

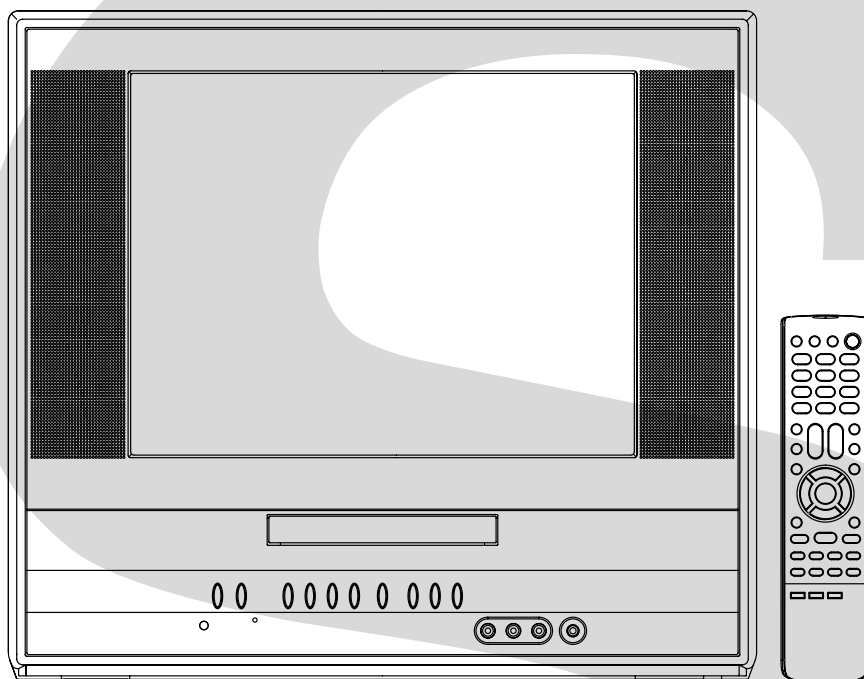
TOSHIBA

FILE NO. 140-200606GR
(MFR'S VERSION A)

SERVICE MANUAL

COLOR TELEVISION/ DVD VIDEO PLAYER

MD14F12



The above model is classified as a green product (*1), as indicated by the underlined serial number. This Service Manual describes replacement parts for the green product. When repairing this green product, use the part(s) described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

(*1)

GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

(*2)

LEAD-FREE SOLDER

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING

This product is manufactured using lead free solder.

DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT !

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product — especially when soldering large components, through-hole pins, and on PCBs — as the level of heat required to melt lead-free solder is high.

CAUTION

THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

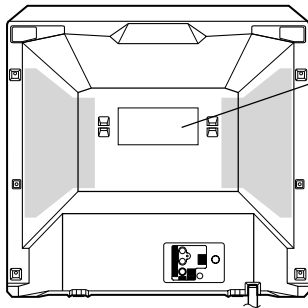
TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS SERVICE MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

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

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking

The rating sheet and the safety caution are on the rear of the unit.



CERTIFICATION: COMPLIES WITH FDA RADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

PREPARATION OF SERVICING

The laser diode used for a pickup head may be destroyed with external static electricity. Moreover, even if it is operating normally after repair, when static electricity discharge is received at the time of repair, the life of the product may be shortened. Please perform the following measure against static electricity, be careful of destruction of a laser diode at the time of repair.

- Place the unit on a workstation equipped to protect against static electricity, such as conductive mat.
- Soldering iron with ground wire or ceramic type is used.
- A worker needs to use a ground conductive wrist strap for body.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES


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

2. AVOID AN ELECTRIC SHOCK

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

3. USE THE DESIGNATED PARTS

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

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

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

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

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

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

6. AVOID AN X-RAY

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

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

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

7. PERFORM A SAFETY CHECK AFTER SERVICING

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

(INSULATION CHECK PROCEDURE)

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

[Note 1]

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

[Note 2]

External exposure metal: Antenna terminal

HOW TO ORDER PARTS

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

1. MODEL NUMBER and VERSION LETTER

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

2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated.

2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

4. FOLLOW INSTRUCTIONS

All operating and use instructions should be followed.

5. CLEANING

Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. ATTACHMENTS

Do not use attachments not recommended by the unit's manufacturer as they may cause hazards.

7. WATER AND MOISTURE

Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

8. ACCESSORIES

Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer.

- 8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. VENTILATION

Slots and openings in the cabinet and in the back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. POWER SOURCES

This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.

11. GROUNDING OR POLARIZATION

This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. If your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. LIGHTNING

To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.

14. POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

15. OVERLOADING

Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.

16. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3126A

17. OUTDOOR ANTENNA GROUNDING

If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

18. SERVICING

Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. DAMAGE REQUIRING SERVICE

Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the unit.
- c. If the unit has been exposed to rain or water.
- d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
- e. If the unit has been dropped or the cabinet has been damaged.
- f. When the unit exhibits a distinct change in performance, this indicates a need for service.

20. REPLACEMENT PARTS

When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.

21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

22. WALL OR CEILING MOUNTING

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

23. HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

24. DISC TRAY

Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.

25. CONNECTING

When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.

26. SOUND VOLUME

Reduce the volume to the minimum level before you turn on the product. Otherwise, sudden high volume sound may cause hearing or speaker damage.

27. SOUND DISTORTION

Do not allow the product output distorted sound for a longtime. It may cause speaker overheating and fire.

28. HEADPHONES

When you use the headphones, keep the volume at a moderate level. If you use the headphones continuously with high volume sound, it may cause hearing damage.

29. LASER BEAM

Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.

30. DISC

Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.

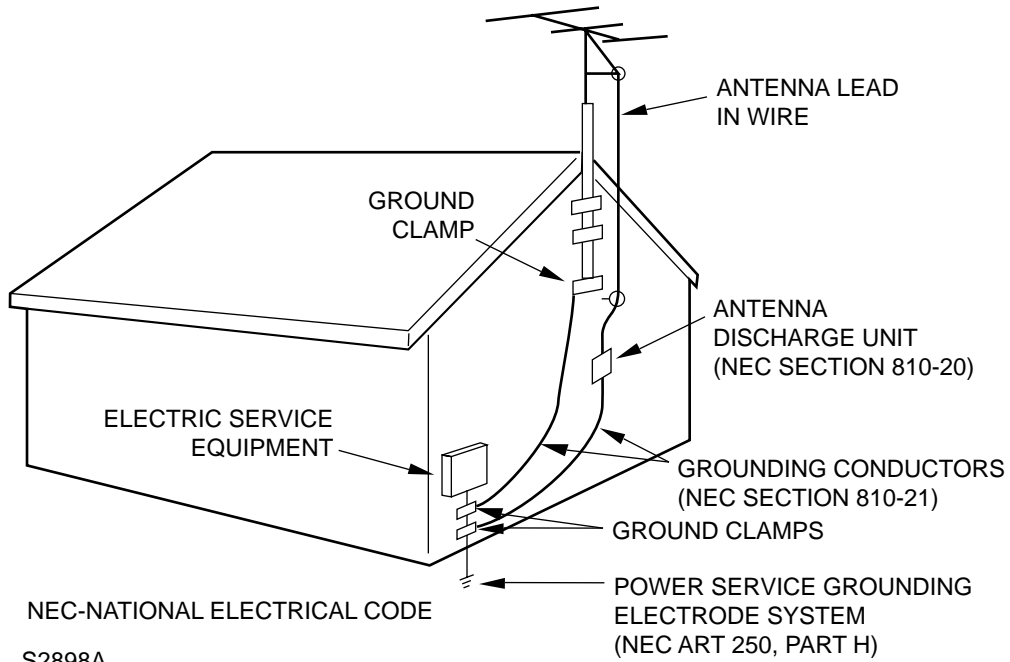
31. NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

IMPORTANT SAFEGUARDS

(CONTINUED)

EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE



WHEN REPLACING DVD DECK

[When removing the DVD Deck]

Before removing Pick Up PCB and DVD PCB connector, the short circuit the position shown in **Fig. 1** using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.

[When installing the DVD Deck]

Remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

NOTE

- Before your operation, please read "PREPARATION OF SERVICING".
- Use the Lead Free solder.
- Manual soldering conditions
 - Soldering temperature: $350 \pm 5^{\circ}\text{C}$
 - Soldering time: Within 2 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
- When Soldering/Removing of solder, use the draw in equipment over the Pick Up Unit to keep the Flux smoke away from it.

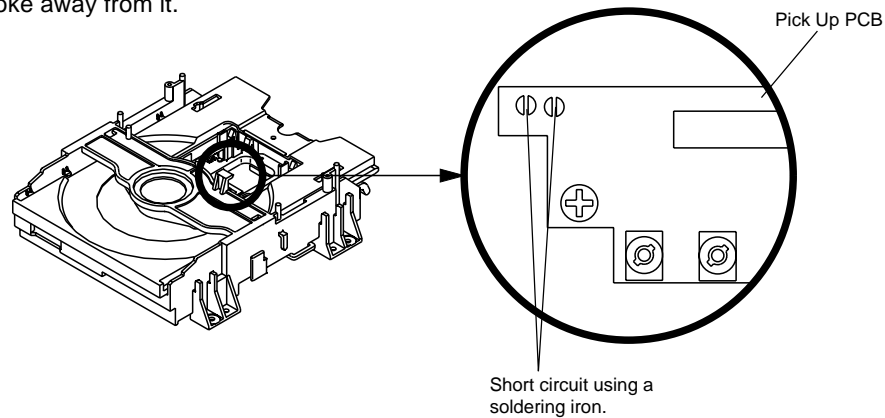


Fig. 1

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet and AV PCB/DVD Block. (Refer to item 1 of the **DISASSEMBLY INSTRUCTIONS.**)
2. Rotate the Main Gear in the direction of the arrow by hand. (Refer to **Fig. 1**)
3. Manually open the Tray.

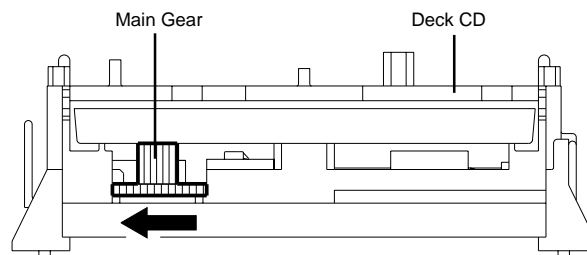


Fig. 1

PARENTAL CONTROL - RATING LEVEL 4 DIGIT PASSWORD 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. Set the DVD Mode.
3. Confirm that the 'No Disc' will be appeared on the screen.
4. Press and hold the '7' key on the remote control unit.
5. Simultaneously press and hold the 'STOP' key on the front panel.
6. Hold both keys for more than 3 seconds.
7. The On Screen Display message 'PASSWORD CLEAR' will appear.
8. The 4 digit password has now been cleared

TRAY LOCK

Tray cannot be opened by setting the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Press it in order of 'SETUP', 'SUBTITLE', '3', 'AUDIO SELECT' and '0' key of a remote control unit.
4. The On Screen Display message '🔒' will appear.
5. The Tray Lock has now been set up.

To unlock the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Press it in order of 'SETUP', 'SUBTITLE', '3', 'AUDIO SELECT' and '0' key of a remote control unit.
4. The On Screen Display message '🔓' will appear.
5. The Tray Lock has now been cleared.

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GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	14 inch / 357.0 mmV	
			CRT Type	Flat	
			Magnetic Field BV/BH	+0.45G / 0.18G	
		Color System		NTSC	
	Speaker		2 Speaker		
		Position	Front		
		Size	1.5 x 2.7 inch		
		Impedance	8 ohm		
	Sound Output	Max	1.0W + 1.0W		
		10%(Typical)			
G-2	DVD System	Color System		NTSC	
		Disc		DVD, CD-DA, CD-R/RW, Video CD DVD-R/RW (Video Format Only)	
		Disc Diameter		120 mm , 80 mm	
		Drive		DM3SA	
		Search speed	Fwd	4 step	
				Actual	2-120 times(DVD, VIDEO CD) 4-40 times (CD)
			Rev	4 step	
				Actual	2-120 times(DVD, VIDEO CD) 4-40 times (CD)
			Slow speed		Fwd 1/7 - 1/2 times
				Actual	--
		Actual	Rev --		
		Actual	--		
G-3	Tuning System	Broadcasting System		US System M	
		Tuner and Receive CH	System	1Tuner	
			Destination	US(w/CABLE)	
			CH Coverage	2-69, 4A, A-5-A-1, A-I, J-W, W+1-W+84	
		Intermediate Frequency	Picture(FP)	45.75MHz	
			Sound(FS)	41.25MHz	
			FP-FS	4.50MHz	
			Preset CH	No	
	Stereo/Dual TV Sound		US-Stereo		
	Tuner Sound Muting		Yes		
G-4	Signal	Video Signal	Input Level	1 V p-p/75 ohm	
			Output Level	--	
			S/N Ratio (Weighted)	--	
			Horizontal Resolution at DVD Mode	--	
				--	
		RGB Signal	Output Level	--	
		Audio Signal	Input Level	-8.0dBm/50k ohm	
			Output Level	--	
			Digital Output Level	0.5 V p-p/75 ohm	
			S/N Ratio at DVD (Weighted)	--	
			Harmonic Distortion	--	
			Frequency Response :	at DVD --	
				at Video CD --	
				at SVCD --	
		at CD --			
G-5	Power	Power Source	AC	120V, 60Hz	
			DC	--	
		Power Consumption		at AC 90W at 120V 60Hz	
				at DC --	
			Stand by (at AC)	3W at 120V 60Hz	
			Per Year	-- kWh/Year	
	Protector	Power Fuse	Yes		
		Safety Circuit	Yes		
		IC Protector(Micro Fuse)	No		
		Dew Sensor	No		
G-6	Regulation	Safety		UL	
		Radiation		FCC	
		X-Radiation		DHHS	
		Laser		DHHS	
G-7	Temperature	Operation		+5oC ~ +40oC	
		Storage		-20oC ~ +60oC	
G-8	Operating Humidity			Less than 80% RH	

GENERAL SPECIFICATIONS

G-9	On Screen Display	Menu(TV)	Yes	
		Menu Type	Icon	
		TV Setup	Yes	
		Picture	Yes	
		Audio	No	
		Picture Preference	Yes	
		Channel Setup	Yes	
		TV/CABLE	Yes	
		Auto CH Memory	Yes	
		Add/ Delete	Yes	
		V-chip Setup	Yes	
		Language	Yes	
		Sleep Timer	Yes	
		CH / AV(LINE) / DVD	Yes	
		Stereo/Audio Output	Yes	
		Bilingual	No	
		SAP	Yes	
		Control	Volume	Yes
		Level	Brightness / Contrast / Sharpness / Color	Yes
			Tint	Yes
			Bass/Treble/Balance	No
		Caption / Text		Yes
		Auto Search/Position		No
		Game		Yes
		Mute		Yes

GENERAL SPECIFICATIONS

G-10	On Screen Display	Menu (DVD)		Yes
		Menu Type		Icon
		Language		Yes
		Menu		Yes
		Subtitle		Yes
		Audio		Yes
		OSD Language(Set up Language)		No
		Video		Yes
		E.B.L. (Enhanced Black Level)		No
		TV Screen Size(4:3)		Yes
		OSD Display On/Off		Yes
		Picture Mode (Video/Film/Auto)		Yes
		JPEG Interval		No
		Screen Saver		No
		Audio		Yes
		DRC (Dynamic Range Control)		Yes
		Dialogue (On DRC[TV] / Off DRC[Std])		No
		Surround		No
		System		Yes
		Disc/Card Slot		No
		Password Lock/ Un Lock		Yes
		Parental		Yes
		Select Files		No
		HDMI (480p/1080i/720p)		No
		Output		No
		Open		Yes
		Close		Yes
		No disc		Yes
		Reading		Yes
		Play		Yes
		Still/Pause		Yes
		Stop		Yes
		Prohibit Mark		Yes
		PBC		Yes
		Step		Yes
		Skip(>>)		Yes
		Skip(<<)		Yes
		Random		Yes (CD, VIDEO CD)
		Repeat		Yes
		Slow+		Yes
		Slow-		No
		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		
Audio No.		Yes		
Audio Stereo L/R		Yes (Video CD)		
Zoom		Yes		
Marker No.		Yes		
Program Play Back		Yes (CD, VIDEO CD)		
Surround On/Off		No		
Screen Saver		No		
JPEG	Folder Name	No		
	File Name	No		
	File No	No		
	Time	No		
	Track No	No		
G-11	OSD Language		English, French, Spanish	
G-12	Clock and Timer	Sleep Timer	Max Time	120 Min
			Step	10 Min
		On/Off Timer	Program(On Timer / Off Timer)	No
		Wake Up Timer		No
	Timer Back-up (at Power Off Mode)	more than	-- Min Sec	

GENERAL SPECIFICATIONS

G-13	Remote Control	Unit	RC-MG	
		Glow in Dark Remocon	No	
		Remocon Format	TOSHIBA	
		Format	TOSHIBA	
		Custom Code	40-BF H, 44-BB H, 45-BA H, 45-BC H	
		Power Source	Voltage(D.C) UM size x pcs	3V UM-4 x 2 pcs
		Total Keys		47 Key
		Keys	Power	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			Play	Yes
			Stop	Yes
			Search+	Yes
			Search-	Yes
			Closed Caption/Skip+	Yes
			Quick View(CH RTN)/Skip-	Yes
			Slow+	Yes
			Slow-	No
			Pause/Still/Step	Yes
			DISPLAY	Yes
			TV/DVD	Yes
			Cancel	Yes
			Audio Select	Yes
			Angle	Yes
			Subtitle	Yes
			Top Menu	Yes
			Menu	Yes
			DVD Menu	Yes
			Return	Yes
			CH Up	Yes
			CH Down	Yes
			Vol Down	Yes
			Vol Up	Yes
			Up/ Set+	Yes
			Down/ Set-	Yes
			Left/Select-	Yes
			Right/Select+	Yes
			Enter	Yes
			Play Mode	Yes
			Input Select/Zoom	Yes
			Repeat A-B	Yes
			Mute	Yes
	Open/Close	Yes		
	Sleep	Yes		
	Marker	Yes		
	Jump	Yes		
	Game	Yes		

GENERAL SPECIFICATIONS

G-14	Features (TV)	CABLE	Yes		
		Auto Shut Off	Yes		
		Auto Setup	Yes		
		Auto CH Memory	Yes		
		V-Chip	USA V-chip CANADA V-chip	Yes	
		Auto Search		No	
		SAP		No	
		Game Position		Yes	
		FM Transmitter		No	
		Energy Star		No	
		Closed Caption		Yes	
		Comb Filter		No	
		Protect of FBT Leak Circuit		Yes	
		Picture Preference		Yes	
		Choke Coil		No	
		Power On Memory		No	
		Features (DVD)	Tray Lock		Yes
			Video CD Playback		Yes
	SVCD Playback			No	
	MP3 Playback			No	
	WMA Playback			No	
	JPEG Playback			No	
	Digital Out		(Dolby Digital)	Yes	
			(MPEG)	Yes	
			(PCM)	Yes	
			(DTS)	Yes	
	Down Mix Out		(Dolby Digital)	Yes	
			(DTS)	No	
3D Surround			No		
Screen Saver			No		
Closed Caption		Yes			
Audio DAC		192kHz / 24bit			
G-15	Accessories	Owner's Manual	Language w/Guarantee Card	English Yes	
		Remote Control Unit		Yes	
		Battery		Yes	
			UM size x pcs OEM Brand	UM-4 x 2 pcs No	
		Rod Antenna		No	
			Poles Terminal	No --	
		Loop Antenna		No	
			Terminal	--	
		U/V Mixer		No	
		300 ohm to 75 ohm Antenna Adapter		Yes	
		Antenna Change Plug		No	
		Guarantee Card		No	
		Registration Card		Yes	
		Warranty Card		No	
		ESP Card		No	
		Service Station List		No	
		DC Car Cord (Center+)		No	
		Columbia Offer Sheet		No	
		Information Sheet (Return)		Yes	
		Netflix Card		No	

GENERAL SPECIFICATIONS

G-16	Interface	Switch	Front	Power (Tact)	Yes
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
				Play	Yes
				Open/Close	Yes
				Skip+ /Search+	Yes
				Skip- /Search-	Yes
				Still/Pause	No
		Indicator	Rear	Stop	Yes
				Main Power SW	No
		Terminals	Front	Main Power SW	No
				Power	Yes (Red)
				Stand-by	No
				On Timer	No
				Video Input	RCA x 1
			Rear	Audio Input	RCA x 2(L/MONO, R)
				Other Terminal	Head Phone
				Video Input	No
Audio Input	No				
Video Output	No				
Terminals	Rear	Audio Output	No		
		Digital Audio Output	Coaxial (DVD Only)		
		Diversity	No		
		DC Jack 12V(Center +)	No		
		VHF/UHF Antenna Input	F Type		
G-17	Set Size	Approx. W x D x H (mm)		440x392.5x393	
G-18	Weight	Net (Approx.)		13.5kg (29.8lbs)	
		Gross (Approx.)		15.5kg (34.2lbs)	
G-19	Carton	Master Carton	No		
			Content	--- Sets	
			Material	--- / ---	
			Dimensions W x D x H(mm)	---	
		Gift Box	Description of Origin	---	
			Material	Double/Full Color	
			W/Color Photo Label	No	
			Dimensions W x D x H(mm)	550x496x471	
		Drop Test	Description of Origin	Yes	
			Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces	
Container Stuffing (40' container)	Height (cm)	62			
		476 Sets			
G-20	Material	Cabinet	Front	PS 94V0 DECABROM	
			Rear	PS 94V0 DECABROM	
			Jack Panel	-	
		PCB	Non-Halogen Demand	No	
			Eyelet Demand	Yes	
G-21	Environment	Environmental standard requirement		Green procurement of TOSHIBA	
		Pb-free		Phase3(Phase3A)	
		Measures for Whisker		Yes	

DISASSEMBLY INSTRUCTIONS

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

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

1. Remove the 5 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.

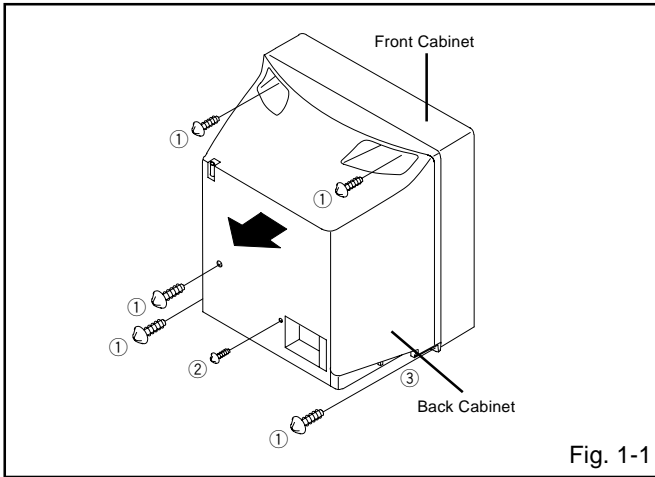


Fig. 1-1

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:
(CP805).
3. Remove the CRT PCB in the direction of arrow.

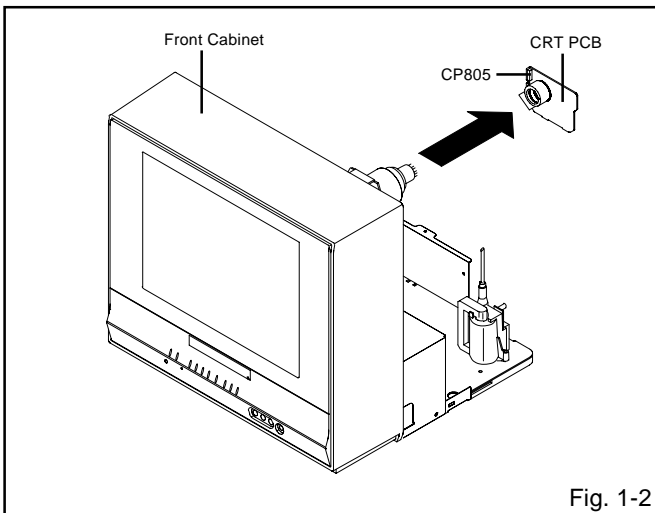


Fig. 1-2

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.

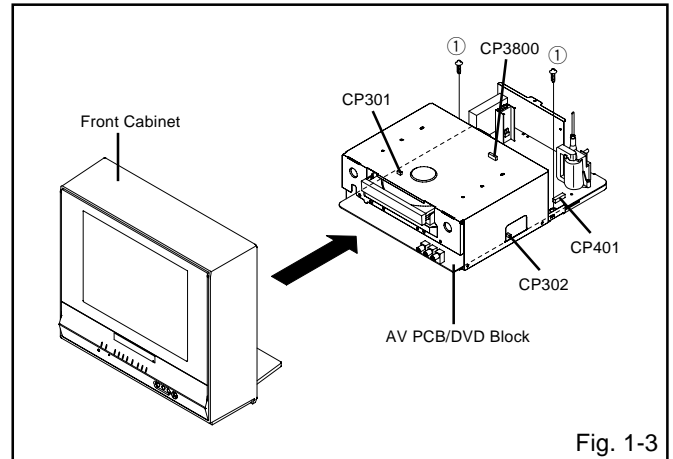


Fig. 1-3

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 screw ③.
7. Remove the Jack Shield.
8. Remove the AV PCB in the direction of arrow (C).

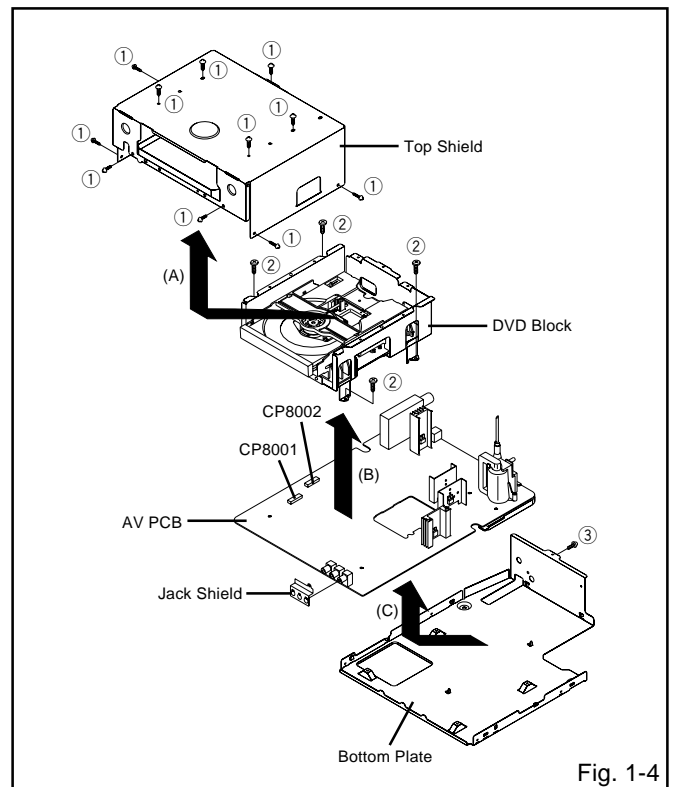


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

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

1. Short circuit the position shown in **Fig. 1-5** using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Remove the 4 screws ①.
3. Remove the DVD Deck in the direction of arrow (A).
4. Disconnect the following connectors:
(CP2301, CP2302 and CP2303).
5. Remove the 2 screws ②.
6. Remove the DVD PCB in the direction of arrow (B).
7. Remove the 4 screws ③.
8. Remove the Deck Shield in the direction of arrow (C).

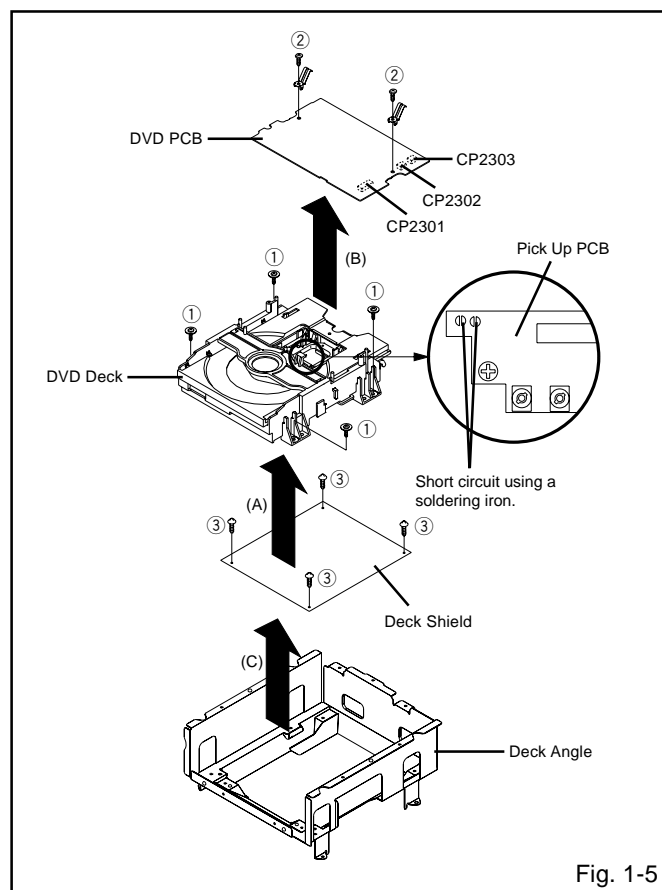


Fig. 1-5

NOTE

1. Before your operation, please read "PREPARATION OF SERVICING".
2. Use the Lead Free solder.
3. Manual soldering conditions
 - Soldering temperature: $350 \pm 5^{\circ}\text{C}$
 - Soldering time: Within 2 seconds
 - Soldering combination: Sn-3.0Ag-0.5Cu
4. When Soldering/Removing of solder, use the drawing equipment over the Pick Up Unit to keep the Flux smoke away from it.
5. When installing 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

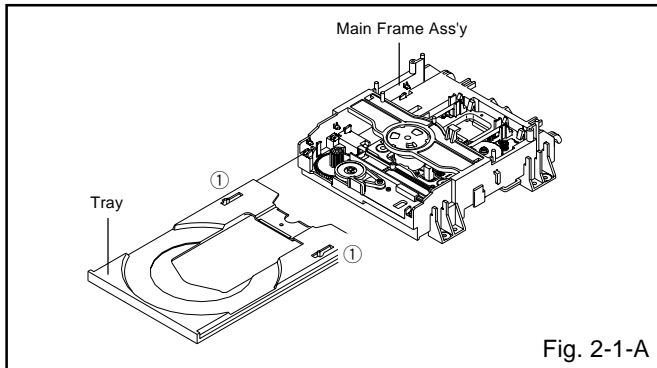
2. REMOVAL OF DVD DECK PARTS

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.

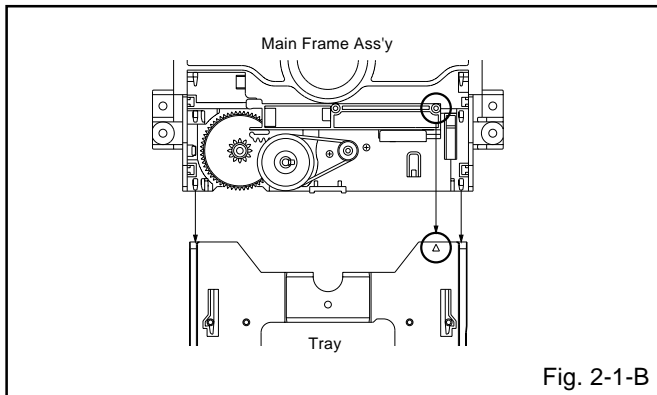
2-1: TRAY (Refer to Fig. 2-1-A)

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



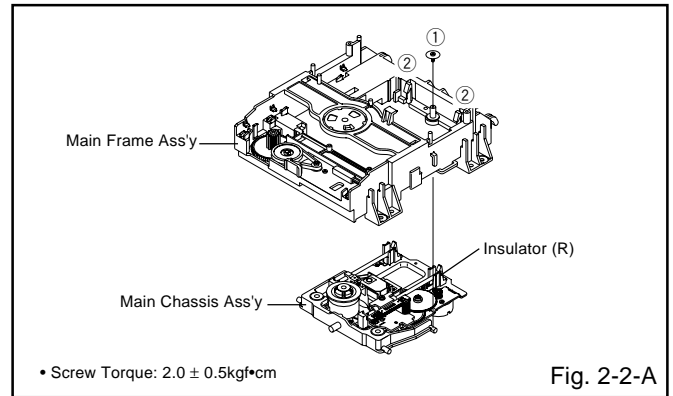
NOTE

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.



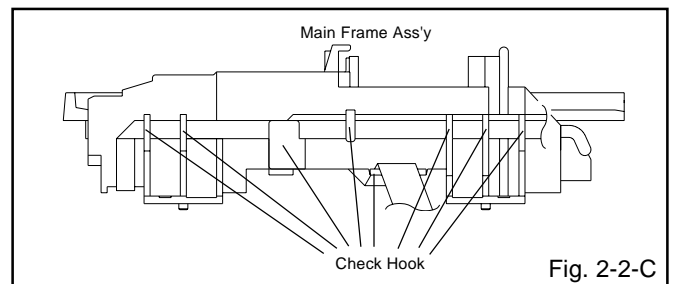
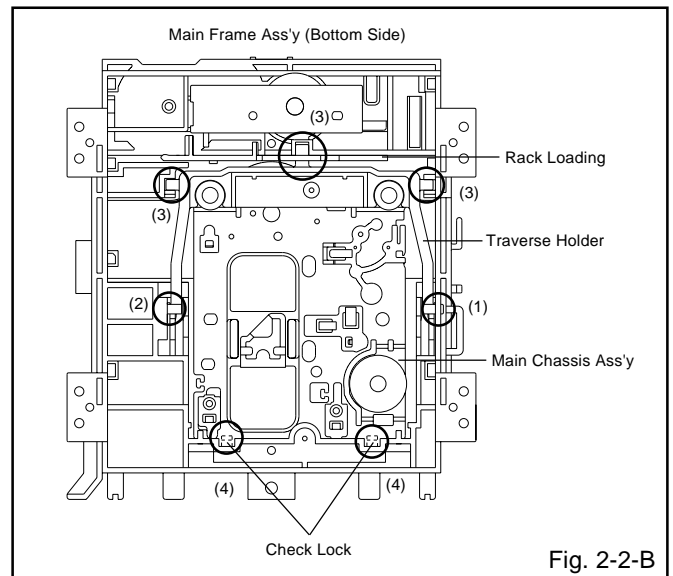
2-2: MAIN CHASSIS ASS'Y (Refer to Fig. 2-2-A)

1. Remove the screw ①.
2. Unlock the 2 supports ②.
3. Remove the Insulator (R) from the Main Frame Ass'y.
4. Remove the Main Chassis Ass'y.



NOTE

1. In case of the Main Chassis Ass'y, install it from (1) to (4) in order. (Refer to Fig. 2-2-B)
2. In case of the Main Chassis Ass'y installation, hook the wire on the Main Frame Ass'y as shown Fig. 2-2-C.



DISASSEMBLY INSTRUCTIONS

2-3: LOADING MOTOR PCB ASS'Y/ LOADING BELT (Refer to Fig. 2-3-A)

1. Remove the Loading Belt.
2. Remove the screw ①.
3. Remove the 2 screws ②.
4. Remove the Loading Motor PCB Ass'y.
5. Remove the Pulley Gear.

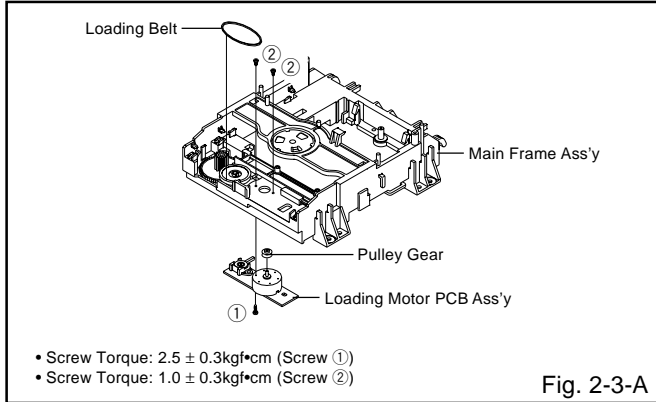


Fig. 2-3-A

NOTE

1. In case of the Pulley Motor installation, check if the value of the Fig. 2-3-B is correct.
2. When installing the Loading Motor PCB Ass'y, install it correctly as Fig. 2-3-C.
3. In case of the Loading Motor PCB Ass'y installation, hook the wire on the Main Frame Ass'y as shown Fig. 2-3-C.

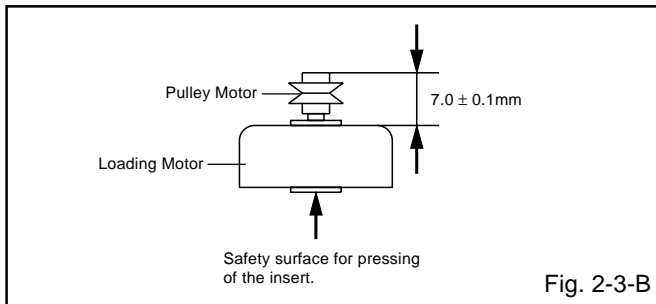


Fig. 2-3-B

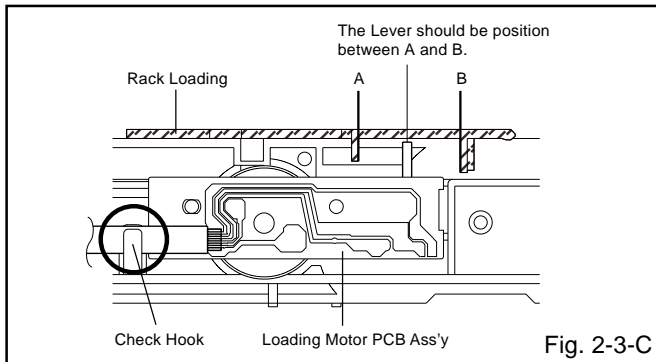


Fig. 2-3-C

2-4: RACK LOADING/MAIN GEAR/PULLEY GEAR (Refer to Fig. 2-4-A)

1. Press down the catcher ① and slide the Rack Loading.
2. Unlock the support ② and remove the Pulley Gear.
3. Remove the Main Gear.

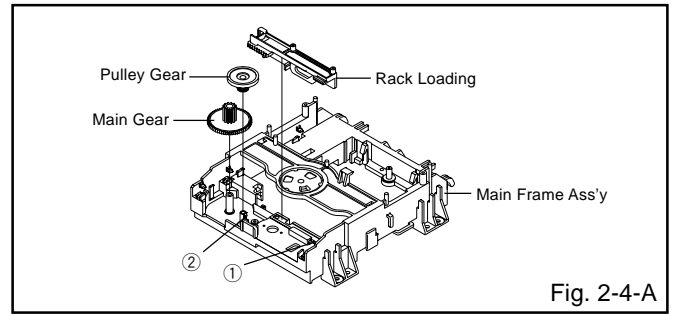


Fig. 2-4-A

NOTE

1. In case of the Rack Loading installation, do not mesh it to the Main Gear as shown the Fig. 2-4-B.

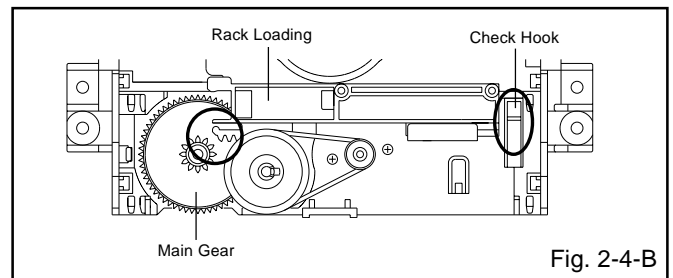


Fig. 2-4-B

2-5: CLAMPER ASS'Y (Refer to Fig. 2-5-A)

1. Press the Clamper and rotate the Clamper Plate clockwise, then unlock the 3 supports ①.
2. Remove the Clamper Plate, Clamper Magnet and Clamper.

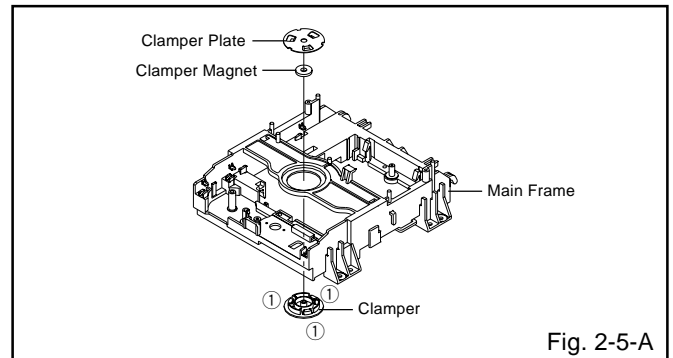


Fig. 2-5-A

NOTE

1. In case of the Clamper Ass'y installation, install correctly as Fig. 2-5-B.

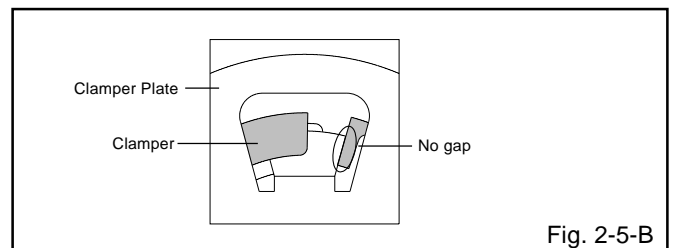


Fig. 2-5-B

DISASSEMBLY INSTRUCTIONS

2-6: TRAVERSE HOLDER/INSULATOR (F)/INSULATOR (R) (Refer to Fig. 2-6-A)

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

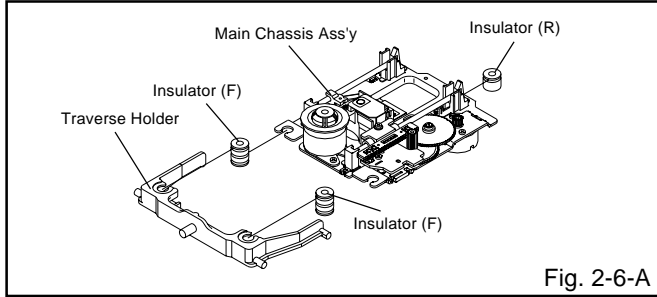


Fig. 2-6-A

NOTE

1. In case of the Insulator (F) installation, install correctly as Fig. 2-6-B.
2. In case of the Insulator (R) installation, install correctly as Fig. 2-6-C.

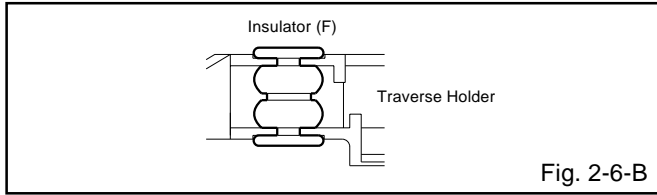


Fig. 2-6-B

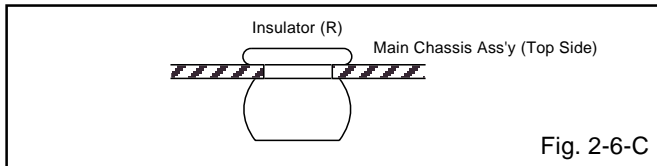


Fig. 2-6-C

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

1. Remove the screw ①.
2. Remove the Rack Feed Ass'y.
3. Remove the screw ②.
4. Remove the Switch PCB Ass'y.
5. Remove the 2 screw ③.
6. Remove the Feed Motor.
7. Remove the Motor Gear.

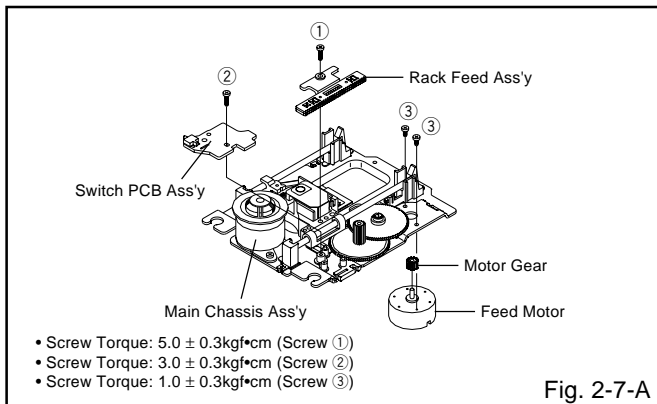


Fig. 2-7-A

NOTE

1. When pushing the Rack Feed in the direction of the arrow, it should be restored to the original position by the spring force. (Refer to Fig. 2-7-B)
2. In case of the Motor Gear installation, check if the value of the Fig. 2-7-C is correct.
3. When installing the wire of the Switch PCB Ass'y, install it correctly as Fig. 2-7-D.
4. After the assembly of the Main Chassis Ass'y, hook the wire on the Main Chassis Ass'y as shown Fig. 2-7-E.

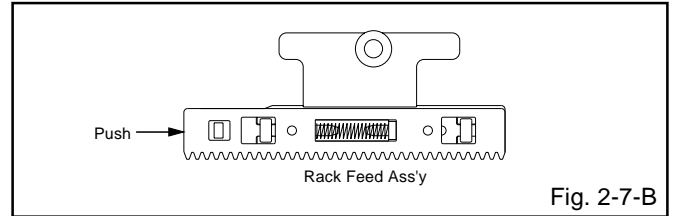


Fig. 2-7-B

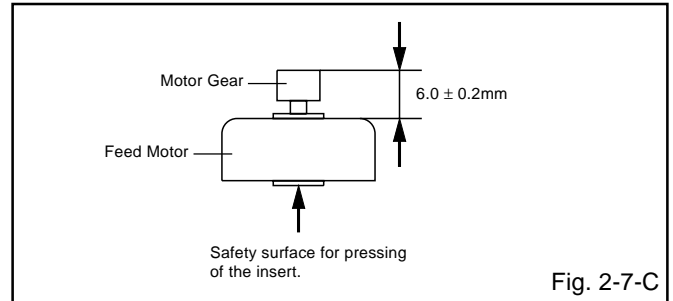


Fig. 2-7-C

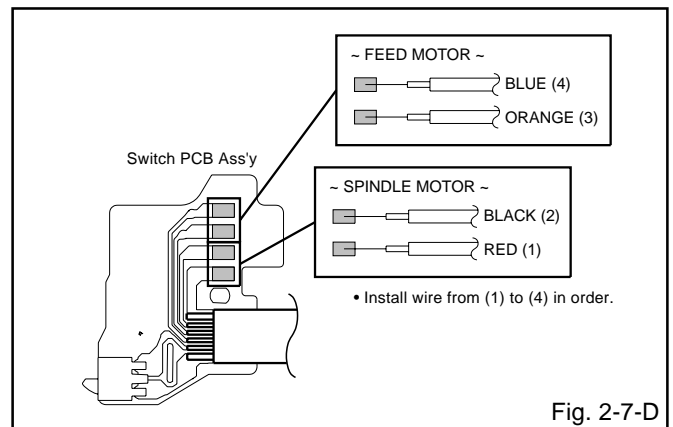


Fig. 2-7-D

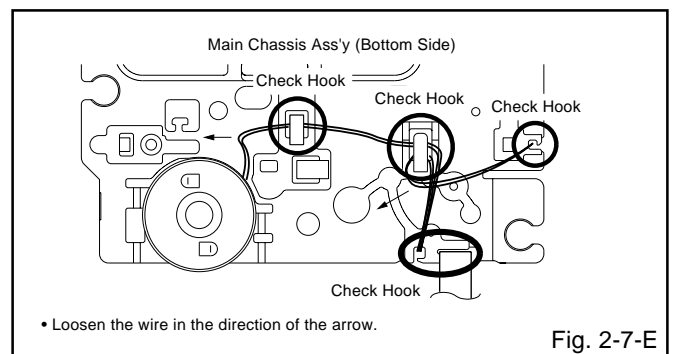


Fig. 2-7-E

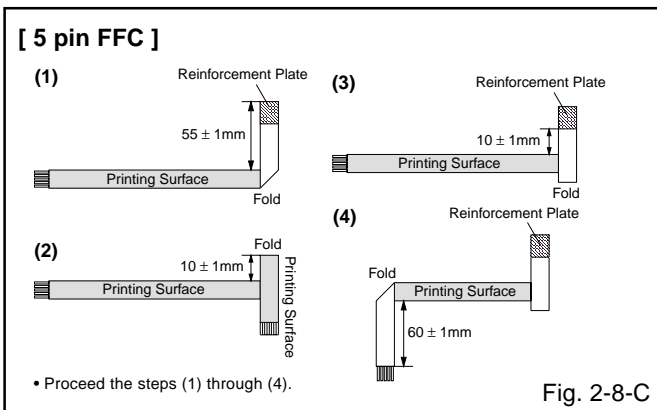
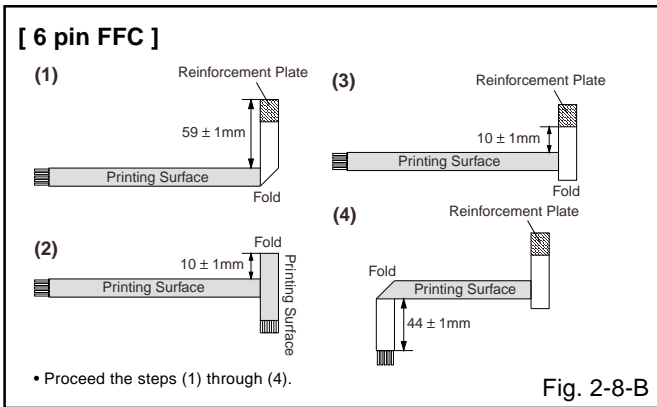
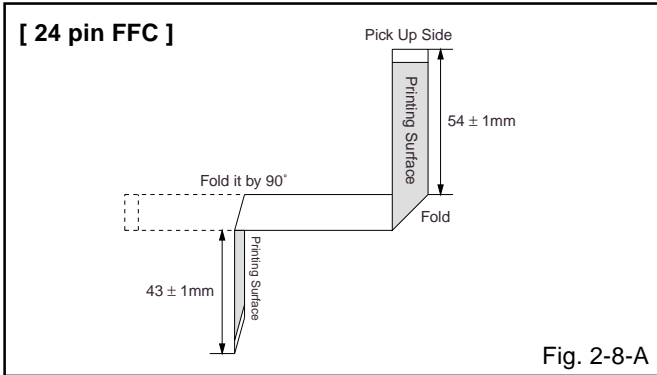
DISASSEMBLY INSTRUCTIONS

2-8: FFC WIRE HANDLING

1. When installing the FFC, fold it correctly and install it as shown from Fig. 2-8-A to Fig. 2-8-C.

NOTE

1. Do not make the folding lines except the specified positions for the FFC.



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.

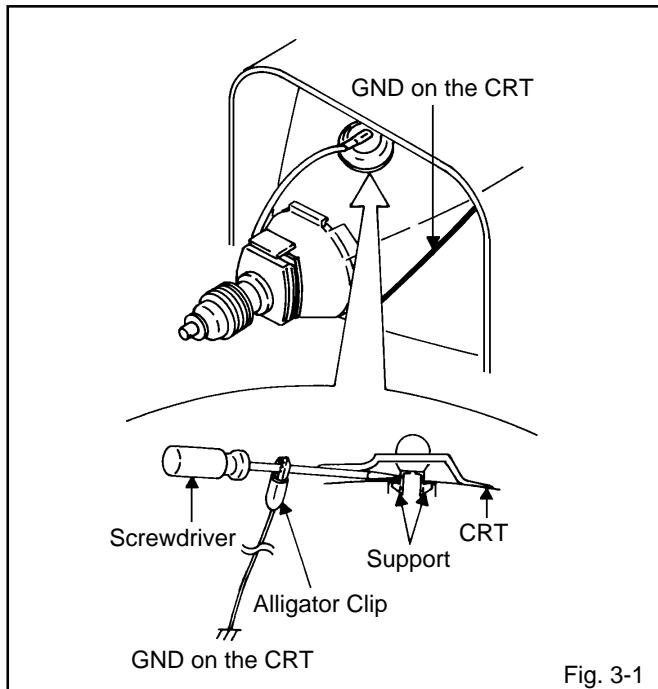


Fig. 3-1

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.)**

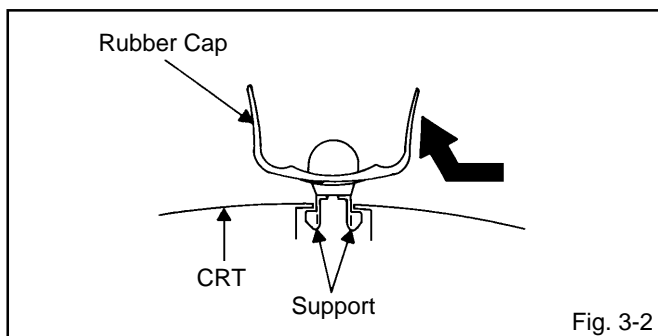


Fig. 3-2

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.

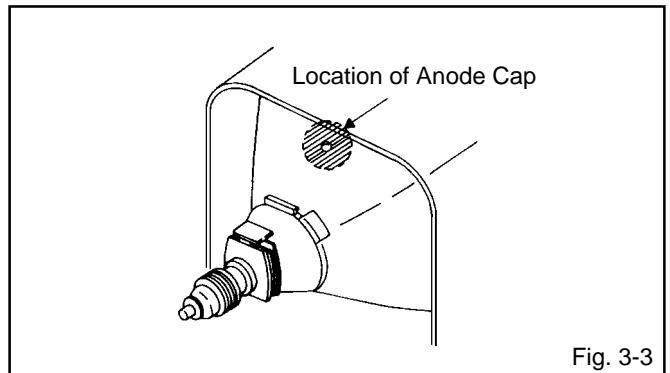


Fig. 3-3

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.)**

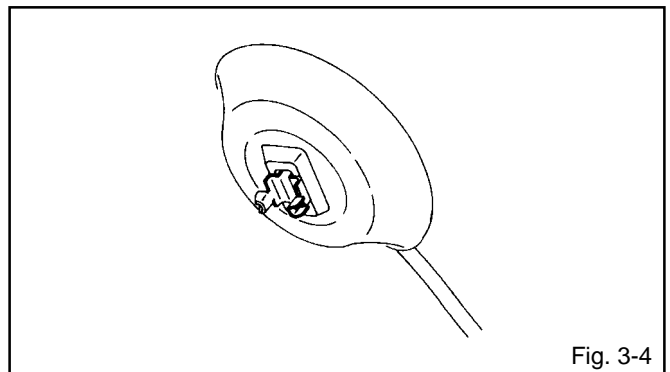


Fig. 3-4

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

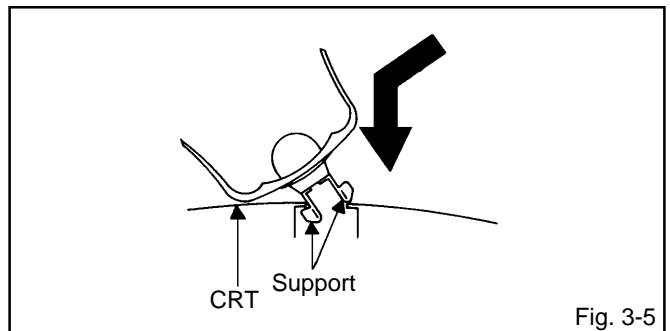


Fig. 3-5

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

DISASSEMBLY INSTRUCTIONS

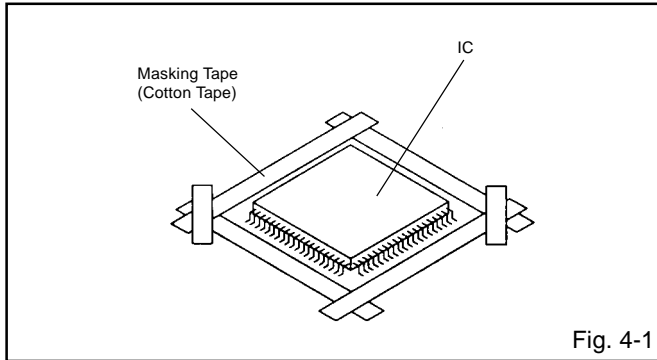
4. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 4-1.)

NOTE

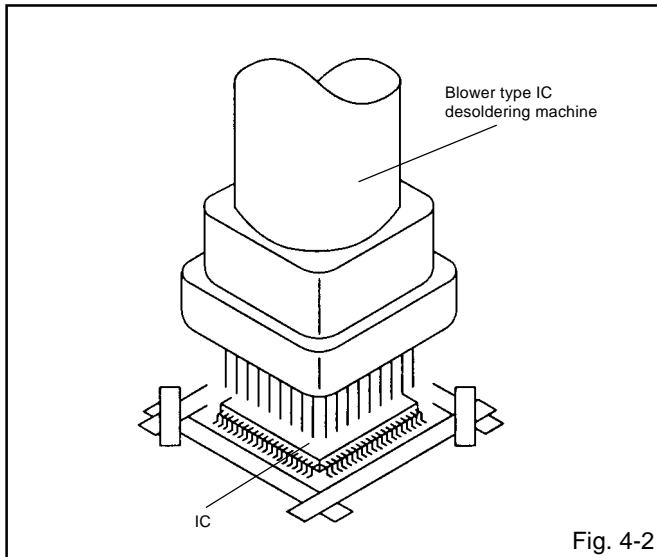
Masking is carried out on all the parts located within 10 mm distance from IC leads.



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

NOTE

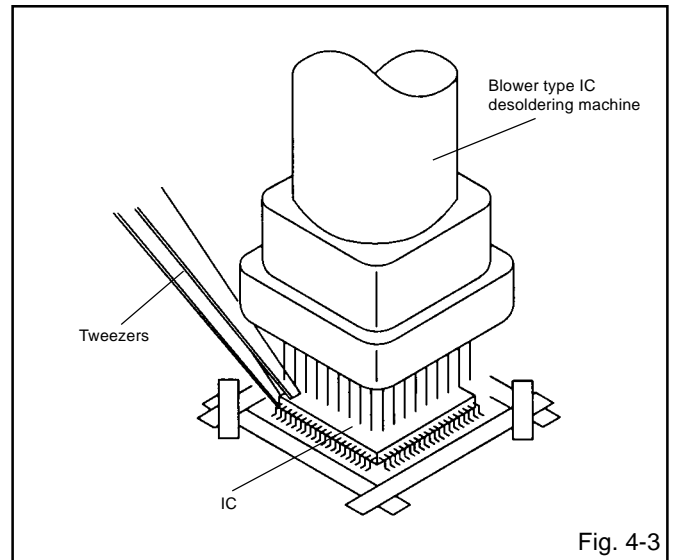
Do not rotate or move the IC back and forth, until IC can move back and forth easily after desoldering the leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pick up 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

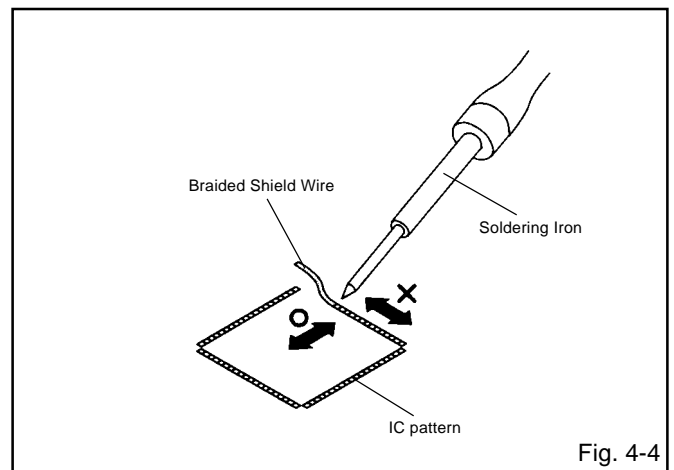
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



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

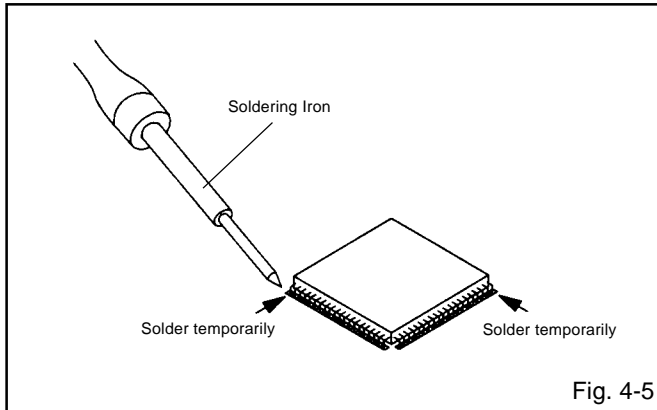
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



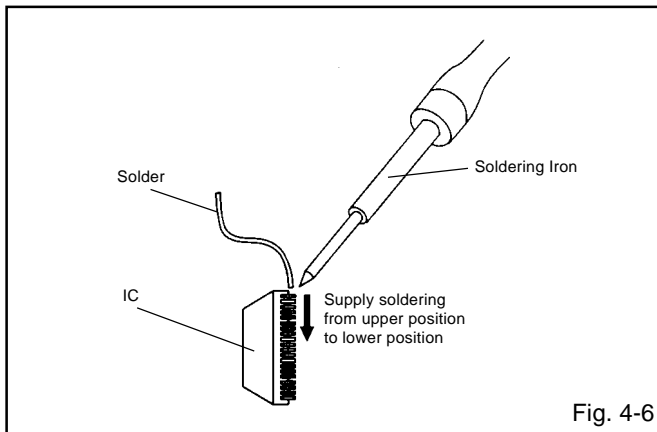
DISASSEMBLY INSTRUCTIONS

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.)



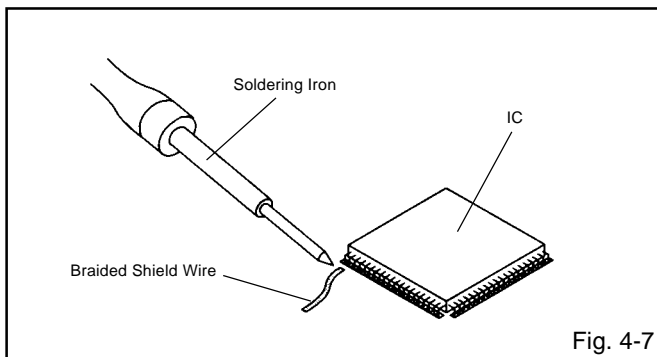
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 4-6.)



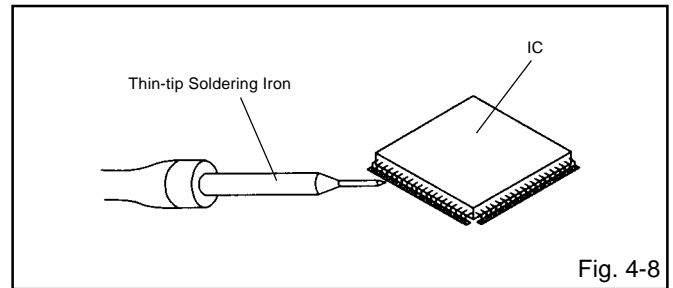
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 4-7.)

NOTE

Do not absorb the solder to excess.



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.)



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, always be 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 the standard time in the appropriate condition. (See below chart.)

Set Condition	Set Key	Remocon Key	Standard Time	Operations
TV mode	VOL. DOWN (Minimum)	0	2 sec.	Releasing of V-CHIP PASSWORD.
TV mode	VOL. DOWN (Minimum)	1	2 sec.	Initialization of factory TV data. NOTE: Do not use this for normal servicing. If you set factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
DVD mode (No disc)	VOL. DOWN (Minimum)	4	2 sec.	Initialization of factory DVD data. NOTE: Do not use this for normal servicing.
TV mode	VOL. DOWN (Minimum)	6	2 sec.	Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
TV mode	VOL. DOWN (Minimum)	8	2 sec.	Check of the SUM DATA, POWER ON total hours and MICON VERSION on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
ALL mode	VOL. DOWN (Minimum)	9	2 sec.	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
DVD mode (No disc)	STOP	7	3 sec.	Releasing of PARENTAL LOCK. Refer to the "PARENTAL CONTROL - RATING LEVEL".

Method	Operations
Press the following remocon keys continuously. SETUP → SUBTITLE → 3 → AUDIO → 0	Tray cannot be opened. Refer to the "TRAY LOCK".

WHEN REPLACING EEPROM (MEMORY) IC

CONFIRMATION OF CHECK SUM, POWER ON TOTAL HOURS AND MICON VERSION

Initial total of MEMORY IC 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".

Please refer to "CONFIRMATION OF INITIAL DATA" when SUM DATA is not corresponding.

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(8)** on the remote control for more than 2 seconds.
4. After the confirmation of each check sum, turn off the power.

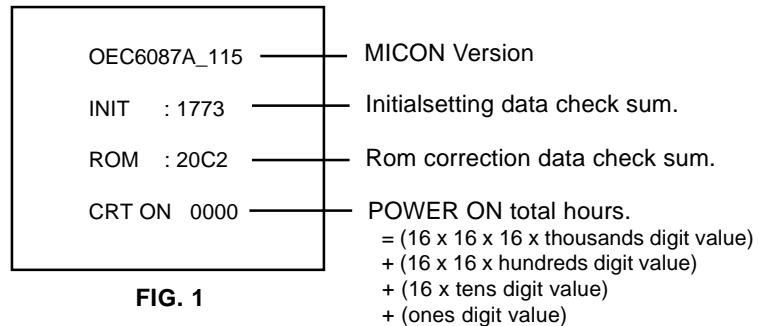


FIG. 1

WHEN REPLACING EEPROM (MEMORY) IC

CONFIRMATION OF INITIAL DATA

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

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	80	04	E2	4C	4F	12	A0	55	35	94	23	00	C9	70	70	00
10	0C	00	00	55	05	7A	A0	50	21	74	50	00	00	10	55	35
20	0A	0C	0E	10	12	14	16	18	1A	1B	1C	1D	1E	1F	20	21
30	22	23	24	25	26	27	28	28	29	29	2A	2A	2B	2B	2C	2C
40	2D	2D	2E	2E	2F	2F	30	30	31	31	32	32	33	33	34	34
50	35	36	37	38	3B	3E	41	44	47	4A	4D	50	53	56	5A	5F
60	C5	4B	BF	BF	7F	7F	7F	5F	---	---	---	---	---	---	---	---

Table 1

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds. ADDRESS and DATA should appear as FIG 1.

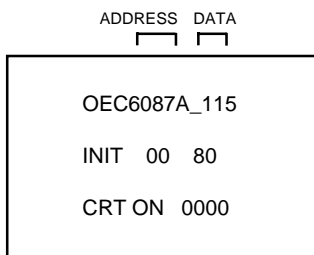


FIG. 1

4. ADDRESS is now selected and should "blink". Using the UP/DOWN button on the remote, step through the ADDRESS until Press RIGHT/LEFT button to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
6. Pressing RIGHT/LEFT button will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 4 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 2 seconds.
 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 with a heat sink, apply silicon grease on the contact 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 2 seconds to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

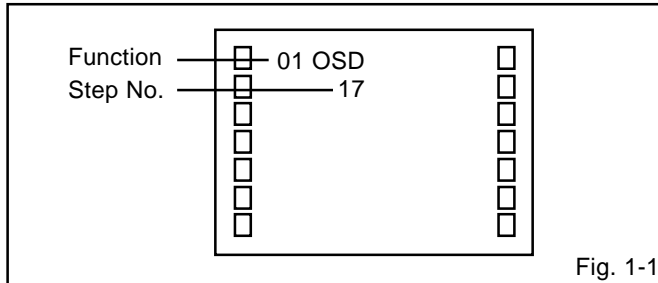


Fig. 1-1

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	28	CNTNA
02	CUT OFF	29	COLCA
03	HVCO	30	COLXA
04	HPHA	31	COLNA
05	VSIZ	32	TNTCA
06	VSHI	33	SHRPA
07	RDRV	34	BRTCD
08	BDRV	35	BRTXD
09	RCUT	36	BRTND
10	GCUT	37	CNTCD
11	BCUT	38	CNTXD
12	BRTC	39	CNTND
13	BRTX	40	COLCE
14	BRTN	41	COLXD
15	CNTC	42	COLND
16	CNTX	43	TNTCD
17	CNTN	44	SHRPD
18	COLC	45	BRTCG
19	COLX	46	BRTXG
20	COLN	47	BRTNG
21	TNTC	48	CNTCG
22	SHRP	49	CNTXG
23	BRTCA	50	CNTNG
24	BRTXA	51	TVM
25	BRTNA	52	PVM
26	CNTCA	53	LVL
27	CNTXA	54	SEPAL
		55	SEPAH

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Place the set in AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Connect the digital voltmeter to **TP401**.
4. Adjust the **VR3800** until the digital voltmeter is $115 \pm 1V$.

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 CUT OFF=7F, G CUT OFF=7F, B CUT OFF=7F,
R DRIVE=3F, B DRIVE=3F
2. Set condition is 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 **(02)** 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.

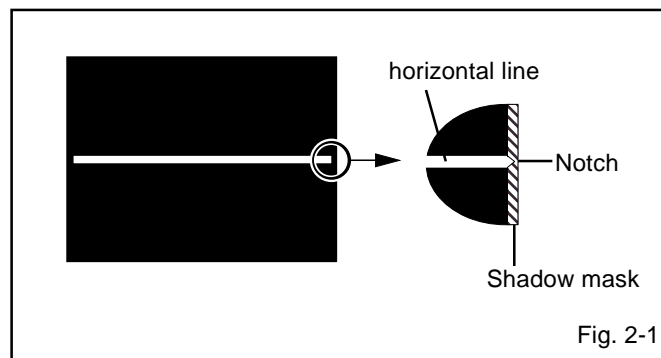
1. Place the set in Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select "R DRIVE".
5. Press the CH. UP/DOWN button on the remote control to select the "B DRIVE", "R CUT OFF", "G CUT OFF" or "B CUT OFF".
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the B DRIVE, R CUT OFF, G CUT OFF and B CUT OFF at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white achieved.

2-5: HORIZONTAL PHASE

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 "HPHA".
4. Press the RIGHT/LEFT button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-6: VERTICAL SHIFT

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 **(06)** on the remote control to select "VSHI".
4. Check if the step No. VSHI is "02".
5. Adjust the **VR402** until the horizontal line becomes fit to notch of the shadow mask. (**Refer to Fig. 2-1**)



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 **(05)** on the remote control to select "VSIZ".
4. Press the RIGHT/LEFT button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes $10 \pm 2\%$.
5. Receive a broadcast and check if the picture is normal.

2-8: 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 **(12)** on the remote control to select "BRTC".
4. Press the RIGHT/LEFT button on the remote control until the white 0% is begin to shine.
5. Receive the monoscope pattern. (Audio Video Input)
6. Press the INPUT 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 **(23)** on the remote control to select "BRTCA".
9. Press the RIGHT/LEFT button on the remote control until the white 0% is begin to shine.
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 **(34)** on the remote control to select "BRTCD".
12. Press the RIGHT/LEFT button on the remote control to set the same step numbers as the AV.
13. Press the INPUT 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 **(45)** on the remote control to select "BRTCG".
15. Press the RIGHT/LEFT button on the remote control to set the same the same step numbers as the AV.

ELECTRICAL ADJUSTMENTS

2-9: OSD POSITION

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

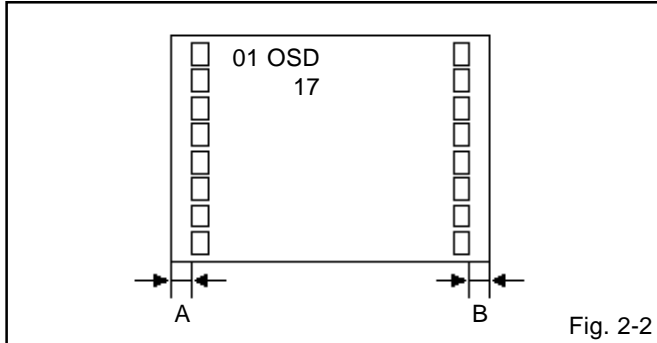


Fig. 2-2

2-10: TINT

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 **(21)** on the remote control to select "TNTC".
5. Press the RIGHT/LEFT button on the remote control until the section "A" becomes a straight line. **(Refer to Fig. 2-3)**
6. Receive the color bar pattern. (Audio Video Input)
7. Press the INPUT 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 **(32)** on the remote control to select "TNTCA".
10. Press the RIGHT/LEFT button on the remote control until the section "A" becomes a straight line. **(Refer to Fig. 2-3)**
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 **(43)** on the remote control to select "TNTCD".
13. Press the RIGHT/LEFT button on the remote control to set the same the same step numbers as the AV.

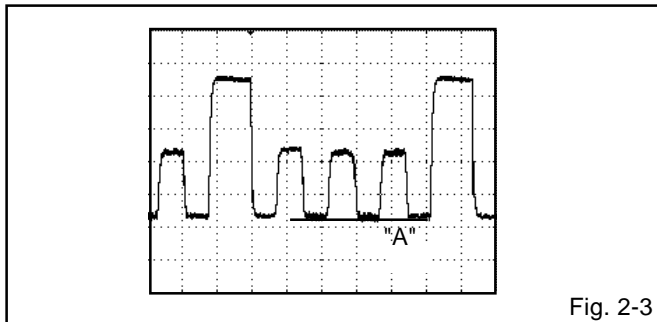


Fig. 2-3

2-11: 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 **TP024**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(18)** 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 RIGHT/LEFT button on the remote control until the red color level is adjusted to $110 \pm 5\%$ of the white level. **(Refer to Fig. 2-4)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT 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 **(29)** 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 RIGHT/LEFT button on the remote control until the red color level is adjusted to $110 \pm 5\%$ of the white level. **(Refer to Fig. 2-4)**
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 **(40)** on the remote control to select "COLCD".
15. Press the RIGHT/LEFT button on the remote control to set the same the same step numbers as the AV.

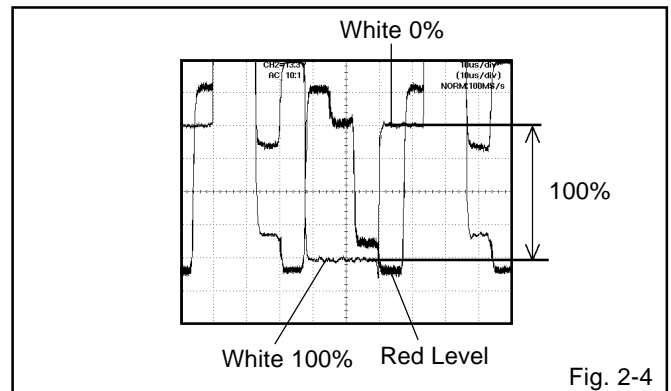


Fig. 2-4

ELECTRICAL ADJUSTMENTS

2-12: CONTRAST MAX

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select "CNTX".
2. Press the RIGHT/LEFT button on the remote control until the contrast step No. becomes "70"
3. Receive a broadcast and check if the picture is normal.
4. Press the INPUT 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 **(27)** on the remote control to select "CNTXA".
6. Press the RIGHT/LEFT button on the remote control until the contrast step No. becomes "70"
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 **(38)** on the remote control to select "CNTXD".
10. Press the RIGHT/LEFT button on the remote control to set the same step numbers as the AV.
11. Press the INPUT 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 **(49)** on the remote control to select "CNTXG".
13. Press the RIGHT/LEFT button on the remote control to set the same the same step numbers as the AV.

2-13: 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 **(53)** on the remote control to select "LVL".
4. Press the RIGHT/LEFT button on the remote control until the AC voltmeter is $80 \pm 2\text{mV}$.

2-14: SEPARATION

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 **SP351** code.
3. Press the AUDIO SELECT button on the remote control to set to the stereo mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(54)** on the remote control to select "SEPAL".
5. Press the RIGHT/LEFT 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 RIGHT/LEFT 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 **SP352** code. Then perform the above adjustments 3~7.

2-15: Confirmation of Fixed Value (Step No.)

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

NO.	FUNCTION	STEP NO.
03	HVCO	04
13	BRTX	60
14	BRTN	30
15	CNTC	45
17	CNTN	30
19	COLX	50
20	COLN	00
22	SHRP	32
24	BRTXA	60
25	BRTNA	30
26	CNTCA	45
28	CNTNA	30
30	COLXA	50
31	COLNA	00
33	SHRPA	2E
35	BRTXD	60
36	BRTND	30
37	CNTCD	45
39	CNTND	30
41	COLXD	50
42	COLND	00
44	SHRPD	2E
46	BRTXG	60
47	BRTNG	30
48	CNTCG	45
50	CNTXG	30
51	TVM	00
52	PVM	40

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

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

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

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

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

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

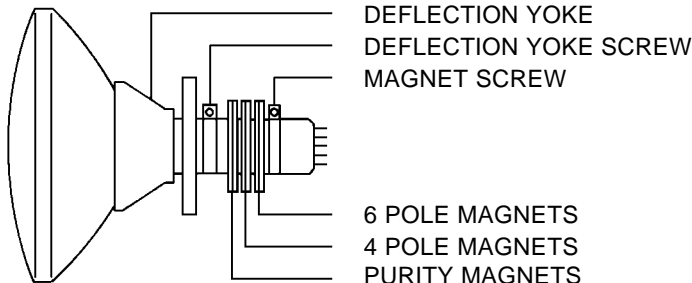


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

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

3-4: DYNAMIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-3.

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

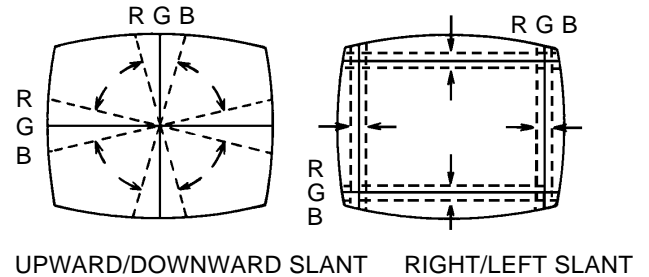


Fig. 3-2-a

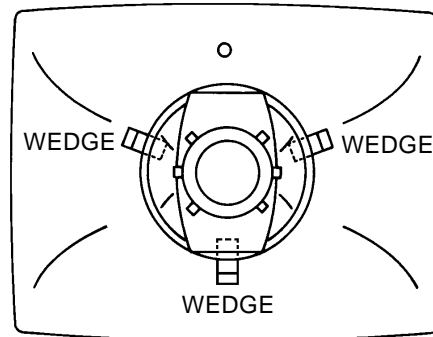
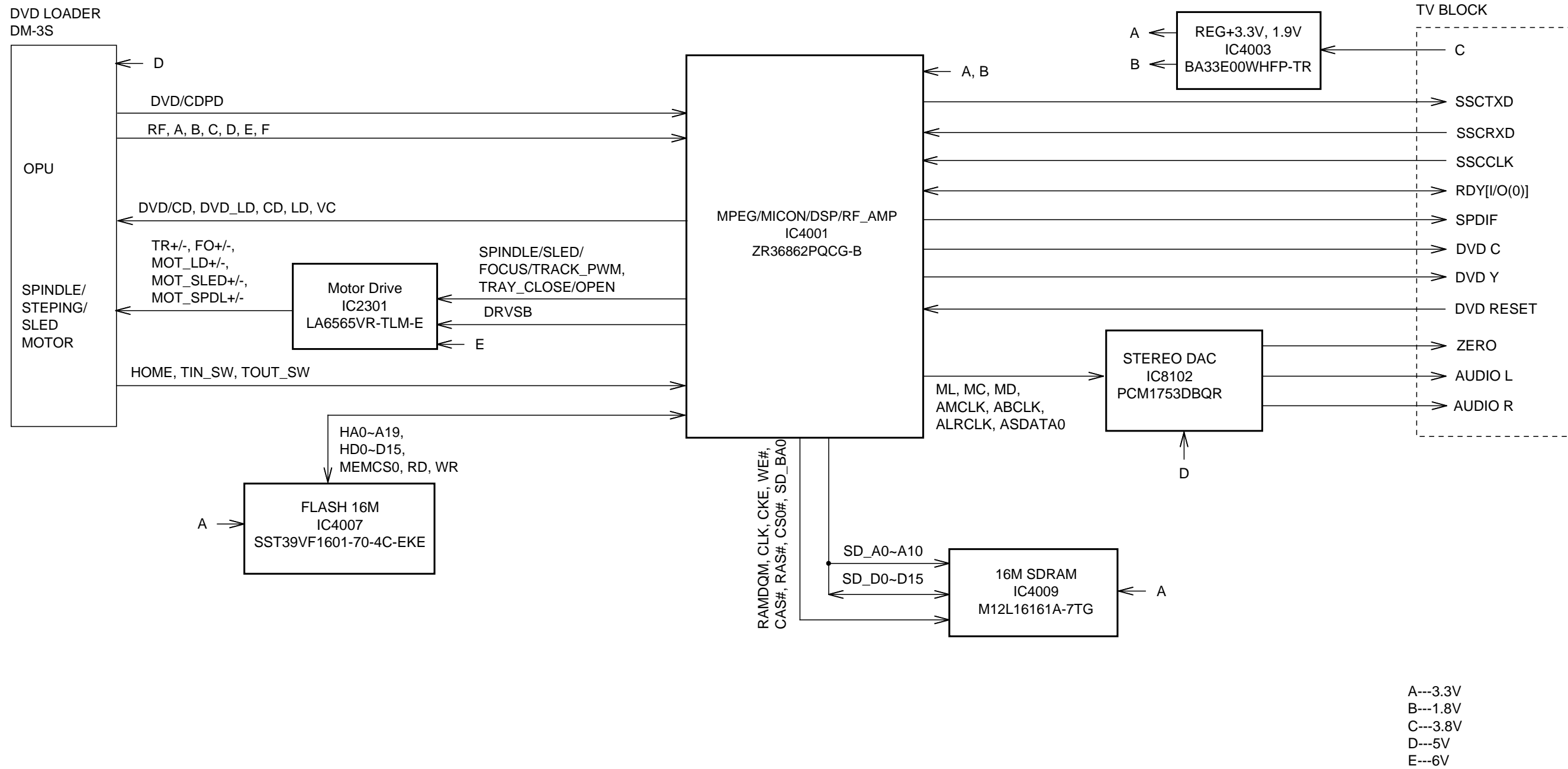
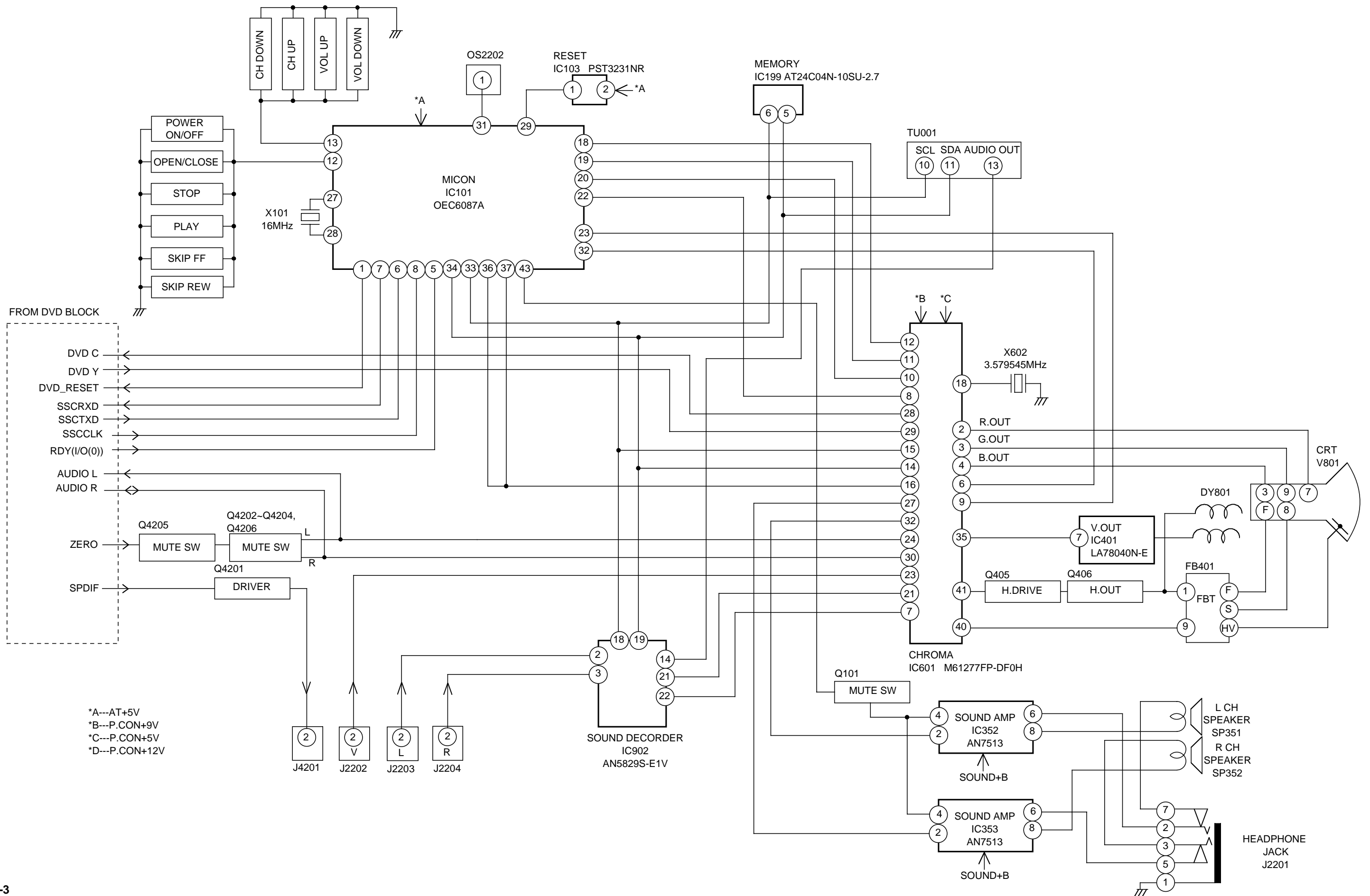


Fig. 3-2-b

DVD BLOCK DIAGRAM

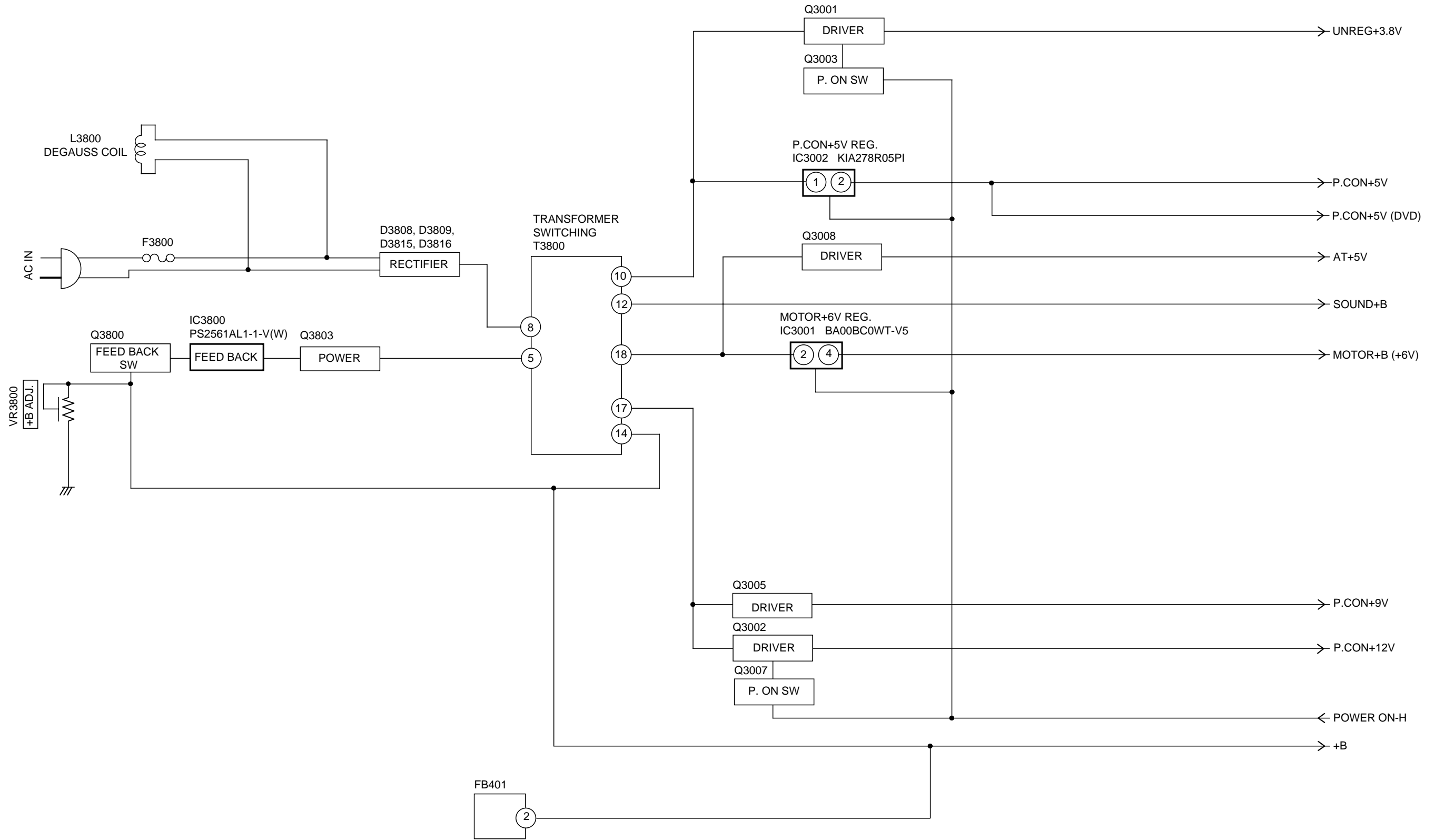


TV BLOCK DIAGRAM

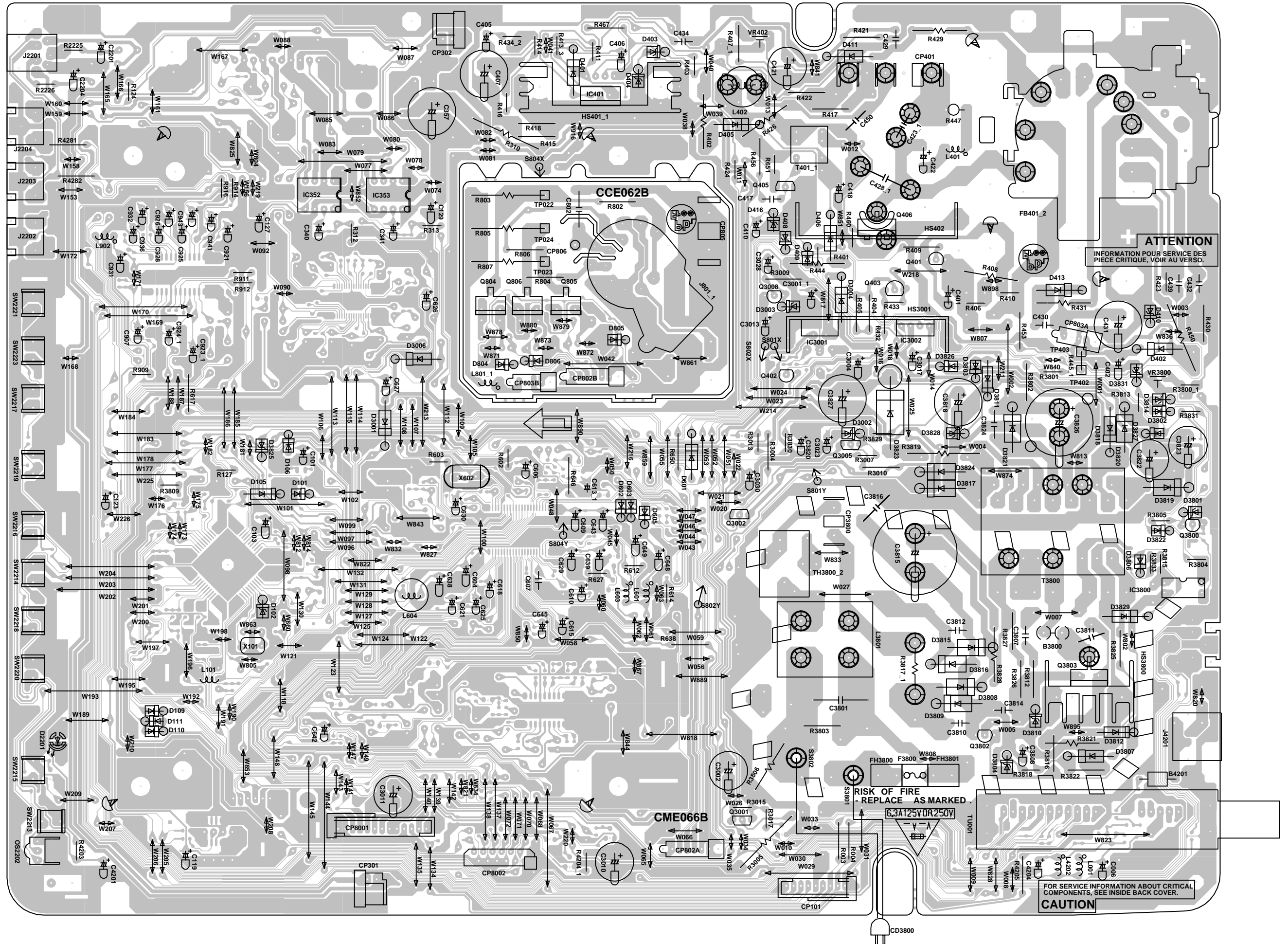


*A---AT+5V
 *B---P.CON+9V
 *C---P.CON+5V
 *D---P.CON+12V

POWER BLOCK DIAGRAM



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



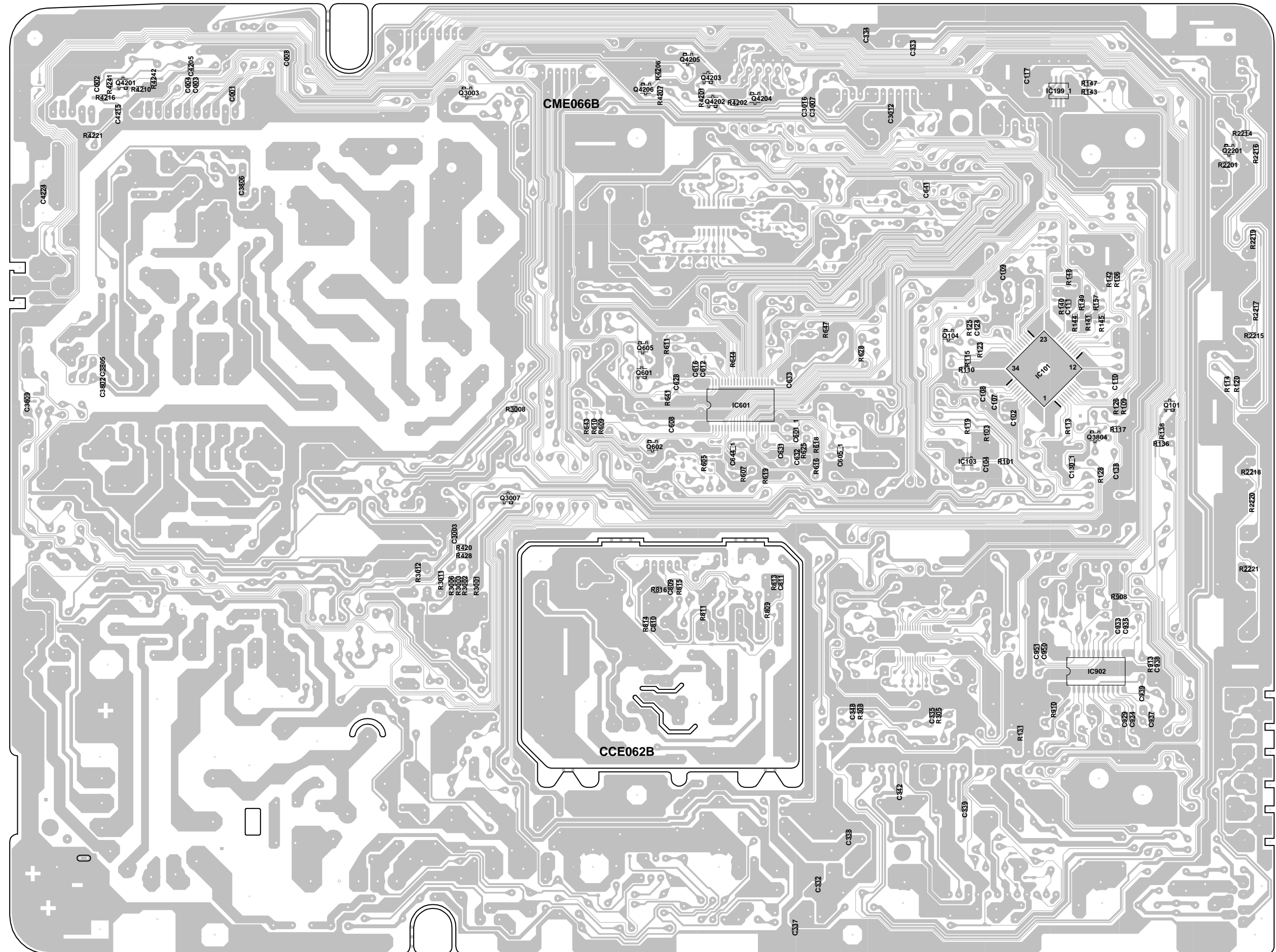
ATTENTION

INFORMATION POUR SERVICE DES
PIECE CRITIQUE, VOIR AU VERSO.

**RISK OF FIRE
- REPLACE AS MARKED -**
[6.3A 125V OR 250V]

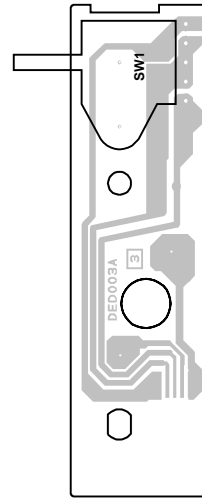
FOR SERVICE INFORMATION ABOUT CRITICAL
COMPONENTS, SEE INSIDE BACK COVER.
CAUTION

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

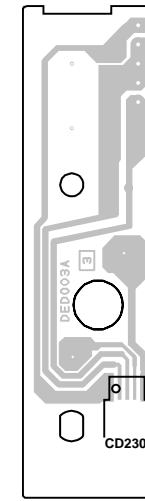


PRINTED CIRCUIT BOARDS

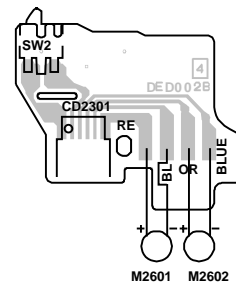
LOADING MOTOR (INSERTED PARTS) SOLDER SIDE



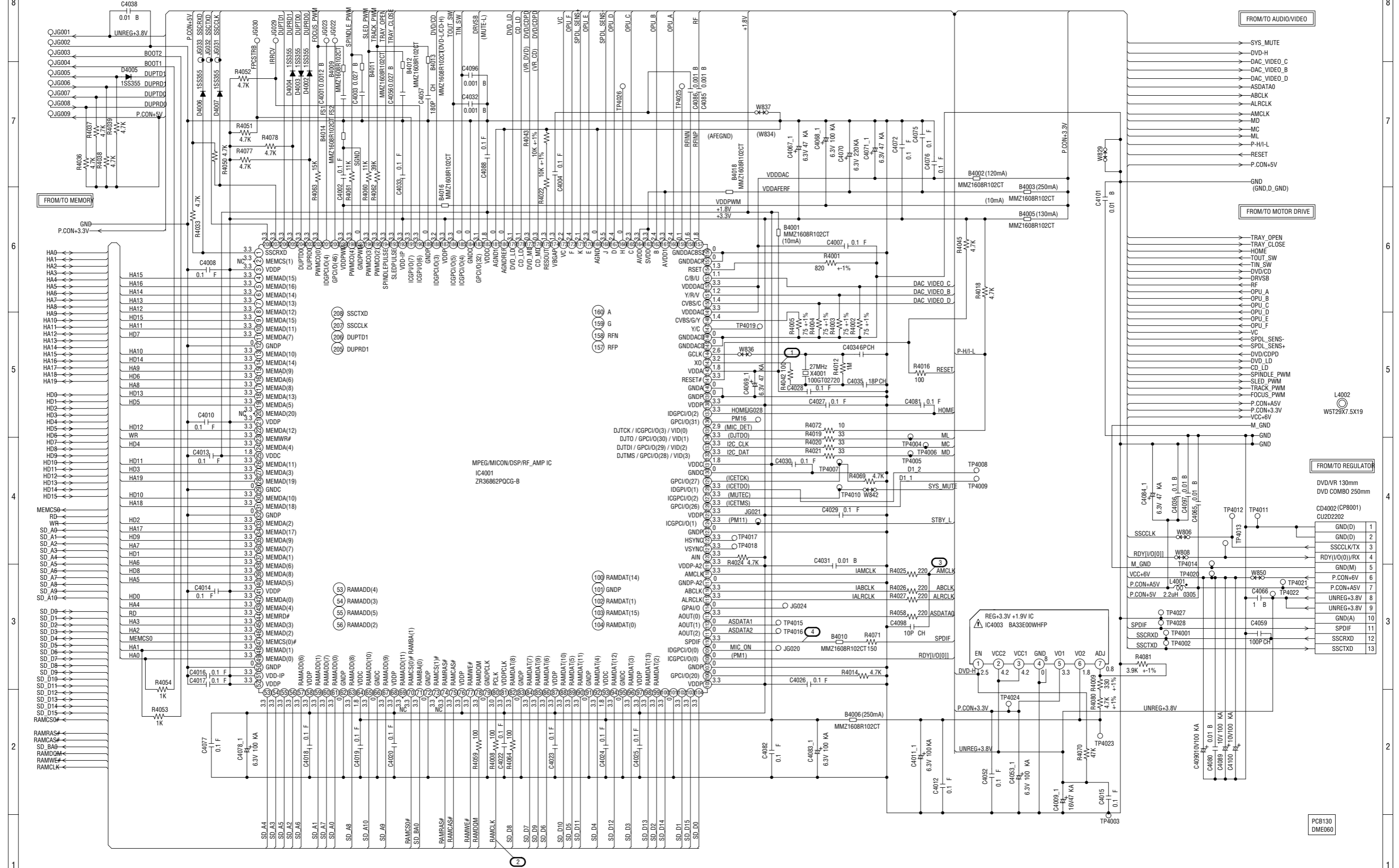
LOADING MOTOR (CHIP MOUNTED PARTS) SOLDER SIDE



SW SOLDER SIDE



MPEG/MICON/DSP SCHEMATIC DIAGRAM (DVD PCB)



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

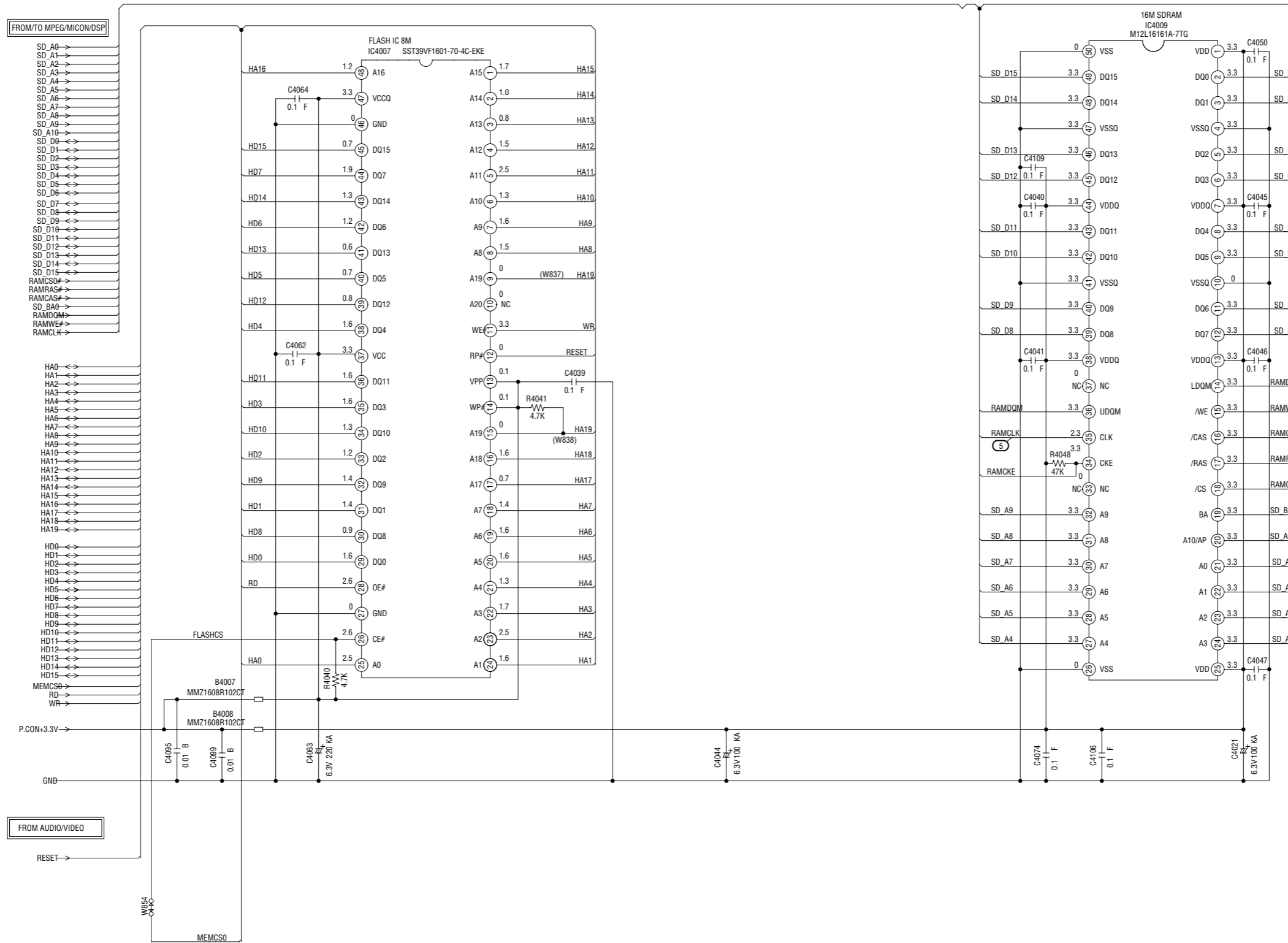
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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

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

PCB130
DME060

MEMORY SCHEMATIC DIAGRAM (DVD PCB)

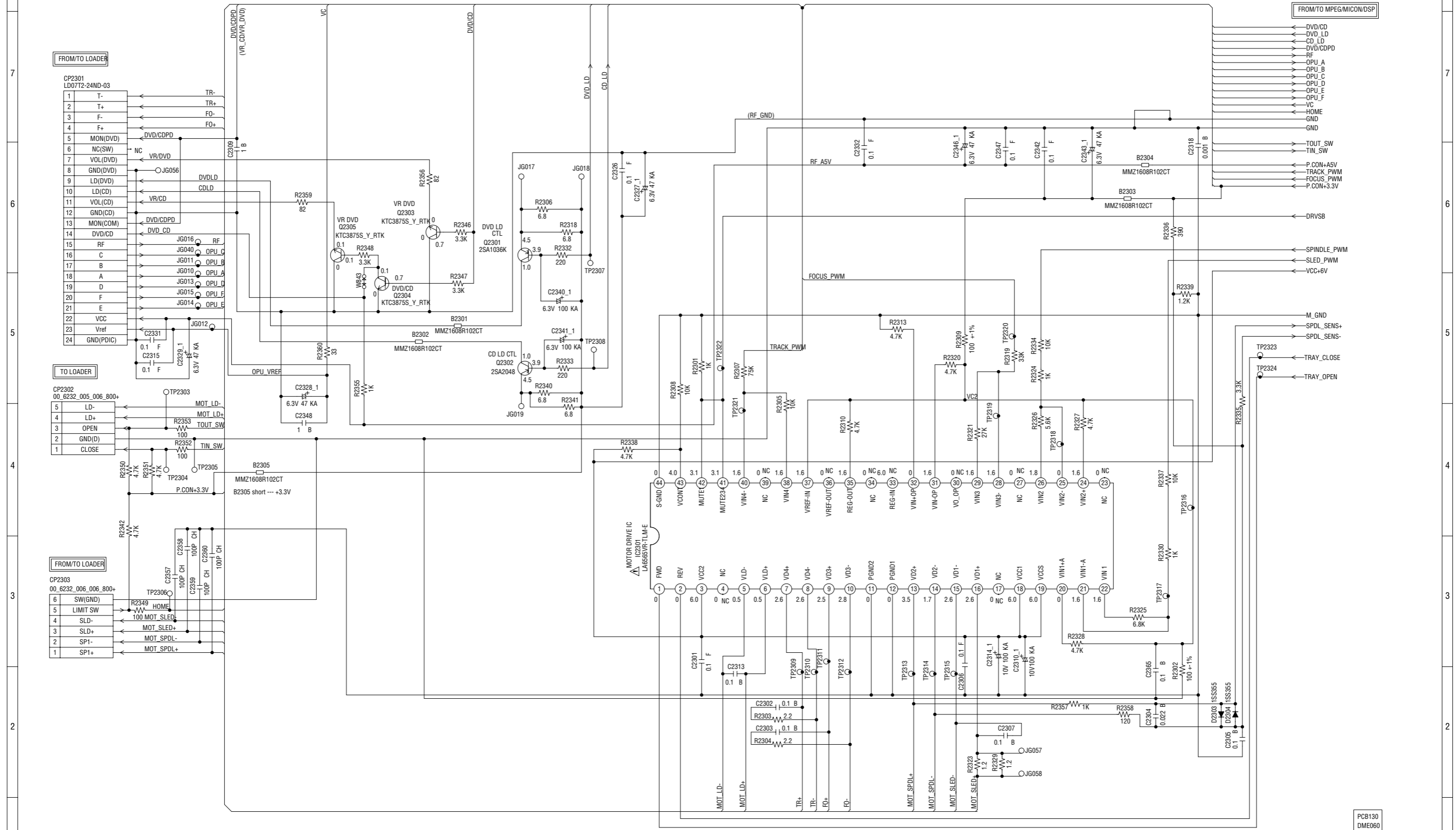


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

PCB130
DME060

MOTOR DRIVE SCHEMATIC DIAGRAM (DVD PCB)



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

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

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

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

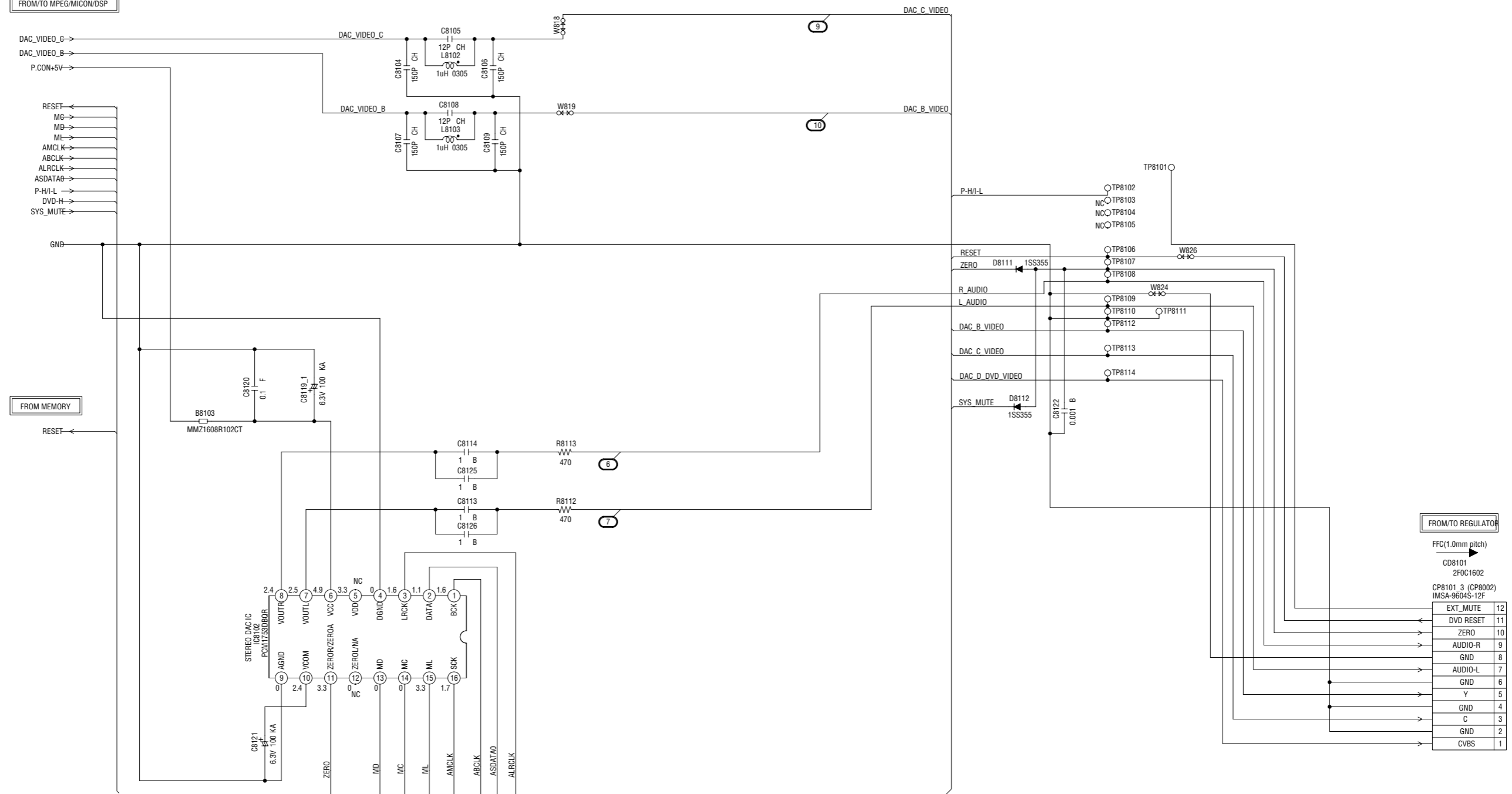
PCB130
DME060

AUDIO/VIDEO SCHEMATIC DIAGRAM (DVD PCB)

FROM/TO MPEG/MICON/DSP

FROM MEMORY

FROM/TO REGULATOR



FROM/TO REGULATOR	
FFC(1.0mm pitch)	
CD8101	2FC1602
CP8101_3 (CP8002)	IMS9-9604S-12F
EXT_MUTE	12
DVD RESET	11
ZERO	10
AUDIO-R	9
GND	8
AUDIO-L	7
GND	6
Y	5
GND	4
C	3
GND	2
CVBS	1

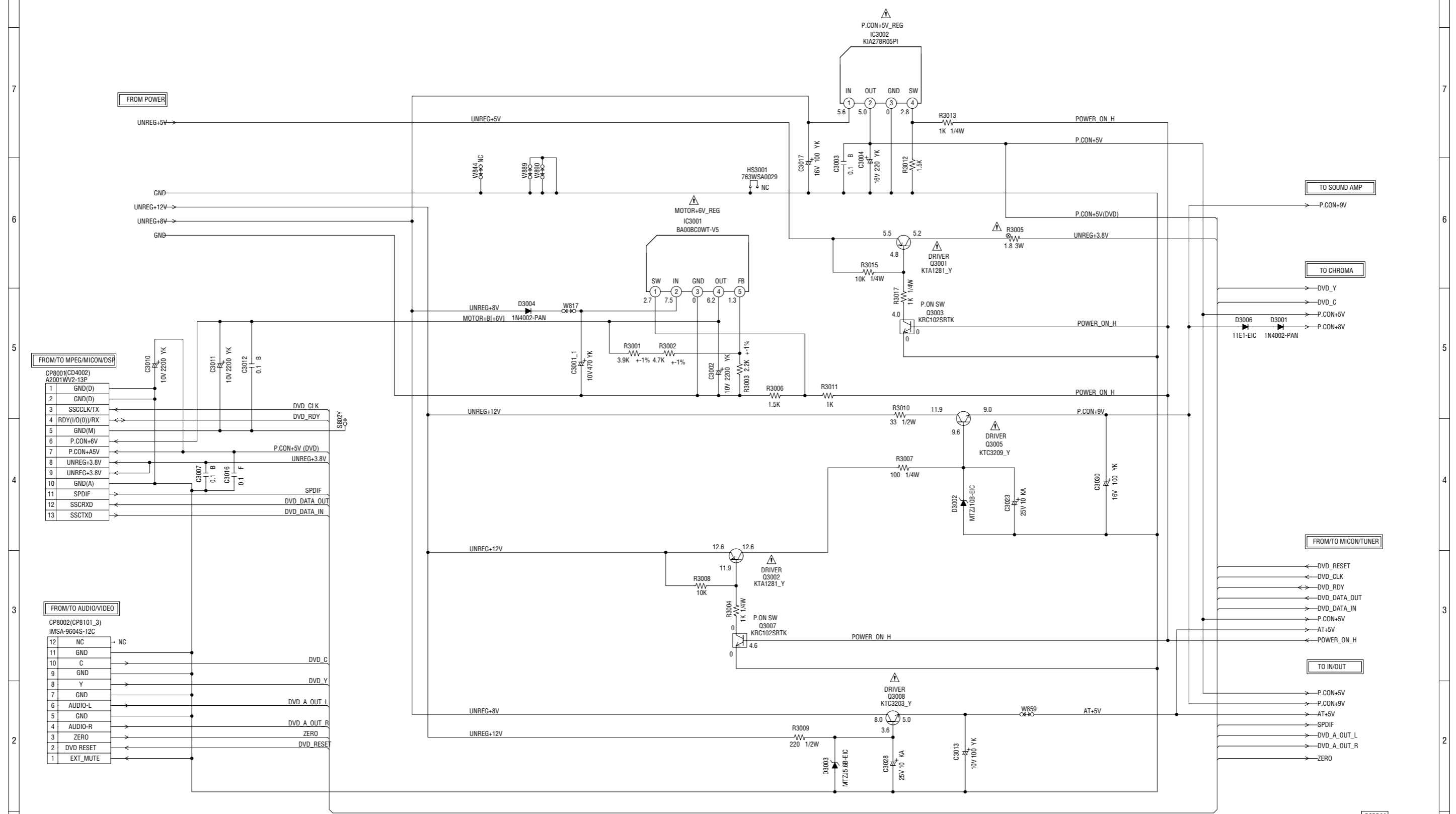
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

PCB130
DME060

REGULATOR SCHEMATIC DIAGRAM

(AV PCB)



FROM/TO MPEG/MICON/DSR

1	GND(D)	DVD_CLK
2	GND(D)	DVD_RDY
3	SSCLK/TX	
4	RDY(I/O)/RX	
5	GND(M)	
6	P.CON+6V	P.CON+5V (DVD)
7	P.CON+A5V	UNREG+3.8V
8	UNREG+3.8V	
9	UNREG+3.8V	
10	GND(A)	SPDIF
11	SPDIF	DVD_DATA_OUT
12	SSCRXD	DVD_DATA_IN
13	SSCTXD	

FROM/TO AUDIO/VIDEO

12	NC	DVD_C
11	GND	DVD_Y
10	C	
9	GND	DVD_A_OUT_L
8	Y	DVD_A_OUT_R
7	GND	ZERO
6	AUDIO-L	DVD_RESET
5	GND	EXT_MUTE
4	AUDIO-R	
3	ZERO	
2	DVD RESET	
1	EXT_MUTE	

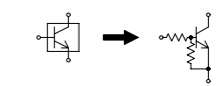
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

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

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

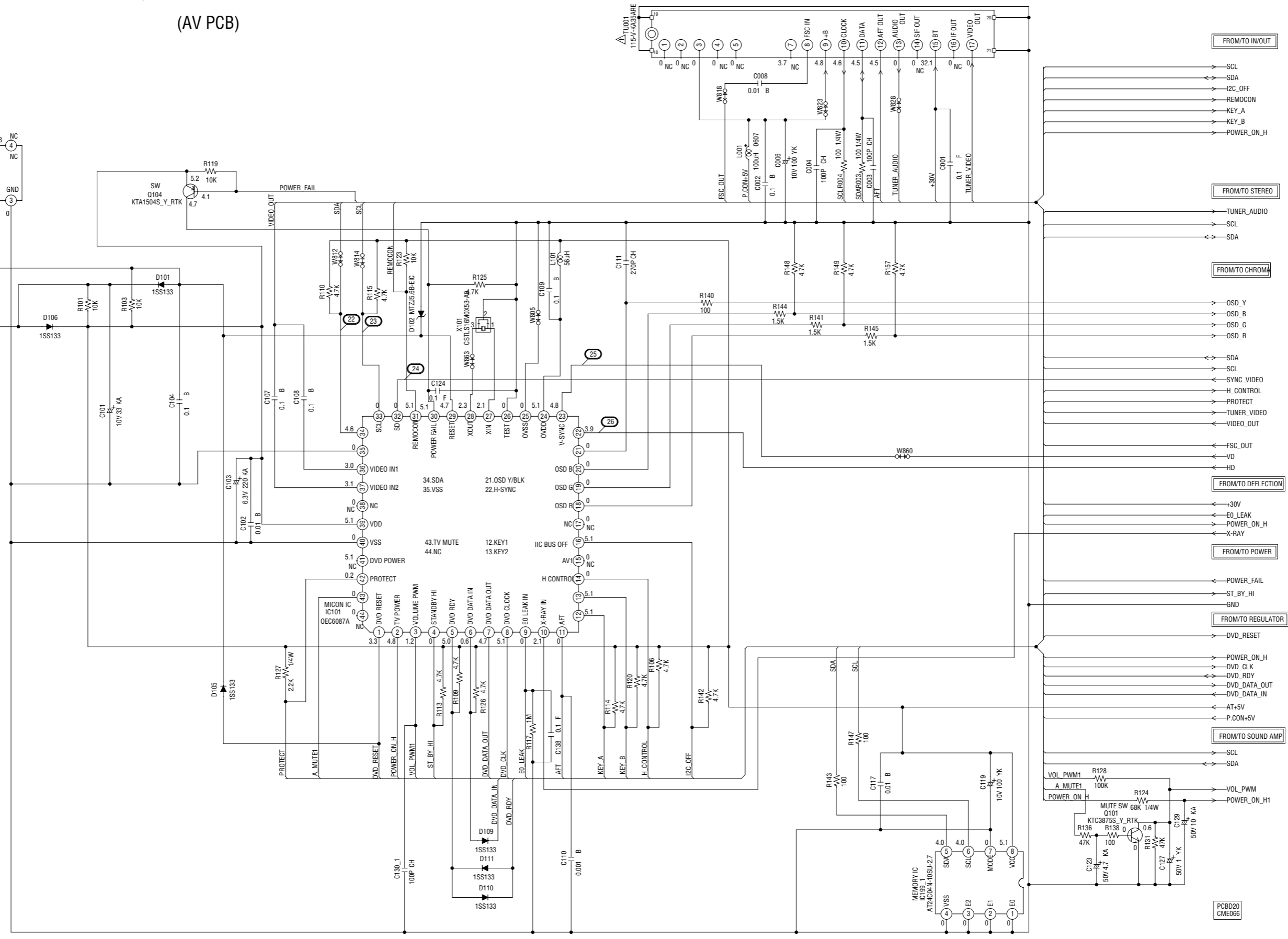
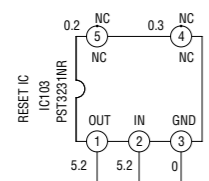
CAUTION: DIGITAL TRANSISTOR



PCB020 CME066

MICON /TUNER SCHEMATIC DIAGRAM

(AV PCB)



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

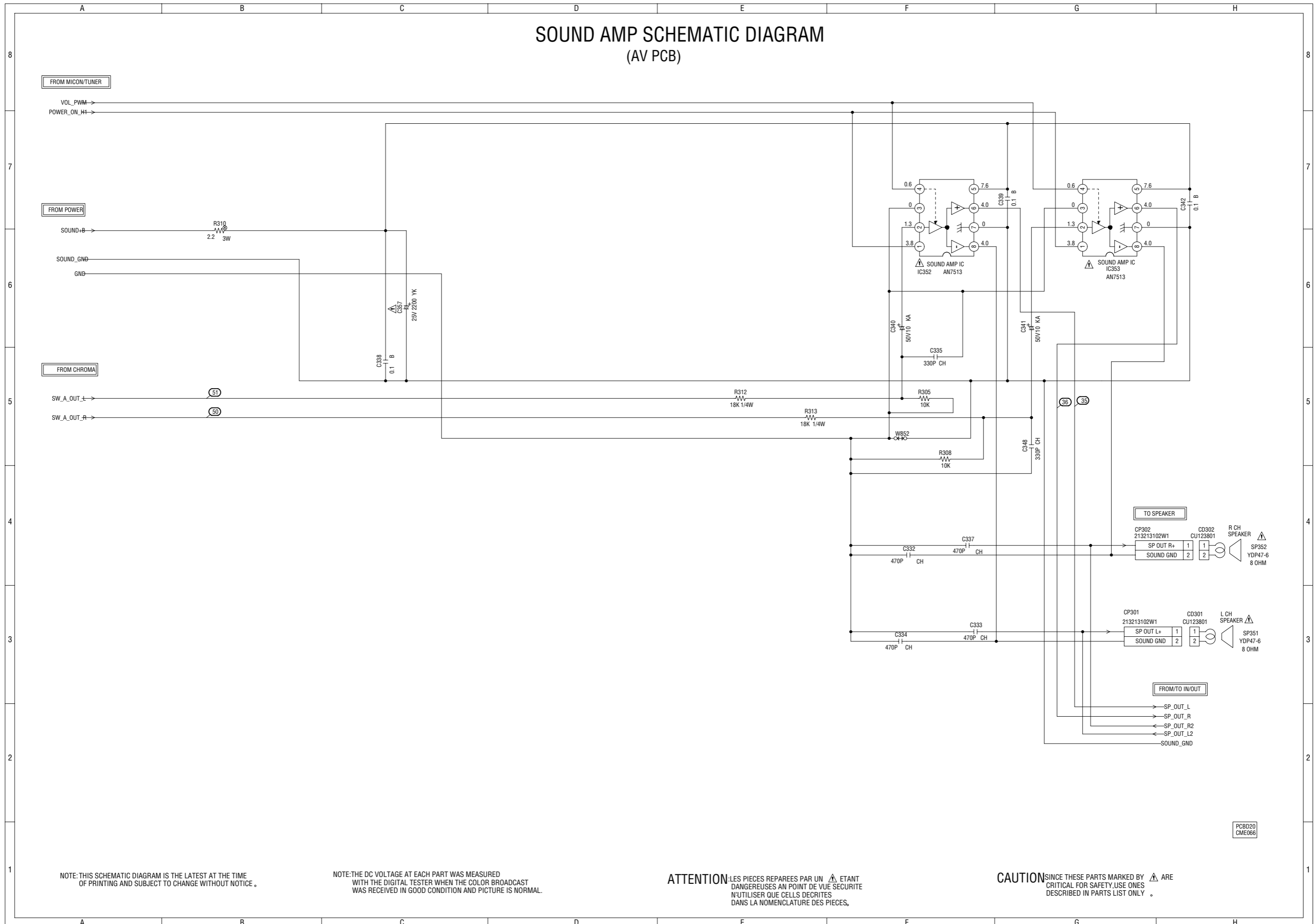
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

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

PCBD20
CME066

SOUND AMP SCHEMATIC DIAGRAM (AV PCB)



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

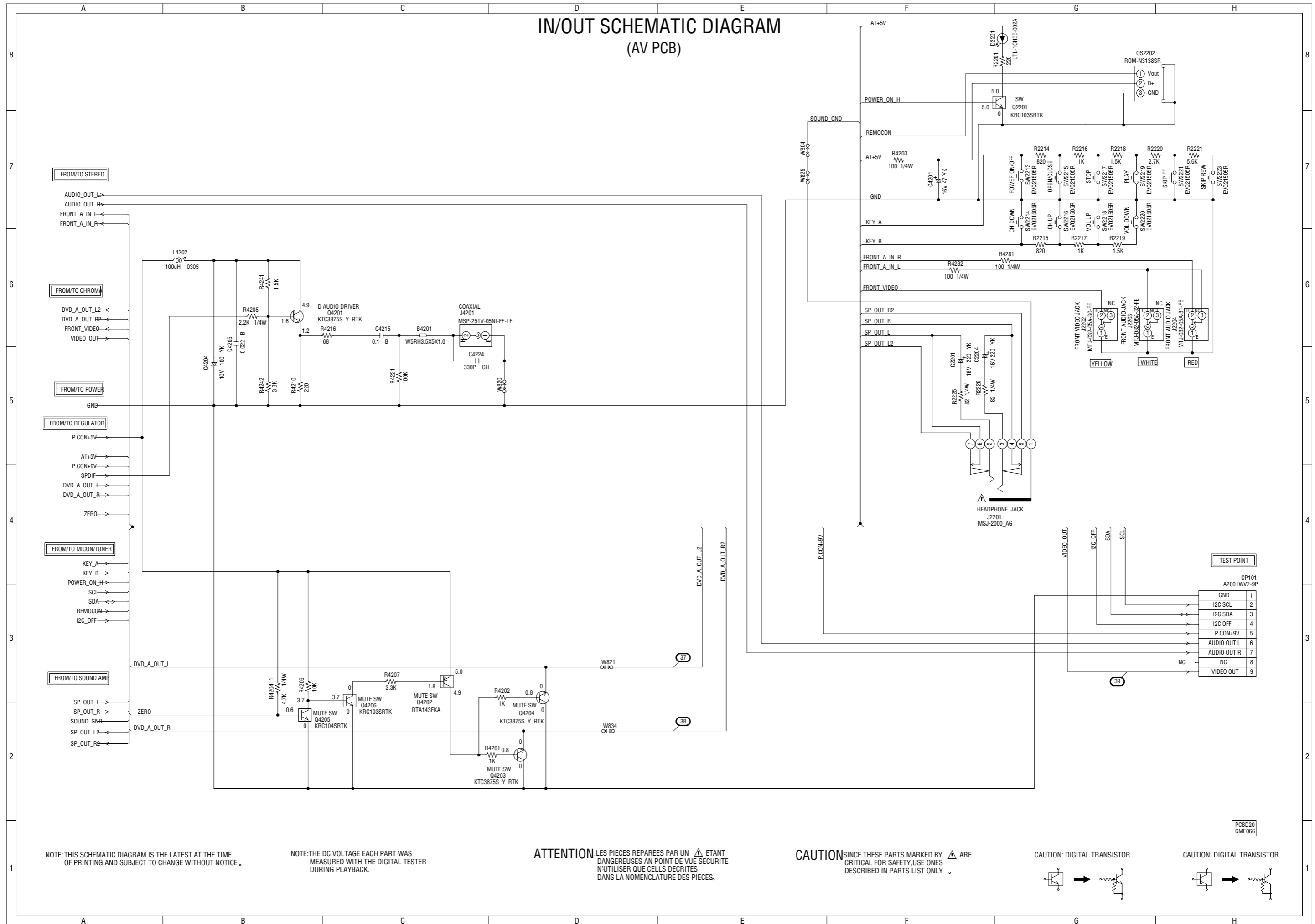
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

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

PCB020
CME066

IN/OUT SCHEMATIC DIAGRAM (AV PCB)



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

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

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

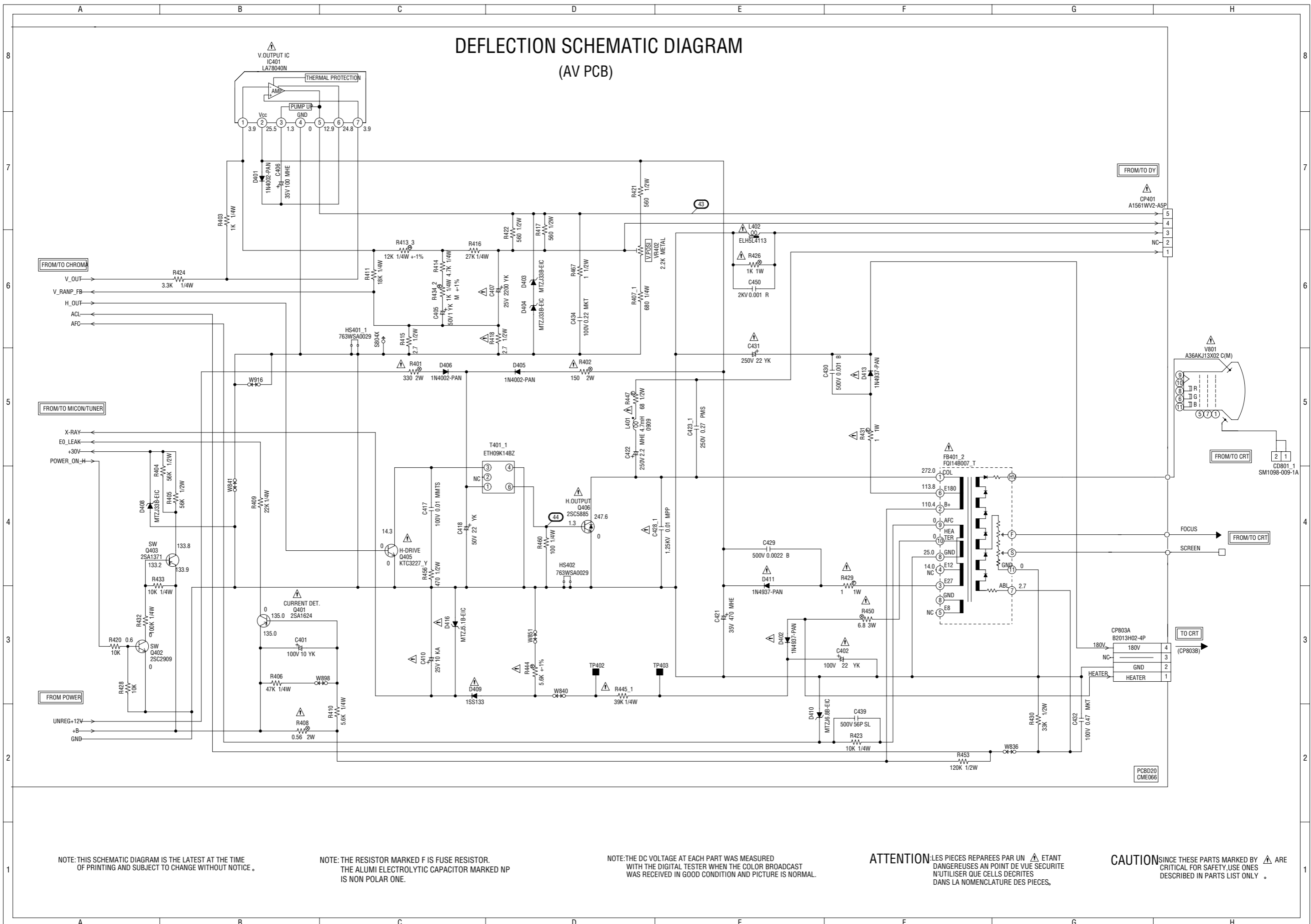
CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR



DEFLECTION SCHEMATIC DIAGRAM (AV PCB)



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

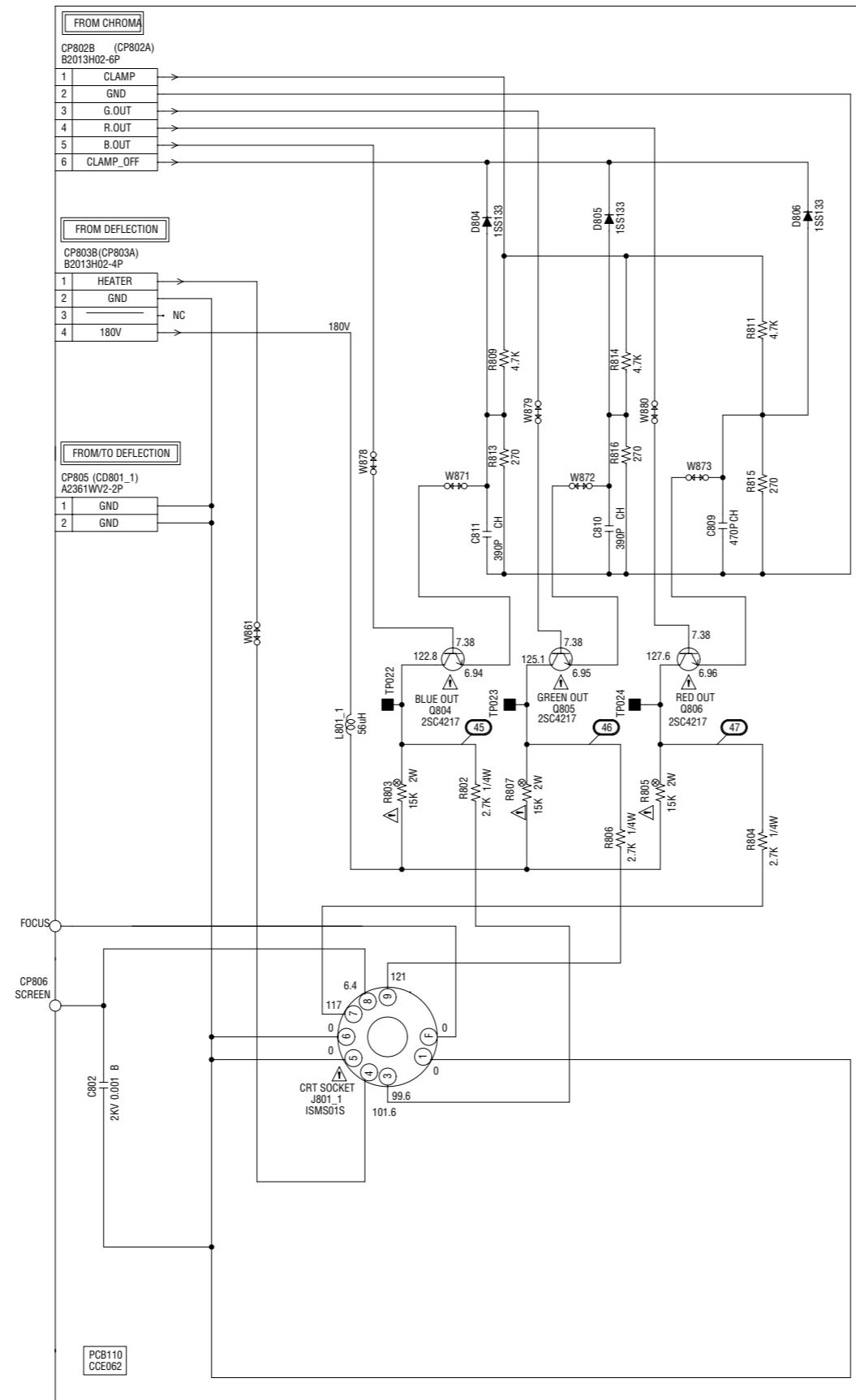
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

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

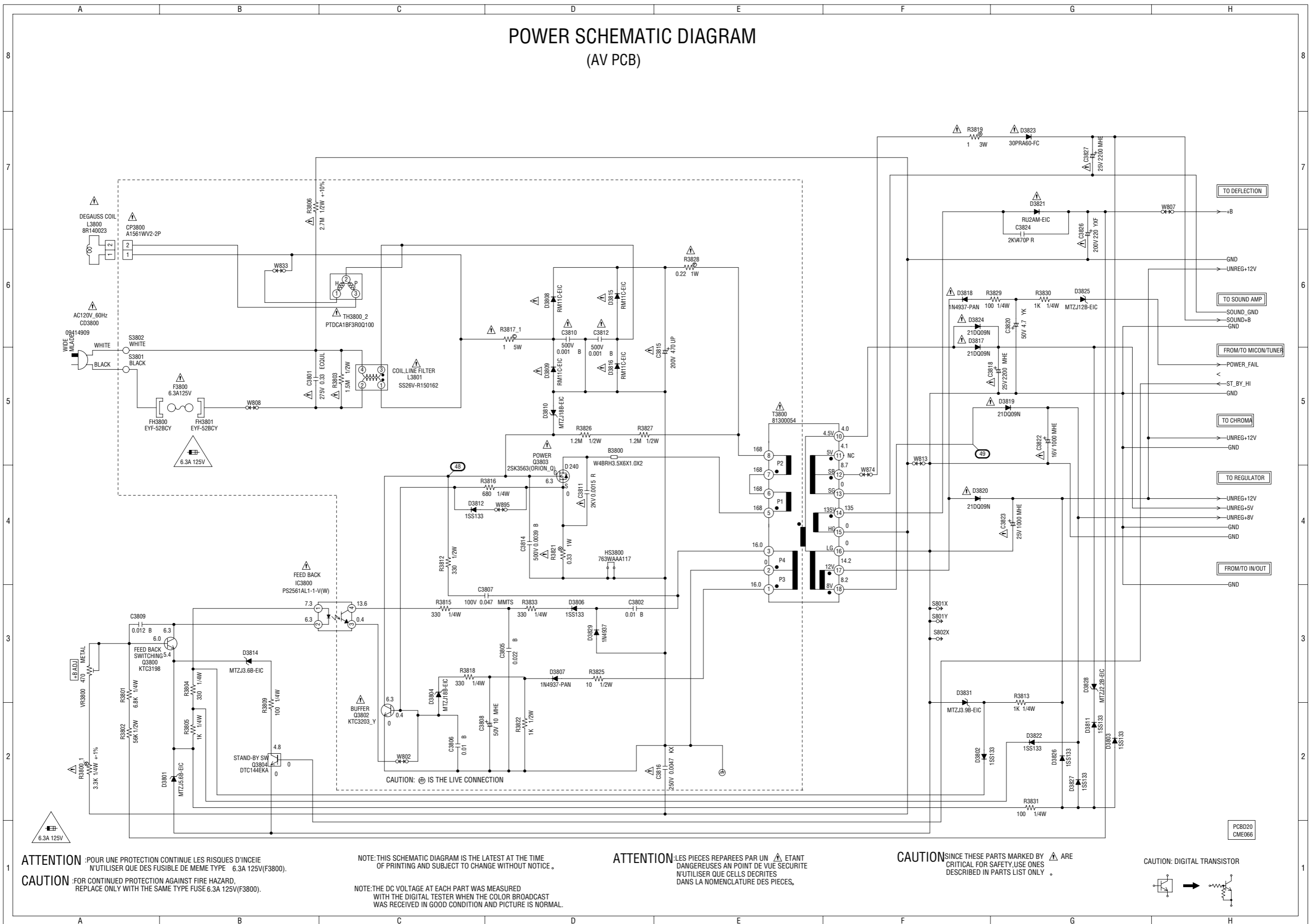
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

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

CRT SCHEMATIC DIAGRAM (CRT PCB)



POWER SCHEMATIC DIAGRAM (AV PCB)



ATTENTION :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 6.3A 125V(F3800).
CAUTION :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 6.3A 125V(F3800).

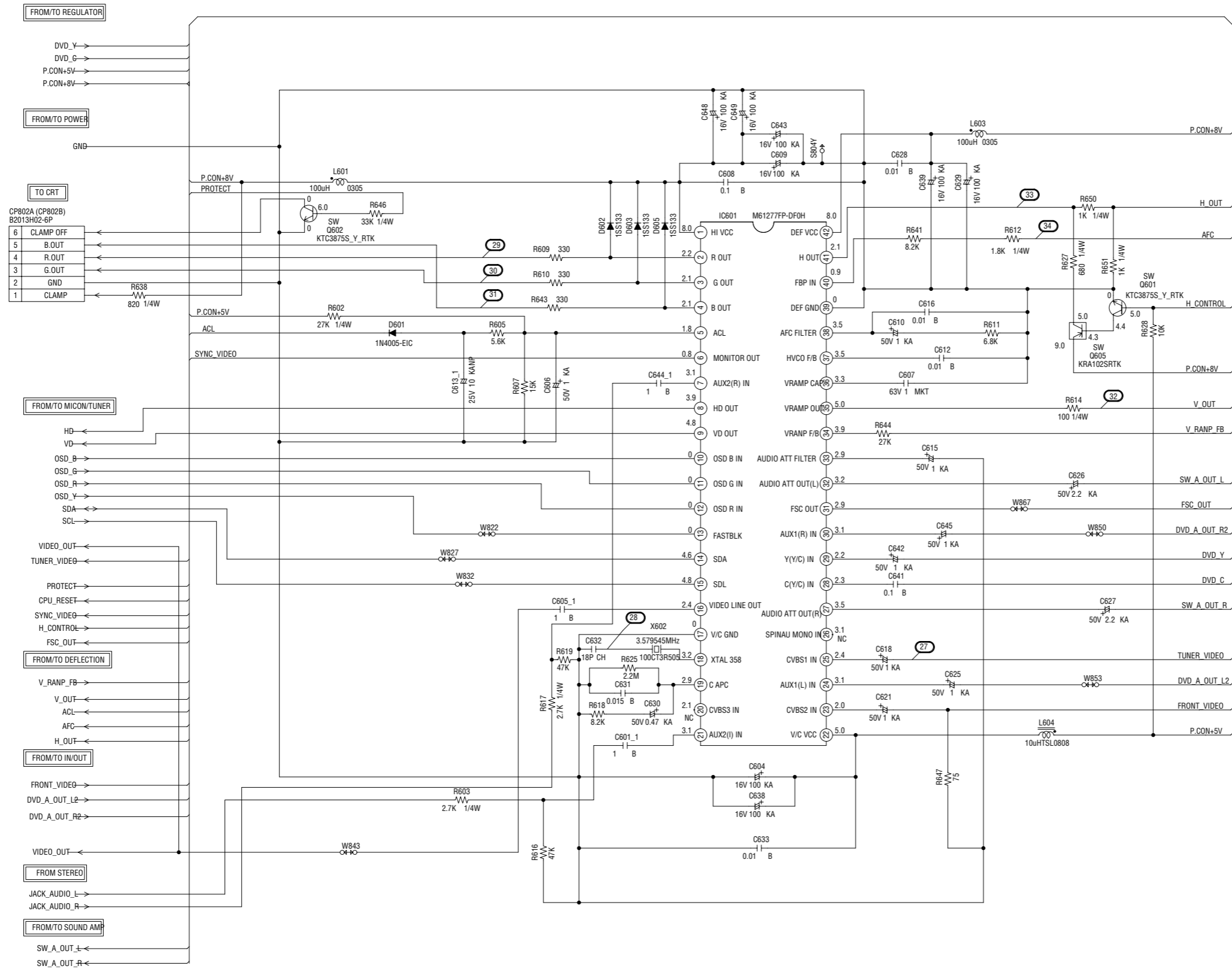
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
 NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

ATTENTION :LES PIECES REPARÉES PAR UN ÉTANT 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.

CAUTION: DIGITAL TRANSISTOR

CHROMA SCHEMATIC DIAGRAM (AV PCB)



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

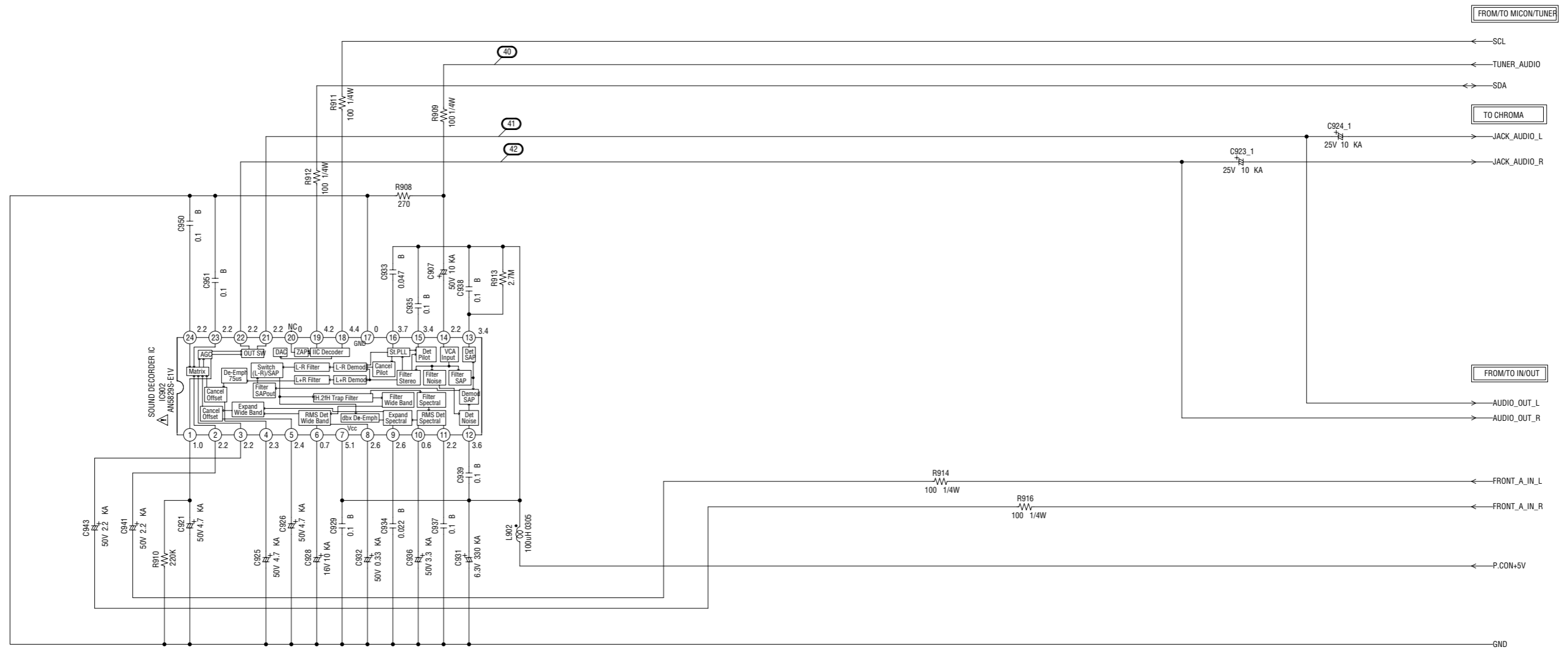
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR



PCBD20
CME066

STEREO SCHEMATIC DIAGRAM (AV PCB)



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

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

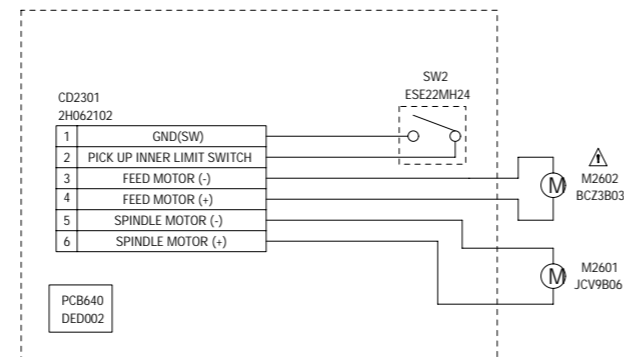
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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

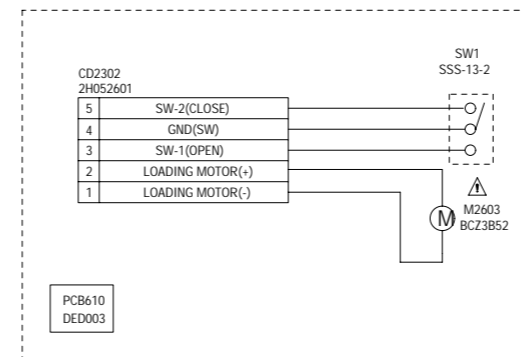
PCB020
CME066

LOADING MOTOR/SW SCHEMATIC DIAGRAM

(SW PCB)



(LOADING MOTOR PCB)

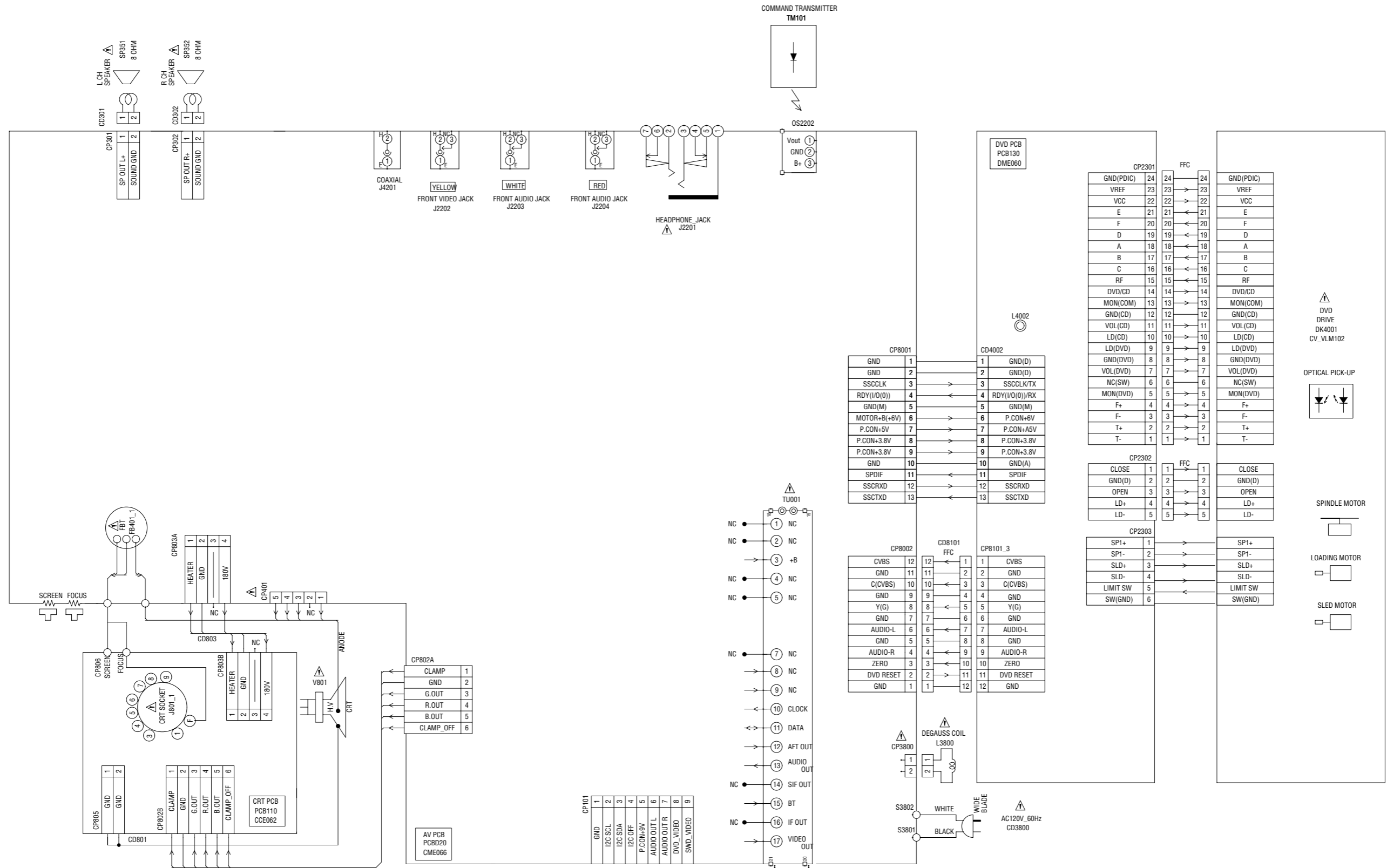


CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

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

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

INTERCONNECTION DIAGRAM



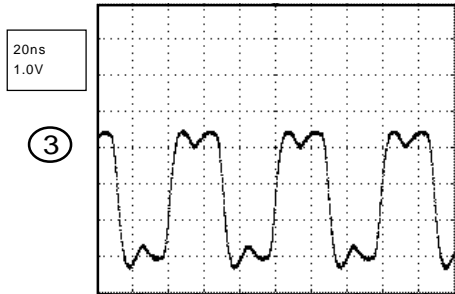
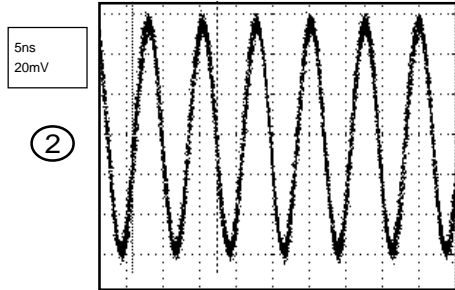
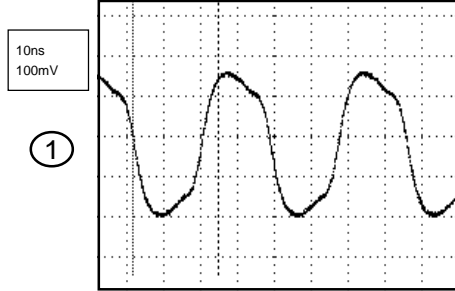
NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

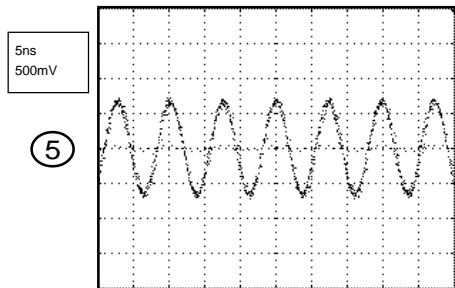
CAUTION - SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

WAVEFORMS

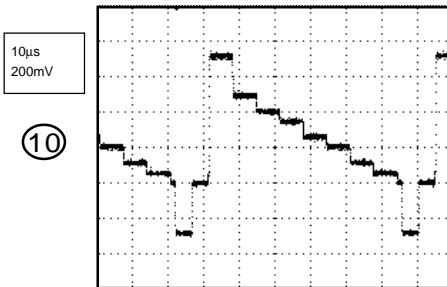
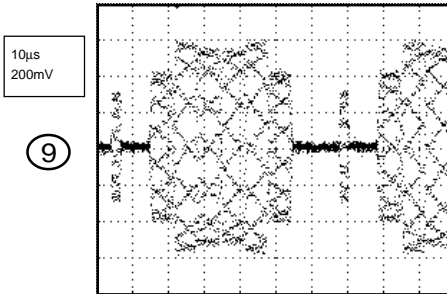
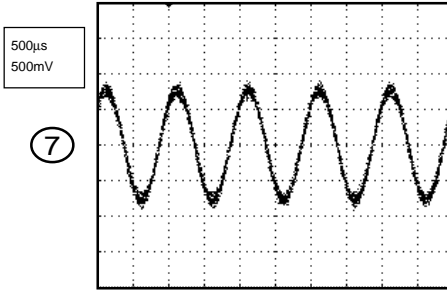
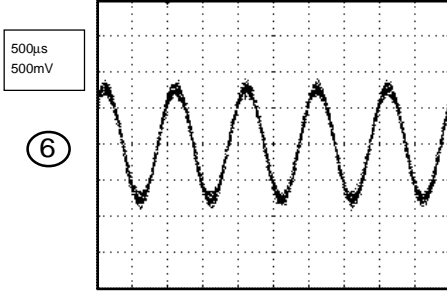
MPEG/MICON/DSP



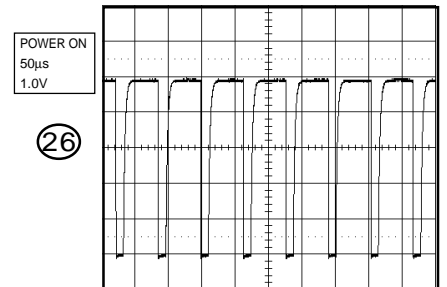
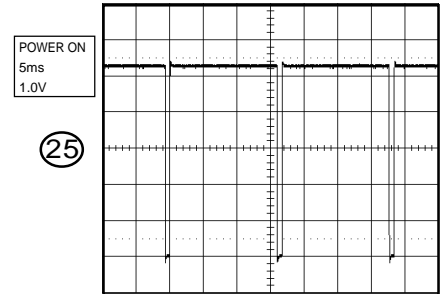
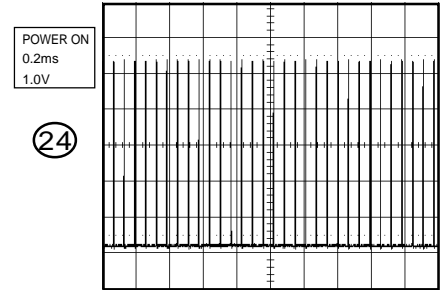
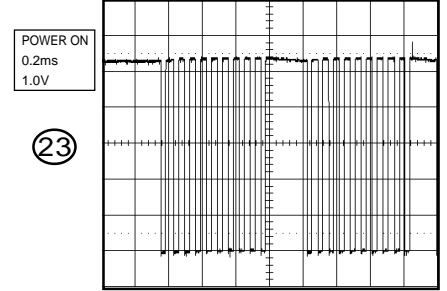
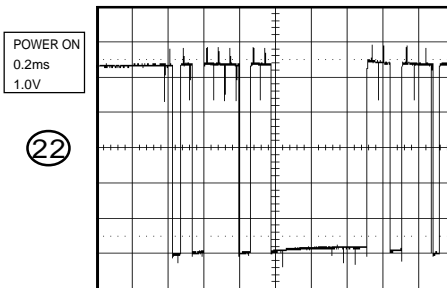
MEMORY



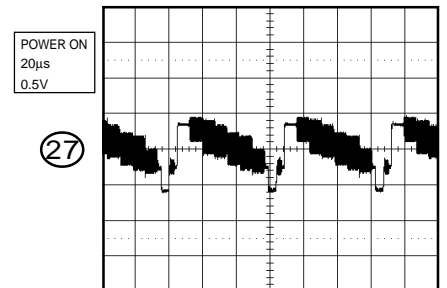
AUDIO/VIDEO



MICON/TUNER

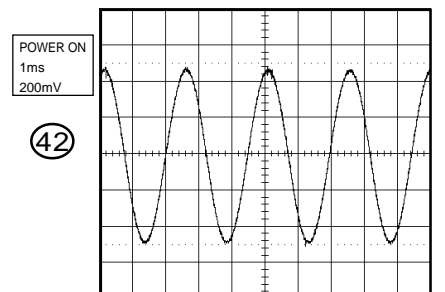
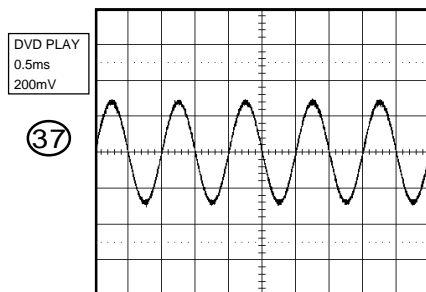
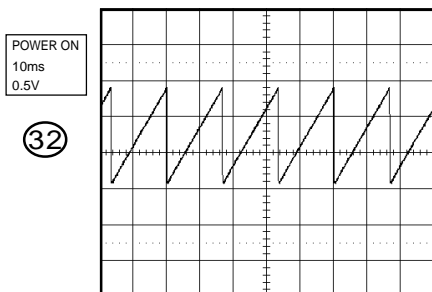
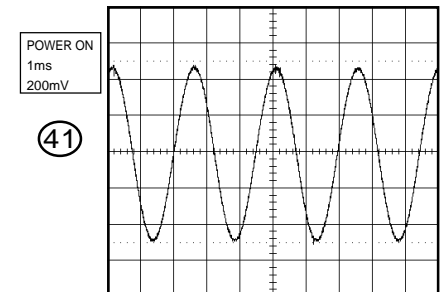
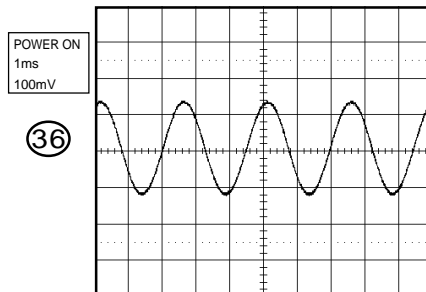
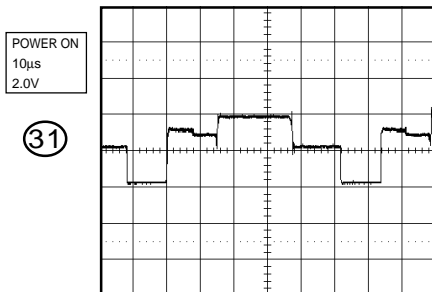
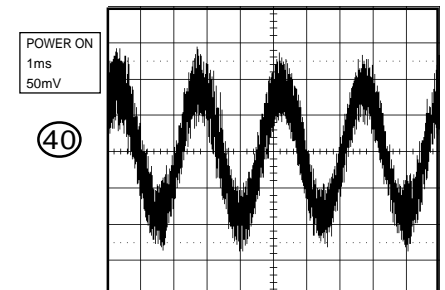
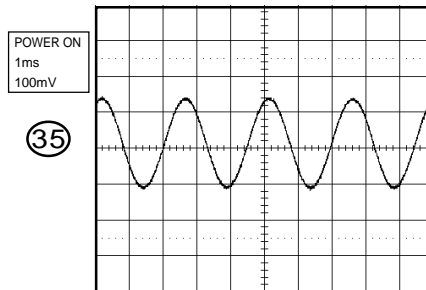
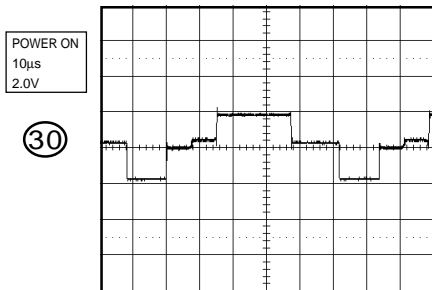
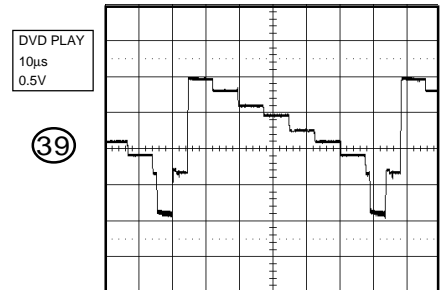
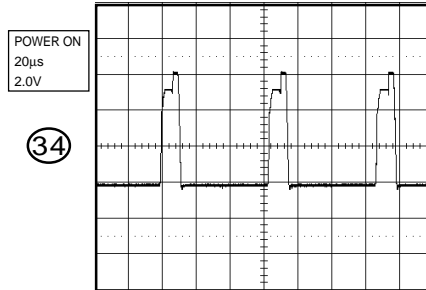
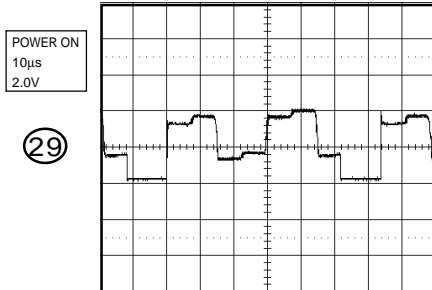
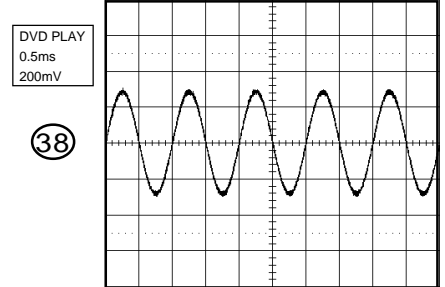
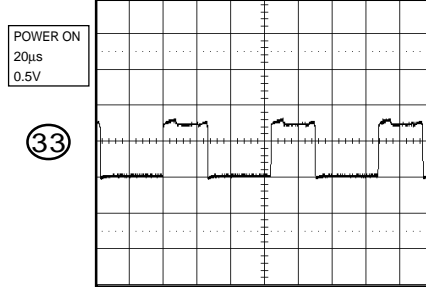
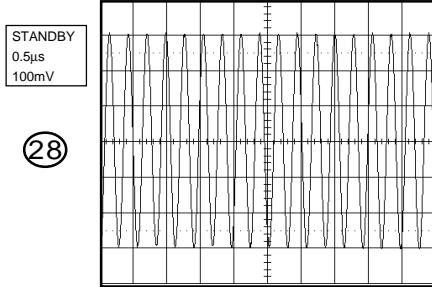


CHROMA



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

WAVEFORMS



SOUND AMP

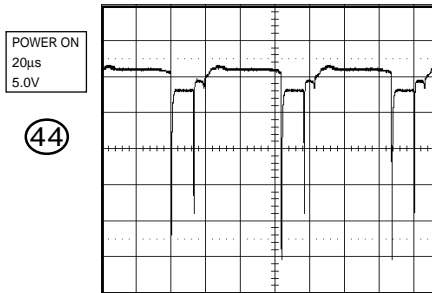
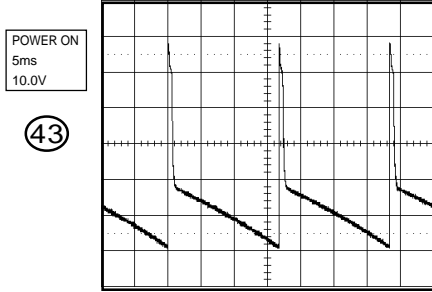
STEREO

IN/OUT

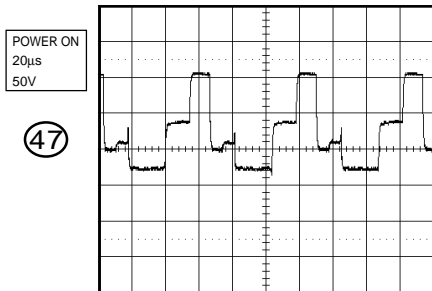
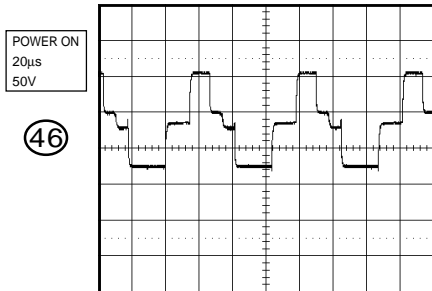
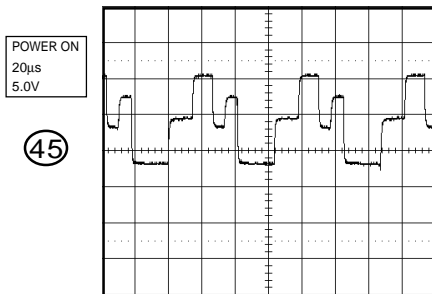
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

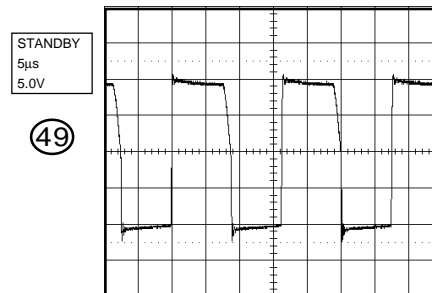
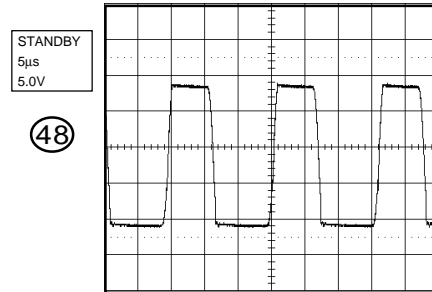
DEFLECTION



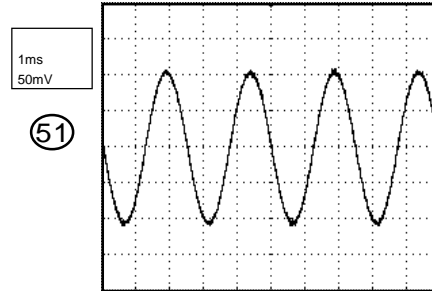
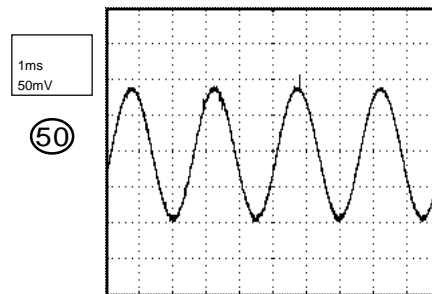
CRT



POWER

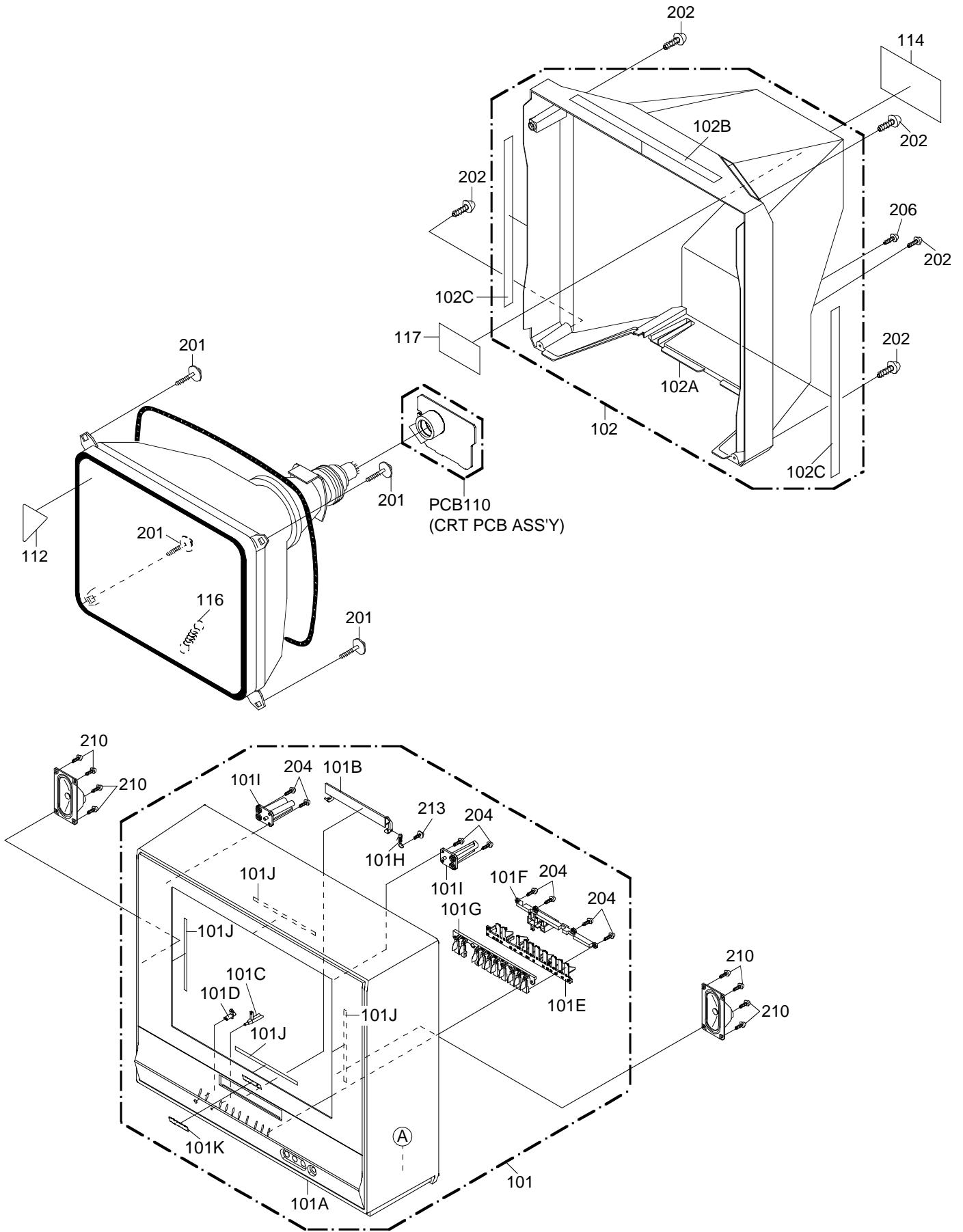


SOUND AMP

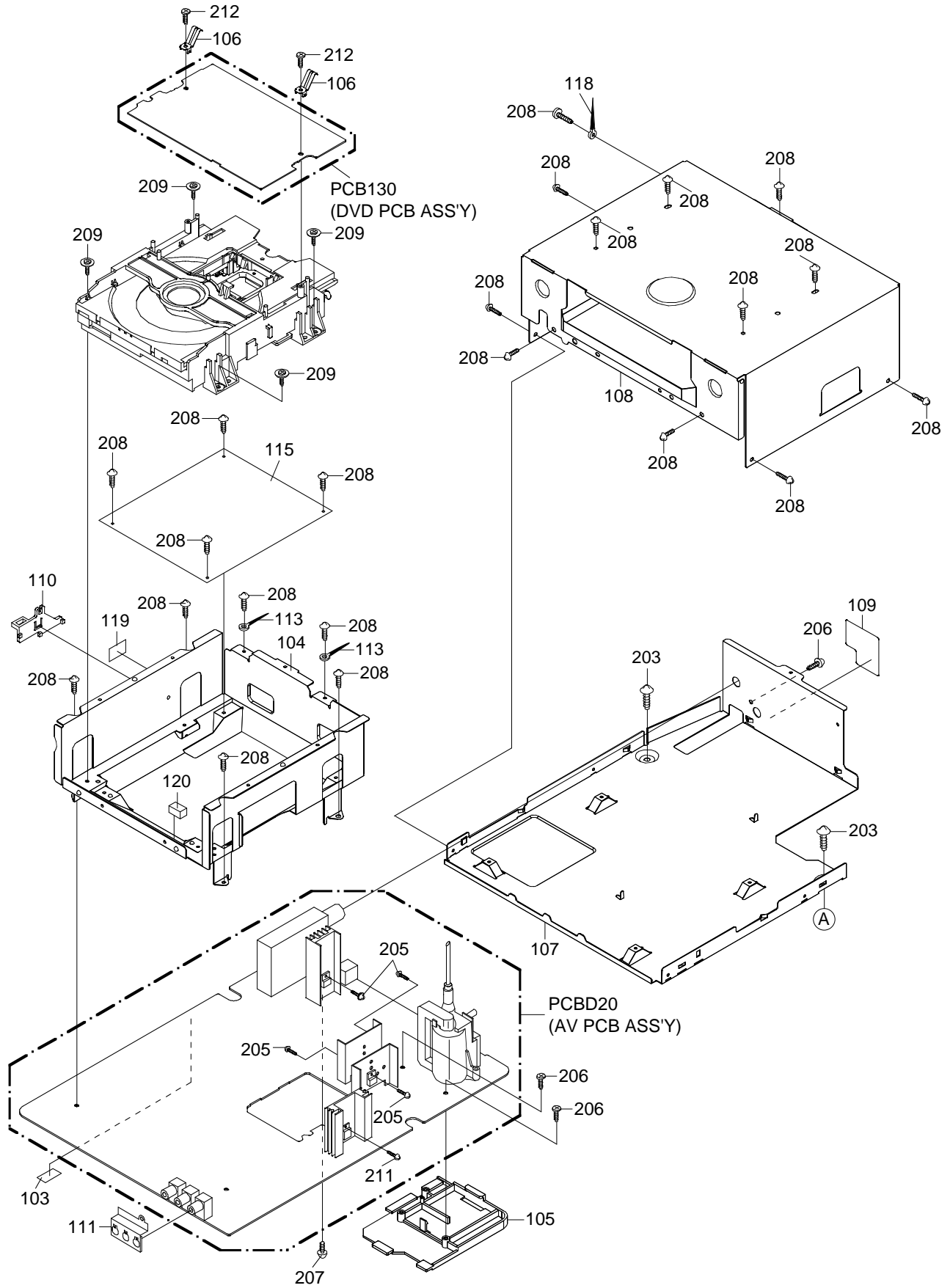


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

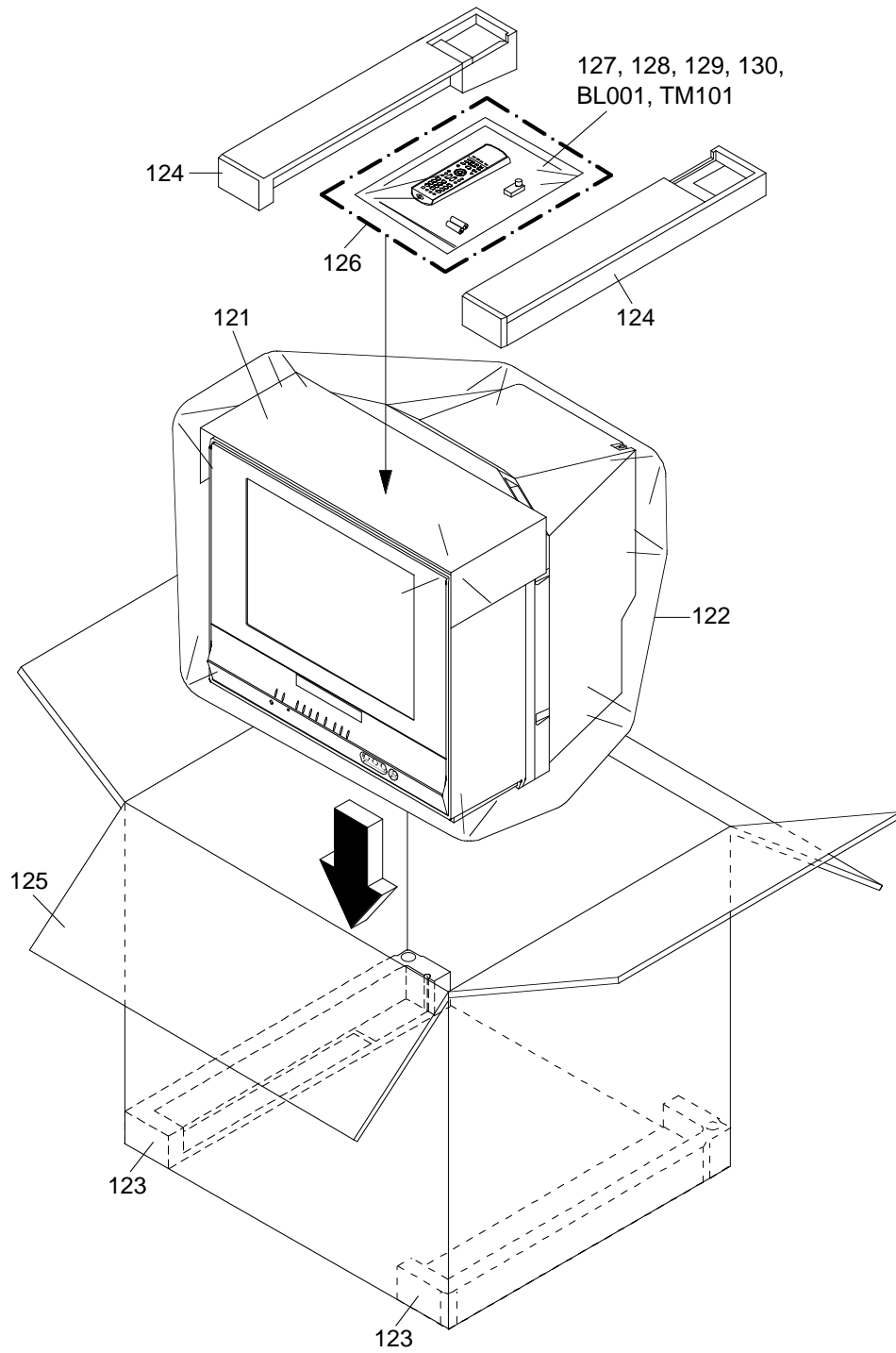
MECHANICAL EXPLODED VIEW



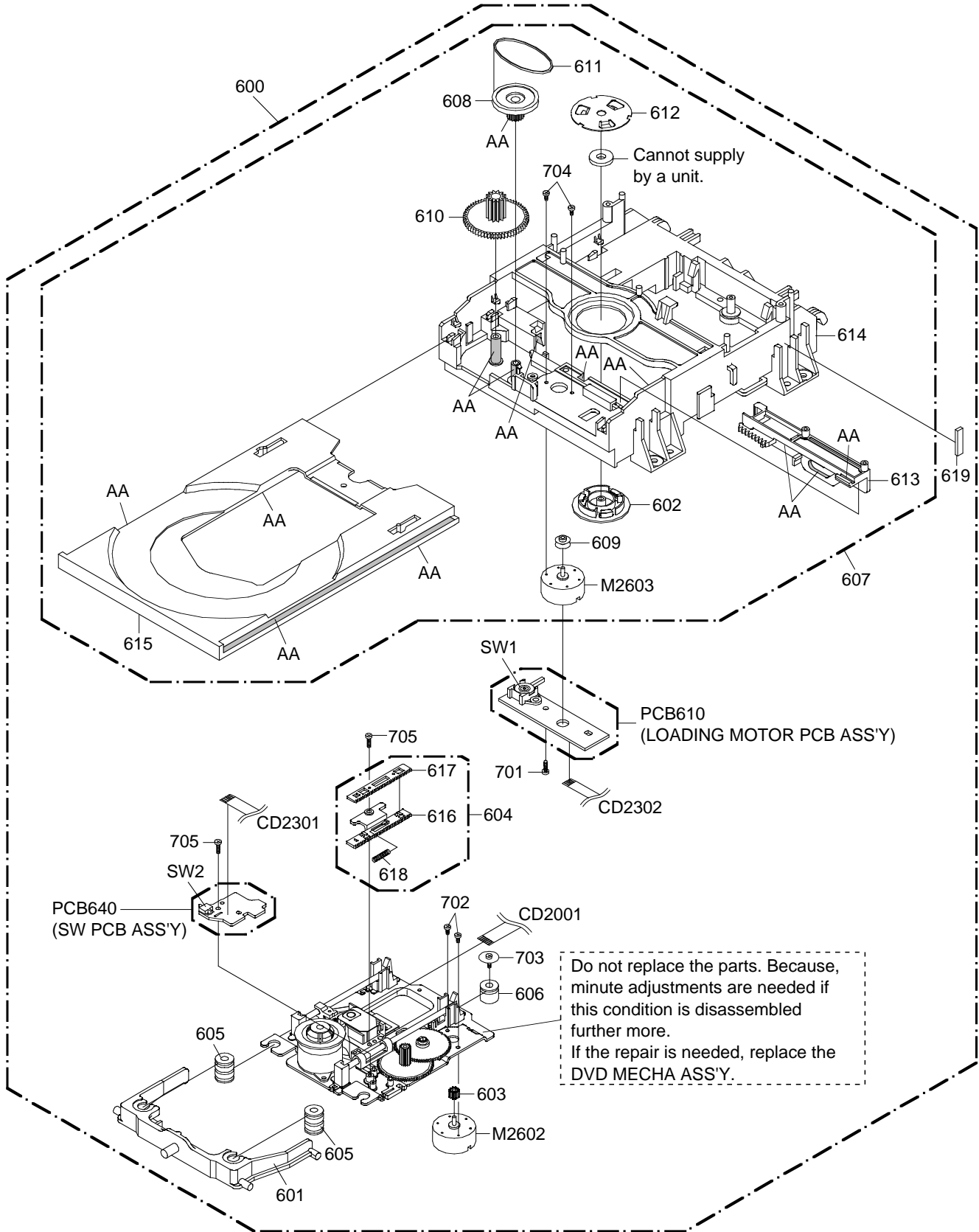
MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW (PACKING DIAGRAM)



DVD DECK EXPLODED VIEW



CLASS	MARK
GREASE	AA

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

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
101	72783644	7A701A341A	FRONT CABI ASS'Y
101A	72783645	701WPJC951	CABINET FRONT
101B	72783646	712WPJC245	FLAP DVD
101C	72783647	713WPAA205	GLASS LED
101D	72783648	713WPAA204	GUIDE REMOCON
101E	72783649	735WPAA894	BUTTON FRAME 2
101F	72783650	735WPAA895	STOPPER BUTTON
101G	72783651	735WPBB344	BUTTON FRAME 1
101H	72798625	742WKA0001	SPRING DVD-FLAP
101I	72783652	761WPAA123	HOLDER BOSS
101J	72796103	800WQ0A052	FELT SHEET
101K	72796292	723549A039	BADGE BRAND
102	72783653	7A702A200A	BACK CABI ASS'Y
102A	72783654	702WPAA954	CABINET BACK
102B	72796299	800WQ0A040	FELT SHEET
102C	72798774	800WQ0A045	FELT SHEET
103	72799697	724WNAA005	SHEET PC
104	72799936	761WSA0155	ANGLE DECK
105	72798668	761WPA0249	HOLDER FBT
106	72798655	753WUA0069	SPRING EARTH
107	72799384	702WSAA128	PLATE BOTTOM
108	72799373	702WSA0213	SHIELD TOP
109	72783655	7230007676	SHEET JACK
110	72798688	774WPA0006	HOLDER WIRE
111	72798640	752WSA0333	SHIELD JACK
112	72784113	723000D317	POP LABEL
113	72795699	899EFBA002	WIRING-CLIP
114	72784114	722549A599	SHEET RATING
115	72799853	752WSA0488	SHIELD DECK
116	72795687	741WUA0021	SPRING EARTH
117	72783657	726000A136	SHEET CRT SERVICEMAN
118	72795680	8995034000	CORD CLIP UL CO.
119	72783197	753WEA0033	SHEET CU
120	72781978	8965TS1017	CUSHION 65TS10-10(17.5*20*14)
121	72782852	791WHAA137	LIGHTRON SHEET
122	72795621	791WHAA126	FILM BAG
123	72781016	792WHAA148	PACKAGE BOTTOM
124	72781017	792WHAA149	PACKAGE TOP
125	72784115	793WCDD139	GIFT BOX
126	72783493	A5W302S975	INSTRUCTION BOOK KIT
127	72781635	JB5ND300	POLYBAG INSTRUCTION(REDCAUTION)
128	72781569	J3N51617A	REGISTRATION CARD
129	72781605	J5S10229A	INFORMATION SHEET(USA)
130	72784116	J5W30201B	INSTRUCTION BOOK
201	72781284	8121L50B8U	SCREW,TAPPING(BO) GW15 5*28 CH HEXAGON
202	72781279	8117540A6U	SCREW TAP TITE(B0) TRUSS 4*16 CH
203	72798794	811754080U	SCREW TAP TITE(B0) TRUSS 4*8 CH
204	72798791	8110630A0U	SCREW TAP TITE(P) BRAZIER 3*10 CH
205	72781255	810913080U	SCREW TAP TITE(B) WH7 3*8 CH
206	72798787	810923080U	SCREW TAP TITE(B) BIND 3*8 CH
207	72781251	810963080Q	SCREW TAP TITE(B) BRAZIER 3*8 STAINLESS
208	72781247	810923060U	SCREW TAP TITE(B) BIND 3*6 CH
209	72781263	810F13080U	SEMS(F) 3*8 CH
210	72798790	811063080U	SCREW TAP TITE(P) BRAZIER 3*8 CH
211	72798786	810763080U	SCREW TAP TITE(S) BRAZIER 3*8 CH
212	72795782	811022680U	SCREW TAP TITE(P) BIND 2.6*8 CH
213	72798793	8110E3080U	SCREW TAP TITE(P) WH10 3*8 CH

DVD DECK REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description
△600	72783201	A2I301H650	DVD MECHA ASS'Y A2I301H650
601	72795767	92P100109A	HOLDER, TRAVERSE
602	72795768	92P100094A	CLAMPER
603	72795769	92P100088A	GEAR, MOTOR
604	72798813	92AAA0013A	FEED RACK ASS'Y
605	72795771	92P200013A	INSULATOR(F)
606	72795772	92P200014A	INSULATOR(R)
607	72781331	92SBB0029A	LOADER SUB ASS'Y
608	72795774	92P100095A	GEAR, PULLEY
609	72795775	92P100097A	PULLEY, MOTOR
610	72795776	92P100096A	GEAR, MAIN
611	72795777	92P200012A	BELT, LOADING
612	72795778	92P000014A	PLATE, CLAMPER
613	72795779	92P100093A	RACK, LOADING
614	72795780	92P100091A	FRAME, MAIN
615	72798838	92P100092A	TRAY
616	72798836	92P100089A	RACK, FEED 1
617	72798837	92P100090A	RACK, FEED 2
618	72798849	92P300020A	SPRING, RACK FEED
619	72795888	800WFAA008	CUSHION C
701	72795782	811022680U	SCREW TAP TITE(P) BIND 2.6*8 CH
702	72795783	814011723U	SCREW, PAN M1.7*2.3 P3 CH
703	72795784	816112080U	SEMS.TAP TITE(P) PAN W10 2*8 CH
704	72795785	814011730U	SCREW, PAN M1.7*3 P3 CH
705	72796070	811022080U	SCREW, TAP TITE(P) BIND 2*8 CH
CD2001	72783183	122J4O1903	CORD JUMPER 127000-2928
CD2301	72795869	122H062102	CORD JUMPER 2H062102
CD2302	72795870	122H052601	CORD JUMPER 2H052601
SW1	72796050	0515S32002	SWITCH SSS-13-2
△M2602	72795947	1515S98003	FEED MOTOR BCZ3B03B
△M2603	72795948	1596S18003	MOTOR, LOADING BCZ3B52B
PCB610	72783202	A5M4016610	PCB ASS'Y DED003A
PCB640	72783203	A5N813W640	PCB ASS'Y DED002B
SW2	72796052	0500101037	PUSH SWITCH ESE22MH24

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
RESISTORS				
R139	72797809	R002T4155J	RC	1.5M OHM 1/4W
R310	72797922	R3X28B2R2J	R,METAL OXIDE	2.2 OHM 3W
△R401	72781694	R3K58A331J	R,METAL OXIDE	330 OHM 2W
△R402	72781689	R3K58A151J	R,METAL OXIDE	150 OHM 2W
△R408	72783635	R3K28AR56J	R,METAL	0.56 OHM 2W
△R415	72794682	R002T22R7J	RC	2.7 OHM 1/2W
△R418	72794682	R002T22R7J	RC	2.7 OHM 1/2W
R426	72794608	R3K581102J	R,METAL OXIDE	1K OHM 1W
△R429	72795519	R65581010J	R,FUSE	1 OHM 1W
R431	72795519	R65581010J	R,FUSE	1 OHM 1W
△R444	72795514	R4X5T6562F	R,METAL	5.6K OHM 1/6W
△R445	72796042	R002T4393J	RC	39K OHM 1/4W
△R447	72798047	R655U2680J	R,FUSE	68 OHM 1/2W
△R450	72781704	R3K58B6R8J	R,METAL OXIDE	6.8 OHM 3W
△R803	72781690	R3K58A153J	R,METAL OXIDE	15K OHM 2W
△R805	72781690	R3K58A153J	R,METAL OXIDE	15K OHM 2W
△R807	72781690	R3K58A153J	R,METAL OXIDE	15K OHM 2W
△R3005	72797918	R3X28B1R8J	R,METAL OXIDE	1.8 OHM 3W
△R3800	72781721	R4K1T4332F	R,METAL	1 3.3K OHM 1/4W
△R3803	72795500	R002T2155J	RC	1.5M OHM 1/2W
△R3806	72794631	ROG3K2275K	RC	2.7M OHM 1/2W
△R3812	72795109	R002T2331J	RC	330 OHM 1/2W
△R3817	72797971	R5X2CD010J	R,CEMENT	1 OHM 5W
△R3819	72794621	R3X28B010J	R,METAL OXIDE	1 OHM 3W
△R3821	72781683	R3K581R33J	R,METAL OXIDE	0.33 OHM 1W
△R3828	72794633	R63881R22J	R,FUSE	0.22 OHM 1W
CAPACITORS				
△C357	72795574	E02LF3222M	CE	2200 UF 25V
△C407	72795574	E02LF3222M	CE	2200 UF 25V
△C421	72797489	E5EZT4471M	CE	470 UF 35V
△C423	72796346	P4J7F3274J	CMPP	0.27 UF 250V PMS
△C428	72795825	P4N8FJ103H	CMPP	0.01 UF 1.25KV
△C431	72795570	E0ELFD220M	CE	22 UF 250V
C450	72794393	C03LOR713K	CC	0.001 UF 2KV R
C802	72795578	C0JBB0713K	CC	0.001 UF 2KV B
C3002	72797374	E02LF1222M	CE	2200 UF 10V
C3010	72797374	E02LF1222M	CE	2200 UF 10V
C3011	72797374	E02LF1222M	CE	2200 UF 10V
△C3801	72794401	P2122B334M	CMPP	0.33 UF 275V ECQUL
△C3810	72795629	C0JTB0513K	CC	0.001 UF 500V B
C3811	72795581	C0PLRR7E3K	CC	0.0015 UF 2KV R
△C3812	72795629	C0JTB0513K	CC	0.001 UF 500V B
△C3815	72795573	E51CGC471M	CE	470 UF 200V
△C3816	72795579	CD39E0MQ3M	CC	0.0047UF 250V
△C3818	72794381	E5EZF3222M	CE	2200 UF 25V
△C3822	72797483	E5EZT2102M	CE	1000 UF 16V
△C3823	72794410	E5EZF3102M	CE	1000 UF 25V
C3824	72794408	C0PLRR7Q2K	CC	470 PF 2KV R
△C3826	72794411	E62NFC221M	CE	220 UF 200V
△C3827	72794381	E5EZF3222M	CE	2200 UF 25V
DIODES				
D101	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D102	72783214	D9WU05R62B	DIODE,ZENER	MTZJ5.6B-EIC
D105	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D106	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D109	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D110	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D111	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D401	72783209	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN
△D402	72795543	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN
D403	72781366	D9WU03302B	DIODE,ZENER	MTZJ33B-EIC
D404	72781366	D9WU03302B	DIODE,ZENER	MTZJ33B-EIC
D405	72783209	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN
D406	72783209	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN
D408	72781366	D9WU03302B	DIODE,ZENER	MTZJ33B-EIC
△D409	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D410	72781369	D9WU06R82B	DIODE,ZENER	MTZJ6.8B-EIC
△D411	72795543	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN
△D413	72795543	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN
D416	72781368	D9WU05R12B	DIODE,ZENER	MTZJ5.1B-EIC
D601	72795626	D2WXX40050	DIODE,SILICON	1N4005-EIC
D602	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D603	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D605	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D804	72794491	D1VT001330	DIODE,SILICON	1SS133T-77

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
DIODES				
D805	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D806	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D2201	72796482	0021E2Q140	LED	LTL-1CHEE-002A
D2303	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D2304	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D3001	72783209	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN
D3002	72783210	D9WU01002B	DIODE,ZENER	MTZJ10B-EIC
D3003	72783214	D9WU05R62B	DIODE,ZENER	MTZJ5.6B-EIC
D3004	72783209	D2MXN40020	DIODE,FAST RECOVERY	1N4002-PAN
D3006	72794488	D2WT011E10	DIODE,SILICON	11E1-EIC
D3801	72783214	D9WU05R62B	DIODE,ZENER	MTZJ5.6B-EIC
D3802	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D3803	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D3804	72783211	D9WU01802B	DIODE,ZENER	MTZJ18B-EIC
D3806	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D3807	72795543	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN
△D3808	72794473	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
△D3809	72794473	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
△D3810	72783211	D9WU01802B	DIODE,ZENER	MTZJ18B-EIC
D3811	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D3812	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D3814	72783636	D9WU03R62B	DIODE,ZENER	MTZJ3.6B-EIC
△D3815	72794473	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
△D3816	72794473	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
△D3817	72794480	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
△D3818	72795543	D2MXN49370	DIODE,FAST RECOVERY	1N4937-PAN
△D3819	72794480	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
△D3820	72794480	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
△D3821	72795545	D2WXRJ2AM0	DIODE,SILICON	RU2AM-EIC
D3822	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
△D3823	72794474	D28FOPRA60	DIODE,RECTIFIER	30PRA60-FC
△D3824	72794480	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D3825	72781364	D9WU01202B	DIODE,ZENER	MTZJ12B-EIC
D3826	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D3827	72794491	D1VT001330	DIODE,SILICON	1SS133T-77
D3828	72783212	D9WU02R22B	DIODE,ZENER	MTZJ2.2B-EIC
D3829	72794483	D2WXN49370	DIODE,SILICON	1N4937
D3831	72783213	D9WU03R92B	DIODE,ZENER	MTZJ3.9B-EIC
D4002	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4003	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4004	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4005	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4006	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D4007	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D8111	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
D8112	72795897	DD7R0S3550	DIODE,SILICON	1SS355 TE-17
ICS				
IC101	72783219	I55F06087A	IC	OEC6087A
IC103	72796084	I9UF032310	IC	PST3231NR
IC199	72784117	A5W201YD25	INIT DATA	AT24C04N-10SU-2.7
△IC352	72783215	I01DP75130	IC	AN7513
△IC353	72783215	I01DP75130	IC	AN7513
△IC401	72795534	I03TD804N0	IC	LA78040N-E
IC601	72783217	I06FC12770	IC	M61277FP-DF0H
IC902	72795535	I01FF58290	IC	AN5829S-E1V
IC2301	72783216	I03FV65650	IC	LA6565VR-TLM-E
△IC3001	72783218	I07F90WTP0	IC	BA00BCOWT-V5
△IC3002	72795906	I1KA78R050	IC	KIA278R05PI
△IC3800	72794512	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC4001	72783220	ICQK068621	IC	ZR36862PQCG-B
IC4003	72795912	I07F9E00W0	IC	BA33E00WHFP-TR
IC4007	72784118	S5W201YF02	MEMORY DATA	SST39VF1601-70-4C-EKE
IC4009	72783221	IF9J0161A7	IC	M12L16161A-TTG
IC8102	72795922	I17F017530	IC	PCM1753DBQR
TRANSISTORS				
Q101	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q104	72794566	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
△Q401	72794569	TA3T016240	TRANSISTOR,SILICON	2SA1624-AA
Q402	72795474	TC3T029090	TRANSISTOR,SILICON	2SC2909(S,T)-AA
△Q403	72795475	TA3T1371A0	TRANSISTOR,SILICON	2SA1371(D,E)-AE
△Q405	72794561	TCAT03227Y	TRANSISTOR,SILICON	KTC3227_Y-AT
△Q406	72795478	TC1G058850	TRANSISTOR,SILICON	2SC5885
Q601	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q602	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q605	72795963	TPAAB05001	COMPOUND TRANSISTOR	KRA102SR TK

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
TRANSISTORS				
△Q804	72795971	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
△Q805	72795971	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
△Q806	72795971	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
Q2201	72794567	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
Q2301	72795964	T67J1036K0	TRANSISTOR,SILICON	2SA1036KT146
Q2302	72795965	T67J048TL0	TRANSISTOR,SILICON	2SA2048TL
Q2303	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q2304	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q2305	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
△Q3001	72796092	TAAT01281Y	TRANSISTOR,SILICON	KTA1281_Y
△Q3002	72796092	TAAT01281Y	TRANSISTOR,SILICON	KTA1281_Y
Q3003	72795962	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△Q3005	72794570	TCAT03209Y	TRANSISTOR,SILICON	KTC3209_Y-AT
Q3007	72795962	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
△Q3008	72795476	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q3800	72794577	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
△Q3802	72795476	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
△Q3803	72795539	T25F035630	FET	2SK3563(ORION_Q)
Q3804	72794559	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q4201	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4202	72795966	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q4203	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4204	72794571	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4205	72794558	TNAAD05001	COMPOUND TRANSISTOR	KRC104SRTK
Q4206	72794567	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
COILS & TRANSFORMERS				
L001	72796407	02167D101K	COIL	100 UH
L101	72796582	021LA6560K	COIL	56 UH
L401	72794527	021679472K	COIL	4.7 MH
L402	72794528	022100027A	COIL,LINEARITY	ELH5L4113
L601	72794540	02167F101J	COIL	100 UH
L603	72794540	02167F101J	COIL	100 UH
L604	72796087	02167E100K	COIL	10 UH
L801	72796499	021673560K	COIL	56 UH
L902	72794540	02167F101J	COIL	100 UH
△L3800	72796403	028R140023	COIL,DEGAUSS	8R140023
△L3801	72798949	029X000131	COIL,LINE FILTER	SS26V-R150162
L4001	72795936	02167F2R2J	COIL	2.2 UH
L4002	72796088	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L4202	72794540	02167F101J	COIL	100 UH
L8102	72795943	02167F1R0K	COIL	1 UH
L8103	72795943	02167F1R0K	COIL	1 UH
T401	72795487	045009003J	TRANS,HORIZONTAL DRIVE	ETH09K14BZ
△T3800	72796694	0481300054	TRANSFORMER,SWITCHING	81300054
JACKS				
△J801	72795491	066F120018	SOCKET,CATHODE RAY TUBE	ISMS01S
△J2201	72794516	060J131016	HEADPHONE JACK	MSJ-2000_AG
J2202	72795924	060J421036	RCA JACK	MTJ-032-05A-30-FE
J2203	72795925	060J421037	RCA JACK	MTJ-032-05A-32-FE
J2204	72795926	060J421030	RCA JACK	MTJ-032-05A-31-FE
J4201	72796734	060J401102	RCA JACK	MSP-251V-05NI-FE-LF
SWITCHES				
SW2213	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2214	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2215	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2216	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2217	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2218	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2219	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2220	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2221	72794688	0504101T34	SWITCH,TACT	EVQ21505R
SW2223	72794688	0504101T34	SWITCH,TACT	EVQ21505R
VARIABLE RESISTORS				
VR402	72795471	V1K63H3BTE	VOLUME,SEMI FIXED	NVG6TLTAB222
VR3800	72796061	V1K63Q2BTE	VOLUME,SEMI FIXED	NVG6TLTAB471
P.C. BOARD ASSEMBLIES				
PCB110	72783639	A5W201Y110L	PCB ASSY	CCE062B
PCB130	72784119	A5W202Y130L	PCB ASSY	DME060A
PCBD20	72784120	A5W202YD20L	PCB ASSY	CME066B
MISCELLANEOUS				
B2301	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B2302	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B2303	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B2304	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B2305	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
MISCELLANEOUS				
B3800	72794355	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
B4001	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4002	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4003	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4005	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4006	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4007	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4008	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4009	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4010	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4011	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4012	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4013	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4014	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4016	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4018	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
B4201	72794357	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B8103	72795787	0246C51024	CORE,BEADS	MMZ1608R102CT
BL001	72782870	023C00022A	COIL,BALUN	HPN-01
BT001	72783174	141U004016	BATTERY,MANGAN	MNAAA(R03)
BT002	72783174	141U004016	BATTERY,MANGAN	MNAAA(R03)
CD301	72796873	06CU123801	CORD,CONNECTOR	CU123801
CD302	72796873	06CU123801	CORD,CONNECTOR	CU123801
CD801	72796910	06CU82039A	CORD,CONNECTOR	SM1098-009-1A
CD802	72798414	WDL6032038	FLAT CABLE	AWM2468 AWG26 6C BLACK 320MM
CD803	72798395	WBL6026038	FLAT CABLE	AWM2468 AWG26 4C BLACK 260MM
CP101	72796804	069S290629	CONNECTOR PCB SIDE	A2001WV2-9P
CP301	72799049	069W120459	CONNECTOR PCB SIDE	213213102W1
CP302	72799049	069W120459	CONNECTOR PCB SIDE	213213102W1
△CP401	72796822	069S450089	CONNECTOR PCB SIDE	A1561WV2-A5P
CP805	72796816	069S320010	CONNECTOR PCB SIDE	A2361WV2-2P
△CD3800	72795554	1209414909	CORD,AC BUSH	9414909
CD4002	72783178	06CU2D2202	CORD,CONNECTOR	CU2D2202
CD8101	72797046	122F0C1602	CORD,JUMPER	2F0C1602
CP2301	72783177	069KYOT159	CONNECTOR PCB SIDE	LD07T2-24ND-03
CP2302	72799012	069EV53030	CONNECTOR PCB SIDE	00_6232_005_006_800+
CP2303	72799013	069EV63030	CONNECTOR PCB SIDE	00_6232_006_006_800+
△CP3800	72796821	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
CP8001	72796810	069S2D0629	CONNECTOR PCB SIDE	A2001WV2-13P
CP8002	72796776	069J7C0599	CONNECTOR PCB SIDE	IMSA-9604S-12C
CP802A	72796752	067U006049	WIRE HOLDER	B2013H02-6P
CP802B	72796752	067U006049	WIRE HOLDER	B2013H02-6P
CP803A	72796750	067U004029	WIRE HOLDER	B2013H02-4P
CP803B	72796750	067U004029	WIRE HOLDER	B2013H02-4P
CP8101	72799040	069J7C0589	CONNECTOR PCB SIDE	IMSA-9604S-12F
ELD201	72797069	124116281A	EYE LET	XRY16X28BD
ELD202	72797070	124120301A	EYE LET	XRY20X30BD
△F3800	72794493	081PC6R305	FUSE	51MS063L
△FB401	72783642	043214061Y	TRANSFORMER,FLYBACK	FQ114B007_T
FH3800	72794496	06710T0009	HOLDER,FUSE	EYF-52BCY
FH3801	72794496	06710T0009	HOLDER,FUSE	EYF-52BCY
OS2202	72783180	077A031002	REMOTE RECEIVER	ROM-N3138SR
△SP351	72799165	070N533032	SPEAKER	YDP47-6
△SP352	72799165	070N533032	SPEAKER	YDP47-6
TM101	72783179	076D0MG010	TRANSMITTER	ORT204N7405860-Z
△TU001	72783175	0163300020	RF UNIT	115-V-KA35ARE
△TH3800	72797351	DF20C3R0Q0	DEGAUSS ELEMENT	PTDCA1BF3R0Q100
△V801	72783643	098Q150414	CRT W/DY	A36AKJ13X02 C(M)
X101	72796990	1002T01606	CERAMIC OSCILLATOR	CSTLS16M0X53-A0
X602	72794703	100CT3R505	CRYSTAL	HC-49/U
X4001	72783182	100GT02720	CRYSTAL	B27000C005

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

TOSHIBA CORPORATION

1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN