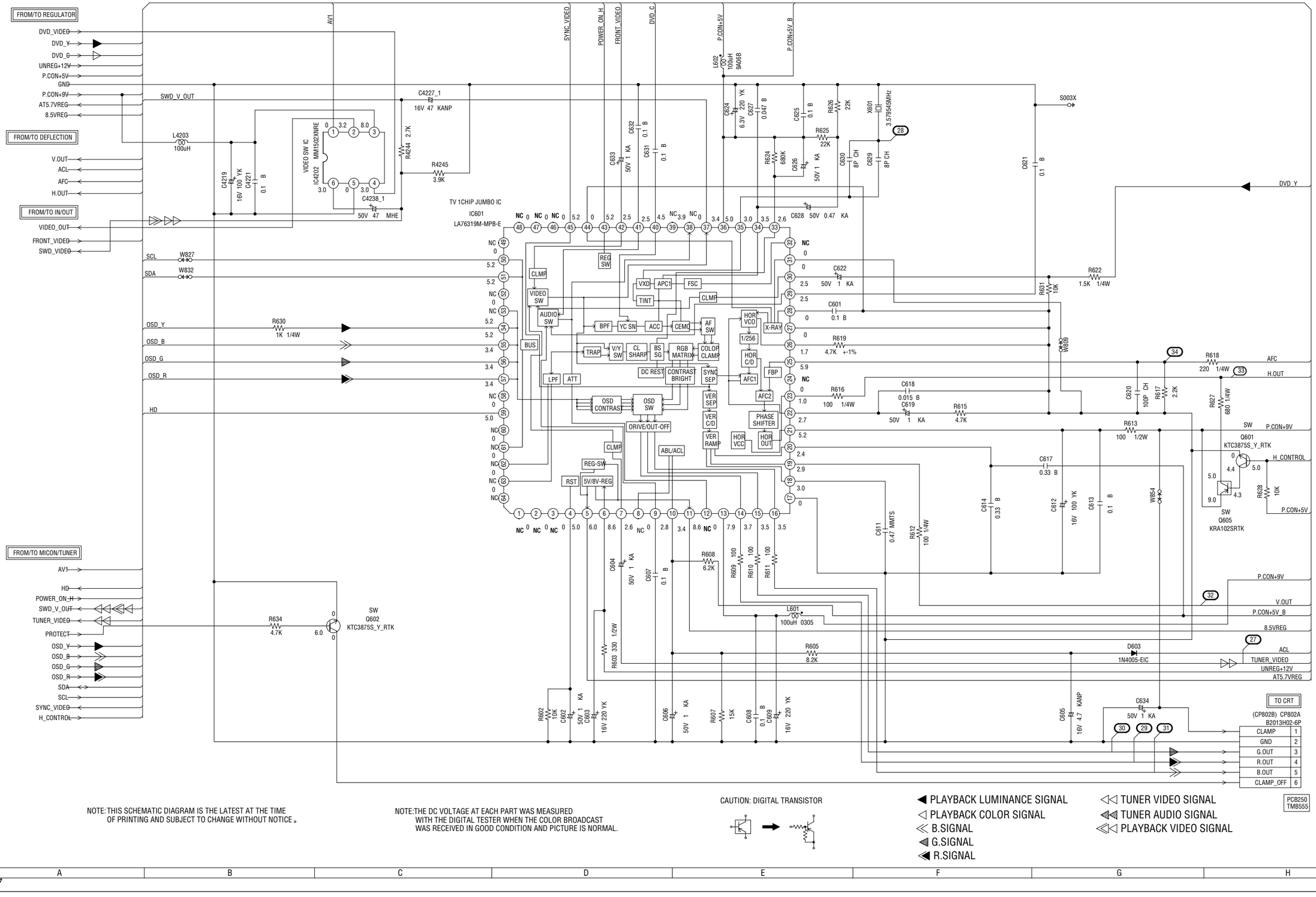
NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

◀◀ LUMINANCE SIGNAL ◁◁ TUNER VIDEO SIGNAL
◀◁ B.SIGNAL ◀◁ PLAYBACK VIDEO SIGNAL
◀◁ G.SIGNAL
◀◁ R.SIGNAL

VIF/SIF/CHROMA SCHEMATIC DIAGRAM

(AV PCB)



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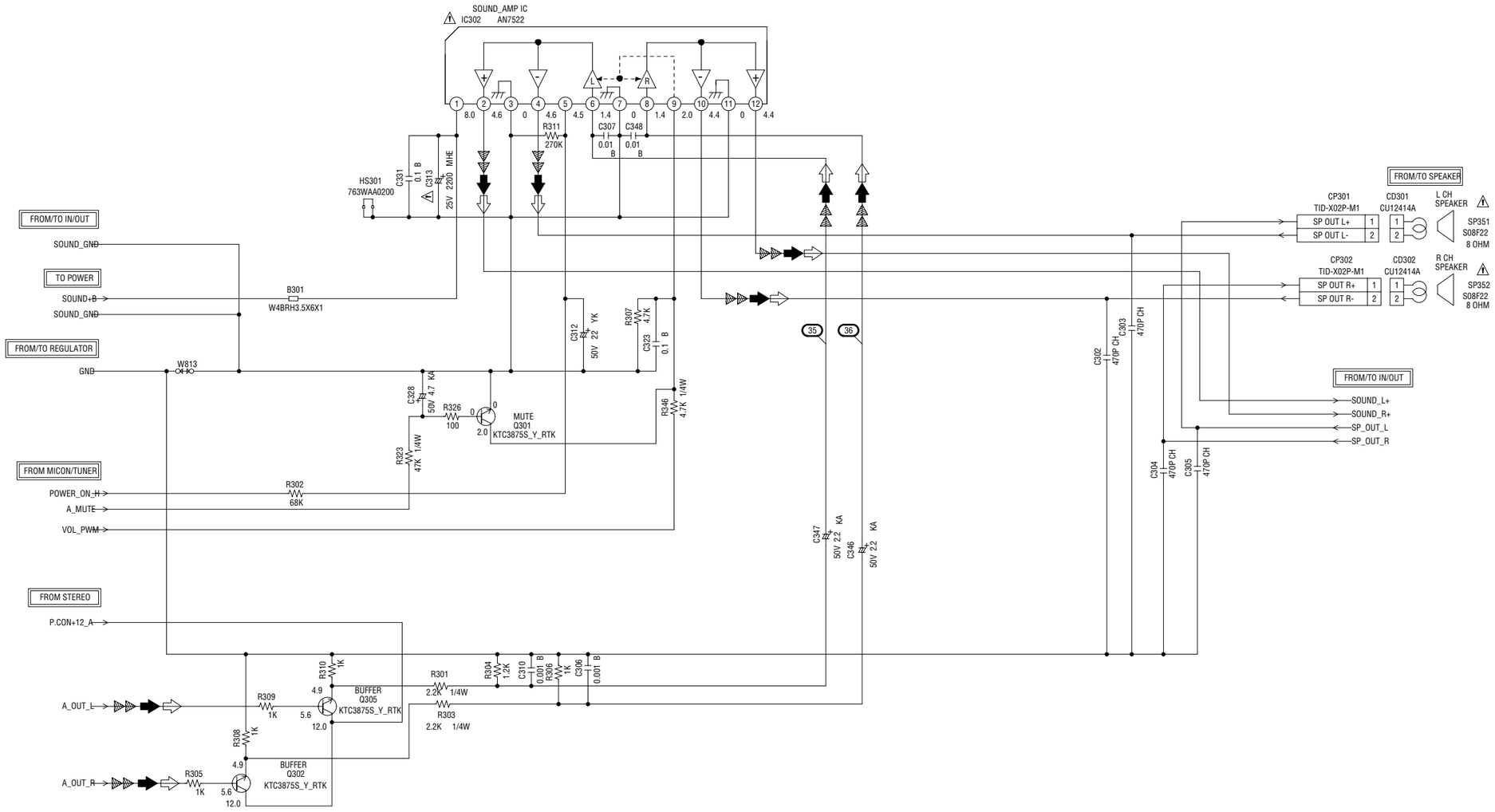
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

◀ PLAYBACK LUMINANCE SIGNAL
◁ PLAYBACK COLOR SIGNAL
≪ B.SIGNAL
◀ G.SIGNAL
◀ R.SIGNAL
◁◁ TUNER VIDEO SIGNAL
◀◀◀ TUNER AUDIO SIGNAL
◁◁◁ PLAYBACK VIDEO SIGNAL

SOUND AMP SCHEMATIC DIAGRAM

(AV PCB)



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

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

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

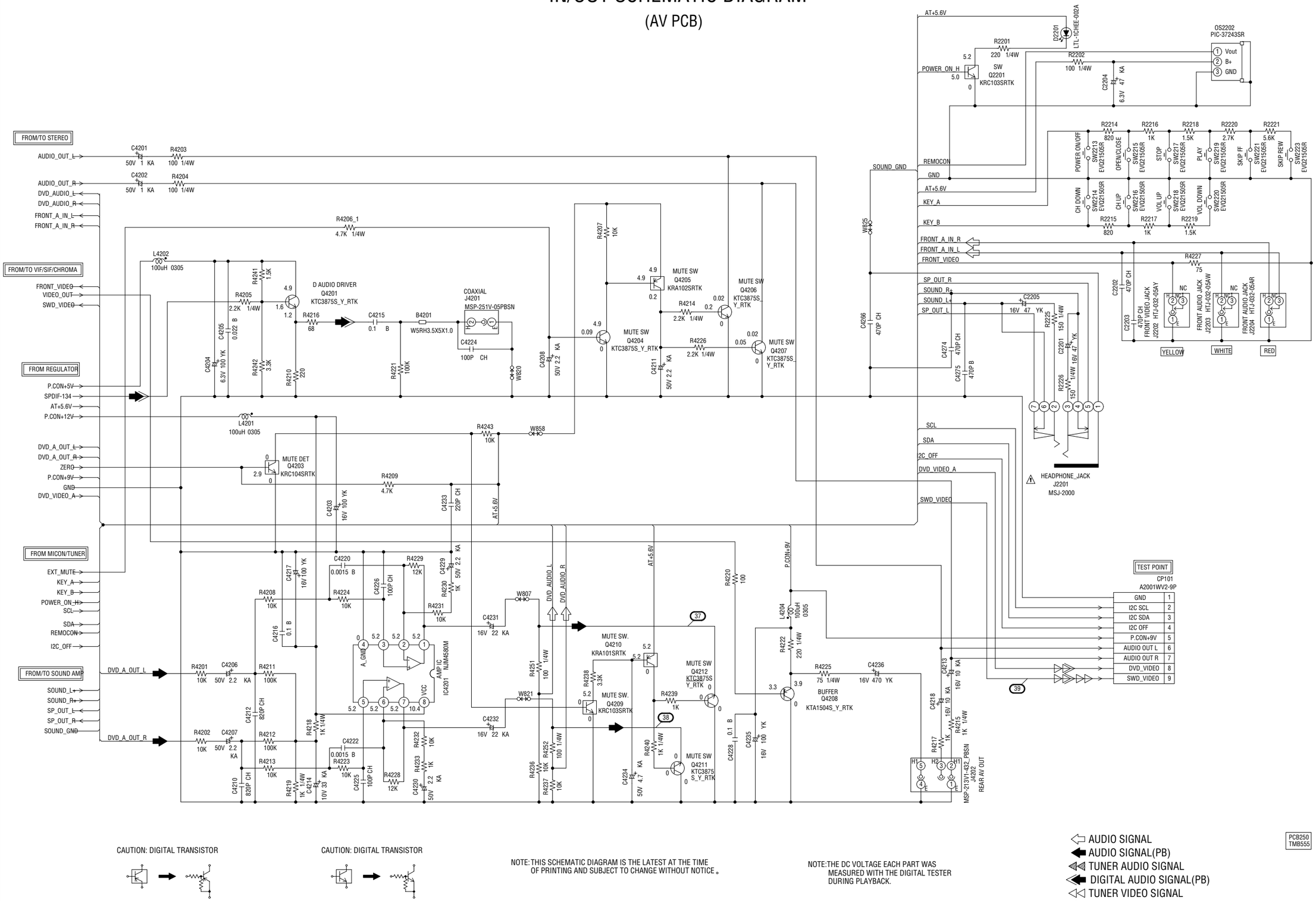
ATTENTION :LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

⇦ AUDIO SIGNAL
⬅ AUDIO SIGNAL(PB)
⇚ TUNER AUDIO SIGNAL

PCB250
TMB555

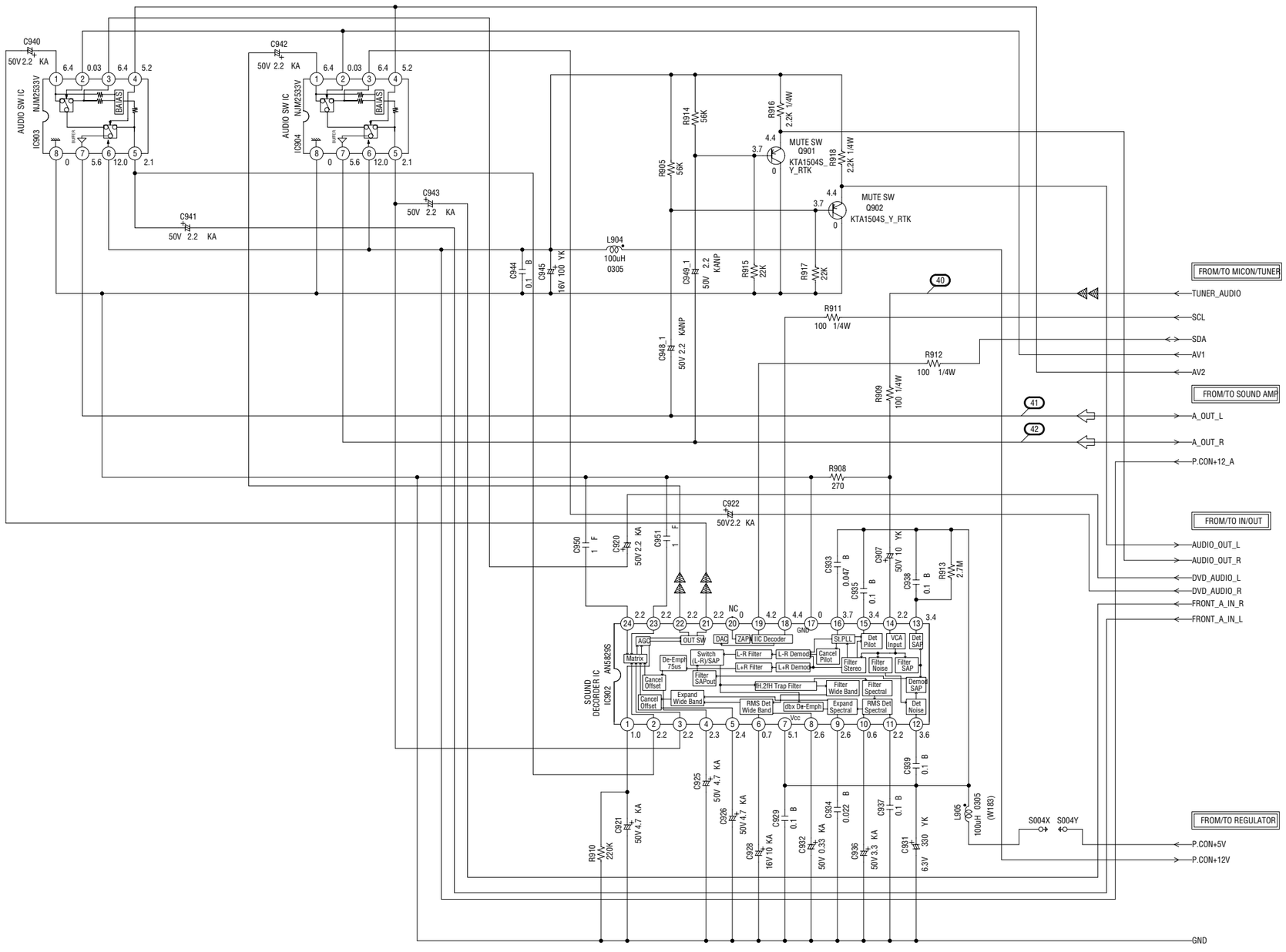
IN/OUT SCHEMATIC DIAGRAM

(AV PCB)



STEREO SCHEMATIC DIAGRAM

(AV PCB)



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

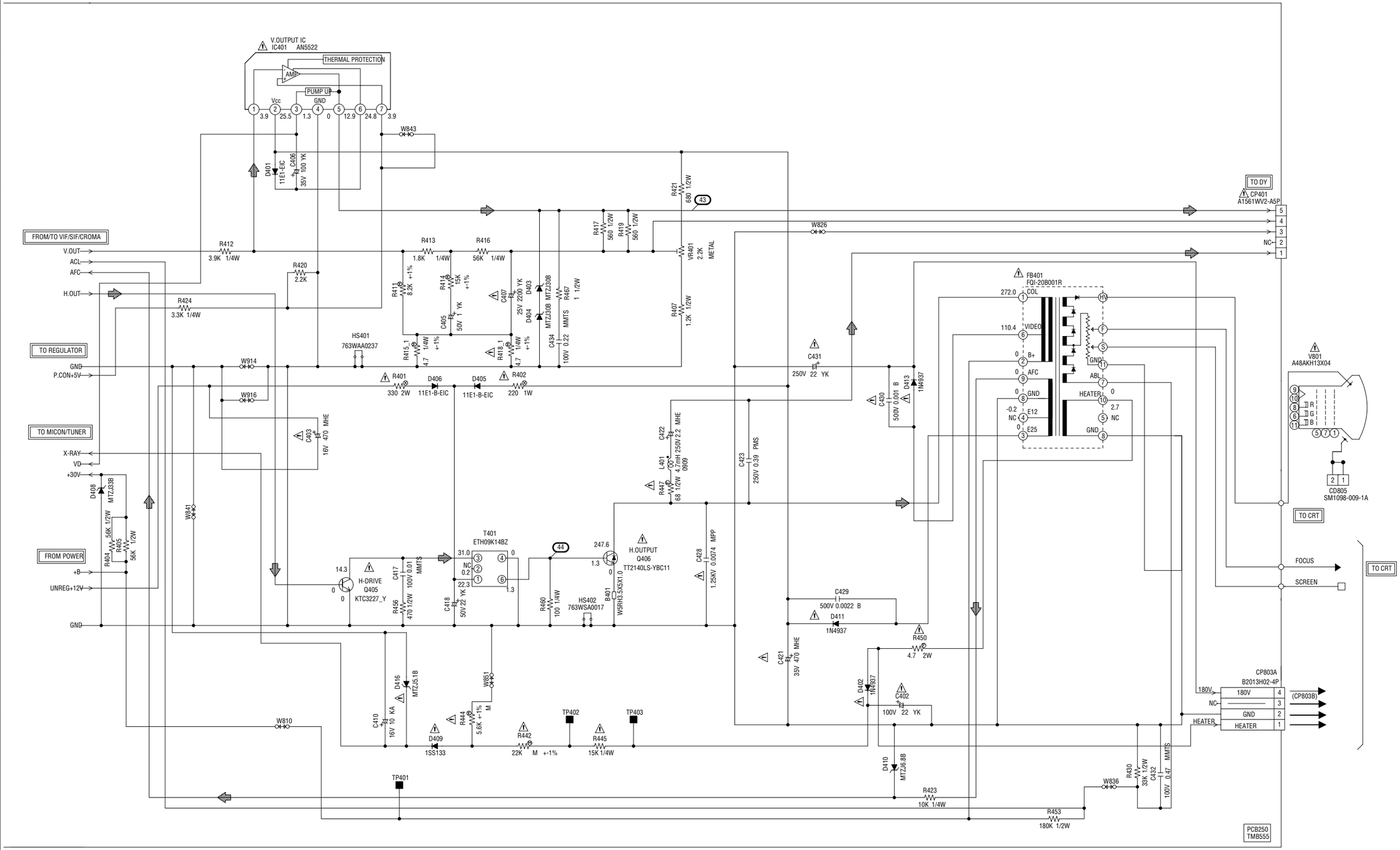
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

TUNER AUDIO SIGNAL

AUDIO SIGNAL

DEFLECTION SCHEMATIC DIAGRAM

(POWER PCB)



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

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

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

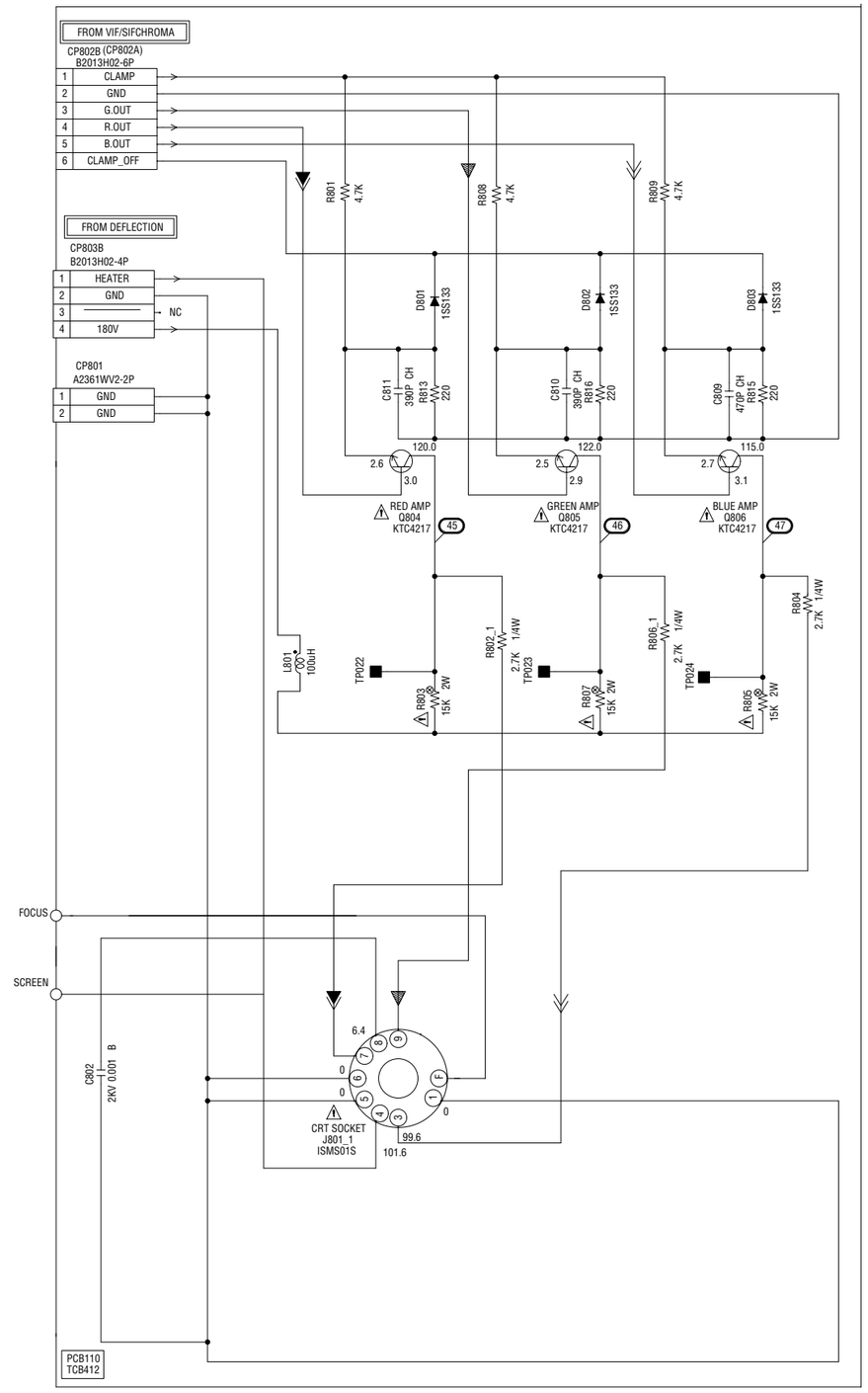
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

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

DEFLECTION SIGNAL

CRT SCHEMATIC DIAGRAM

(CRT PCB)



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

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

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

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

◀◀ R.SIGNAL
◀ G.SIGNAL
≪ B.SIGNAL

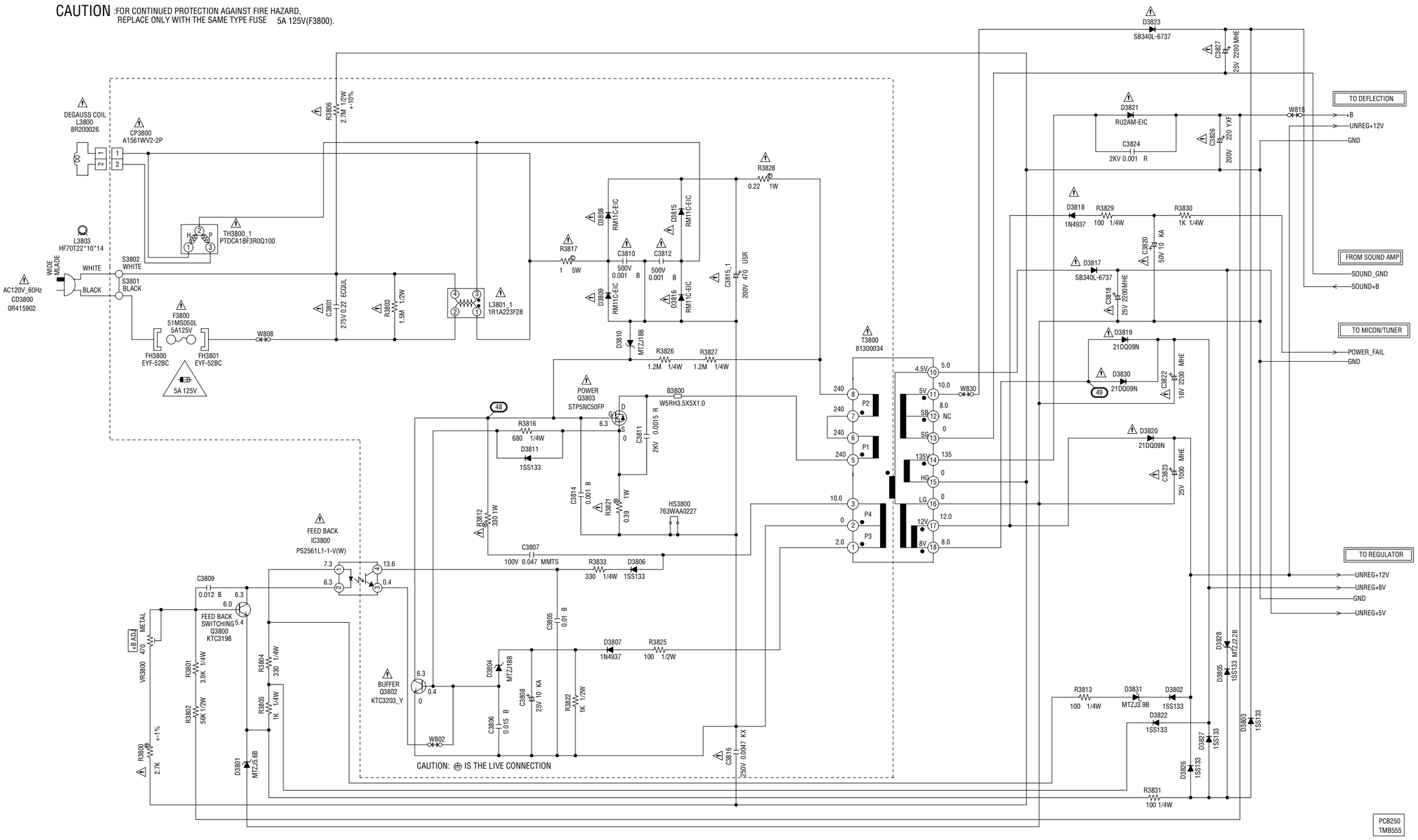
POWER SCHEMATIC DIAGRAM

(POWER PCB)

5A 125V

ATTENTION :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE
N'UTOLISER QUE DES FUSIBLE DE MEME TYPE 5A 125V(F3800).

CAUTION :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE 5A 125V(F3800).



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

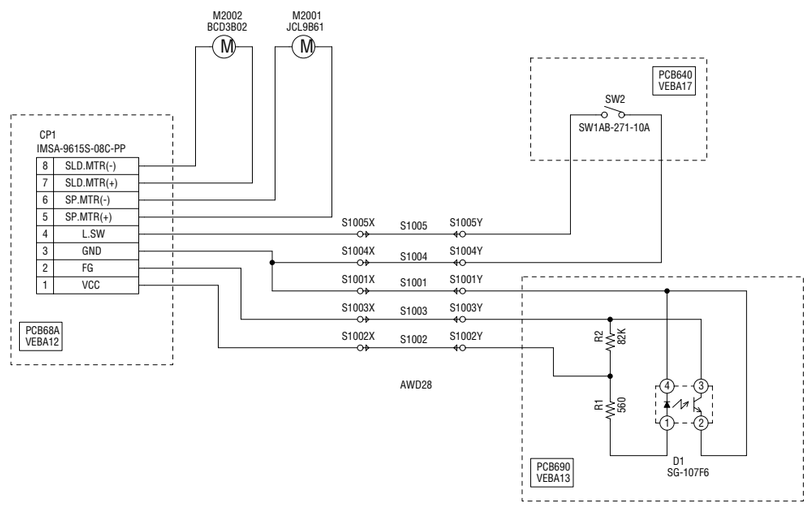
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

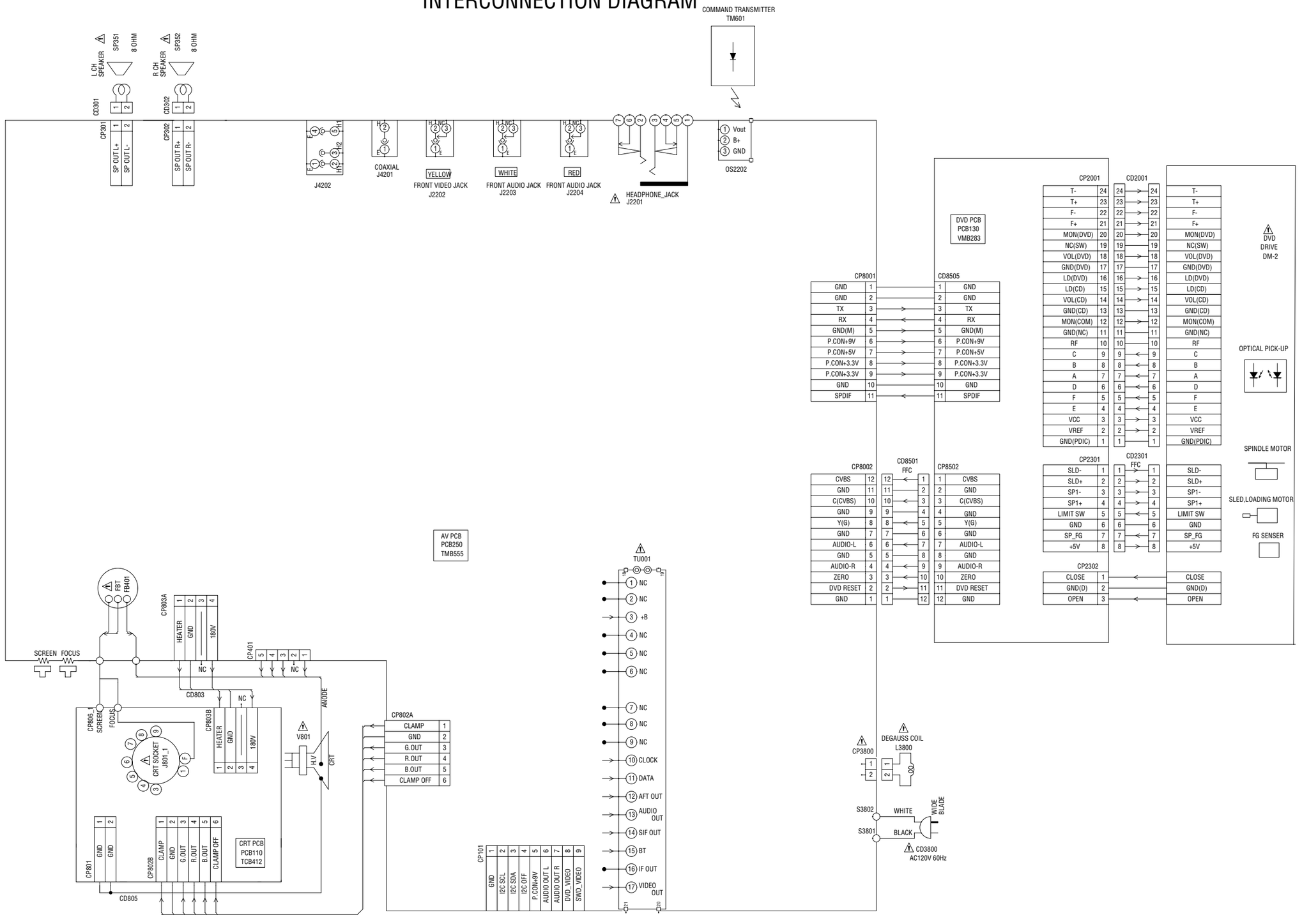
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

SW/RELAY/FG SCHEMATIC DIAGRAM

(POWER PCB)



INTERCONNECTION DIAGRAM



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

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

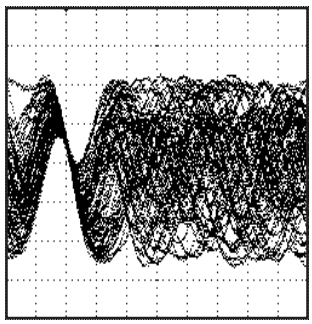
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

WAVEFORMS

RF_AMP/DSP

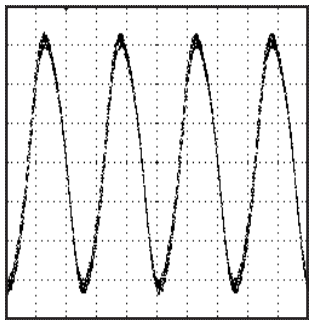
100ns
100mV

①



20ns
200mV

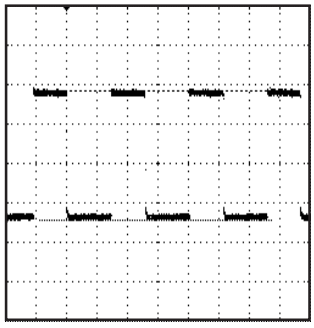
②



MOTOTR DRIVE

2ms
1V

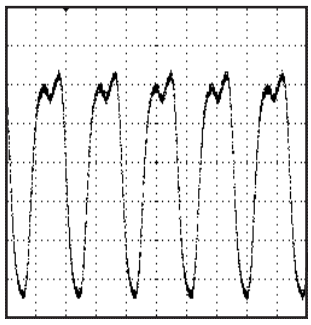
③



MPEG

20ns
500mV

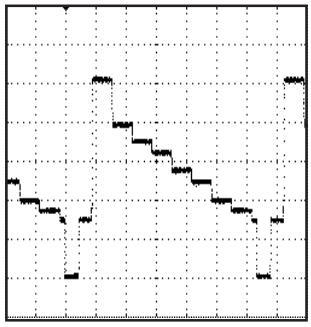
④



AUDIO/VIDEO

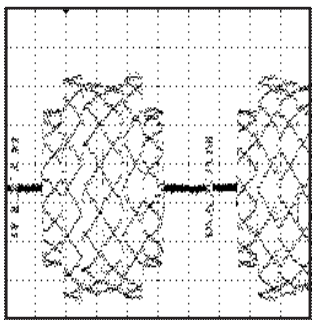
10µs
200mV

⑤



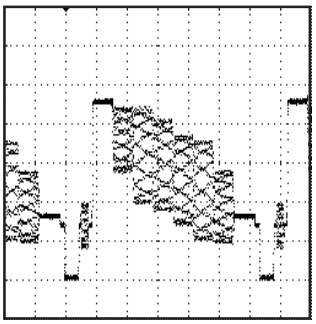
10µs
100mV

⑥



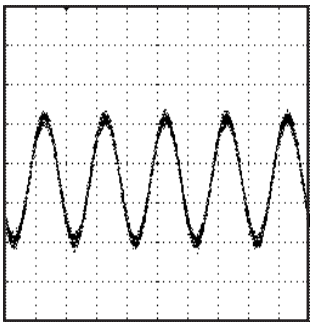
10µs
200mV

⑦



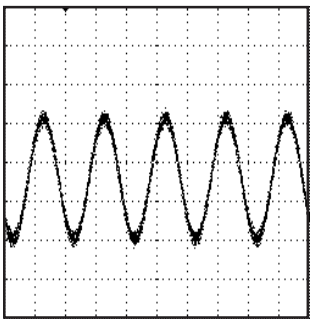
500µs
500mV

⑧



500µs
500mV

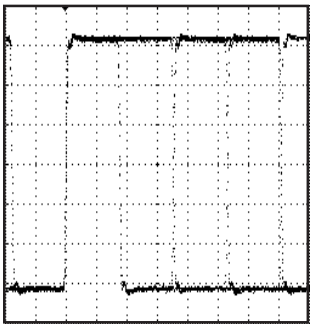
⑨



REGULATOR 2

100ns
500mV

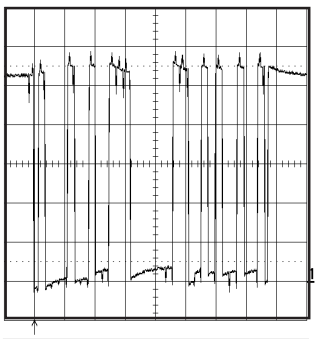
⑩



MICON/TUNER

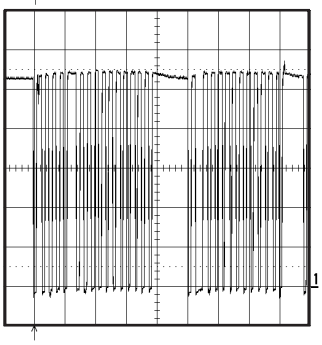
POWER ON
0.2ms
1V

㉒



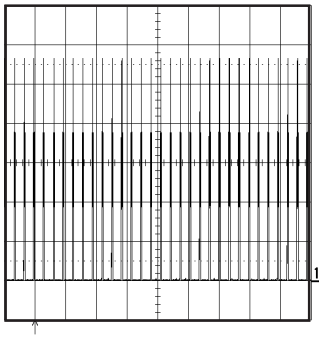
POWER ON
0.2ms
1V

㉓



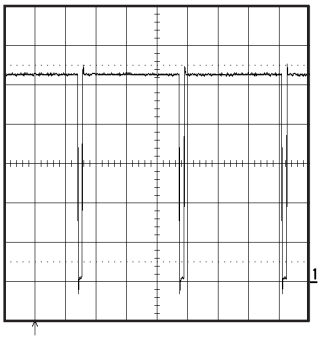
POWER ON
0.2ms
1V

㉔



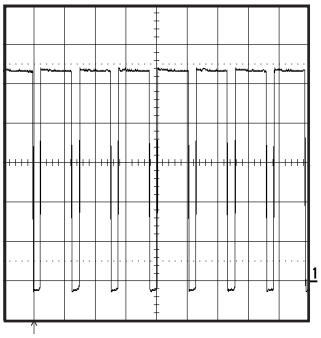
POWER ON
5ms
1V

㉕



POWER ON
50µs
1V

㉖



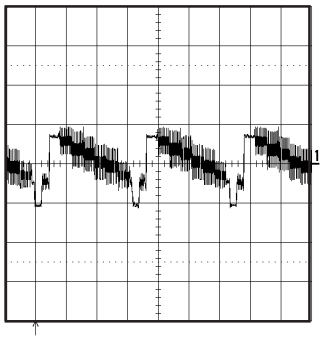
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

VIF/SIF/CHROMA

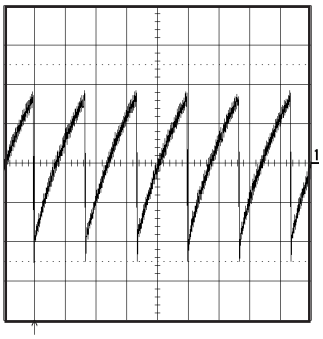
POWER ON
20µs
0.5V

㉗



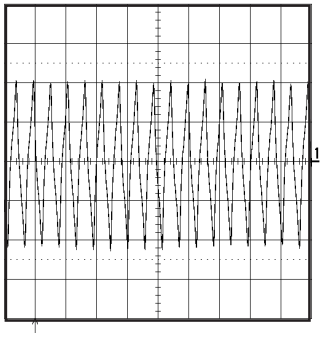
POWER ON
10ms
0.5V

㉜



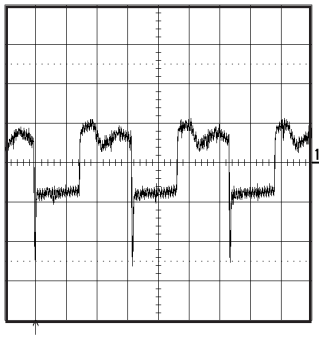
STANDBY
0.5µs
50mV

㉘



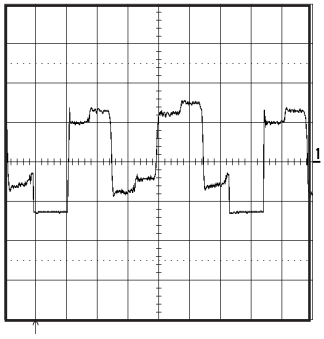
POWER ON
20µs
0.5V

㉝



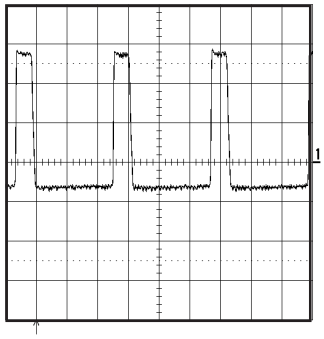
POWER ON
10µs
2V

㉙



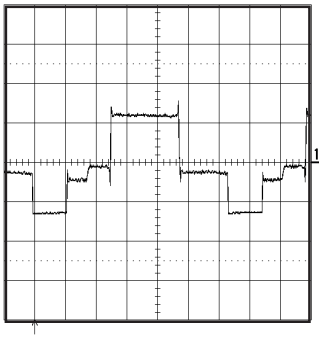
POWER ON
20µs
2V

㉞



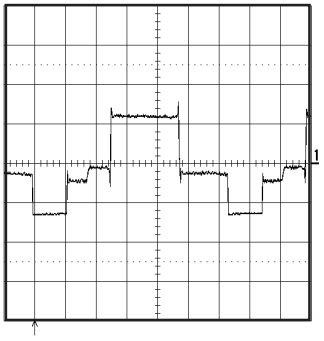
POWER ON
10µs
2V

㉚



POWER ON
10µs
2V

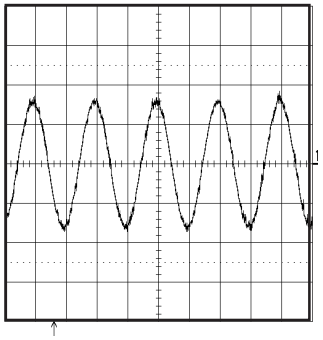
㉛



IN/OUT

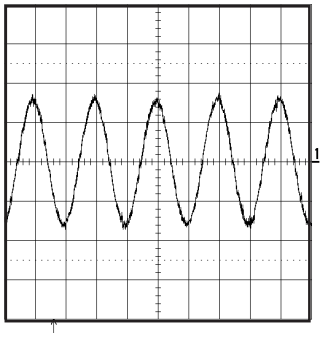
DVD PLAY
0.5ms
200mV

㊲



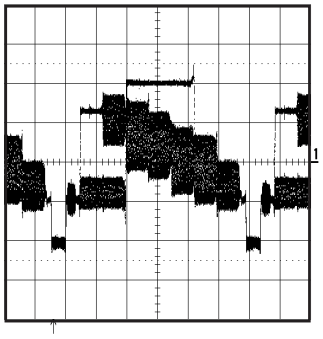
DVD PLAY
0.5ms
200mV

㊳



DVD PLAY
10µs
0.5V

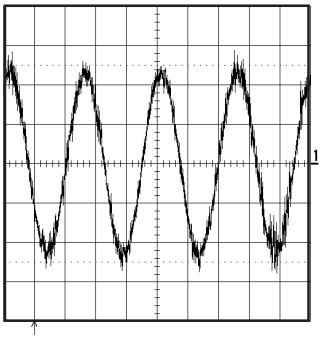
㊴



SOUND AMP

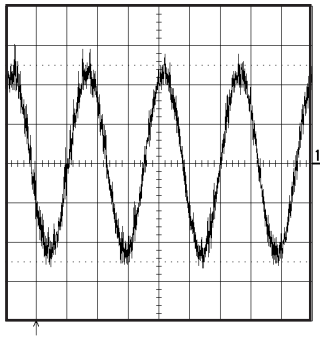
POWER ON
1ms
100mV

㉟



1ms
100mV

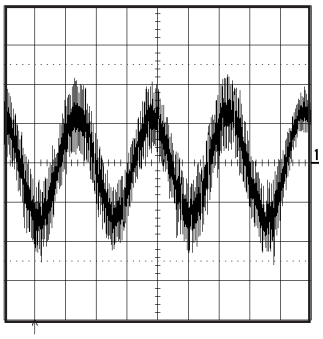
㊱



STEREO

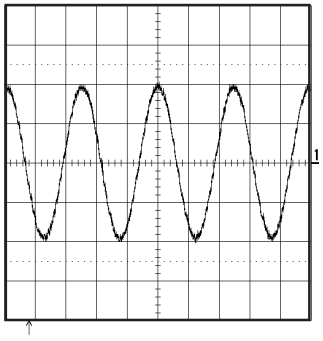
POWER ON
1ms
50mV

㊵



POWER ON
1ms
200mV

㊶

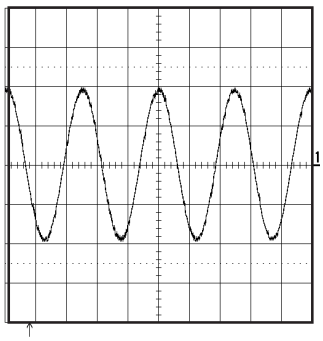


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

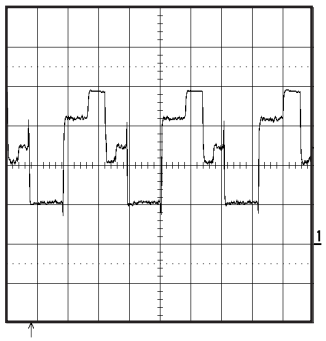
POWER ON
1ms
200mV

(42)



POWER ON
20µs
50V

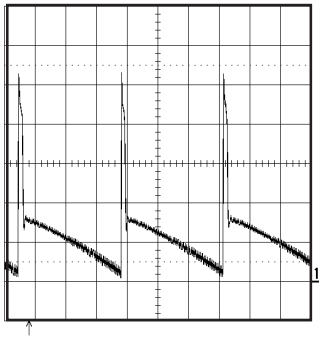
(47)



DEFLECTION

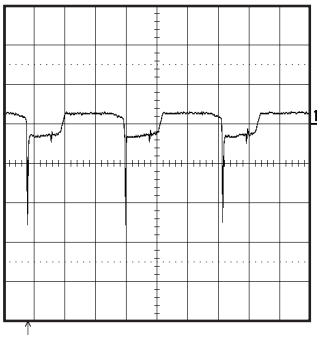
POWER ON
5ms
10V

(43)



POWER ON
20µs
5V

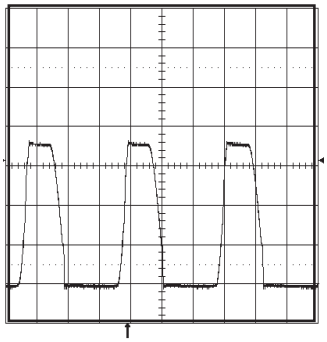
(44)



TV POWER

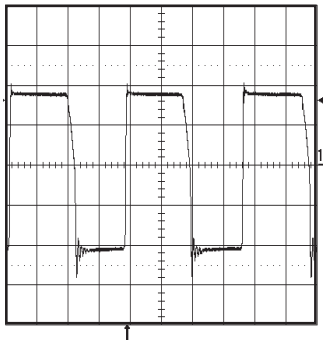
STANDBY
5µs
5V

(48)



STANDBY
5µs
5V

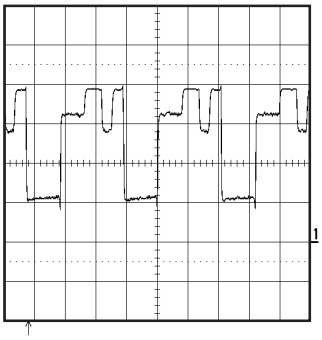
(49)



CRT

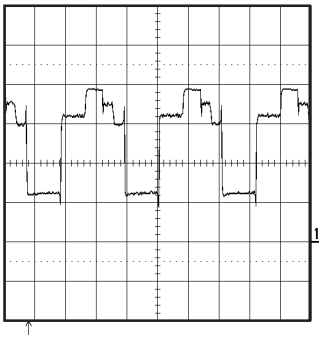
POWER ON
20µs
50V

(45)



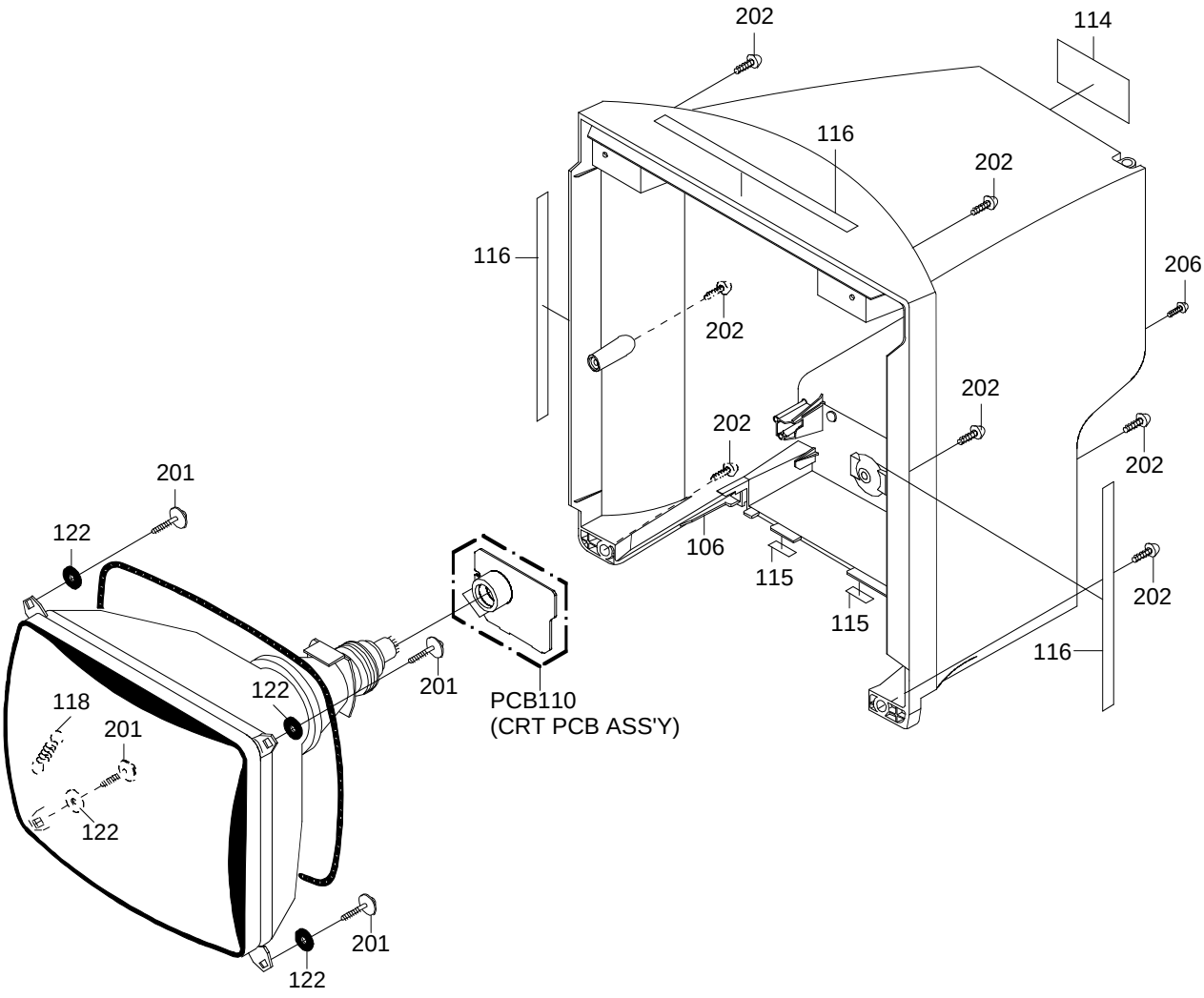
POWER ON
20µs
50V

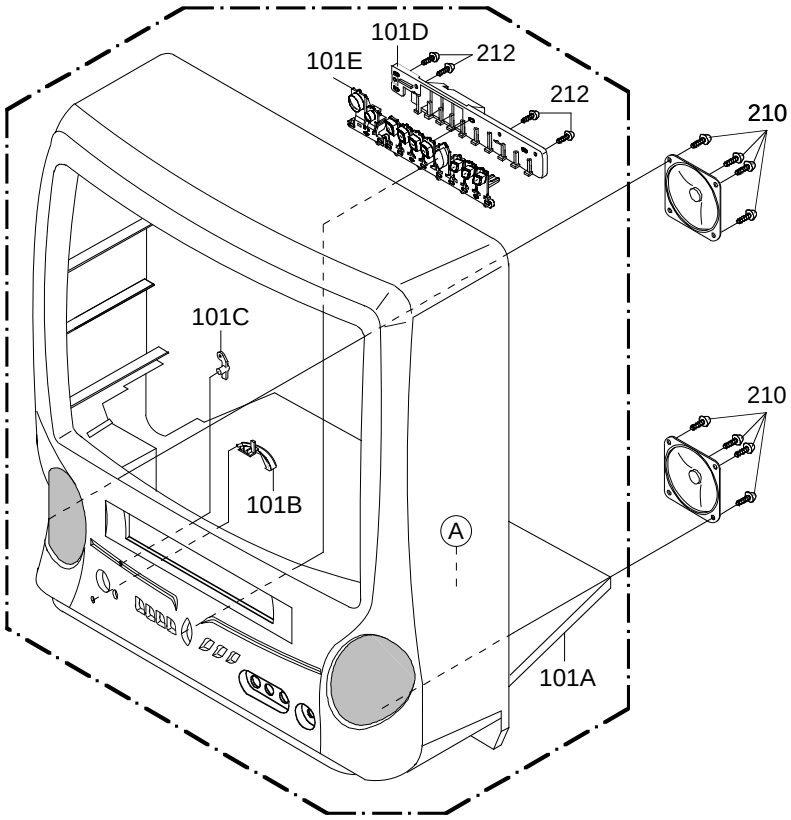
(46)



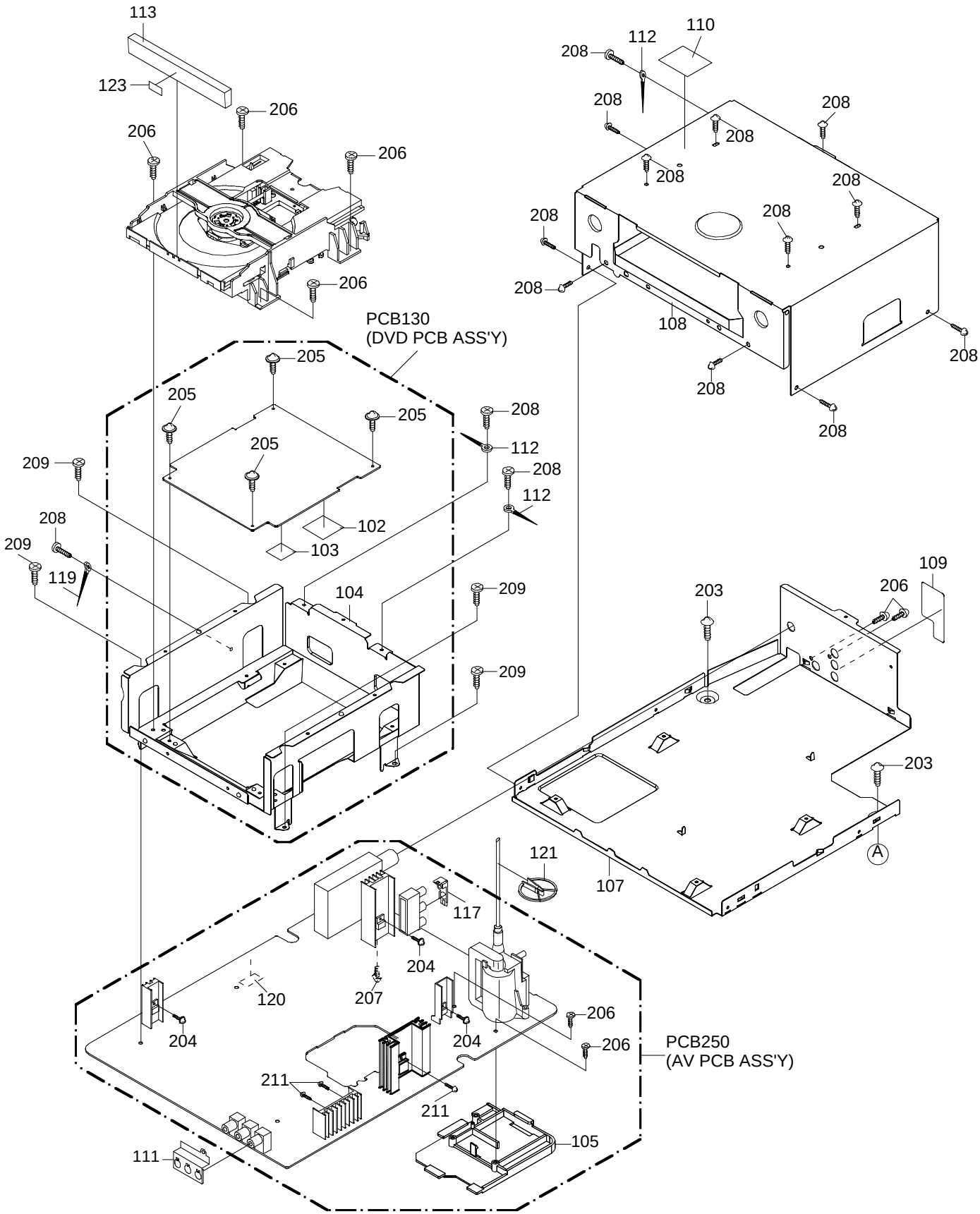
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW

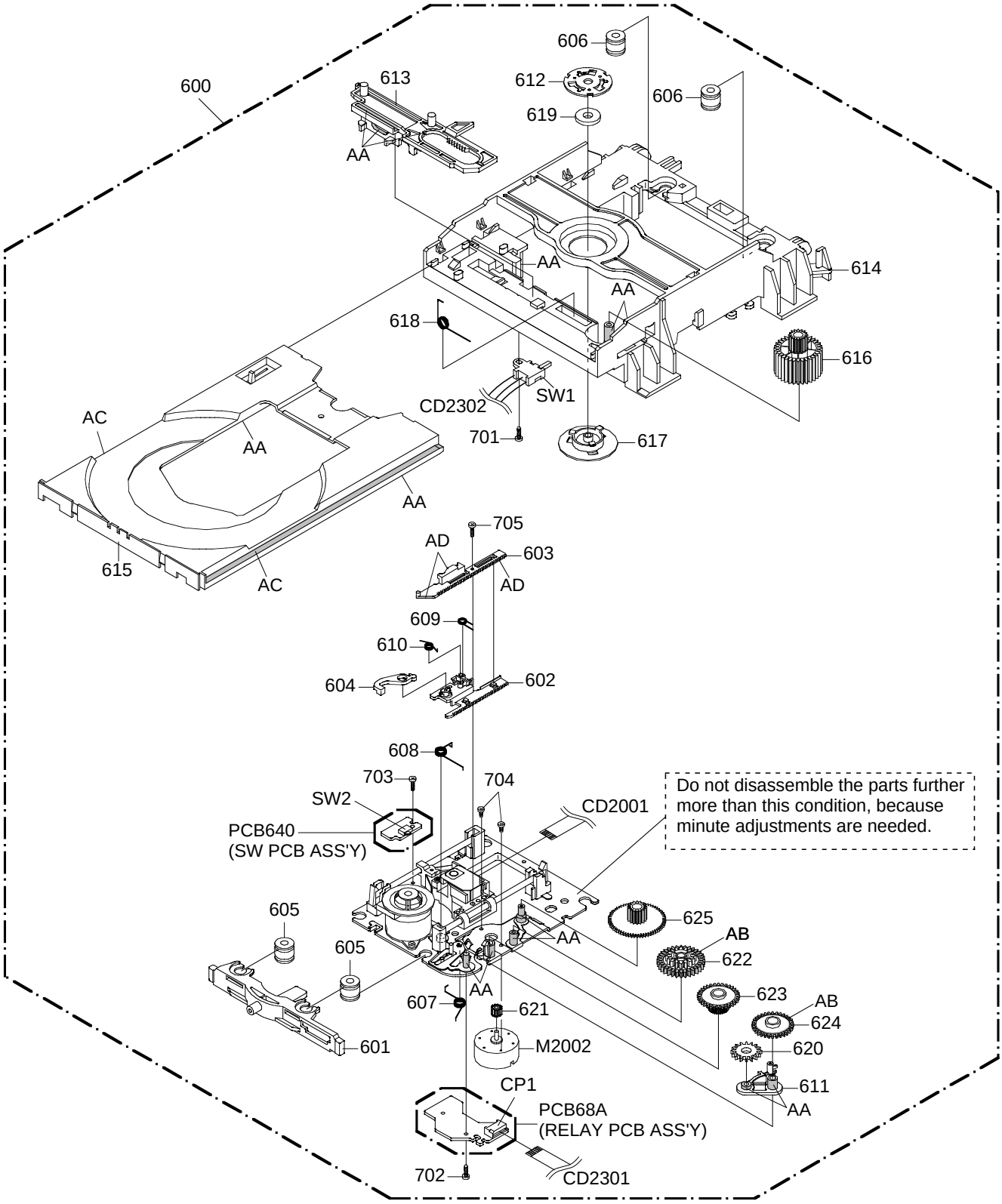




MECHANICAL EXPLODED VIEW



DVD DECK EXPLODED VIEW



CLASS	PART NO.	MARK
GREASE	G-555G	AA
	G-337F	AB
	SF-112	AC
	SF-112F	AD

NOTE: Applying positions AA, AB, AC and AD for the grease are displayed for this section.
Check if the correct grease is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION			
101	A5E803B720	CABINET,FRONT ASSY			
101A	701WPJC060	CABINET,FRONT			
101B	713WPA0198	GLASS,LED			
101C	713WPA0199	GUIDE,REMOCON			
101D	735WPAA551	BUTTON,BASE			
101E	735WPBA600	BUTTON,FRAME			
102	7232020744	SHEET,IC			
103	7232020745	SHEET,IC			
104	761WSA0100	ANGLE,DECK			
105	761WPA0249	HOLDER,FBT			
106	702WPAA351	CABINET,BACK			or
	702WPA0962	CABINET,BACK			
107	702WSA0166	PLATE,BOTTOM			
108	702WSA0176	SHIELD,TOP			
109	723000C160	SHEET,JACK			
110	7260000342	SHEET,CAUTION			
111	752WSA0333	SHIELD,JACK			
112	8995034000	CORD CLIP UL CO.			
113	712WPBA046	PLATE,TRAY-FRONT			
114	722A08A138	SHEET,RATING			
115	800WQ00024	FELT,SHEET	15x50xT0.5		
116	800WQ00041	FELT,SHEET	390x198xT0.5		
117	752WSA0290	SHIELD,COMPO			
118	741WUA0001	SPRING,EARTH			
119	899EFBA001	WIRING CLIP			
120	724WNAA001	SHEET,PVC	5x10xT0.3		
121	899HV3T000	HOLDER,ANODE WIRE			
122	800WR0A002	SHEET,CRT SUPPORT			
123	7235630001	SHEET,DVD(NEW)			
201	8121F50B84	SCREW,TAP TITE(P)	FAI 20 FLAT	5x28	
202	8117540A64	SCREW,TAPPING(B0)	TRUSS	4x16	
203	8117540804	SCREW,TAPPING(B0)	TRUSS	4x8	
204	8109I30A04	SCREW,TAP TITE(B)	WH7	3x10	
205	8109I30804	SCREW,TAP TITE(B)	WH7	3x8	
206	8109230804	SCREW,TAP TITE(B)	BIND	3x8	
207	8109630802	SCREW,TAP TITE(B)	BRAZIER	3x8	
208	8109630604	SCREW,TAP TITE(B)	BRAZIER	3x6	
209	8109230704	SCREW,TAP TITE(B) R	BIND	3x7	
210	8110630A04	SCREW,TAP TITE(P)	BRAZIER	3x10	
211	8107630804	SCREW,TAP TITE(S)	BRAZIER	3x8	
212	8110630804	SCREW,TAP TITE(P)	BRAZIER	3x8	
---	JA5U0200	POLYBAG,INSTRUCTION			
---	J3J81702	WARRANTY SHEET			
---	J5E80301A	INSTRUCTION BOOK			
---	791WHA0025	LAMIFILM BAG			
---	792WHA0372	PACKAGE,TOP			
---	792WHA0373	PACKAGE,BOTTOM			
---	793WCDB619	GIFT BOX			
---	A5E803Q975	INSTRUCTION BOOK KIT			

DVD DECK REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
600	A5E601V420D	DVD MECHA ASS'Y		
601	92P100022A	TRAVERSE HOLDER		
602	92P100032A	RACK,FEED 1		
603	92P100033A	RACK,FEED 2		
604	92P100035A	LEVER,RACK FEED		
605	92P200006A	INSULATOR(F)		
606	92P200007A	INSULATOR(R)		
607	92P300008A	SPRING,CHASSIS		
608	92P300005A	SPRING,ARM IDLER		
609	92P300006A	SPRING,RACK FEED 2		
610	92P300007A	SPRING,RACK FEED 1		
611	92P100031A	ARM,IDLER		
612	92P000001A	CLAMPER PLATE		
613	92P100019A	RACK,LOADING		
614	92P100020A	MAIN FRAME M		
615	92P100021A	TRAY		
616	92P100023A	GEAR,MAIN		
617	92P100024A	CLAMPER		
618	92P300002A	SPRING,RACK LOADING		
619	92P400002A	MAGNET,CLAMPER		
620	92P100030A	GEAR,IDLER		
621	92P100025A	GEAR,MOTOR		
622	92P100026A	GEAR,MIDDLE 1		
623	92P100027A	GEAR,MIDDLE 2		
624	92P100028A	GEAR,MIDDLE 3		
625	92P100029A	GEAR,FEED		
701	8110226804	SCREW,TAP TITE(P)	BIND	2.6x8
702	8110120604	SCREW,TAP TITE(P)	PAN	2x6
703	8107220504	SCREW,TAP TITE(S)	BIND	2x5
704	8140117254	SCREW,PAN		M1.7x2.5 P3 CH
705	8110220804	SCREW,TAP TITE(P)	BIND	2x8
CD2001	122H0O1901	CORD JUMPER		2H0O1901
CD2301	122H080701	CORD JUMPER		2H080701
CD2302	06CH232003	CORD CONNECTOR		CH232003
CP1	069JV80180	CONNECTOR PCB SIDE		IMSA-9615S-08C-PP
⚠ M2002	1515S98001	FEED MOTOR		BCD3B81
PCB640	A5E601V640	PCB ASS'Y		VEBA17A
PCB68A	A5E601V680	PCB ASS'Y		VEBA12A
SW1	0515S32001	SWITCH		SSS-23-6
SW2	0500S01032	PUSH LEVER SWITCH		SW1AB-271-10A

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
RESISTORS			
⚠ R401	R3X28A331J	R,METAL OXIDE	330 OHM 2W
⚠ R402	R3X181221J	R,METAL OXIDE	220 OHM 1W
⚠ R418	R4X5T44R7F	R,METAL	4.7 OHM 1/4W
⚠ R442	R4X5T6223F	R,METAL	22K OHM 1/6W
⚠ R444	R4X5T6562F	R,METAL	5.6K OHM 1/6W
⚠ R445	R002T4153J	RC	15K OHM 1/4W
⚠ R447	R65582680J	R,FUSE	68 OHM 1/2W
⚠ R450	R6558A4R7J	R,FUSE	4.7 OHM 2W
⚠ R803	R3X18A153J	R,METAL OXIDE	15K OHM 2W
⚠ R805	R3X18A153J	R,METAL OXIDE	15K OHM 2W
⚠ R807	R3X18A153J	R,METAL OXIDE	15K OHM 2W
⚠ R3800	R4X5T6272F	R,METAL	2.7K OHM 1/6W
⚠ R3802	R002T2563J	RC	56K OHM 1/2W
⚠ R3803	R002T2155J	RC	1.5M OHM 1/2W
⚠ R3806	R0G3K2275K	RC	2.7M OHM 1/2W
⚠ R3812	R3X181331J	R,METAL OXIDE	330 OHM 1W
⚠ R3817	R5Y2CD010J	R,CEMENT	1 OHM 5W
⚠ R3821	R3X181R39J	R,METAL OXIDE	0.39 OHM 1W
⚠ R3828	R63581R22J	R,FUSE	0.22 OHM 1W
CAPACITORS			
C313	E5EZF3222M	CE	2200 UF 25V
⚠ C402	E02LU8220M	CE	22 UF 100V
⚠ C407	E02LF3222M	CE	2200 UF 25V
C423	P4J7F3394J	CMPP	0.39 UF 250V PMS
⚠ C428	P4N8FJ742H	CMPP	0.0074UF 1.25KV
C431	E0ELFD220M	CE	22 UF 250V
C802	C0JBB0713K	CC	0.001 UF 2KV B
C3007	E02L05010M	CE	1 UF 50V
⚠ C3801	P2122B224M	CMP	0.22 UF 275V ECQUL
C3810	C0J0B0513K	CC	0.001 UF 500V B
C3811	C03L0R7E3K	CC	0.0015UF 2KV R
C3812	C0J0B0513K	CC	0.001 UF 500V B
⚠ C3815	E52DGC471M	CE	470 UF 200V
⚠ C3816	CD39E0MQ3M	CC	0.0047UF 250V
C3818	E5EZF3222M	CE	2200 UF 25V
⚠ C3820	E50HU5100M	CE	10 UF 50V
C3822	E5EZF2222M	CE	2200 UF 16V
⚠ C3823	E5EZF3102M	CE	1000 UF 25V
⚠ C3824	C03L0R713K	CC	0.001 UF 2KV R
⚠ C3826	E62NFC221M	CE	220 UF 200V
C3827	E5EZF3222M	CE	2200 UF 25V
C4236	E02L02471M	CE	470 UF 16V
DIODES			
D101	D1VT001330	DIODE,SILICON	1SS133T-77
D102	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D103	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D105	D1VT001330	DIODE,SILICON	1SS133T-77
D106	D97U01201B	DIODE,ZENER	MTZJ12B T-77
D107	D1VT001330	DIODE,SILICON	1SS133T-77
D401	D2WT011E10	DIODE SILICON	11E1-EIC
⚠ D402	D2WXN49370	DIODE SILICON	1N4937
D403	D97U03001B	DIODE,ZENER	MTZJ30B T-77
D404	D97U03001B	DIODE,ZENER	MTZJ30B T-77
D405	D2W0011E10	DIODE SILICON	11E1-B-EIC or
	D2WT011E10	DIODE SILICON	11E1-EIC
D406	D2W0011E10	DIODE SILICON	11E1-B-EIC or
	D2WT011E10	DIODE SILICON	11E1-EIC
D408	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D409	D1VT001330	DIODE,SILICON	1SS133T-77
D410	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D411	D2WXN49370	DIODE SILICON	1N4937
D413	D2WXN49370	DIODE SILICON	1N4937
⚠ D416	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D603	D2WXN40050	DIODE SILICON	1N4005-EIC
D801	D1VT001330	DIODE,SILICON	1SS133T-77
D802	D1VT001330	DIODE,SILICON	1SS133T-77
D803	D1VT001330	DIODE,SILICON	1SS133T-77
D2001	DDARDS1210	DIODE SILICON	KDS121RTK
D2002	DDARDS1200	DIODE SILICON	KDS120RTK
D2201	0021E2Q140	LED	LTL-1CHEE-002A
D2301	DDDRL41480	DIODE SILICON	MCL4148
D3003	D1VT001330	DIODE,SILICON	1SS133T-77
D3005	D2WXN40050	DIODE SILICON	1N4005-EIC
D3006	D2W0N40050	DIODE SILICON	1N4005-B-EIC
D3007	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D3008	D2WXN40050	DIODE SILICON	1N4005-EIC
D3009	D97U03R91B	DIODE,ZENER	MTZJ3.9B T-77

REF. NO.	PART NO.	DESCRIPTION	
DIODES			
D3801	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D3802	D1VT001330	DIODE,SILICON	1SS133T-77
D3803	D1VT001330	DIODE,SILICON	1SS133T-77
D3804	D97U01801B	DIODE,ZENER	MTZJ18B T-77
D3805	D1VT001330	DIODE,SILICON	1SS133T-77
D3806	D1VT001330	DIODE,SILICON	1SS133T-77
D3807	D2WXN49370	DIODE SILICON	1N4937
⚠ D3808	D2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D3809	D2WTRM11C0	DIODE SILICON	RM11C-EIC
D3810	D97U01801B	DIODE,ZENER	MTZJ18B T-77
D3811	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D3815	D2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D3816	D2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D3817	D2LKB340L0	DIODE SCHOTTKY	SB340L-6737
⚠ D3818	D2WXN49370	DIODE SILICON	1N4937
⚠ D3819	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
⚠ D3820	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
⚠ D3821	D2WXRU2AM0	DIODE SILICON	RU2AM-EIC
D3822	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D3823	D2LKB340L0	DIODE SCHOTTKY	SB340L-6737
D3826	D1VT001330	DIODE,SILICON	1SS133T-77
⚠ D3827	D1VT001330	DIODE,SILICON	1SS133T-77
D3828	D97U02R21B	DIODE,ZENER	MTZJ2.2B T-77
⚠ D3830	D28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
D3831	D97U03R91B	DIODE,ZENER	MTZJ3.9B T-77
D8501	DDDRL41480	DIODE SILICON	MCL4148
D8502	DDDRL41480	DIODE SILICON	MCL4148
D8503	DDDRL41480	DIODE SILICON	MCL4148
D8504	DDDRL41480	DIODE SILICON	MCL4148
D8505	DDDRL41480	DIODE SILICON	MCL4148
D8506	DDDRL41480	DIODE SILICON	MCL4148
D8507	DDDRL41480	DIODE SILICON	MCL4148
D8508	DDDRL41480	DIODE SILICON	MCL4148
D8510	DDDRL41480	DIODE SILICON	MCL4148
ICS			
IC101	I55D06072A	IC	OEC6072A
IC103	I9UF032310	IC	PST3231NR
IC199	A5E803Q255	IC	S-24C04BDP-LA
⚠ IC302	I0FSP75220	IC	AN7522
⚠ IC401	I01TD55220	IC	AN5522
IC601	I03FC63190	IC	LA76319M-MPB-E
IC902	I01FF58290	IC	AN5829S
IC903	I0QF02533V	IC	NJM2533V(TE2)
IC904	I0QF02533V	IC	NJM2533V(TE2)
IC2001	I0GF9XZ010	IC	PQ070XZ01ZP
IC2002	I5PK063150	IC	L6315ATXXTY
IC2003	I5FJ0128V7	IC	CY62128VLL-70ZC
IC2301	I03F065600	IC	LA6560
IC2302	I07E00358F	IC	BA10358F-E2
IC2303	I07E00358F	IC	BA10358F-E2
IC2304	I07E00358F	IC	BA10358F-E2
⚠ IC3001	I1KA97805A	IC	KIA7805API
IC3002	I1KA97805A	IC	KIA7805API
IC3005	I1KA97809A	IC	KIA7809API
⚠ IC3800	000220001W	PHOTO COUPLER	PS2561L1-1-V(W)
IC4002	I5PK055190	IC	STI5519AVB
IC4003	I5CF0CU040	IC	SN74AHCU04PWR
IC4007	IF6J016A27	IC	MT48LC4M16A2TG-75
IC4012	I5PJ000DT7	IC	M29W800DT70N6
IC4201	I0QF045800	IC	NJM4580M
IC4202	I0UF015020	IC	MM1502XNRE
IC8502	I17F0742K0	IC	PCM1742KE/2K
IC8504	I0GF9Z01Z0	IC	PQ025EZ01ZP
TRANSISTORS			
Q101	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q105	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q301	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q302	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q305	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
⚠ Q405	TCAT03227Y	TRANSISTOR SILICON	KTC3227_Y-AT
⚠ Q406	TD3Q021400	TRANSISTOR SILICON	TT2140LS-YBC11
Q601	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q602	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q605	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
⚠ Q804	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
⚠ Q805	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)
⚠ Q806	TCA0042170	TRANSISTOR SILICON	KTC4217(O,Y)

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
		TRANSISTORS	
Q901	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q902	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q2001	T67J1036K0	TRANSISTOR SILICON	2SA1036KT146
Q2003	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2004	T27T030180	FET	2SK3018
Q2005	T27T030180	FET	2SK3018
Q2006	T67J1036K0	TRANSISTOR SILICON	2SA1036KT146
Q2007	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2008	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2009	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q2201	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q2301	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2302	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q2303	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q2304	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q2305	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q3000	TAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q3001	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
⚠ Q3003	TCA0043690	TRANSISTOR SILICON	KTC4369(O,Y)
Q3004	TAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q3005	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
Q3006	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q3007	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3008	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q3009	TCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
Q3010	TAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q3800	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q3802	TCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
⚠ Q3803	TJXG5NC500	FET	STP5NC50FP
Q4001	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4002	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4003	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4201	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4203	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q4204	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4205	TPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK
Q4206	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4207	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4208	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4209	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q4210	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
Q4211	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4212	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q8501	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q8502	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q8503	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q8505	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q8506	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q8507	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
		COILS &TRANSFORMERS	
L001	021375101K	COIL	100 UH
L101	021LA6560K	COIL	56 UH
L401	021679472K	COIL	4.7 MH
L601	02167F101J	COIL	100 UH
L602	021375101K	COIL	100 UH
L801	021673101K	COIL	100 UH
L904	02167F101J	COIL	100 UH
L905	02167F101J	COIL	100 UH
L2001	0216S1100J	COIL	10 UH
L2002	0216S1100J	COIL	10 UH
L2003	02167F2R2J	COIL	2.2 UH
L2004	02167F2R2J	COIL	2.2 UH
L3000	02167E100K	COIL	10 UH
L3001	02167E100K	COIL	10 UH
⚠ L3800	028R200026	COIL,DEGAUSS	8R200026
⚠ L3801	029T000110	COIL,LINE FILTER	1R1A223F28
L3803	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14
L4001	02167F220J	COIL	22 UH
L4002	02167F220J	COIL	22 UH
L4003	02167F220J	COIL	22 UH
L4004	02167F220J	COIL	22 UH
L4201	02167F101J	COIL	100 UH
L4202	02167F101J	COIL	100 UH
L4203	0216A6101J	COIL	100 UH
L4204	02167F101J	COIL	100 UH
L8501	02167F2R2J	COIL	2.2 UH
L8502	02167F2R2J	COIL	2.2 UH

REF. NO.	PART NO.	DESCRIPTION	
		COILS &TRANSFORMERS	
L8503	02167F2R2J	COIL	2.2 UH
L8504	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L8507	02167F2R2J	COIL	2.2 UH
L8509	02167F2R2J	COIL	2.2 UH
T401	045009003J	TRANS,HORIZONTAL DRIVE	ETH09K14BZ
⚠ T3800	0481300034	TRANSFORMER,SWITCHING	81300034
		JACKS	
⚠ J801	066F120018	SOCKET,CATHODE RAY TUBE	ISMS01S
⚠ J2201	060J131015	HEADPHONE JACK	MSJ-2000
J2202	060G421016	RCA JACK	HTJ-032-05AY
J2203	060G421017	RCA JACK	HTJ-032-05AW
J2204	060G421020	RCA JACK	HTJ-032-05AR
J4201	060J401082	RCA JACK	MSP-251V-05PBSN
J4202	060J411018	RCA JACK	MSP-213V1-432 PBSN
		SWITCHES	
SW2213	0504101T34	SWITCH,TACT	EVQ21505R
SW2214	0504101T34	SWITCH,TACT	EVQ21505R
SW2215	0504101T34	SWITCH,TACT	EVQ21505R
SW2216	0504101T34	SWITCH,TACT	EVQ21505R
SW2217	0504101T34	SWITCH,TACT	EVQ21505R
SW2218	0504101T34	SWITCH,TACT	EVQ21505R
SW2219	0504101T34	SWITCH,TACT	EVQ21505R
SW2220	0504101T34	SWITCH,TACT	EVQ21505R
SW2221	0504101T34	SWITCH,TACT	EVQ21505R
SW2223	0504101T34	SWITCH,TACT	EVQ21505R
		VARIABLE RESISTORS	
VR401	V1K62H3BT8	VOLUME,SEMI FIXED	NVG6THTB222
VR3800	V1K63Q2BTE	VOLUME,SEMI FIXED	NVG6TLTAB471
		P.C.BOARD ASSEMBLIES	
PCB110	A5E803B110	PCB ASS'Y	TCB412A
PCB130	A5E803B130	PCB ASS'Y	VMB283B
PCB250	A5E803B250	PCB ASS'Y	TMB555A
		MISCELLANEOUS	
B301	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B401	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B2002	024HC31022	CORE,BEADS	FCM2012H-102T04
B2003	024HC31022	CORE,BEADS	FCM2012H-102T04
B2004	024HC31022	CORE,BEADS	FCM2012H-102T04
B2005	024HC31022	CORE,BEADS	FCM2012H-102T04
B3800	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B4002	024HC31022	CORE,BEADS	FCM2012H-102T04
B4004	024HC31022	CORE,BEADS	FCM2012H-102T04
B4201	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B8501	024HC31022	CORE,BEADS	FCM2012H-102T04
B8502	024HC31022	CORE,BEADS	FCM2012H-102T04
B8503	024HC31022	CORE,BEADS	FCM2012H-102T04
B8504	024HC31022	CORE,BEADS	FCM2012H-102T04
B8505	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
CD301	06CU12414A	CORD CONNECTOR	CU12414A
CD302	06CU12414A	CORD CONNECTOR	CU12414A
CD802	WDL6038038	FLAT CABLE AWM2468	AWG26 6C BLACK 380MM
CD803	WBL6028038	FLAT CABEL AWM2468	AWG26 4C BLACK 280MM
CD805	06CU82039A	CORD CONNECTOR	SM1098-009-1A
CP101	069S290629	CONNECTOR PCB SIDE	A2001WV2-9P
CP301	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
CP302	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
CP401	069S450089	CONNECTOR PCB SIDE	A1561WV2-A5P
CP801	069S320010	CONNECTOR PCB SIDE	A2361WV2-2P
⚠ CD3800	120R415902	CORD AC BUSH	0R415902
CD8501	122H0C1001	CORD JUMPER	2H0C1001
CD8501	122H0C1001	CORD JUMPER	2H0C1001
CD8505	06CU2B2001	CORD CONNECTOR	CU2B2001
CP2001	069XYO0010	CONNECTOR PCB SIDE	24FLZ-SM1-TB
CP2301	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
CP2302	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
⚠ CP3800	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
CP8001	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP8002	069J7C0029	CONNECTOR PCB SIDE	IMSA-9604S-12Z14
CP802A	067U006049	WIRE HOLDER	B2013H02-6P
CP802B	067U006049	WIRE HOLDER	B2013H02-6P
CP803A	067U004029	WIRE HOLDER	B2013H02-4P
CP803B	067U004029	WIRE HOLDER	B2013H02-4P
CP8502	069J7C0019	CONNECTOR PCB SIDE	IMSA-9604S-12Z13
CUS011	800WFAA008	CUSHION C	
CUS131	800WFAA006	CUSHION A	
EL001	124120301A	EYE LET	XRY20X30BD
EL002	124116281A	EYE LET	XRY16X28BD

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
MISCELLANEOUS			
⚠ F3800	081PC05005	FUSE	51MS050L
⚠ FB401	043219014F	TRANSFORMER,FLYBACK	FQI-20B001R
FH3800	06710T0006	HOLDER,FUSE	EYF-52BC
FH3801	06710T0006	HOLDER,FUSE	EYF-52BC
OS2202	077Q004017	REMOTE RECEIVER	PIC-37243SR
⚠ SP351	070Y033001	SPEAKER	S08F22
⚠ SP352	070Y033001	SPEAKER	S08F22
TM101	076R0DT150	TRANSMITTER	R25-1928
⚠ TU001	0163300001	RF UNIT	115-V-K015AR
⚠ TH3800	DF20C3R0Q0	DEGAUSS ELEMENT	PTDCA1BF3R0Q100
⚠ V801	098Q200490	CRT W/DY	A48AKH13X04
X101	1002T01606	CERAMIC OSCILLATOR	CSTLS16M0X53-A0
X601	100CT3R505	CRYSTAL	HC-49/C
X2001	100BT02003	CRYSTAL	HC-49U/S
X4001	100BT02701	CRYSTAL	HC-49U/S

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.	M5E8-03B
O/R NO.	W325025