

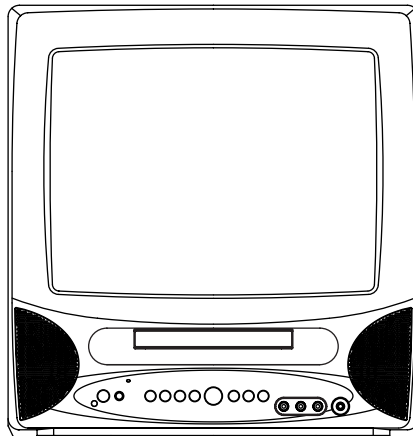
**Memorex**

CLASS 1  
LASER PRODUCT

**MVD2113**

# **SERVICE MANUAL**

## **COLOR TELEVISION/DVD PLAYER**



**ORIGINAL  
MFR'S VERSION B**

## CAUTION

THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

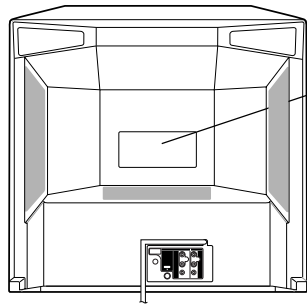
TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS SERVICE MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

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.

## 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  
Earphone jack

## 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.

## 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.

PORTABLE CART WARNING  
(symbol provided by RETAC)



S3126A

# IMPORTANT SAFEGUARDS

(CONTINUED)

## 19. DAMAGE REQUIRING SERVICE

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

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the unit.
- If the unit has been exposed to rain or water.
- 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.
- If the unit has been dropped or the cabinet has been damaged.
- 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.

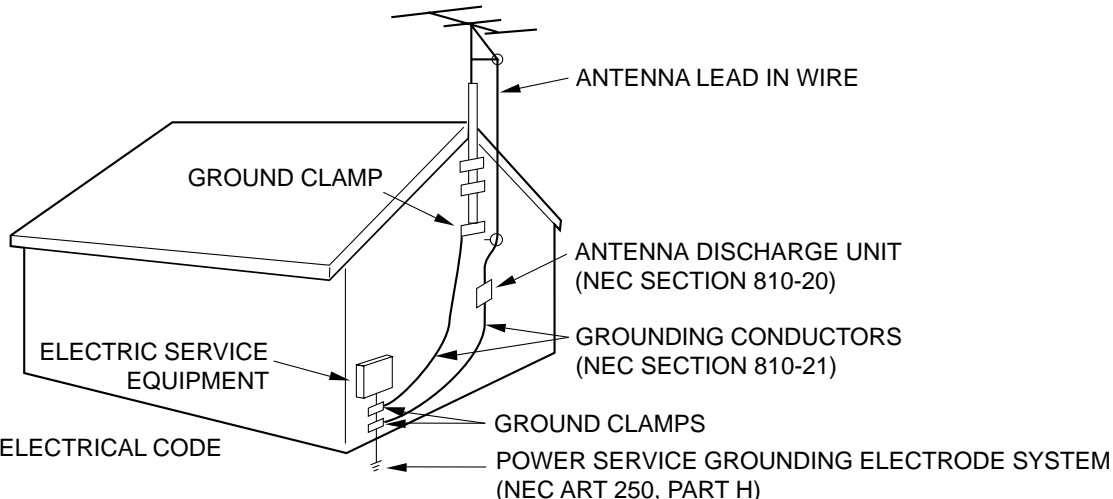
## 30. DISC

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.

EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE



## 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. Slide the Rack Loading (White) toward the arrow direction by using a minus driver to release the lock. (Refer to Fig. 1)
3. Draw the Tray.

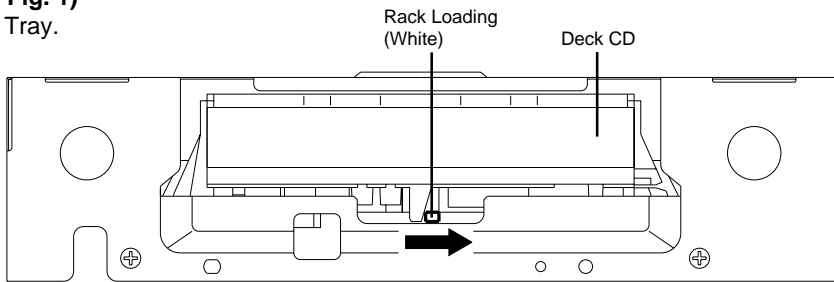


Fig. 1

## 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. Press and hold the 'STOP' key on the front panel.
3. Simultaneously press and hold the '7' key on the remote control unit.
4. Hold both keys for more than 3 seconds.
5. The On Screen Display message 'PASSWORD CLEAR' will appear.
6. The 4 digit password has now been cleared.

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

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## GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	13 inch / 335.4 mmV
			CRT Type	Normal
			Deflection	90 degree
			Magnetic Field BV/BH	+0.45G / 0.18G
		Color System		NTSC
G-2	DVD System	Speaker	Position	2 Speaker
			Size	Front
			Impedance	1.5 x 2.7 inch
				8 ohm
		Sound Output	Max	1.5W + 1.5W
		10%(Typical)	1.0W + 1.0W	
G-3	Tuning System	Color System		NTSC
		Disc		DVD, CD-DA, CD-R/RW
		Disc Diameter		120 mm , 80 mm
		Deck	Disc Loading System	Front Loading
			Motor	2 Motors
		Pick up		1-Lens 2-Beams System
		Playback time(Max)	DVD DVD 1-Layer	135min (4.7GB)
			DVD 2-Layer	245min (8.5GB)
			CD	74min
			Video CD	74min
		Search speed	Fwd	2-20 times / 4 step
				Actual 2-45 times (DVD)
				4-40 times (CD)
			Rev	2-20 times / 4 step
				Actual 2-45 times (DVD)
		4-40 times (CD)		
	Slow speed	Fwd 1/7 - 1/2 times		
		Actual --		
		Rev 1/7 - 1/2 times		
		Actual --		
G-4	Signal	Broadcasting System		US System M
		Tuner and Receive CH	System	1Tuner
			Destination	US(w/CATV)
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 Ohm
			CH Coverage	2-69, 4A, A-5-A-1, A-I, J-W, W+1-W+84
		Intermediate 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-5	Power	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-6	Regulation	Power Source	AC	120V, 60Hz
			DC	--
		Power Consumption		at AC 75W at 120V 60Hz
				at DC --
			Stand by (at AC)	5W at 120V 60Hz
	Per Year	-- kWh/Year		
G-7	Temperature	Protector	Power Fuse	Yes
			Safety Circuit	Yes
			IC Protector(Micro Fuse)	No
			Dew Sensor	No
G-8	Operating Humidity	Safety Radiation		UL
		X-Radiation		FCC
		Laser		DHHS
G-9	On Screen Display	Operation		+5°C ~ +40°C
		Storage		-20°C ~ +60°C
G-9	Menu(TV) Display	Menu Type		Less than 80% RH
				Yes
				Icon



## GENERAL SPECIFICATIONS

		TV Setup	Yes
		Picture	Yes
		Audio	No
		Picture Preference	Yes
		Channel Setup	Yes
		TV/CATV	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	Yes
		Level	Yes
		Volume	Yes
		Bright / Contrast / Sharpness / Color	Yes
		Tint	Yes
		Bass/Treble/Balance	No
		Caption / Text	Yes
		Auto Search/Position	No
		Game	No
		Mute	Yes
<b>G-10</b>	<b>On Screen Display</b>	Menu (DVD)	Yes
		Menu Type	Character
		Language	Yes
		Menu	Yes
		Subtitle	Yes
		Audio	Yes
		Picture	Yes
		TV Screen Size	Yes
		OSD Display On/Off	Yes
		JPEG Interval	No
		Select Files	No
		Sound	Yes
		DRC (Dynamic Range Control)	Yes
		dts Decode	No
		Output(5.1ch/ 2ch)	No
		Surround On/Off	No
		Center On/Off	No
		Sub Woofer On/Off	No
		Parental	Yes
		Password Lock/ Un Lock	Yes
		Rating Level	Yes
		Other	Yes
		OSD Language(Set up Language)	Yes
		Output(RGB/Composite)	No
		Open	Yes
		Close	Yes
		No disc	Yes
		Reading	Yes
		Play	Yes
		Still/Pause	Yes
		Stop	Yes
		Prohibit Mark	Yes
		Step	Yes
		Skip(>> )	Yes
		Skip( <<)	Yes
		Random	Yes (CD )
		Repeat	Yes
		Slow+	Yes
		Slow-	Yes
		Search+	Yes
		Search-	Yes
		Jump	Yes
		Resume	Yes
		Title No.	Yes
		Chapter No.	Yes
		Track No.	Yes
		Time	Yes
		Sub Title No.	Yes
		Angle No.	Yes
		Vocal On/Off	Yes
		Audio No.	Yes
		Audio Stereo L/R	No
		Zoom	Yes
		Marker No.	Yes

## GENERAL SPECIFICATIONS

		Program Play Back	Yes (CD)
		Surround On/Off	No
		Screen Saver	No
		JPEG	No
		Folder Name	No
		File Name	No
		File No	No
		Time	No
		Track No	No
<b>G-11</b>	<b>OSD Language</b>	(TV) (DVD)	English, French, Spanish English, French, Spanish
<b>G-12</b>	<b>Clock and Timer</b>	Sleep Timer	Max Time 120 Min
			Step 10 Min
		On/Off Timer	Program(On Timer / Off Timer)
		Wake Up Timer	No
		Timer Back-up (at Power Off Mode)	more than -- Min Sec
<b>G-13</b>	<b>Remote Control</b>	Unit	RC-HE
		Glow in Dark Remocon	No
		Format	NEC
		Custom Code	71-8Eh
		Power Source	Voltage(D.C) 3V
			UM size x pcs UM-4 x 2 pcs
		Keys	Total Keys 46 Keys
			Power Yes
			1 Yes
			2 Yes
			3 Yes
			4 Yes
			5 Yes
			6 Yes
			7 Yes
			8 Yes
			9 Yes
			0 Yes
			Open/Close Yes
			Play Yes
			Stop Yes
			Search+ Yes
			Search- Yes
			Skip+ Yes
			Skip- Yes
			Slow+ Yes
			Slow- Yes
			Still/Pause Yes
			Display/Call Yes
			TV/DVD Yes
			Cancel Yes
			Audio Select Yes
			Angle Yes
			Subtitle Yes
			Top Menu Yes
			Setup/TV Menu Yes
			Return Yes
			DVD Menu Yes
			Up/ Set+/ CH Up Yes
			Down/ Set-/ CH Down Yes
			Left/Select- Yes
			Right/Select+ Yes
			Select/Enter Yes
			Play Mode Yes
			Marker Yes
			Input Select Yes
			Volume + Yes
			Volume - Yes
			Repeat A-B Yes
			Zoom/ Quick View Yes
			Mute Yes
			Sleep Yes
			Jump/Closed Caption Yes
			Freeze frame No
<b>G-14</b>	<b>Features</b>	CATV	Yes
		Auto Shut Off	Yes
		Auto CH Memory	Yes
		V-Chip	USA V-chip Yes
			CANADA V-chip No
		Auto Search	No
		SAP	Yes
		Game Position	No

## GENERAL SPECIFICATIONS

		FM Transmitter	No		
		Energy Star	No		
		Closed Caption	Yes		
		Comb Filter	No		
		Protect of FBT Leak Circuit	No		
		Choke Coil	No		
		Power On Memory	No		
		Tray Lock	No		
		Parental Lock (DVD Only)	Yes		
		Video CD Playback	No		
		SVCD Playback	No		
		Overlay Graphics And Text	No		
		Command List	No		
		Entry Point Jump	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		
		Surround (Tru Surround)	No		
		Screen Saver	No		
		Picture Preference	Yes		
		Auto Setup	No		
		Audio DAC	192kHz / 24bit		
<b>G-15</b>	<b>Accessories</b>	Owner's Manual	Language	English / Spanish	
			w/Guarantee Card	Yes	
		Remote Control Unit		Yes	
		Battery		No	
			UM size x pcs	--	
			OEM Brand	-- No	
		Rod Antenna		Yes	
			Poles	1 pole	
			Terminal	F type	
			W/300 ohm to 75 ohm antenna adapter	No	
		Loop Antenna		No	
			Terminal	--	
		U/V Mixer		No	
		300 ohm to 75 ohm Antenna Adapter		No	
		Antenna Change Plug		No	
		Guarantee Card		No	
		Registration Card		No	
		Warranty Card		No	
		ESP Card		No	
		Service Station List		No	
DC Car Cord (Center+)		No			
Columbia Offer Sheet		No			
Sheet Information (Return)		No			
<b>G-16</b>	<b>Interface</b>	Switch	Front	Power (Tact)	Yes
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
				Play	Yes
				Open/Close	Yes
				Skip(>> )	Yes
				Skip( <<)	Yes
				Still/Pause	No
				Stop	Yes
				Main Power SW	No
			Rear	Main Power SW	No
		Indicator		Power	Yes (Red)
				Stand-by	No
				On Timer	No
		Terminals	Front	Video Input	RCA x 1
				Audio Input	RCA x 2(Stereo)
				Other Terminal	Head Phone
			Rear	Video Input	No
		Audio Input	No		
		Video Output	No		
		Audio Output	No		
		Digital Audio Output	Coaxial (DVD Only)		
		Diversity	No		
		DC Jack 12V(Center +)	No		

## GENERAL SPECIFICATIONS

		VHF/UHF Antenna Input	F Type
<b>G-17</b>	<b>Set Size</b>	Approx. W x D x H (mm)	362x365x382
<b>G-18</b>	<b>Weight</b>	Net (Approx.)	11.0kg (24.3lbs)
		Gross (Approx.)	12.5kg (27.6lbs)
<b>G-19</b>	<b>Carton</b>	Master Carton	No
		Content	--- Sets
		Material	--- / ---
		Dimensions W x D x H(mm)	---
		Description of Origin	---
		Gift Box	Yes
		Material	Double/Brown
		W/Color Photo Label	No
		Dimensions W x D x H(mm)	423x447x443
		Design	As Per Buyer's
		Description of Origin	Yes
		Drop Test	Natural Dropping At
		Height (cm)	62
Container Stuffing (40' container)	700 Sets		
<b>G-20</b>	<b>Material</b>	Cabinet	
		Front	PS 94V0 DECABROM
		Rear	PS 94V0 DECABROM
		Jack Panel	-
		PCB	
	Non-Halogen Demand	No	
	Eyelet Demand	Yes	
<b>G-21</b>	<b>Environment</b>	Pb Free	
		Lead-free Solder	No
		Other	No
	Cd Free	No	

# DISASSEMBLY INSTRUCTIONS

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

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

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

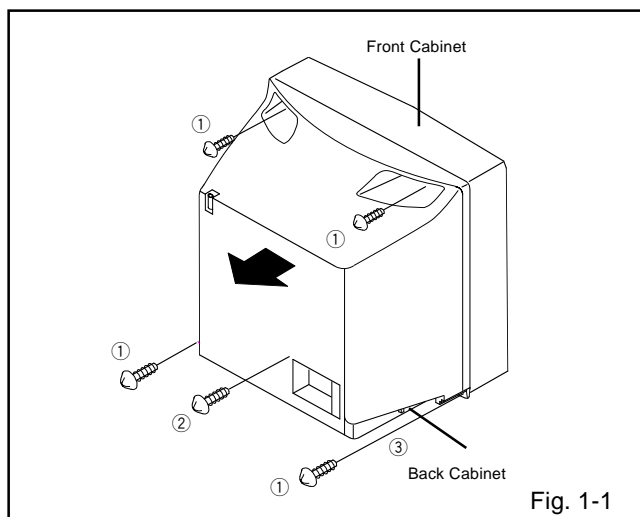


Fig. 1-1

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

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

1. Remove the Anode Cap.  
(Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connector:  
(CP801 and CP803B).
3. Remove the CRT PCB in the direction of arrow.

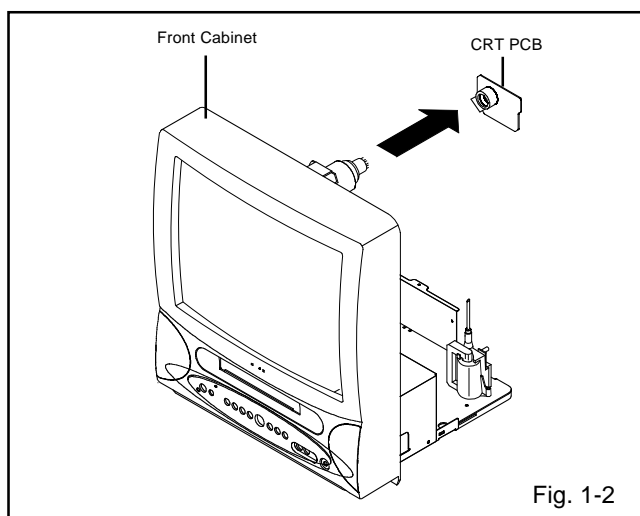


Fig. 1-2

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

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

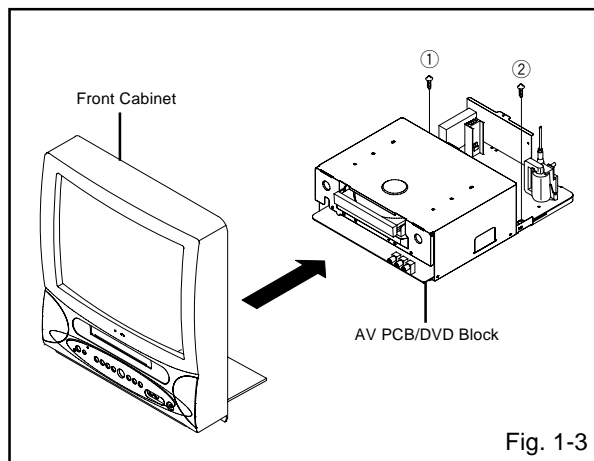


Fig. 1-3

### 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).

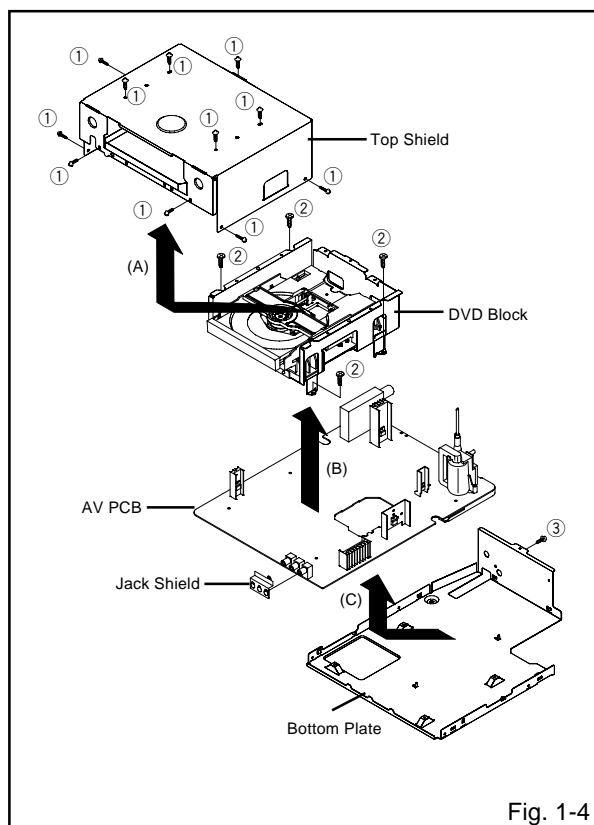


Fig. 1-4

## DISASSEMBLY INSTRUCTIONS

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

1. Make the short circuit on the position as shown **Fig. 1-5** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Disconnect the following connectors:  
(CP2601, CP2602 and CP2603).
3. Remove the 4 screws ①.
4. Remove the DVD Deck in the direction of arrow (A).
5. Remove the 4 screws ②.
6. Remove the DVD PCB in the direction of arrow (B).

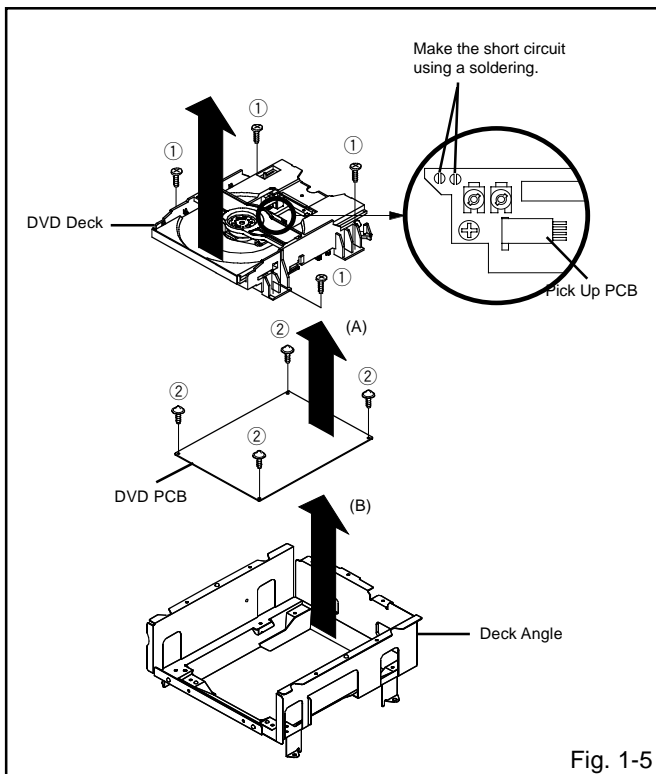


Fig. 1-5

### NOTE

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

# DISASSEMBLY INSTRUCTIONS

## 2. REMOVAL OF DVD DECK PARTS

### NOTE

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

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

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

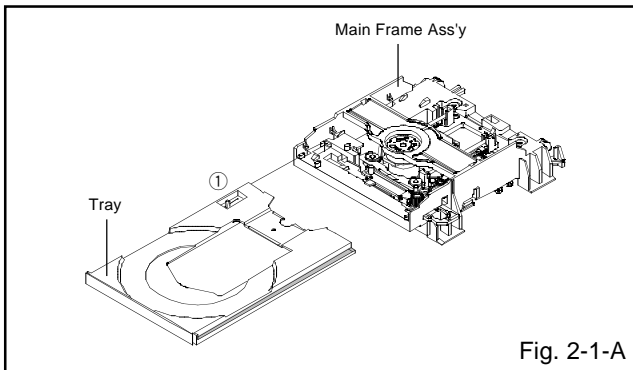


Fig. 2-1-A

### NOTE

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

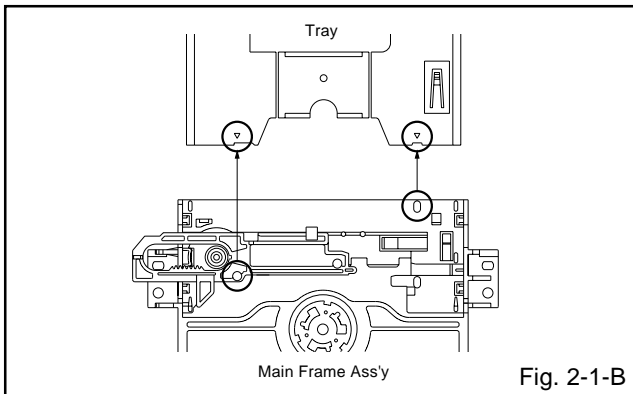


Fig. 2-1-B

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

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

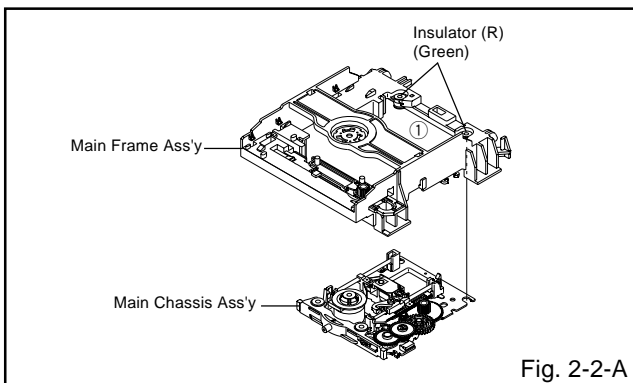


Fig. 2-2-A

### NOTE

1. In case of the Main Chassis Ass'y, install it from (1) to (6) in order. (Refer to Fig. 2-2-B)

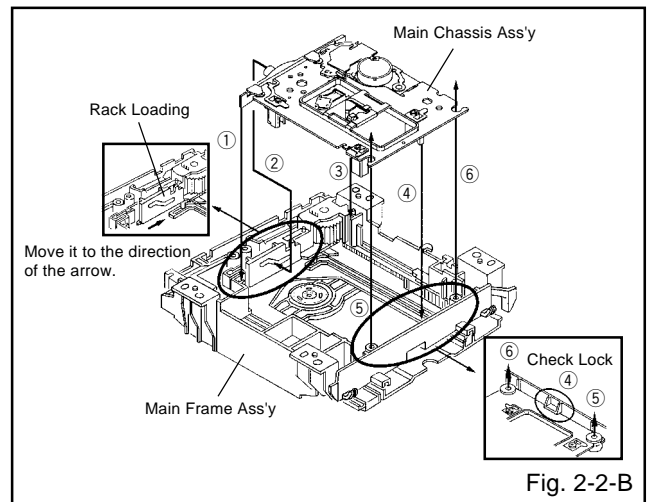


Fig. 2-2-B

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

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

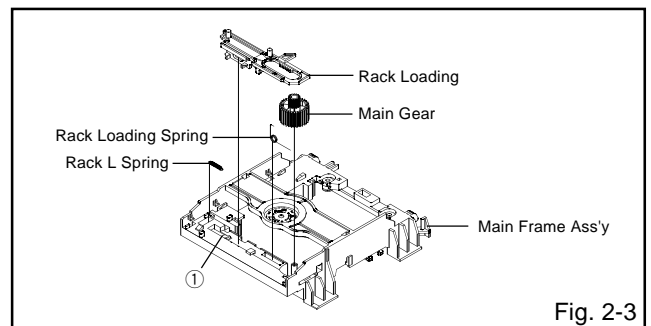


Fig. 2-3

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

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

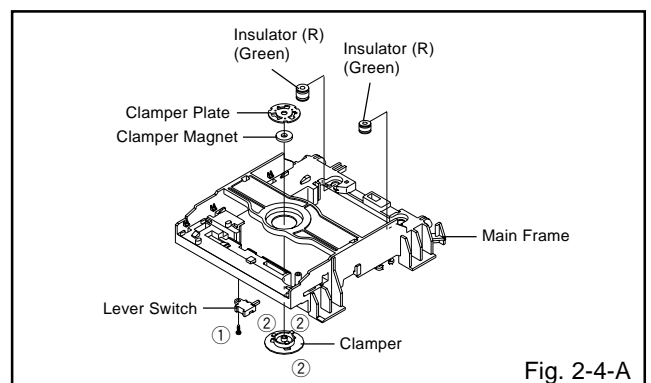
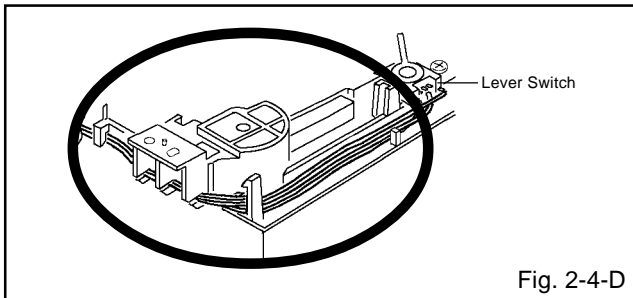
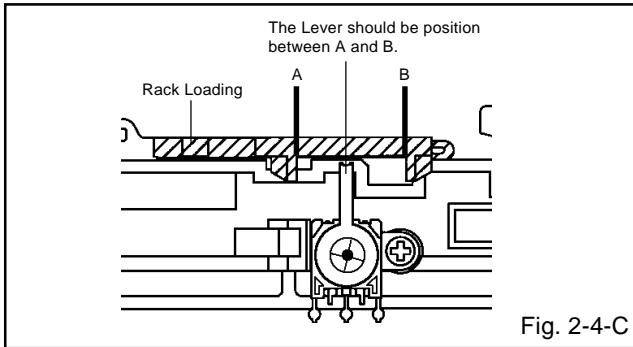
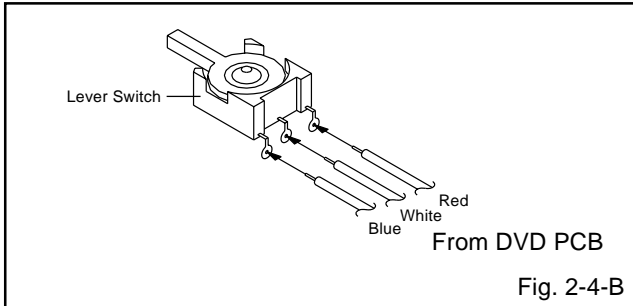


Fig. 2-4-A

# DISASSEMBLY INSTRUCTIONS

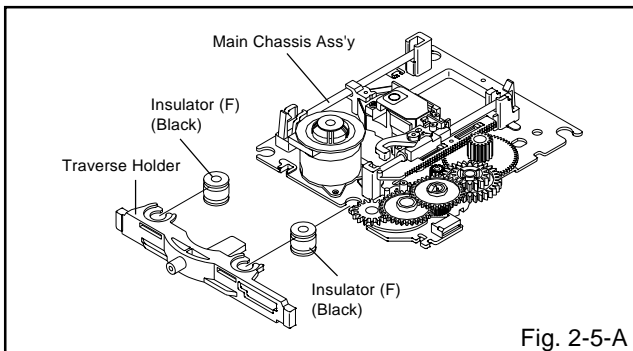
## NOTE

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



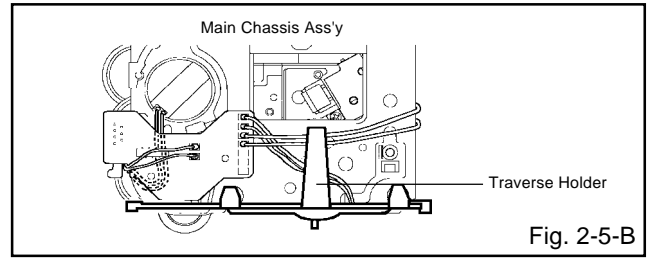
## 2-5: TRAVERSE HOLDER/INSULATOR (F) (Refer to Fig. 2-5-A)

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



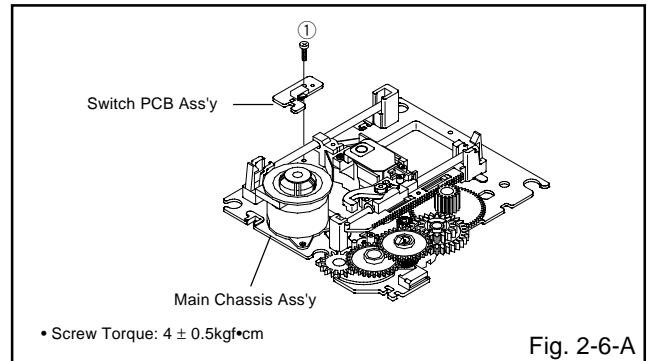
## NOTE

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



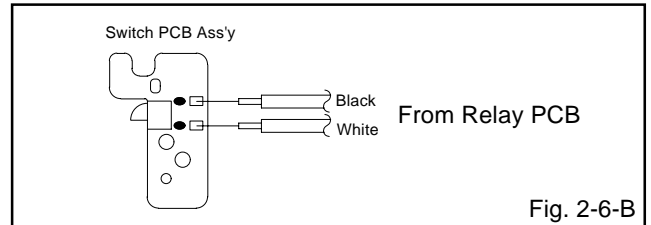
## 2-6: SWITCH PCB ASS'Y (Refer to Fig. 2-6-A)

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



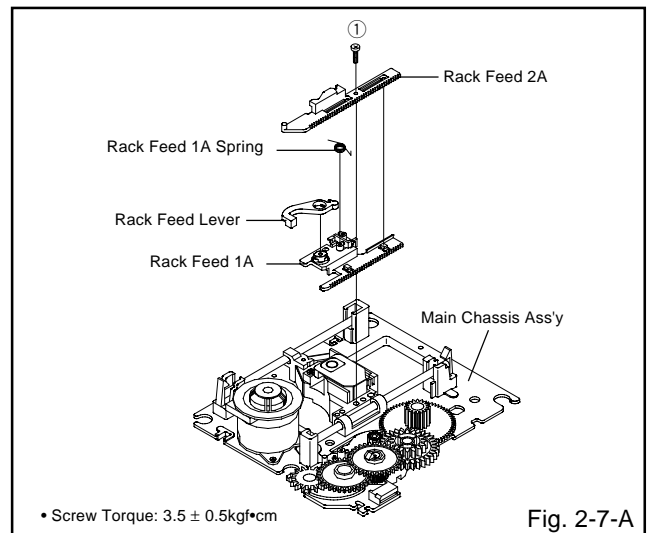
## NOTE

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



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

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

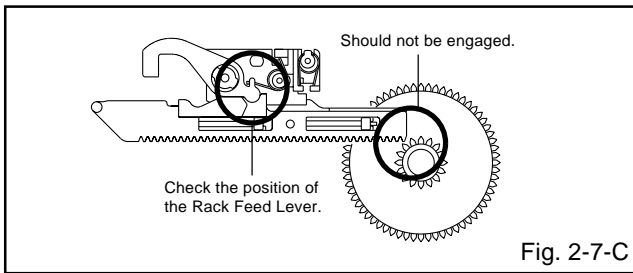
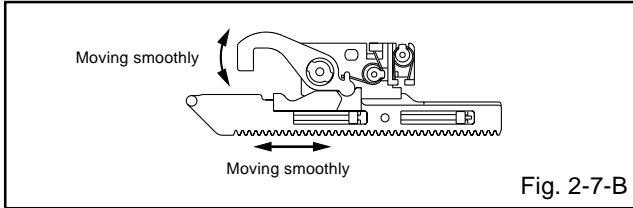




# DISASSEMBLY INSTRUCTIONS

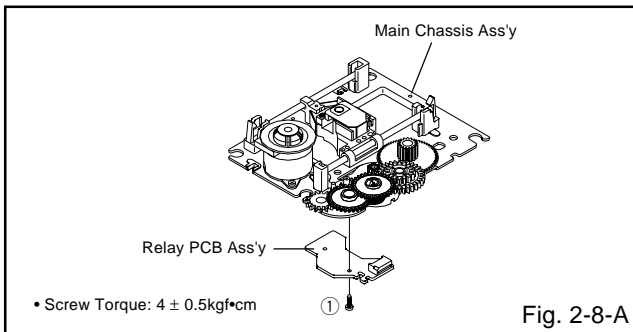
## NOTE

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



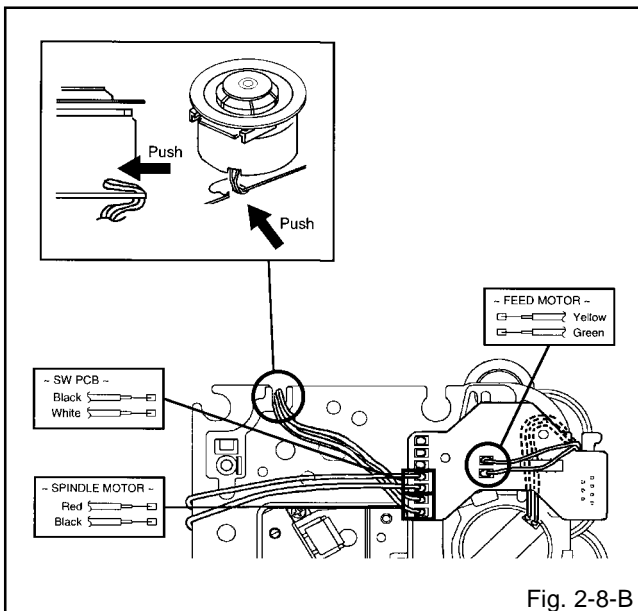
## 2-8: RELAY PCB ASS'Y (Refer to Fig. 3-8-A)

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



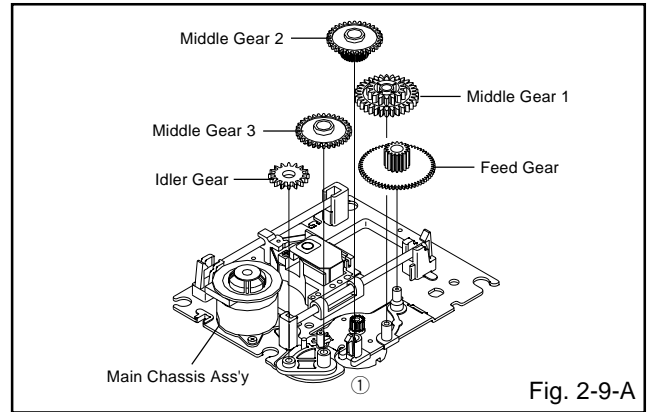
## NOTE

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



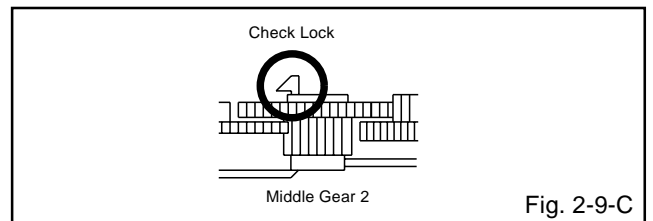
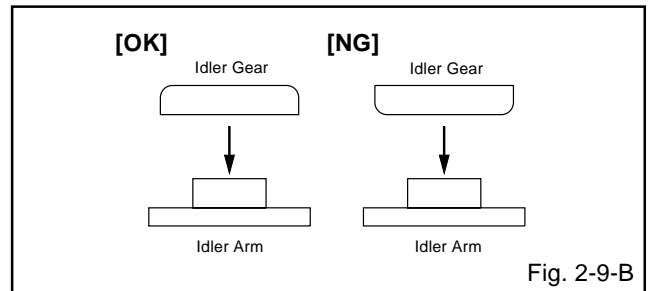
## 2-9: GEAR (Refer to Fig. 3-9-A)

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



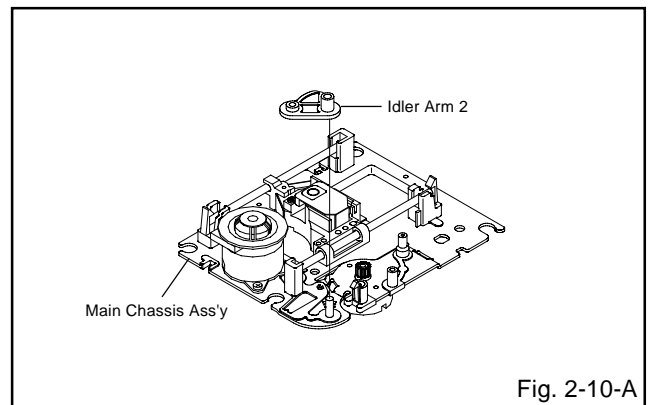
## NOTE

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



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

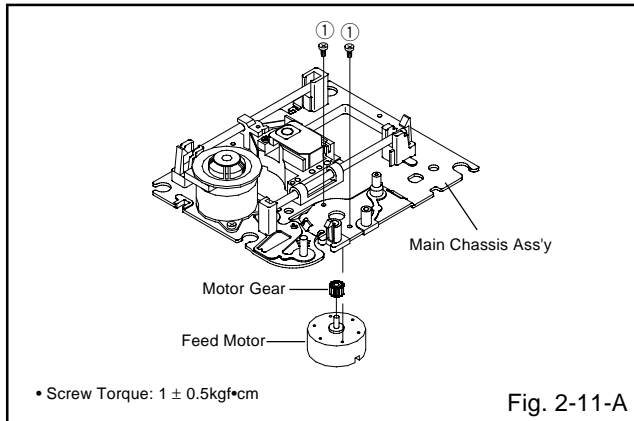
1. Remove the Idler Arm 2.



# DISASSEMBLY INSTRUCTIONS

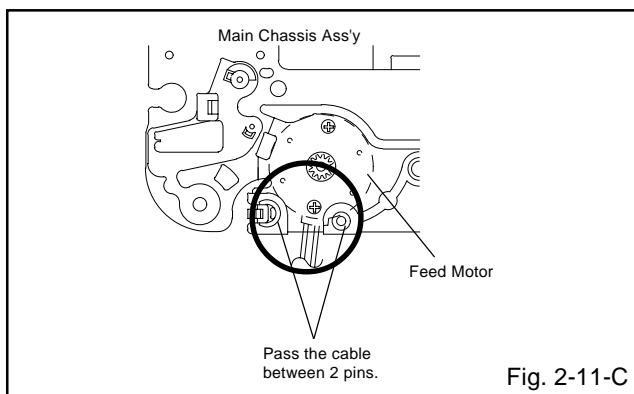
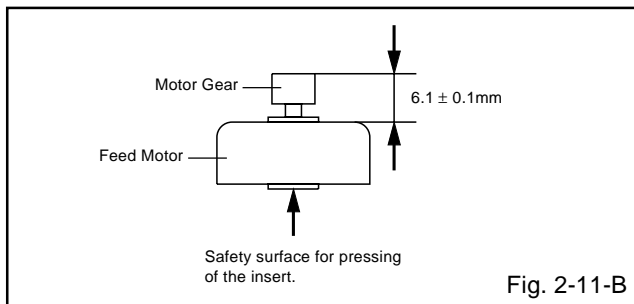
## 2-11: FEED MOTOR (Refer to Fig. 2-11-A)

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



### NOTE

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



# DISASSEMBLY INSTRUCTIONS

## 3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

- \* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- \* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

### REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**

Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground. While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.

A cracking noise will be heard as the voltage is discharged.

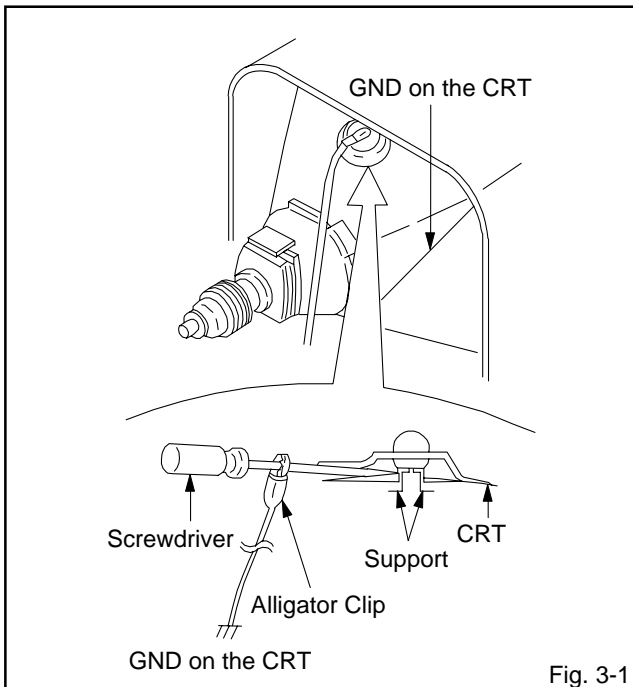


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 3-2.)**

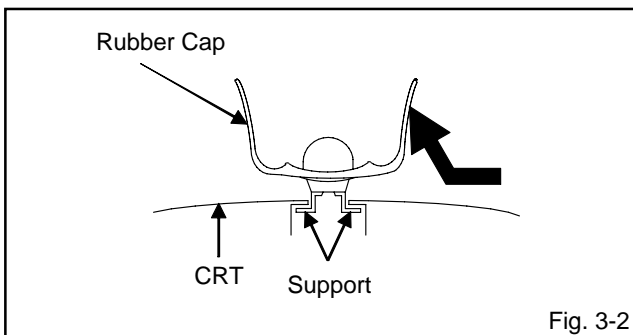


Fig. 3-2

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

### NOTE

Take care not to damage the Rubber Cap.

### INSTALLATION

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

### NOTE

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

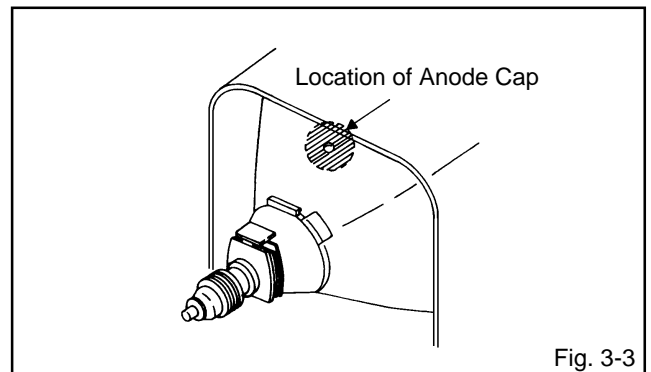


Fig. 3-3

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

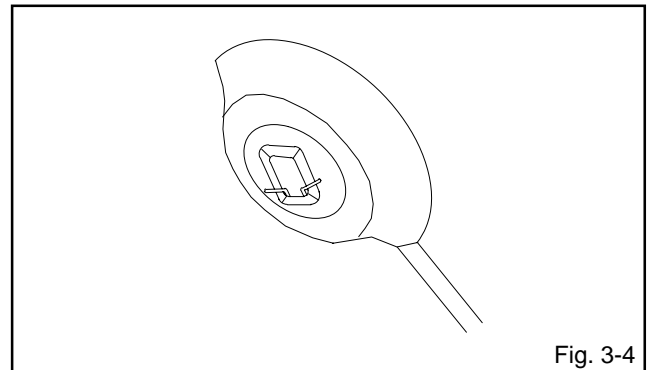


Fig. 3-4

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

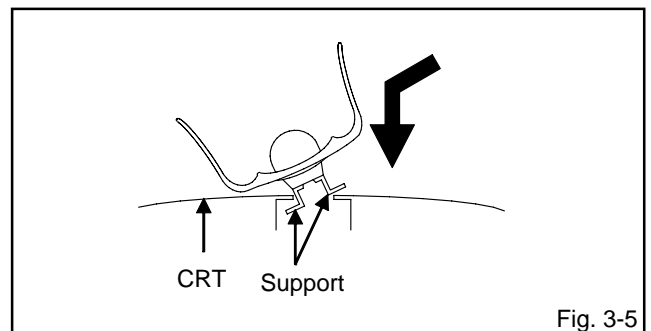


Fig. 3-5

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

# DISASSEMBLY INSTRUCTIONS

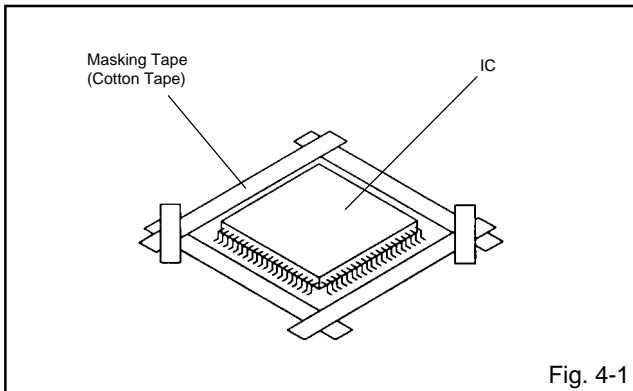
## 4. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

### REMOVAL

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

#### NOTE

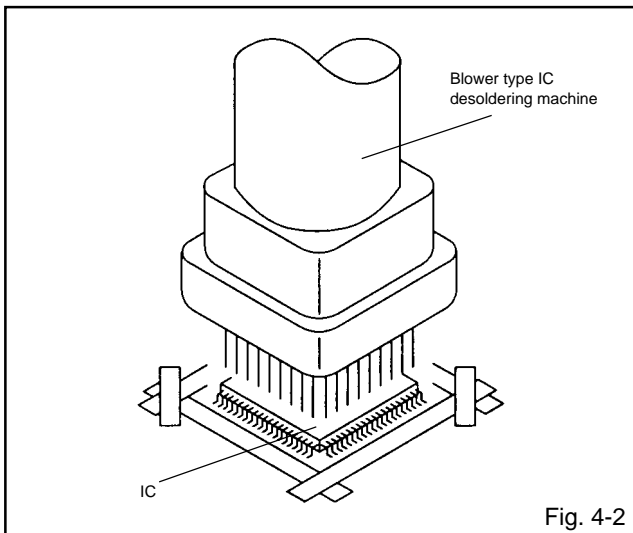
Masking is carried out on all the parts located within 10 mm distance from IC leads.



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

#### NOTE

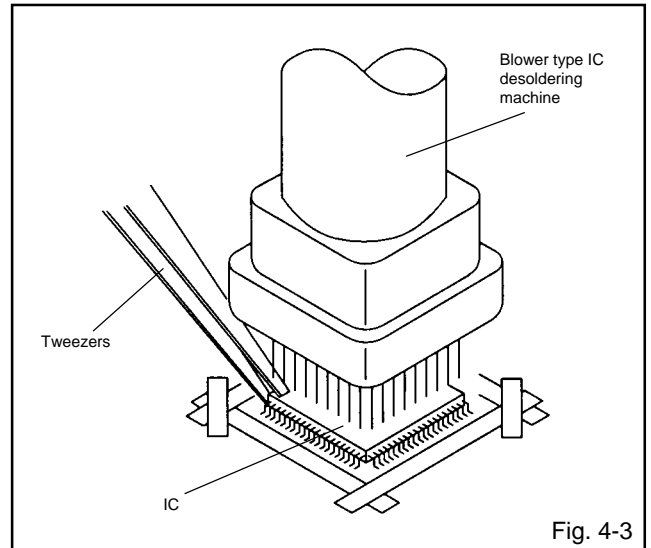
Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 4-3.)

#### NOTE

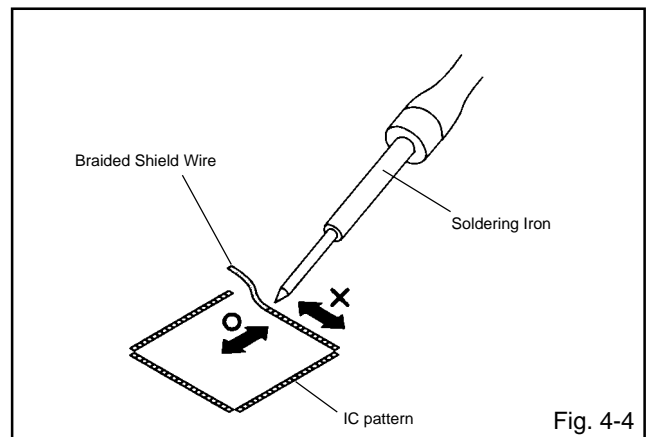
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



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

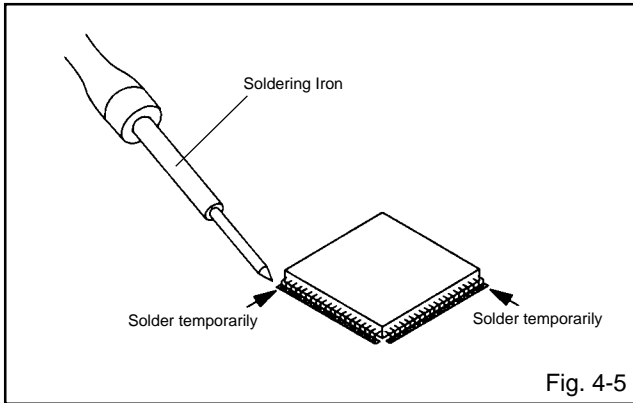
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



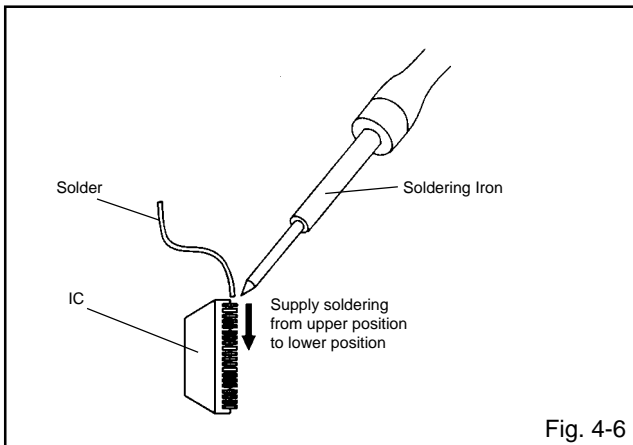
# DISASSEMBLY INSTRUCTIONS

## 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.)



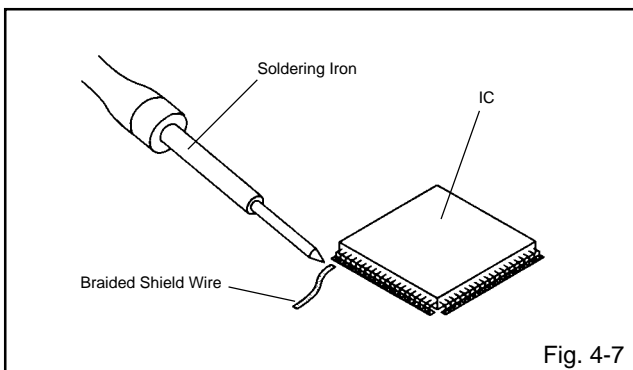
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 4-6.)



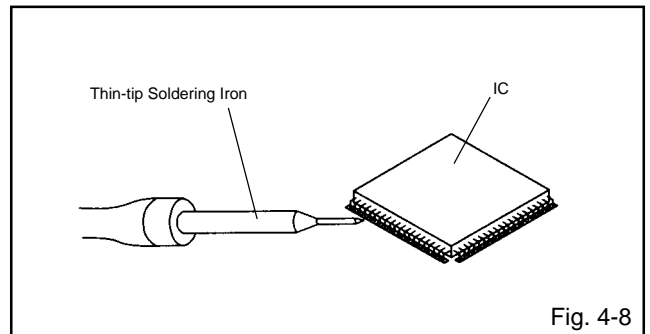
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 4-7.)

### 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, be always sure to replace the IC in this case.

## SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

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

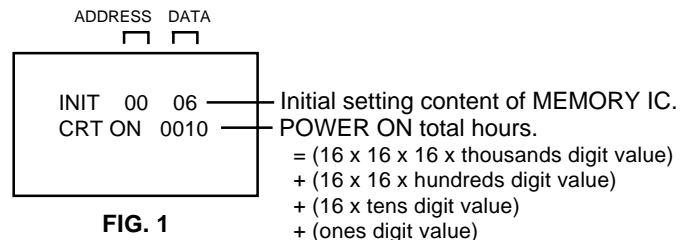
Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	0	1	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	1	Initialization of the factory on TV. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	4	1	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work at the DVD stop mode.
VOL. (-) MIN	6	1	POWER ON total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF HOURS USED).  Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	9	1	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	7	3	Releasing of PARENTAL LOCK. Refer to the "PARENTAL CONTROL-RATING LEVEL" NOTE: The function will only work without the setting of DVD disc at DVD mode.
STOP	9	3	Tray cannot be opened. Refer to the "TRAY LOCK". NOTE: No indications on the screen when the Tray Lock is setting.

## CONFIRMATION OF HOURS USED

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

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

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



## WHEN REPLACING EEPROM (MEMORY) IC

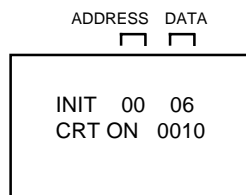
If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

**NOTE:** No need setting for after INI 27.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	06	0F	44	20	D0	35	30	25	15	50	01	00	C1	55	0F	47
10	30	50	50	04	15	77	23	50	20	77	52	00	02	11	00	00
20	0A	0D	10	12	14	16	18	1A	---	---	---	---	---	---	---	---

**Table 1**

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



**FIG. 1**

3. ADDRESS is now selected and should "blink". Using the VOL. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using VOL. UP/DOWN button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

**After the data input, set to the initializing of shipping.**

9. Turn POWER on.
10. Press both VOL. DOWN button on the set and Channel button (1) on the remote control for more than 1 second.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

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

# ELECTRICAL ADJUSTMENTS

## 1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

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

### CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease 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 1 second to appear the adjustment mode on the screen as shown in Fig. 1-1.

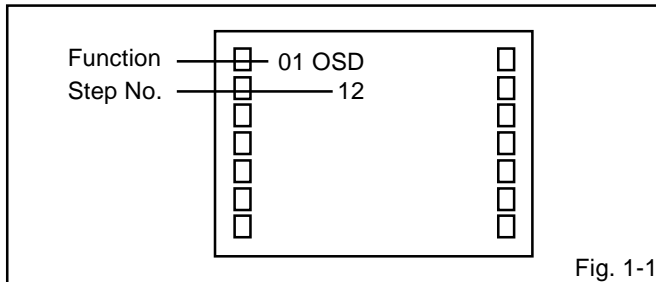


Fig. 1-1

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

NO.	FUNCTION	NO.	FUNCTION
01	OSD H	41	SUB BIAS
02	OSD CONTRAST	42	BRI. DVD(CENT.)
03	CUT OFF	43	BRI. DVD(MAX)
04	H POSITION	44	BRI. DVD(MIN)
05	H BLK L	45	CONT. DVD(CENT.)
06	H BLK R	46	CONT. DVD(MAX)
07	V SIZE	47	CONT. DVD(MIN)
08	V POSITION	48	COL. DVD(CENT.)
09	V LINEARITY	49	COL. DVD(MAX)
10	V S CORRECTION	50	COL. DVD(MIN)
11	V COMP	51	TINT DVD
12	R CUT OFF	52	SHARPNESS DVD
13	G CUT OFF	53	SUB BIAS
14	B CUT OFF	54	BRI. GAME(CENT.)
15	R DRIVE	55	BRI. GAME(MAX)
16	G DRIVE	56	BRI. GAME(MIN)
17	B DRIVE	57	CONT. GAME(CENT.)
18	BRIGHTNESS(CENT.)	58	CONT. GAME(MAX)
19	BRIGHTNESS(MAX)	59	CONT. GAME(MIN)
20	BRIGHTNESS(MIN)	60	SUB BIAS
21	CONTRAST(CENT.)	61	TUNING V MUTE
22	CONTRAST(MAX)	62	POWER ON V MUTE
23	CONTRAST(MIN)	63	INPUT LEVEL
24	COLOR(CENT.)	64	SEPARATION L
25	COLOR(MAX)	65	SEPARATION H
26	COLOR(MIN)	66	X-RAY TEST
27	TINT	67	H STOP
28	SHARPNESS	68	H FREQ
29	SUB BIAS	69	BAST/WEST DC
30	BRI. AV(CENT.)	70	BAST/WEST AMP
31	BRI. AV(MAX)	71	BAST/WEST TILT
32	BRI. AV(MIN)	72	BAST/WEST COR, TOP
33	CONT. AV(CENT.)	73	BAST/WEST COR, BOT
34	CONT. AV(MAX)	74	H SIZE COMP
35	CONT. AV(MIN)	75	H BLK L AV
36	COL. AV(CENT.)	76	H BLK R AV
37	COL. AV(MAX)		
38	COL. AV(MIN)		
39	TINT AV		
40	SHARPNESS AV		

Fig. 1-2

## 2. BASIC ADJUSTMENTS

### 2-1: CONSTANT VOLTAGE

1. Set condition is AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Connect the digital voltmeter to TP401.
4. Adjust the VR3800 until the digital voltmeter is  $135 \pm 0.5V$ .

### 2-2: FOCUS

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

### 2-3: CUT OFF

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



# ELECTRICAL ADJUSTMENTS

## 2-4: WHITE BALANCE

**NOTE:** Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select "G DRV".
5. Press the CH. UP/DOWN button on the remote control to select the "R CUT OFF", "G CUT OFF", "B CUT OFF", "R DRIVE" or "B DRIVE".
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the R CUT OFF, G CUT OFF, B CUT OFF, R DRIVE and B DRIV E at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

## 2-5: HORIZONTAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(04)** on the remote control to select "HPOSI".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

## 2-6: VERTICAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(08)** on the remote control to select "VPOSI".
4. Check the step No. V POSI is "02".
5. Adjust the **VR401** until the horizontal line becomes fit to notch of the shadow mask.

## 2-7: VERTICAL SIZE

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

## 2-8: VERTICAL LINEARITY

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

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select "VLIN".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

## 2-9: SEPARATION L, H

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

### Method (1)

1. Set the multi-sound signal generator for each different L-ch and R-ch frequency (Ex. L-ch=2KHz, R-ch=400Hz) and receive the RF signal.
2. Connect the oscilloscope to the **Audio Out Jack**.
3. Press the AUDIO button on the remote control to set to the stereo mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(64)** on the remote control to select "SEPAL".
5. Press the VOL. UP/DOWN button on the remote control to adjust it until the audio output wave becomes a fine sine wave.
6. Press the CH UP button 1 time to set to "SEPAH" mode.
7. Press the VOL. UP/DOWN button on the remote control to adjust it until the audio output wave becomes a fine sine wave.

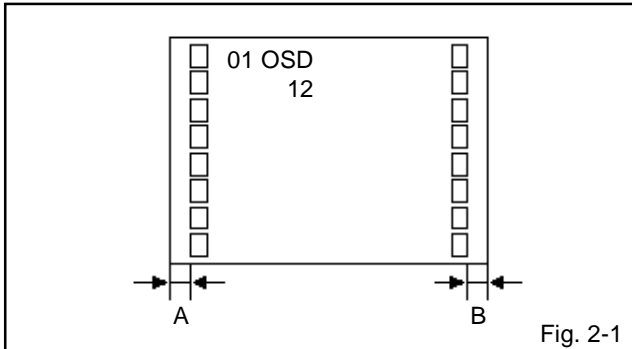
### Method (2)

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

# ELECTRICAL ADJUSTMENTS

## 2-10: OSD POSITION

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



## 2-11: LEVEL

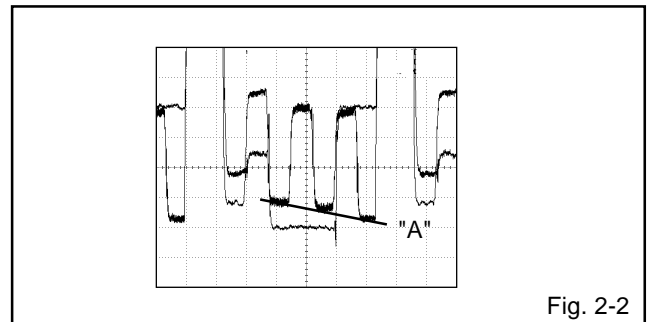
1. Receive the VHF HIGH (70dB).
2. Connect the AC voltmeter to **pin 6 of CP101**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**63**) on the remote control to select "LVL".
4. Press the VOL. UP/DOWN button on the remote control until the AC voltmeter is  $75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

## 2-12: BRIGHT CENTER

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**18**) on the remote control to select "BRTC".
2. Press the VOL. UP/DOWN button on the remote control until the white 10% is starting to be visible.
3. Receive a broadcast and check if the picture is normal.
4. Press the INPUT SELECT button on the remote control to set to the AV mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**30**) on the remote control to select "BRTCA".
6. Press the VOL. UP/DOWN button on the remote control until the white 10% is starting to be visible.
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 (**42**) on the remote control to select "BRTCD".
10. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.

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



## 2-14: SHARPNESS

1. Receive the monoscope pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**28**) on the remote control to select "SHARP".
3. Check if the step No. SHARP is "18".
4. Press the INPUT SELECT button on the remote control to set to the AV mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**40**) on the remote control to select "SHARPA".
6. Check if the step No. SHARP is "10".
7. Press the TV/DVD button on the remote control to set to the DVD mode.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**52**) on the remote control to select "SHARPD".
9. Press the VOL. UP/DOWN button on the remote control to set the same step numbers as the AV.

# ELECTRICAL ADJUSTMENTS

## 2-15: OSD CONTRAST

1. Receive the monoscop pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(02)** on the remote control to select "OSDC".
3. Check the step No. OSDC is "03".

## 2-16: COLOR CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP022**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(24)** on the remote control to select "COLC".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to  $110 \pm 5\%$  of the white level. **(Refer to Fig. 2-3)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT SELECT button on the remote control to set to the AV mode.
9. Using the remote control, set the brightness, contrast, color and tint to normal position.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(36)** on the remote control to select "COLCA".
11. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
12. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to  $110 \pm 5\%$  of the white level. **(Refer to Fig. 2-3)**
13. Press the TV/DVD button on the remote control to set to the DVD mode.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(48)** on the remote control to select "COLCD".
15. Press the VOL. UP/DOWN button on the remote control to decrease the step numbers by 8 steps to the AV.

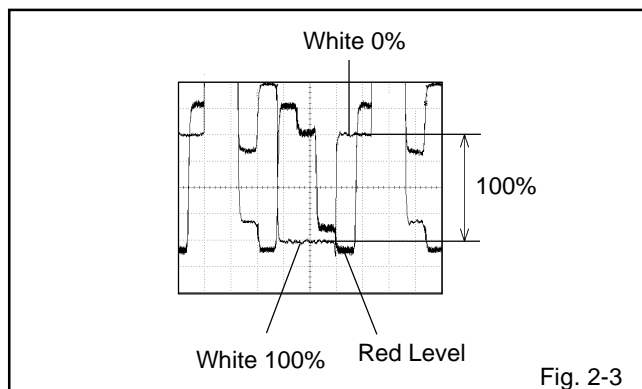
## 2-17: CONTRAST MAX

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

## 2-18: Confirmation of Fixed Value (Step No.)

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

NO.	FUNCTION	STEP NO.	NO.	FUNCTION	STEP NO.
05	H BLK L	04	47	CONT. DVD(MIN)	10
06	H BLK R	02	49	COL. DVD(MAX)	70
10	V S CORRECTION	08	50	COL. DVD(MIN)	10
11	V COMP	03	53	SUB BIAS	00
16	G DRIVE	07	55	BRI. GAME(MAX)	70
19	BRIGHTNESS(MAX)	70	56	BRI. GAME(MIN)	2A
20	BRIGHTNESS(MIN)	2A	57	CONT. GAME(CENT.)	40
21	CONTRAST(CENT.)	40	59	CONT. GAME(MIN)	10
23	CONTRAST(MIN)	10	60	SUB BIAS	00
25	COLOR(MAX)	70	61	TUNING V MUTE	00
26	COLOR(MIN)	10	62	POWER ON V MUTE	40
29	SUB BIAS	00	68	H FREQ	3F
31	BRI. AV(MAX)	70	69	BAST/WEST DC	00
32	BRI. AV(MIN)	2A	70	BAST/WEST AMP	00
33	CONT. AV(CENT.)	40	71	BAST/WEST TILT	00
35	CONT. AV(MIN)	10	72	BAST/WEST COR, TOP	00
37	COL. AV(MAX)	70	73	BAST/WEST COR, BOT	00
38	COL. AV(MIN)	10	74	H SIZE COMP	00
41	SUB BIAS	00	75	H BLK L AV	07
43	BRI. DVD(MAX)	70	76	H BLK R AV	05
44	BRI. DVD(MIN)	2A			
45	CONT. DVD(CENT.)	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.

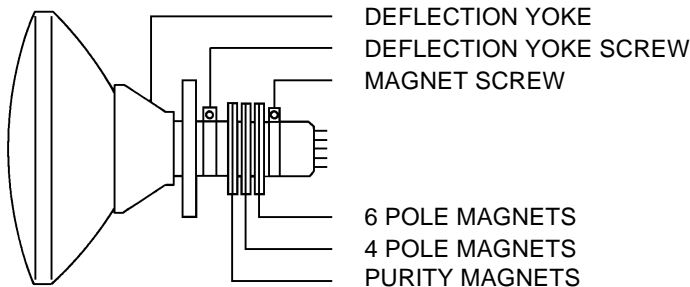


Fig. 3-1

### 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)**

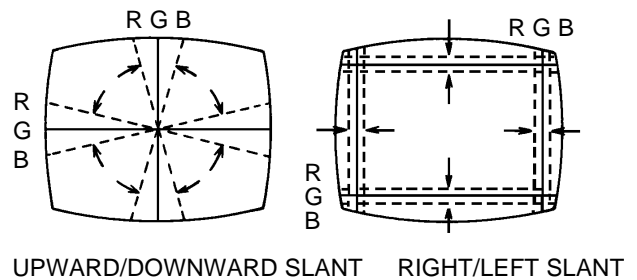


Fig. 3-2-a

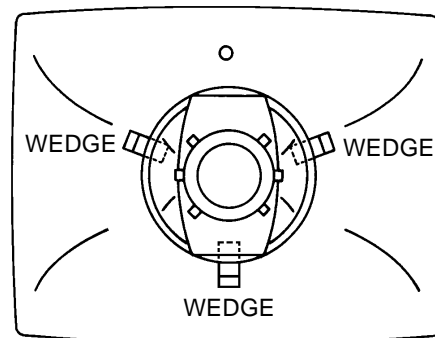
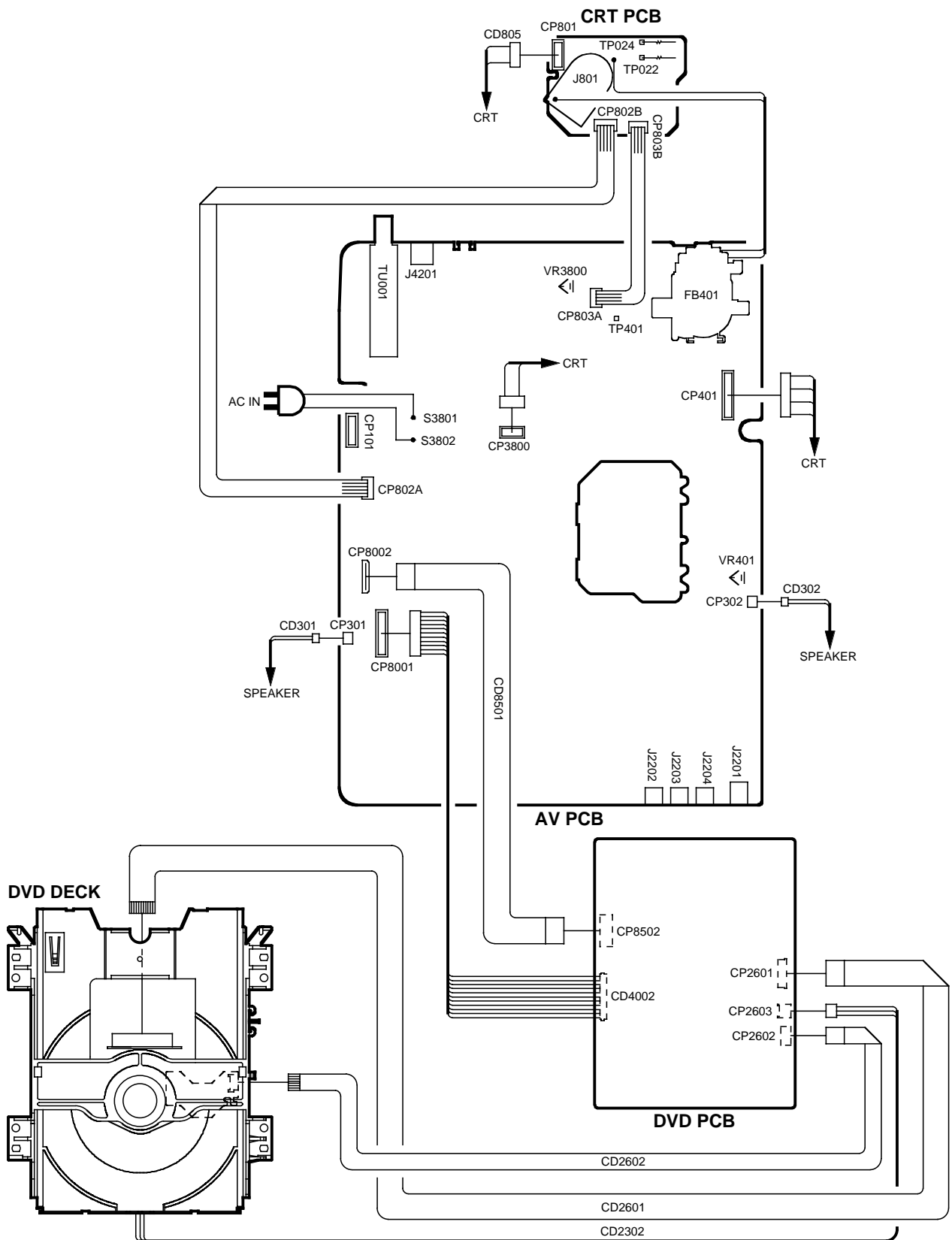


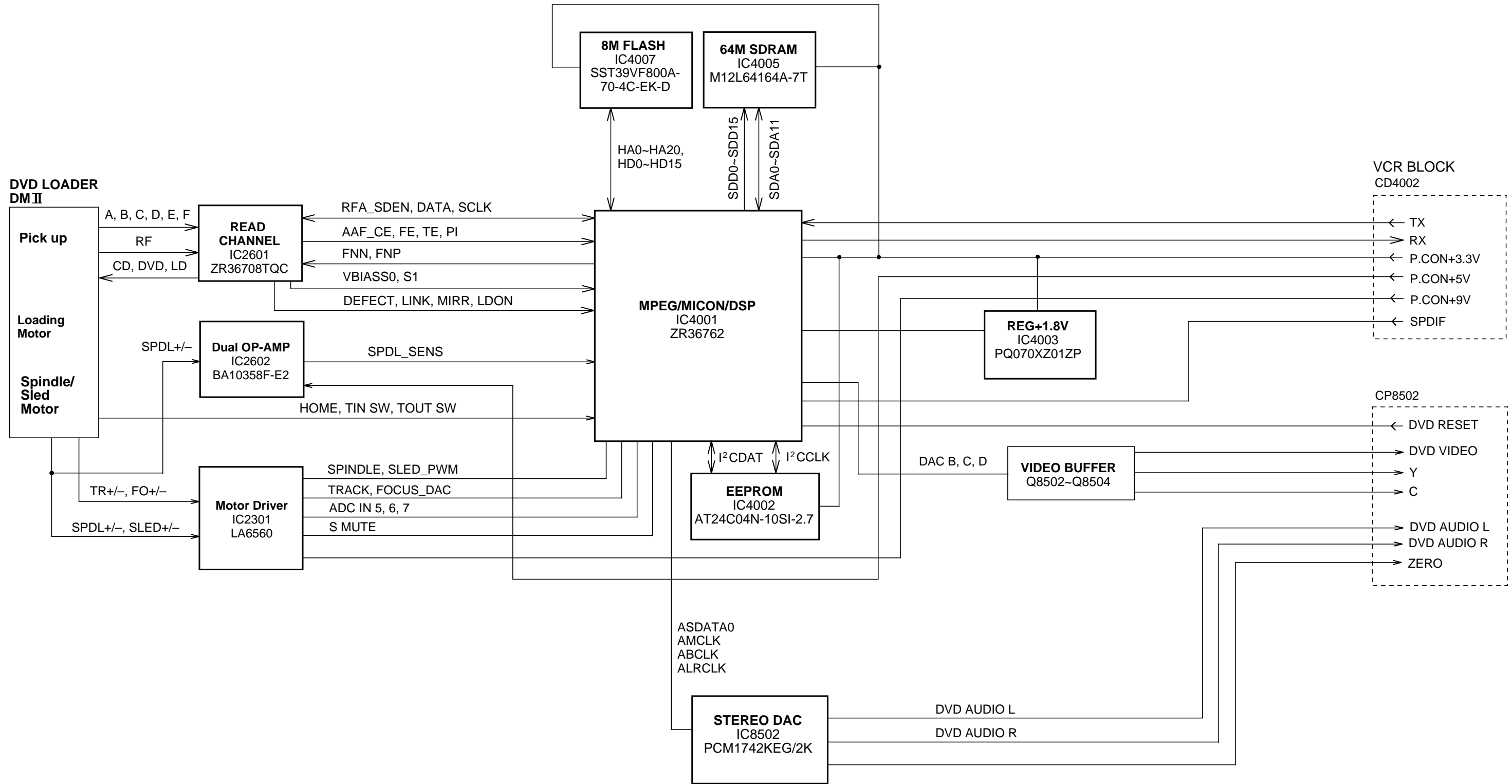
Fig. 3-2-b

# ELECTRICAL ADJUSTMENTS

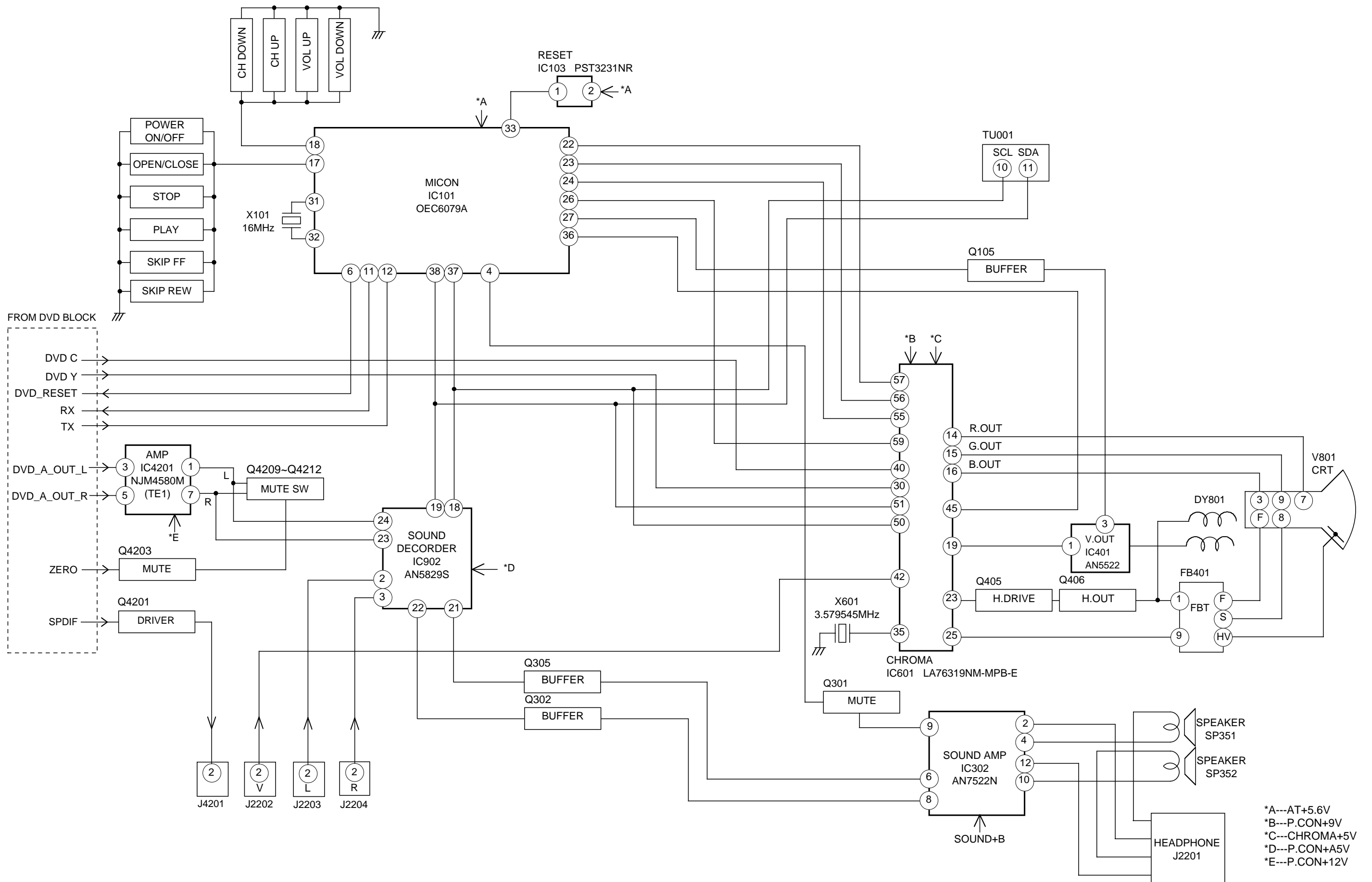
## 4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



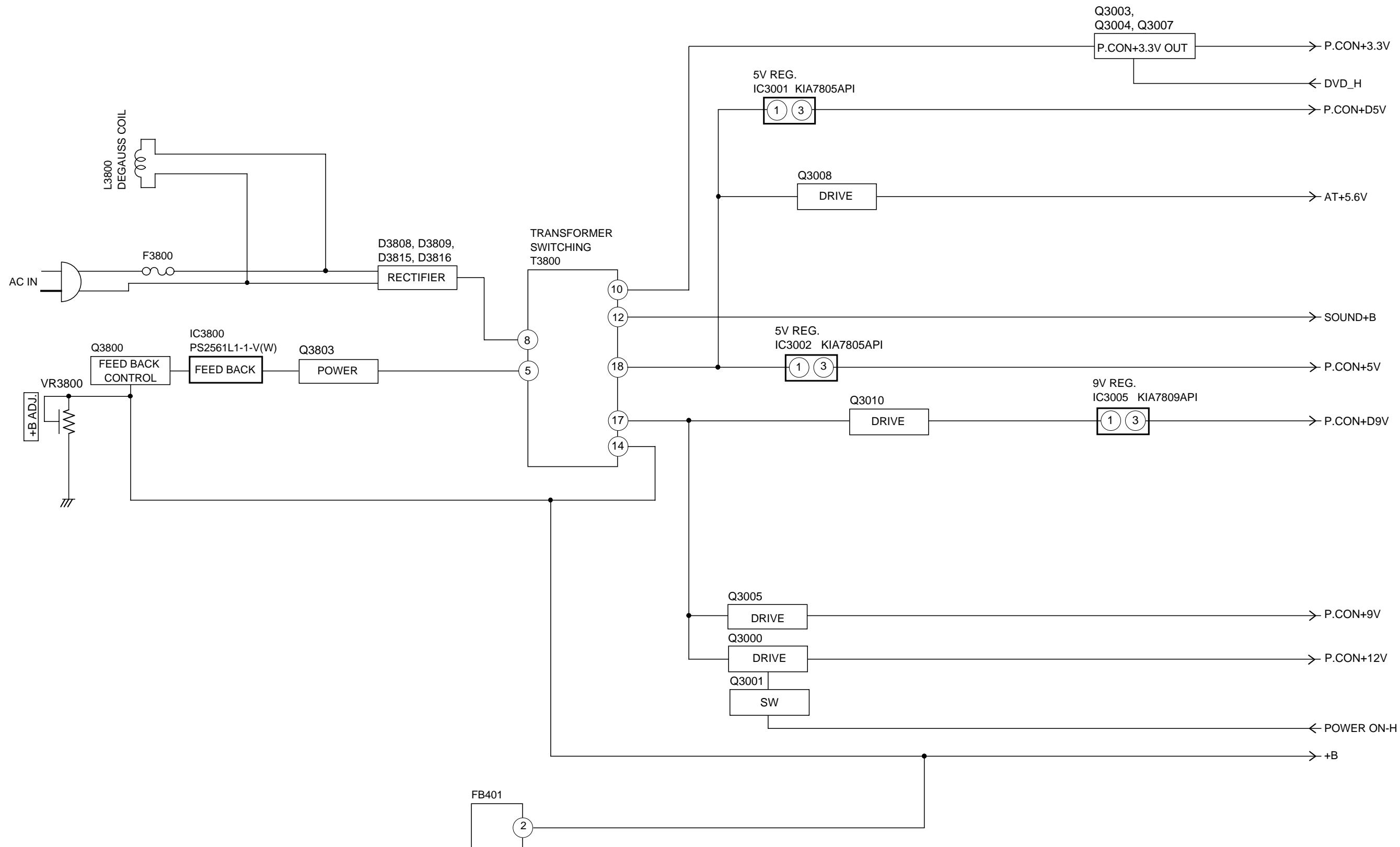
# DVD BLOCK DIAGRAM



# TV BLOCK DIAGRAM



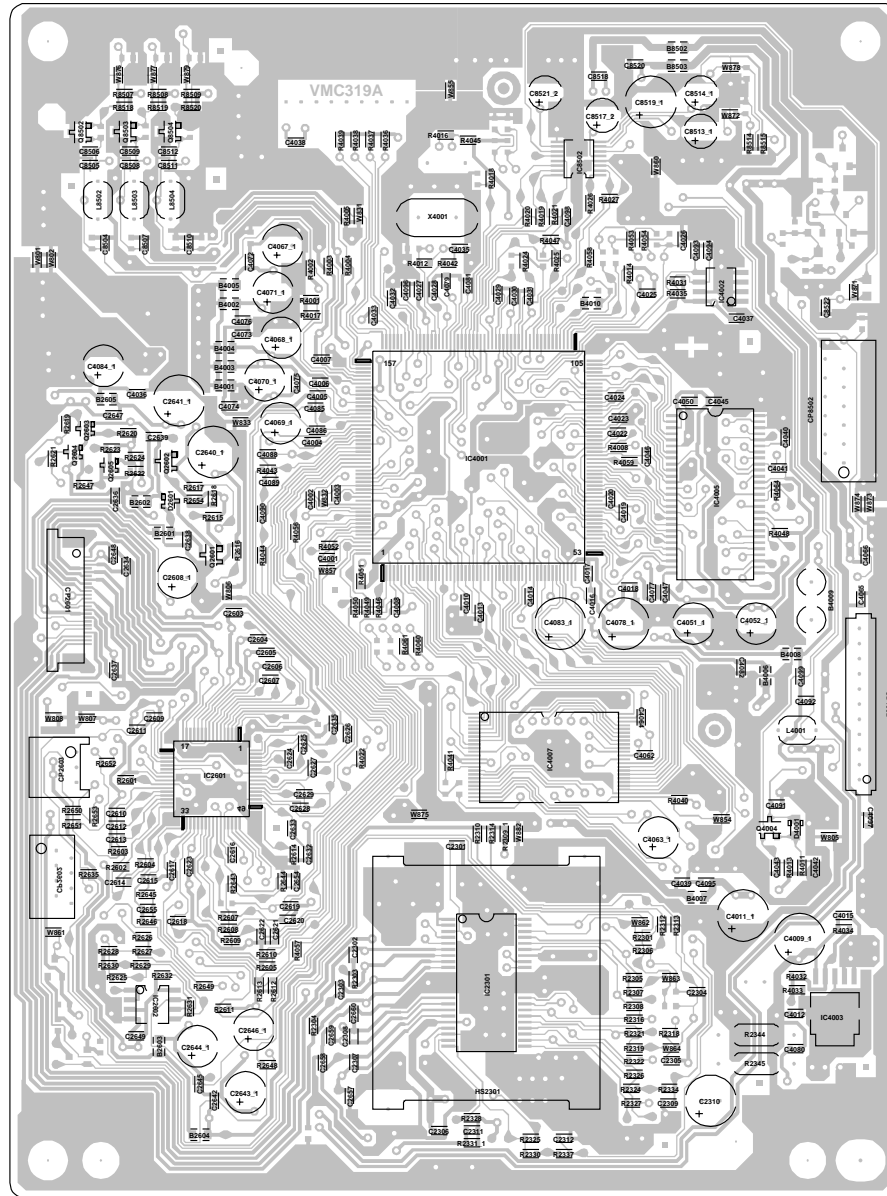
# POWER BLOCK DIAGRAM



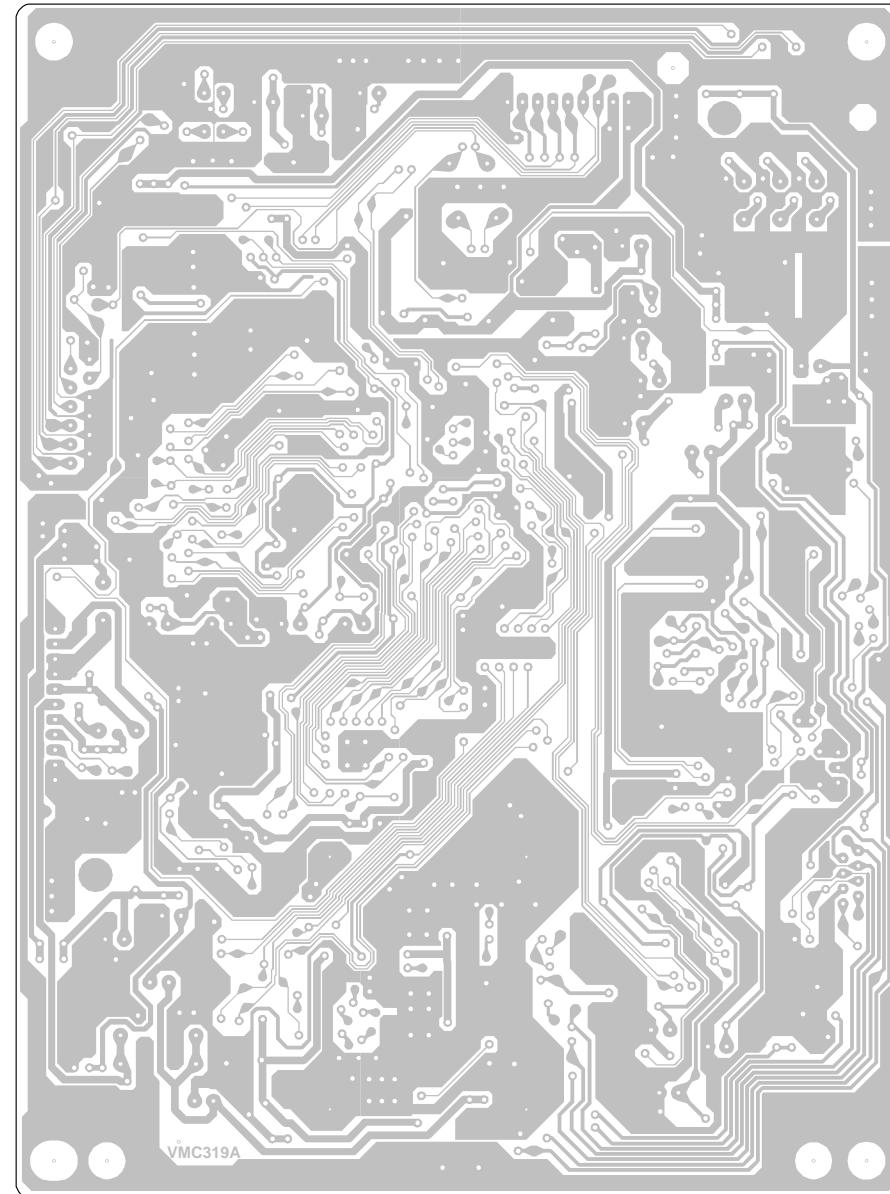


# PRINTED CIRCUIT BOARDS

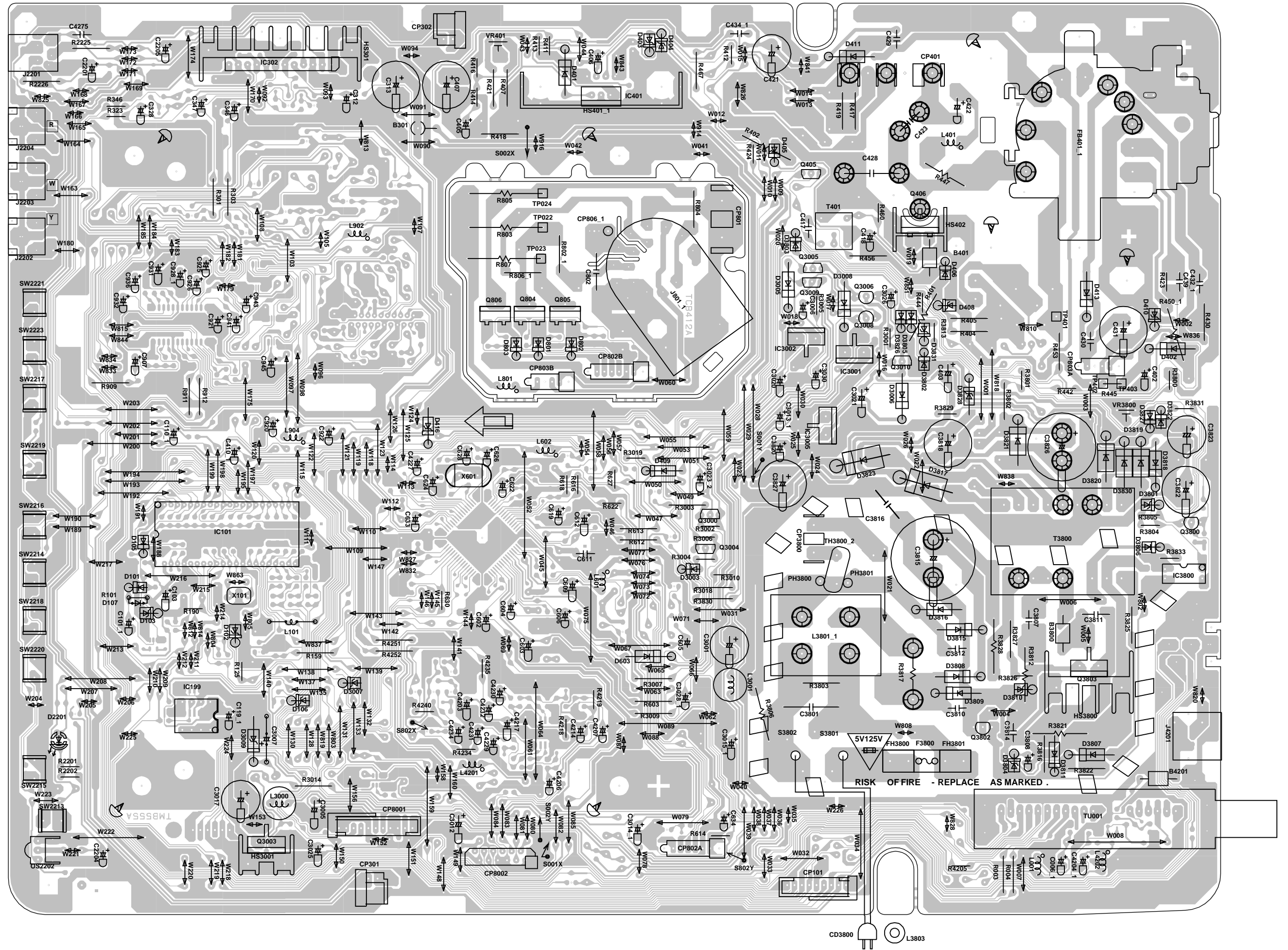
## DVD (TOP SIDE)



## DVD (BOTTOM SIDE)

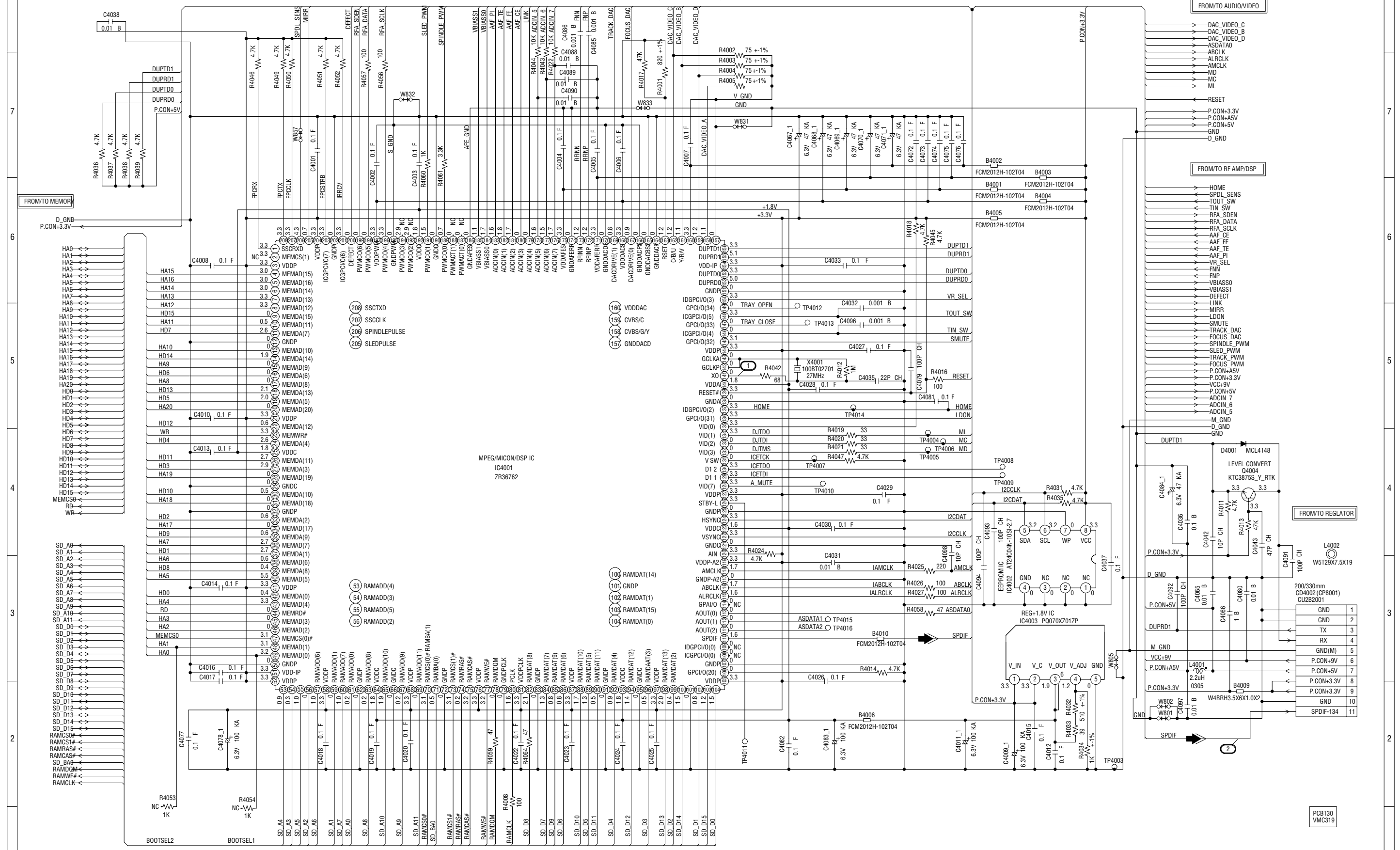


PRINTED CIRCUIT BOARDS  
AV/CRT (INSERTED PARTS)  
SOLDER SIDE





# MPEG/MICON SCHEMATIC DIAGRAM (DVD PCB)



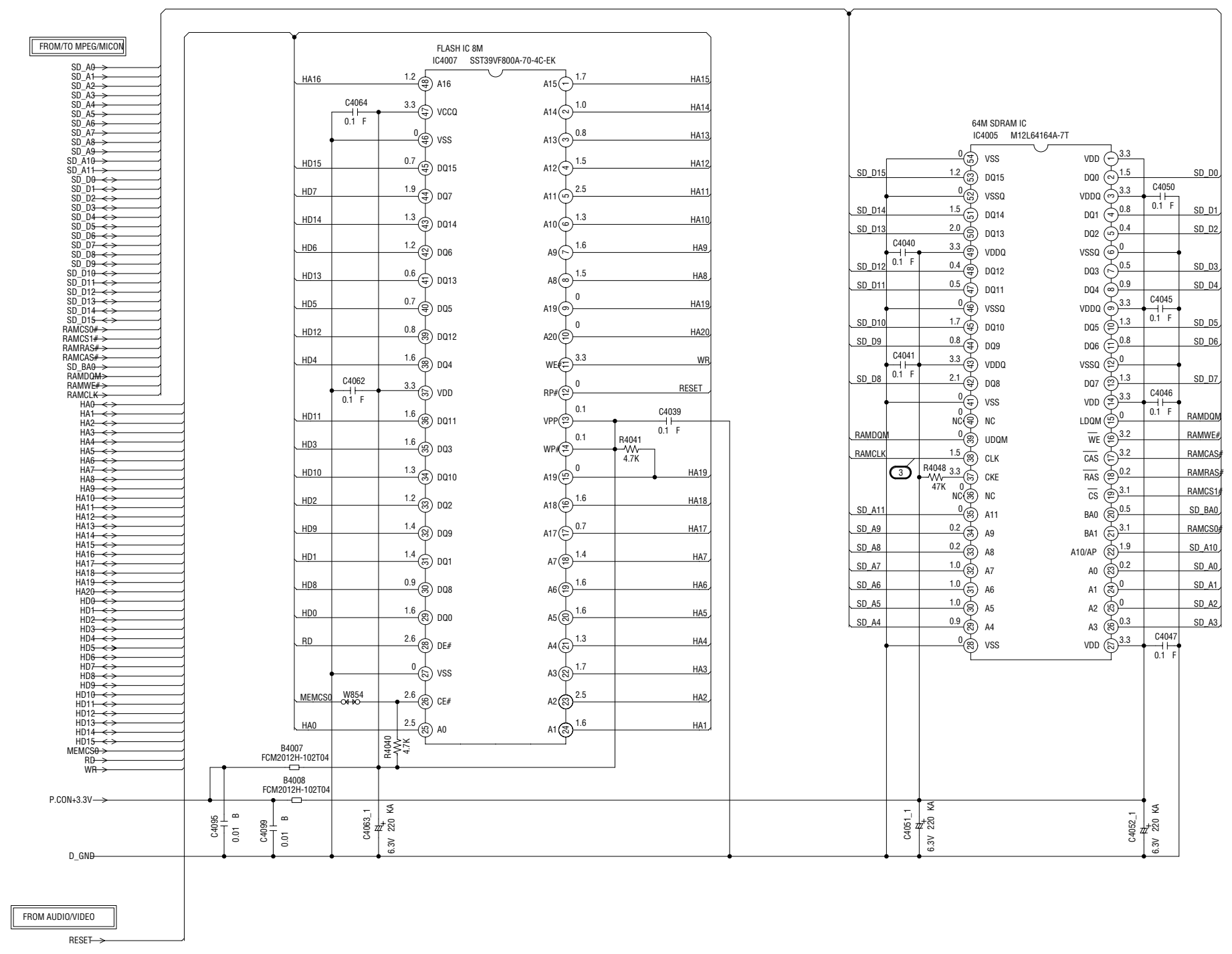
← DIGITAL AUDIO SIGNAL (PB)

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

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

PCB130 VMC319

# MEMORY SCHEMATIC DIAGRAM (DVD PCB)

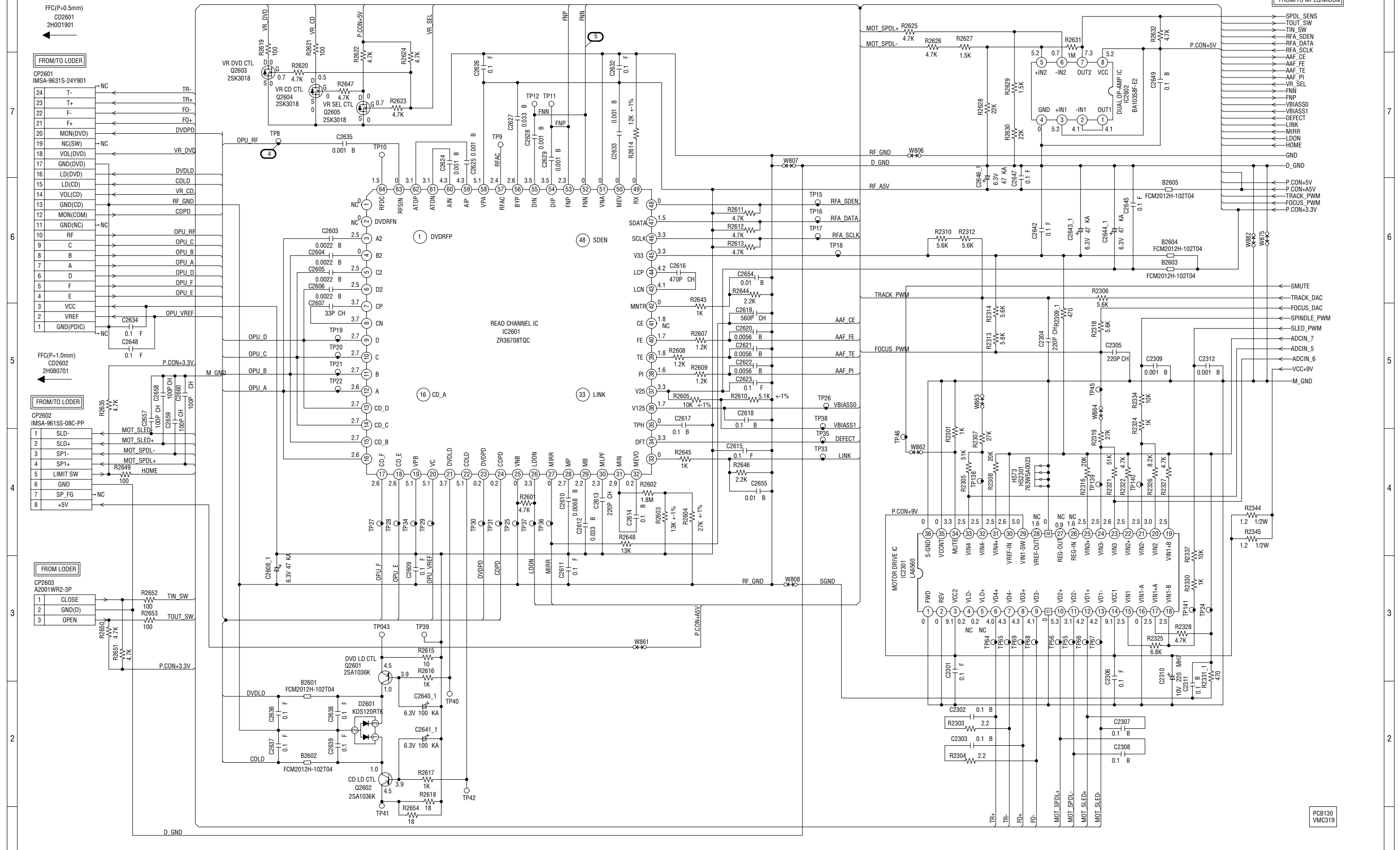


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

PCB130  
VMC319

# RF AMP/DSP SCHEMATIC DIAGRAM (DVD PCB)



FFC(P=0.5mm)  
CD2601  
2H001901

FROM/TO LOADER  
CP2601  
IMS-9631S-24Y901

- |    |           |          |
|----|-----------|----------|
| 24 | T-        | NC       |
| 23 | T+        | TR+      |
| 22 | F-        | FO-      |
| 21 | F+        | FO+      |
| 20 | MON(DVD)  | DVOPD    |
| 19 | NC(SW)    | NC       |
| 18 | VOL(DVD)  | VR_DVD   |
| 17 | GND(DVD)  | DVDLD    |
| 16 | LD(DVD)   | CDLD     |
| 15 | LD(CD)    | VR_CD    |
| 14 | VOL(CD)   | RF_GND   |
| 13 | GND(CD)   | CDPD     |
| 12 | MON(COM)  | NC       |
| 11 | GND(NC)   | NC       |
| 10 | RF        | OPU_RF   |
| 9  | C         | OPU_C    |
| 8  | B         | OPU_B    |
| 7  | A         | OPU_A    |
| 6  | D         | OPU_D    |
| 5  | F         | OPU_F    |
| 4  | E         | OPU_E    |
| 3  | VCC       | OPU_VREF |
| 2  | VREF      | OPU_VREF |
| 1  | GND(PDIC) | NC       |

FFC(P=1.0mm)  
CD2602  
2H080701

- FROM/TO LOADER  
CP2602  
IMS-9615S-08C-PP
- |   |          |           |
|---|----------|-----------|
| 1 | SLD-     | MOT_SLED- |
| 2 | SLD+     | MOT_SLED+ |
| 3 | SP1-     | MOT_SPDL- |
| 4 | SP1+     | MOT_SPDL+ |
| 5 | LIMIT SW | HOME      |
| 6 | GND      | NC        |
| 7 | SP_FG    | NC        |
| 8 | +5V      | NC        |

FROM LOADER  
CP2603  
A2001WR2-3P

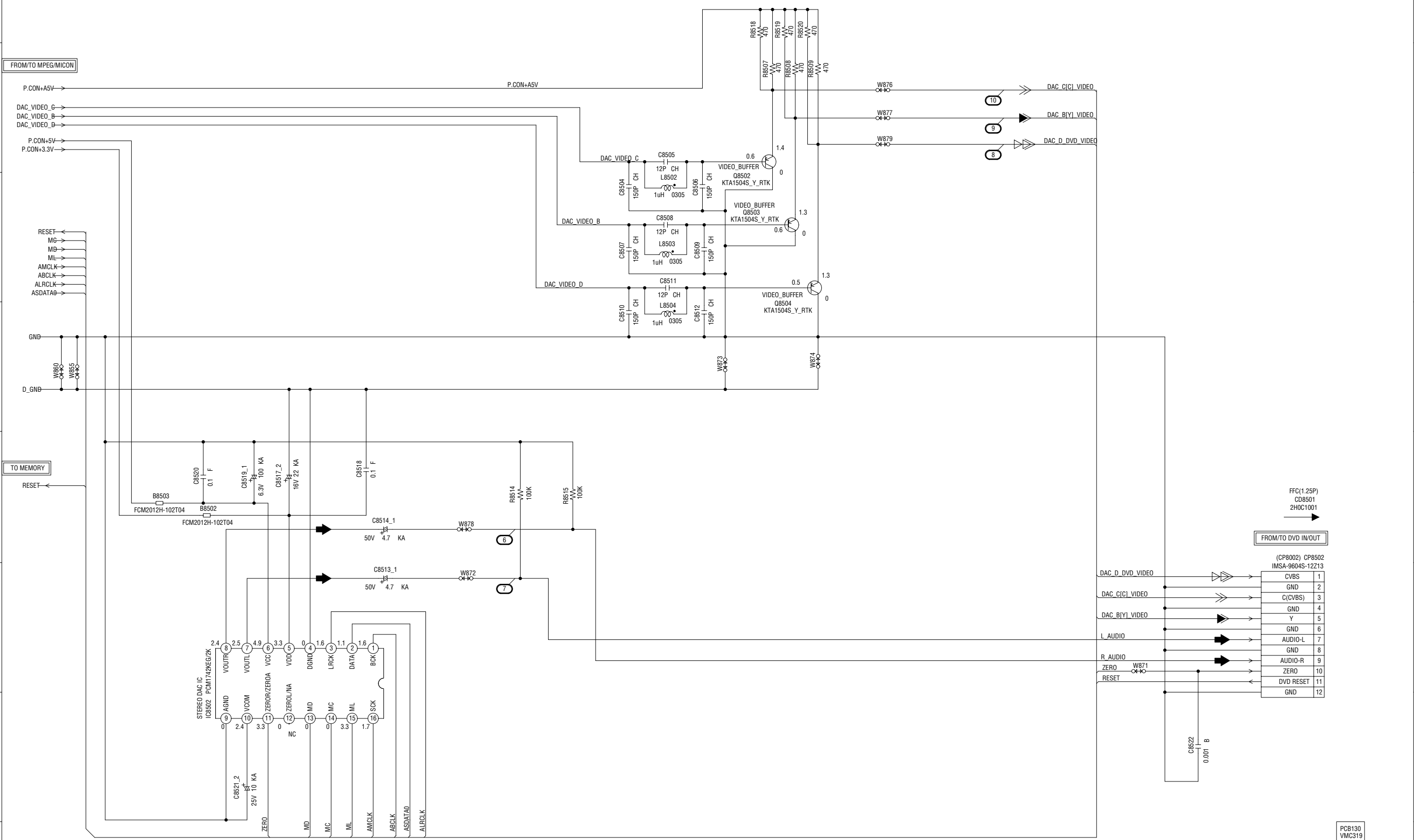
1	CLOSE	TIN_SW
2	GND(D)	TOUT_SW
3	OPEN	NC

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  
VMC319

# AUDIO/VIDEO SCHEMATIC DIAGRAM (DVD PCB)



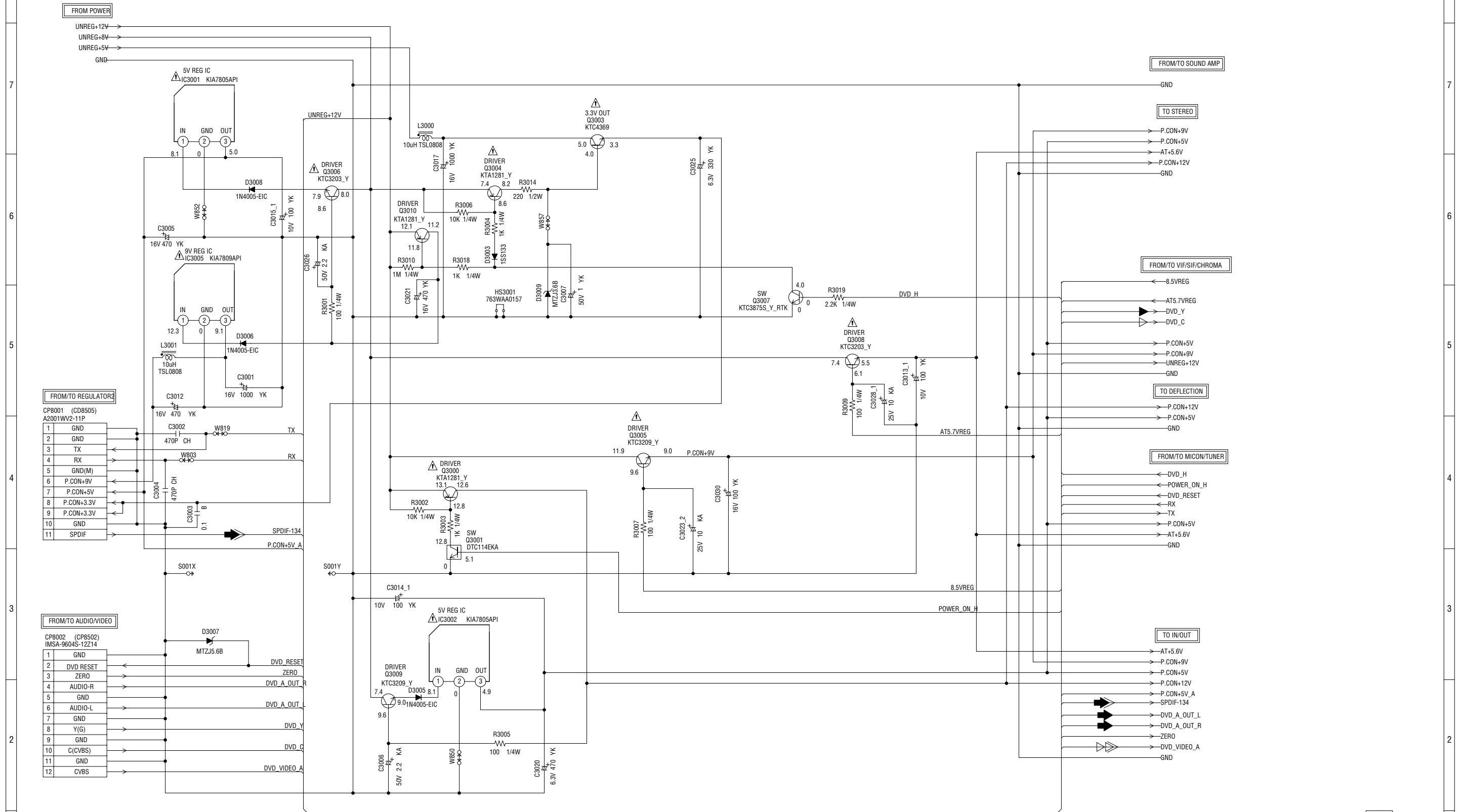
- ◁ PLAYBACK COLOR SIGNAL
- ▶ PLAYBACK LUMINANCE SIGNAL
- ◁▶ PLAYBACK VIDEO SIGNAL
- ▶▶ AUDIO SIGNAL(PB)
- ▶▶▶ DIGITAL AUDIO SIGNAL(PB)
- ◁ R.SIGNAL+ COMPONENT SIGNAL(U)
- ◁ B.SIGNAL+ COMPONENT SIGNAL(V)

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

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

PCB130  
VMC319

# REGULATOR SCHEMATIC DIAGRAM (AV PCB)



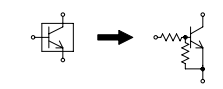
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

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

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

CAUTION: DIGITAL TRANSISTOR

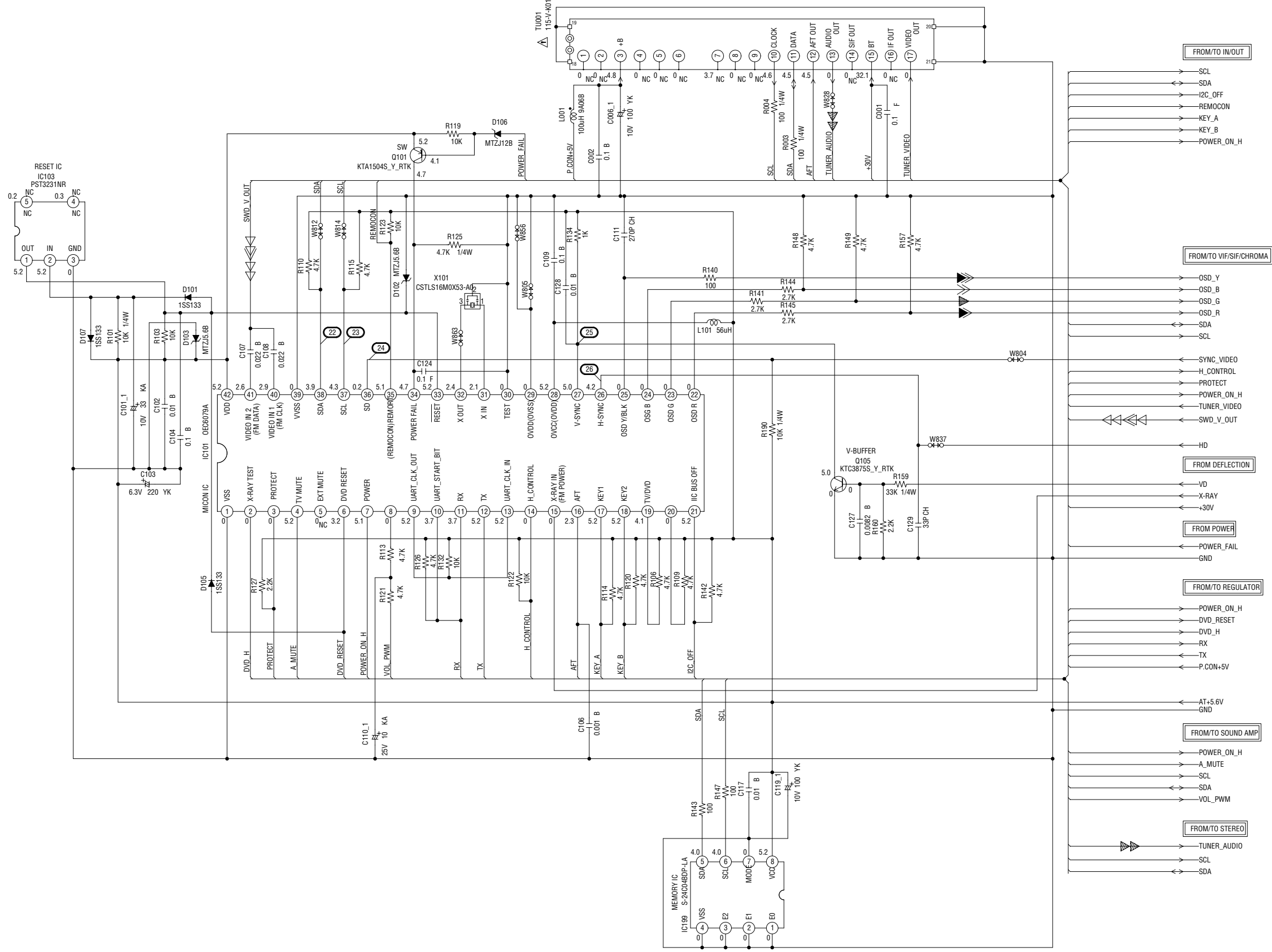


- DIGITAL AUDIO SIGNAL (PB)
- PLAYBACK LUMINANCE SIGNAL
- PLAYBACK COLOR SIGNAL
- PLAYBACK VIDEO SIGNAL
- AUDIO SIGNAL (PB)

PCB250  
TM8555



# 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.

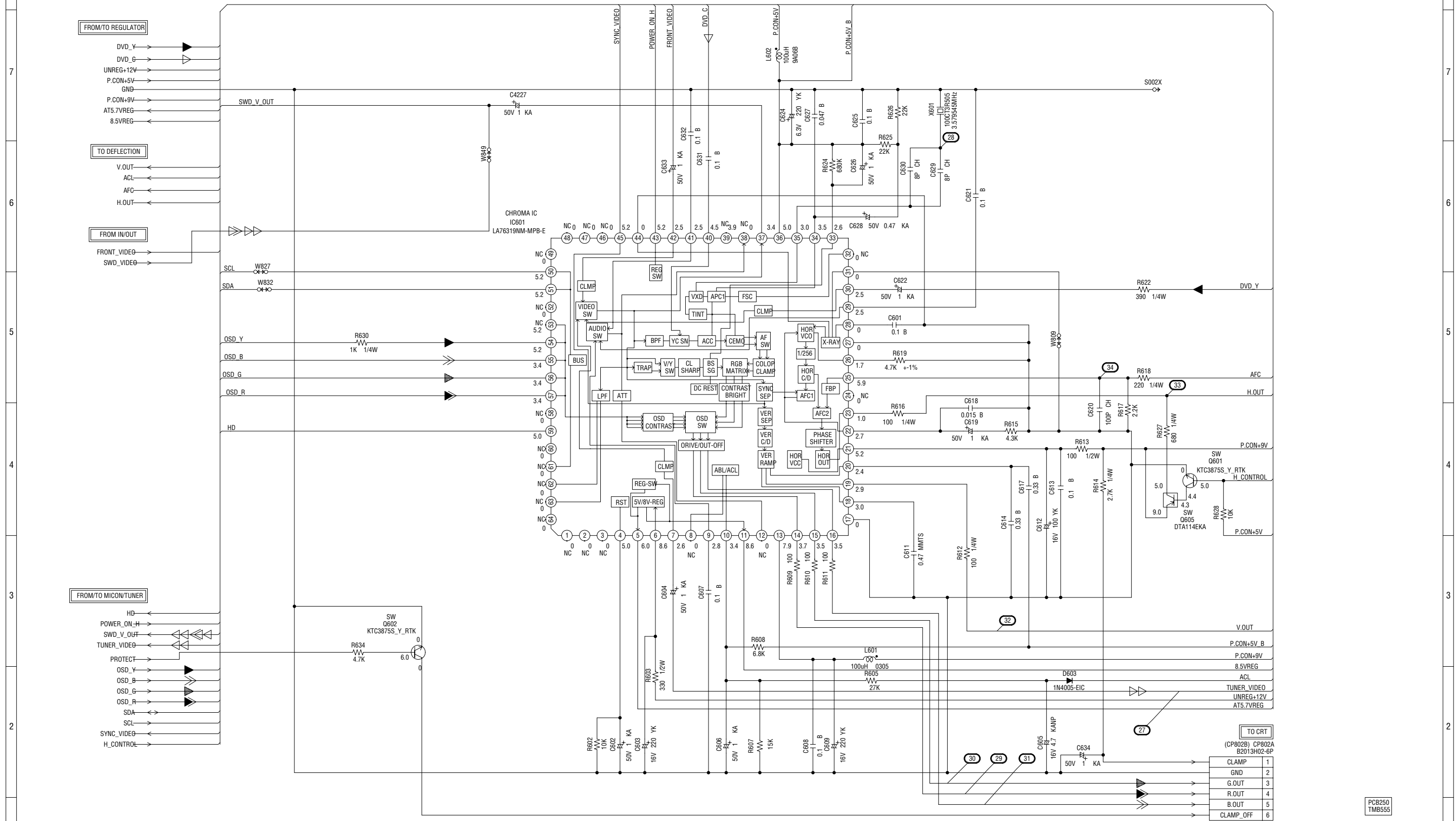
**ATTENTION:** LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

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

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

PCB250  
TM8555

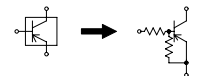
# VIF/SIF/CHROMA SCHEMATIC DIAGRAM (AV PCB)



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

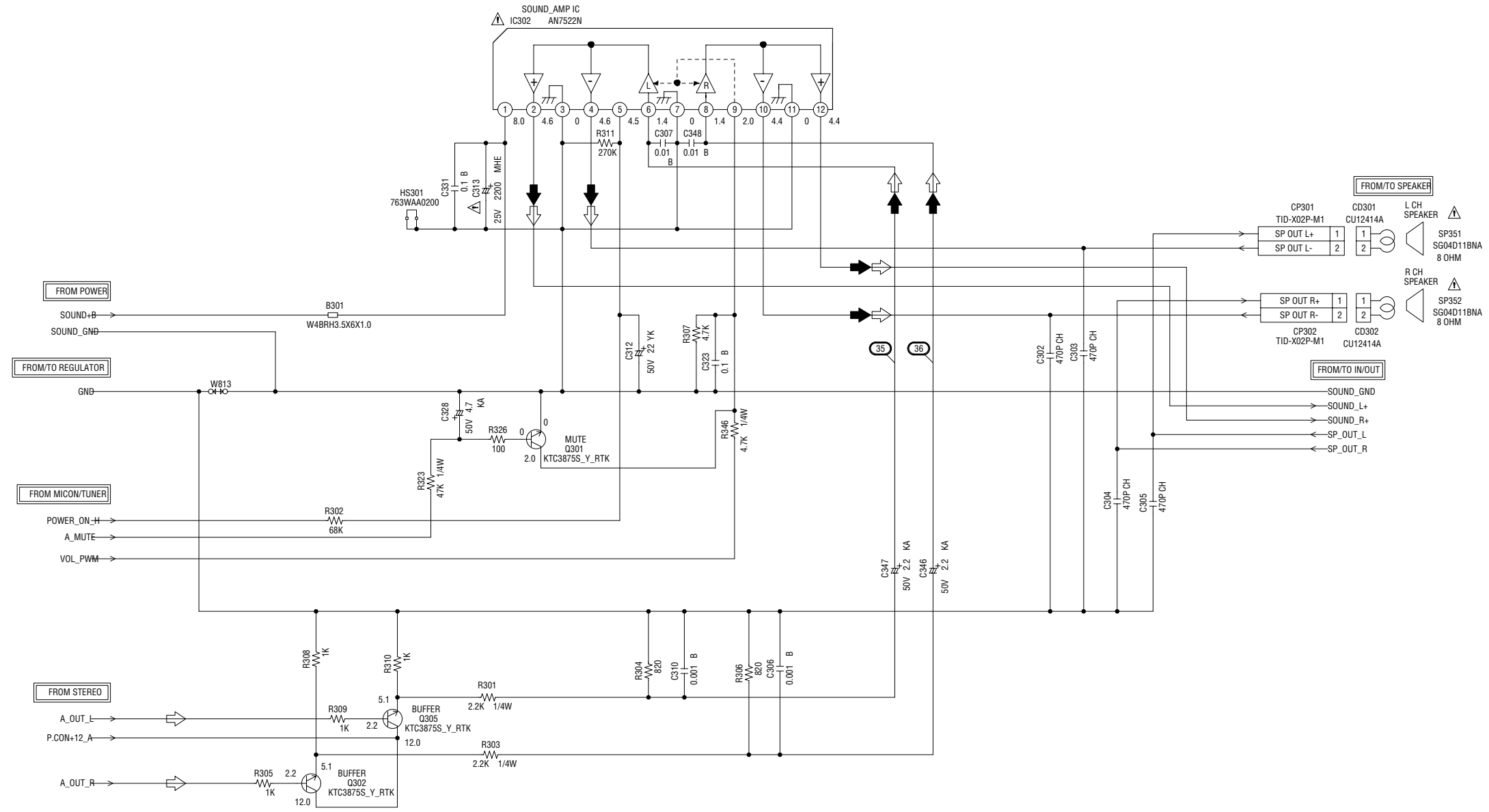


- ▶ PLAYBACK LUMINANCE SIGNAL
- ◀ TUNER VIDEO SIGNAL
- ◀▶ PLAYBACK COLOR SIGNAL
- B.SIGNAL
- ◻ G.SIGNAL
- ◼ R.SIGNAL
- ◁ PLAYBACK VIDEO SIGNAL

TO CRT	
(CP802B) CP802A	1
B2013H02-6P	2
CLAMP	3
GND	4
G.OUT	5
R.OUT	6
B.OUT	
CLAMP_OFF	

PCB250  
TM8555

# 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.

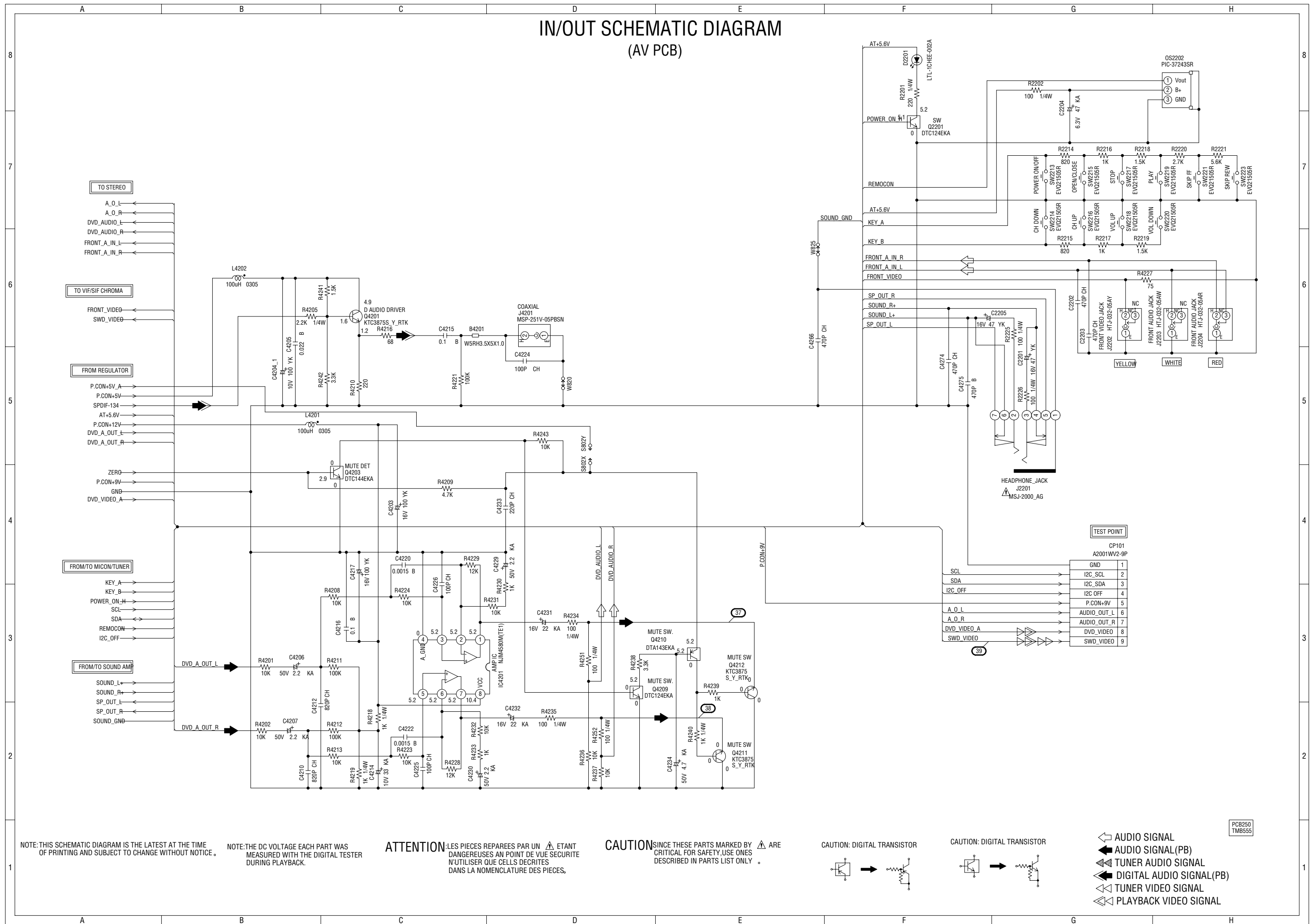
**ATTENTION:** LES PIÈCES RÉPARÉES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

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

AUDIO SIGNAL  
 AUDIO SIGNAL (PB)

PCB250  
TM8555

# IN/OUT SCHEMATIC DIAGRAM (AV PCB)



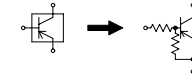
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

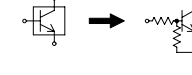
**ATTENTION:** LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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

CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR



AUDIO SIGNAL

AUDIO SIGNAL (PB)

TUNER AUDIO SIGNAL

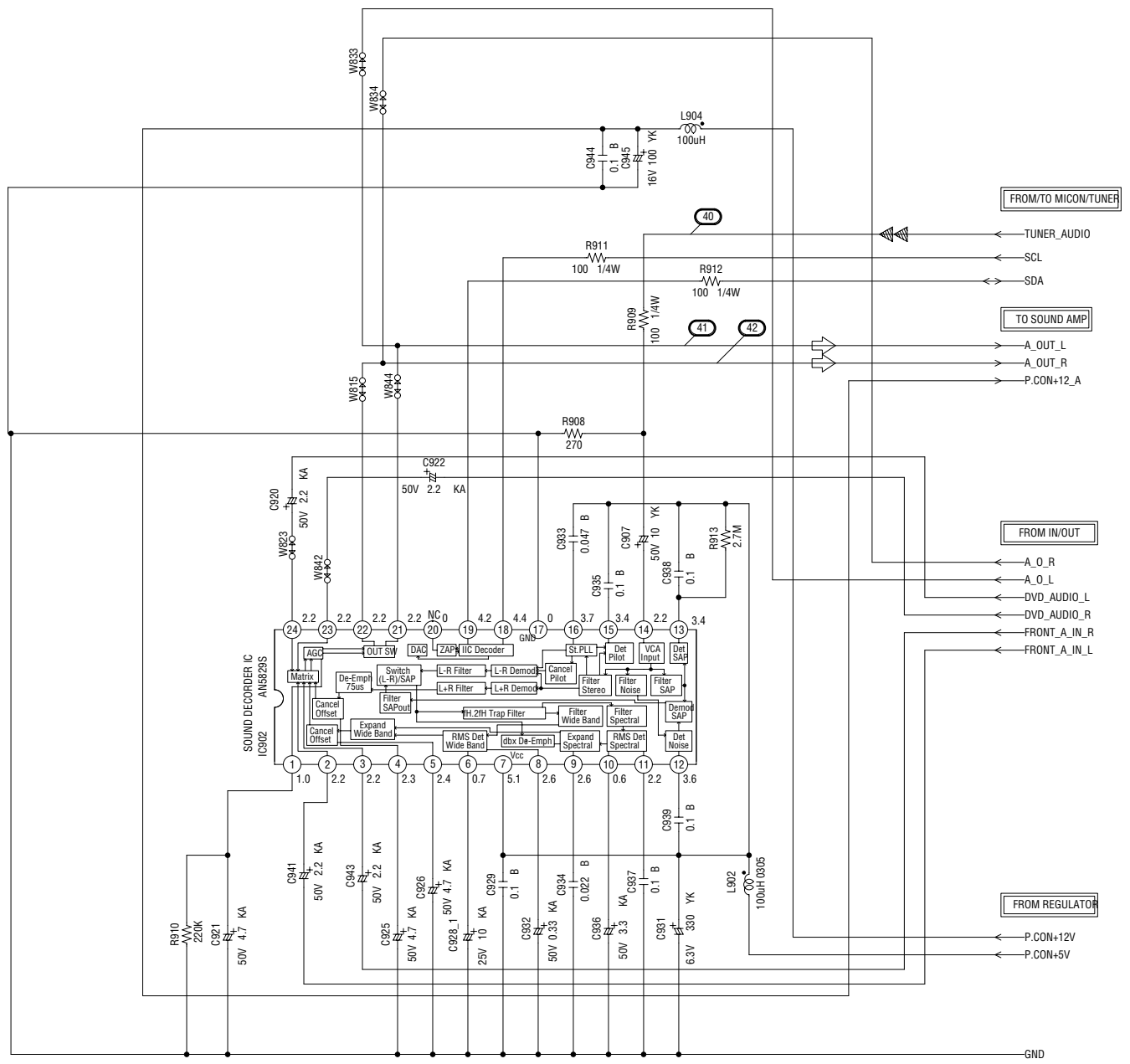
DIGITAL AUDIO SIGNAL (PB)

TUNER VIDEO SIGNAL

PLAYBACK VIDEO SIGNAL

PCB250  
TM8555

# STEREO SCHEMATIC DIAGRAM (AV PCB)



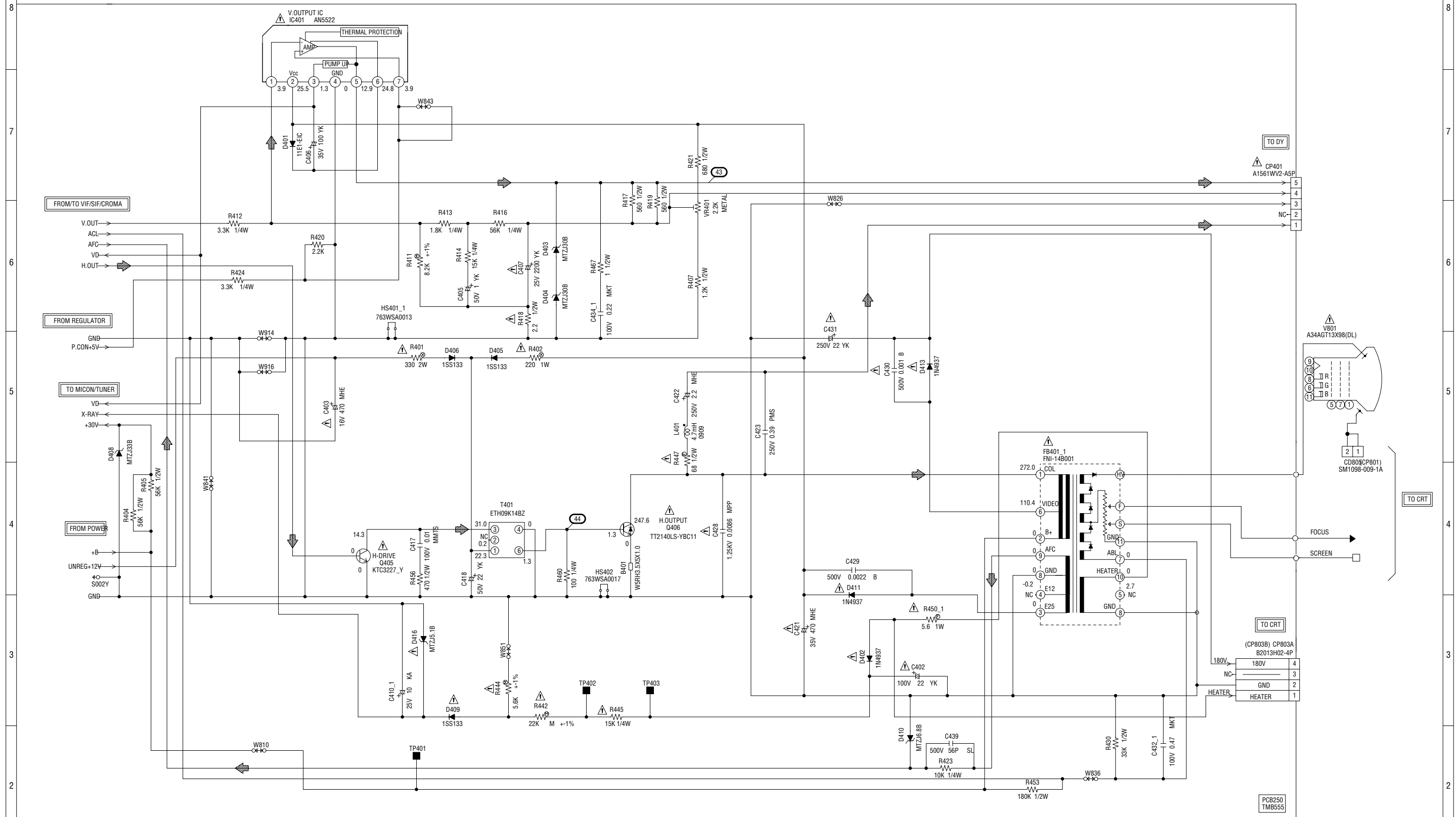
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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.

TUNER AUDIO SIGNAL  
 AUDIO SIGNAL

PCB250  
TM8555

# DEFLECTION SCHEMATIC DIAGRAM (V 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.

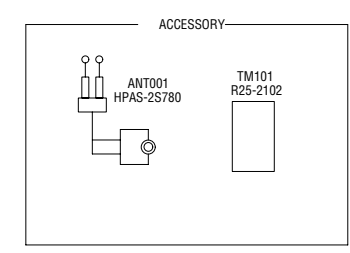
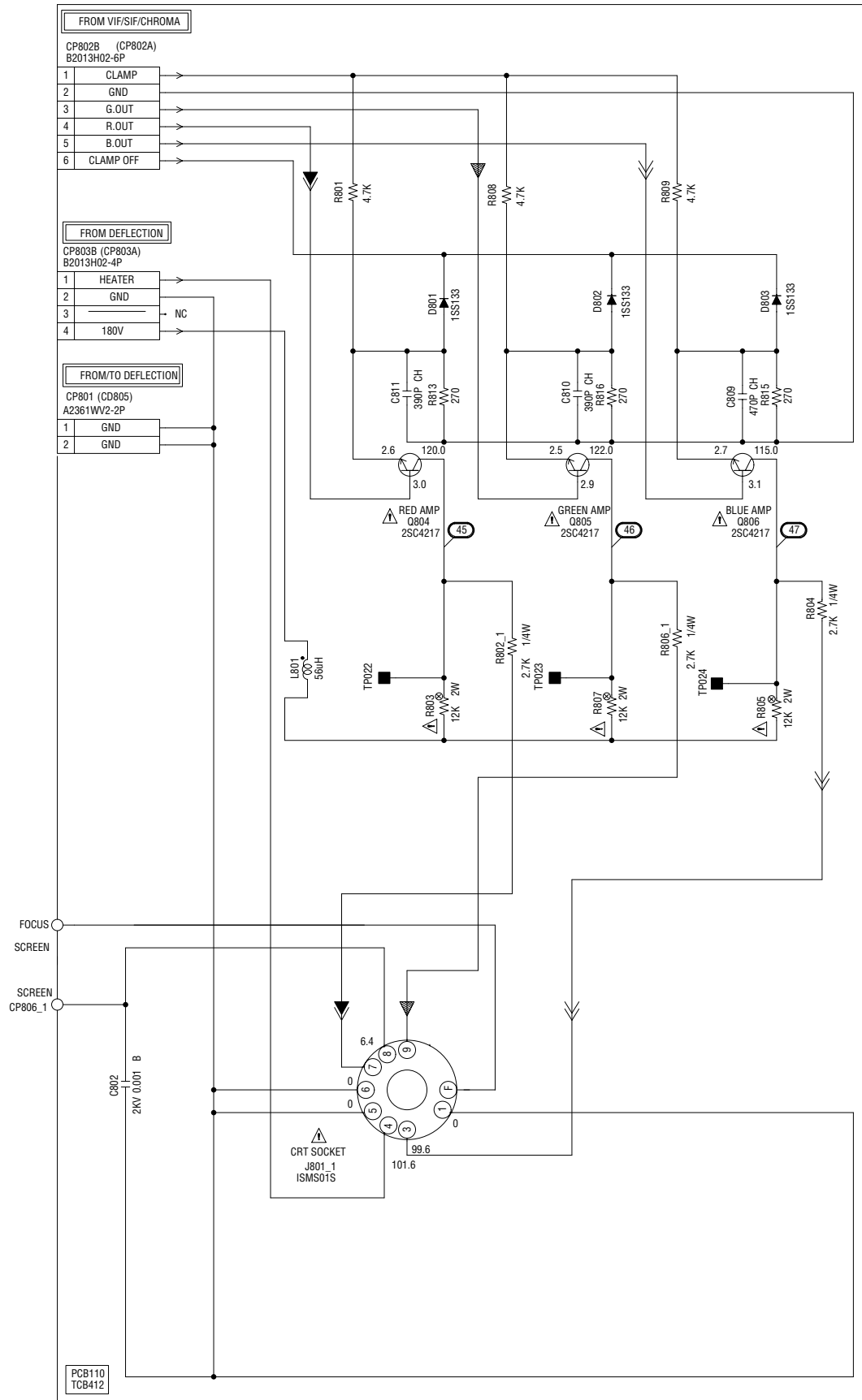
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

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

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

DEFLECTION SIGNAL

# CRT SCHEMATIC DIAGRAM (CRT PCB)



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

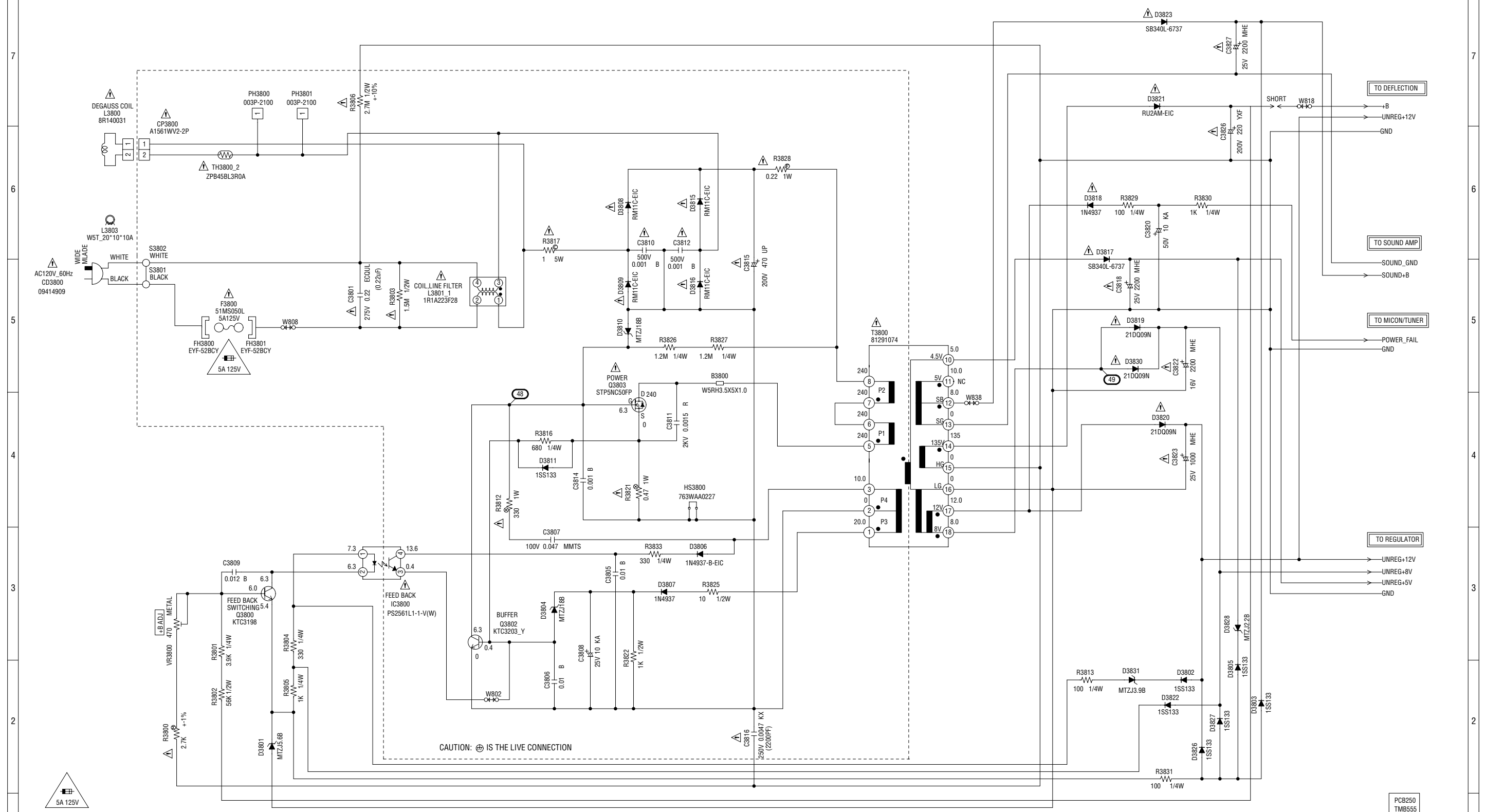
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

**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.

◀ R.SIGNAL  
◀ G.SIGNAL  
◀ B.SIGNAL

# POWER SCHEMATIC DIAGRAM (POWER PCB)



**ATTENTION** :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE  
N'UTILISER QUE DES FUSIBLE DE MEME TYPE 5A125V(F3800).

**CAUTION** :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE FUSE 5A125V(F3800).

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

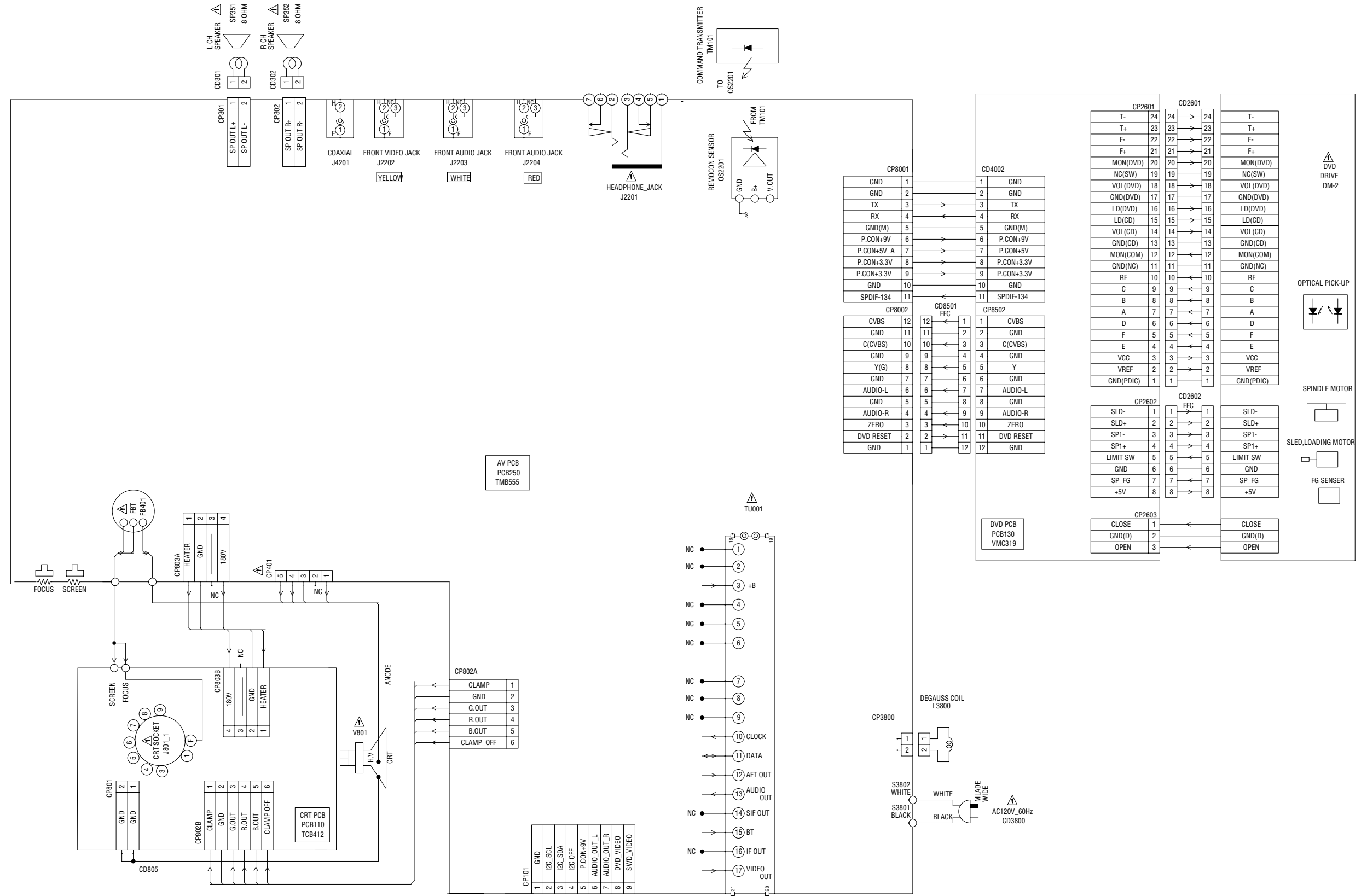
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

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

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



# INTERCONNECTION DIAGRAM



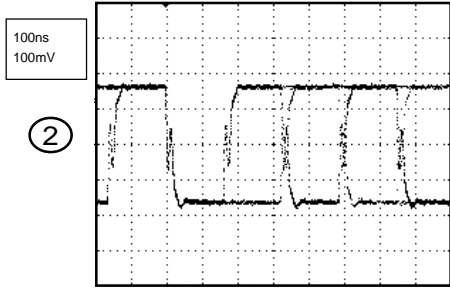
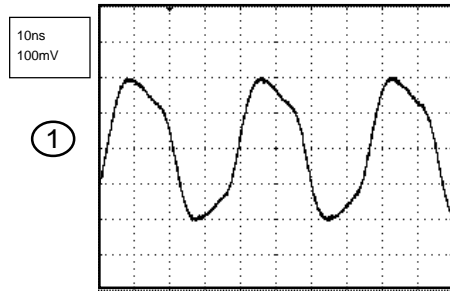
NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

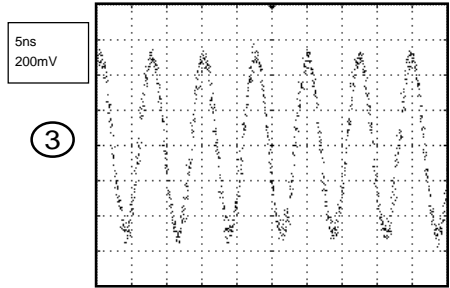
**ATTENTION:** LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

# WAVEFORMS

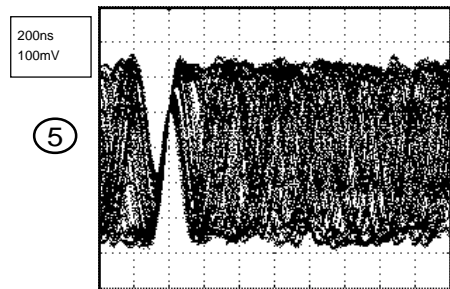
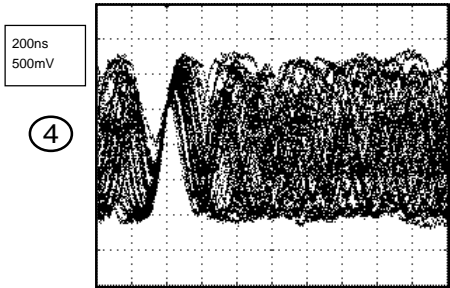
## MPEG/MICON



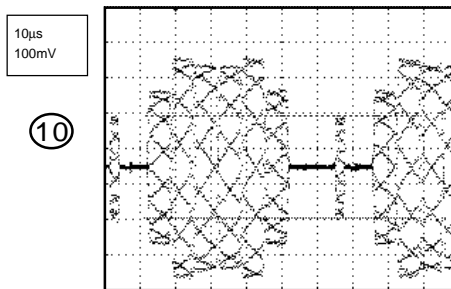
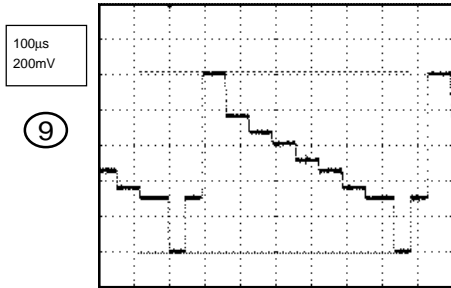
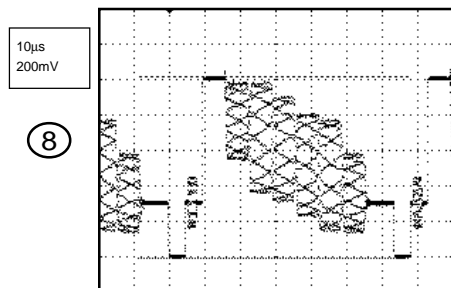
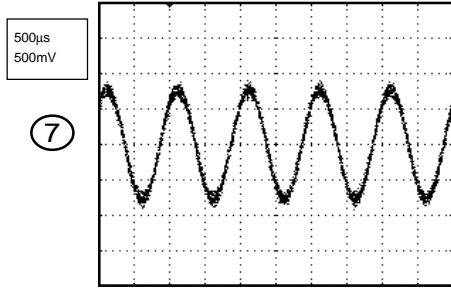
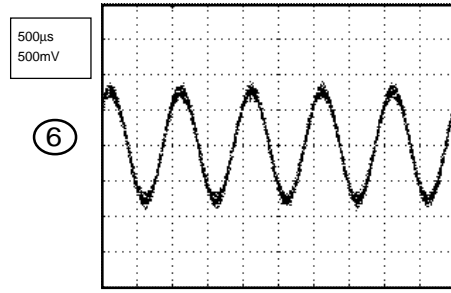
## MEMORY



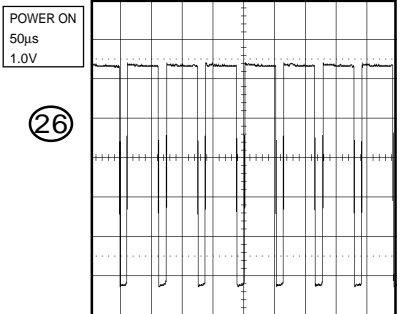
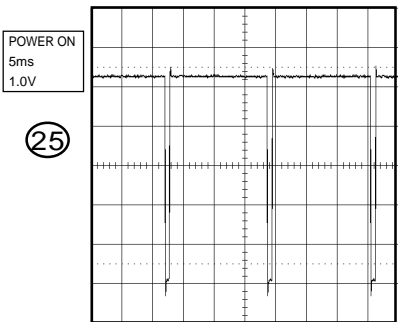
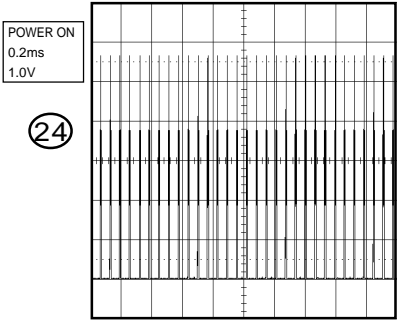
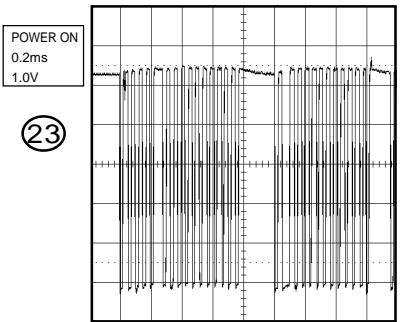
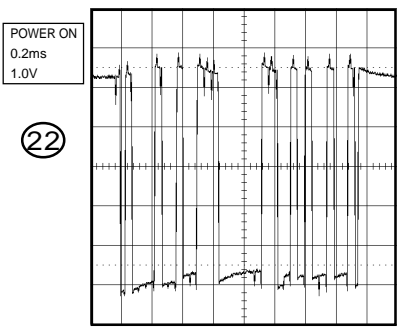
## RF AMP/DSP



## AUDIO/VIDEO



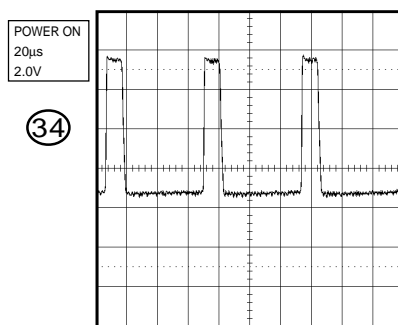
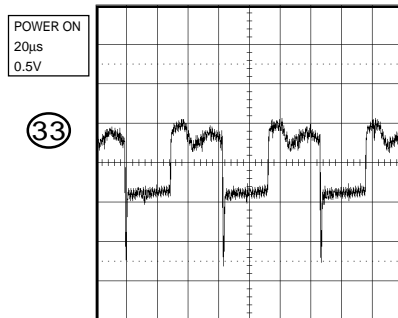
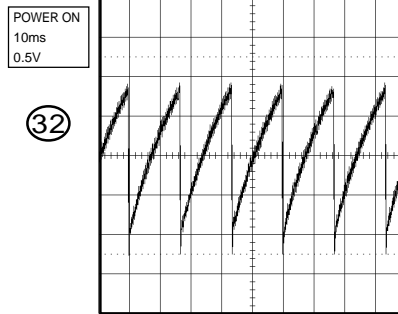
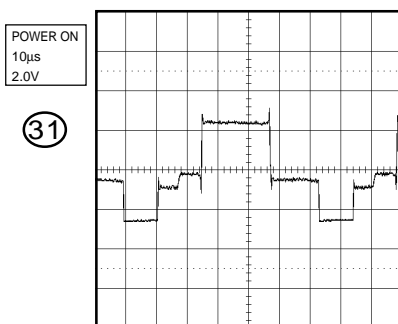
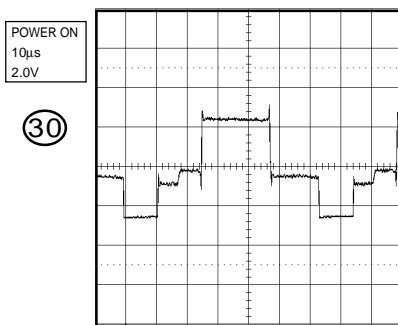
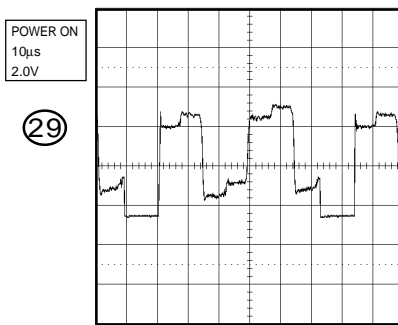
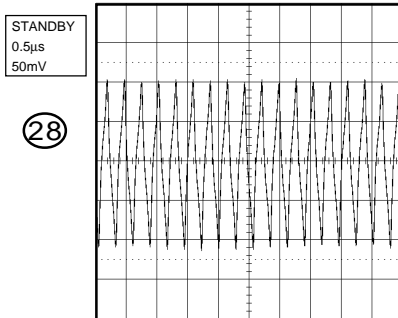
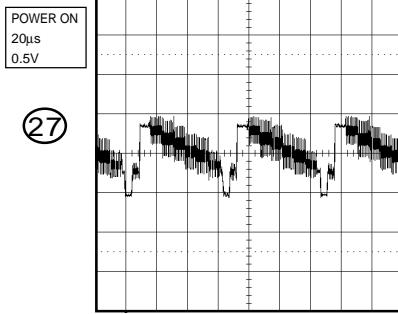
## MICON/TUNER



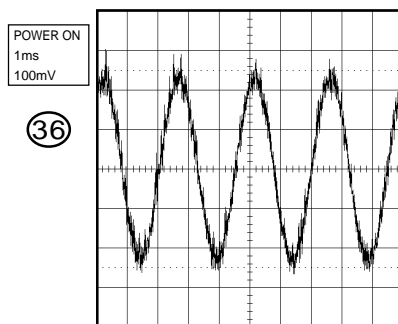
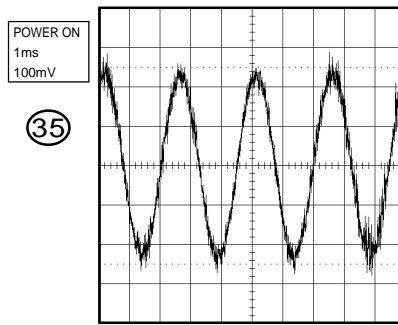
**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

# WAVEFORMS

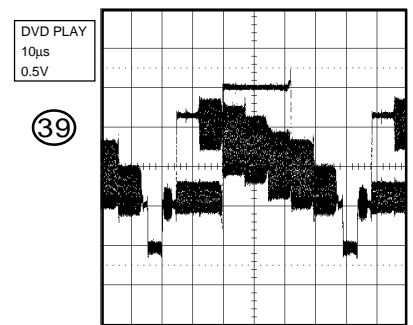
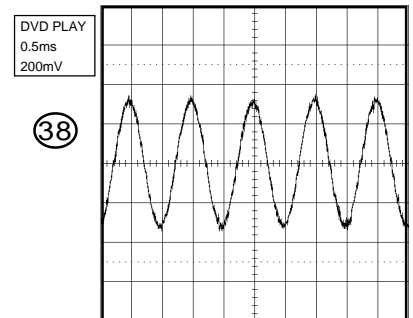
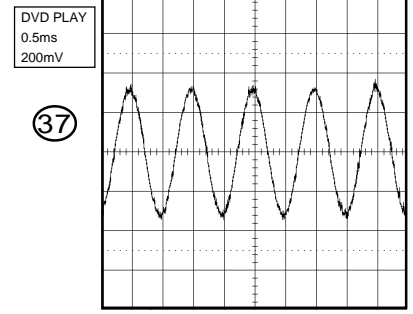
## VIF/SIF/CHROMA



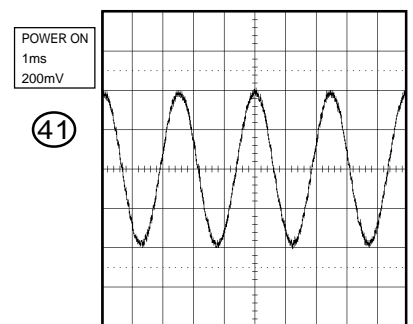
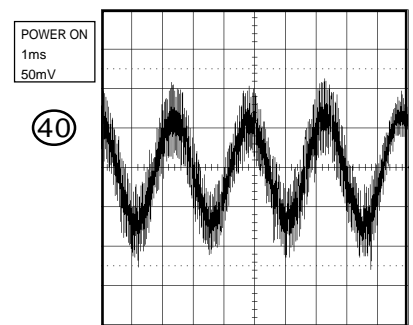
## SOUND AMP



## IN/OUT



## STEREO

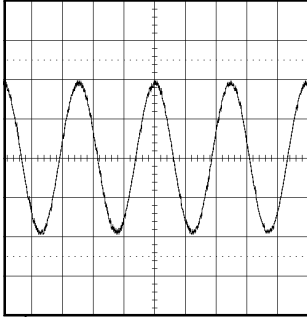


**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

## WAVEFORMS

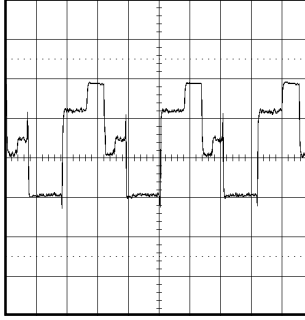
POWER ON  
1ms  
200mV

42



POWER ON  
20μs  
50V

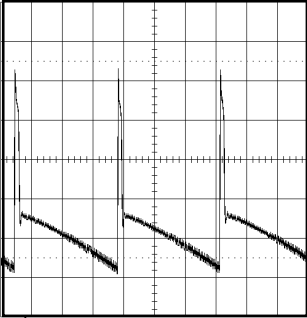
47



## DEFLECTION

POWER ON  
5ms  
10.0V

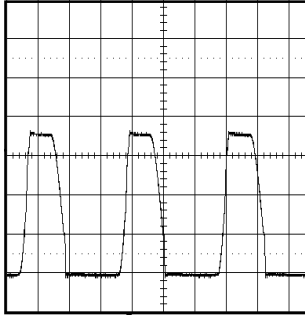
43



## POWER

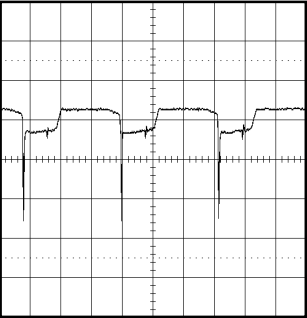
STANDBY  
5μs  
5.0V

48



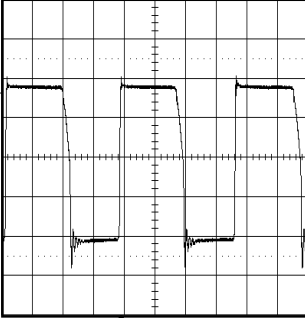
POWER ON  
20μs  
5.0V

44



STANDBY  
5μs  
5.0V

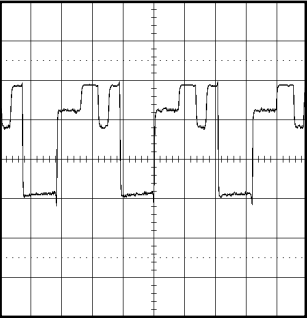
49



## CRT

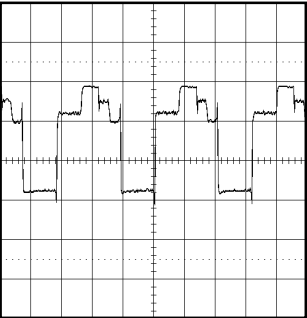
POWER ON  
20μs  
50V

45



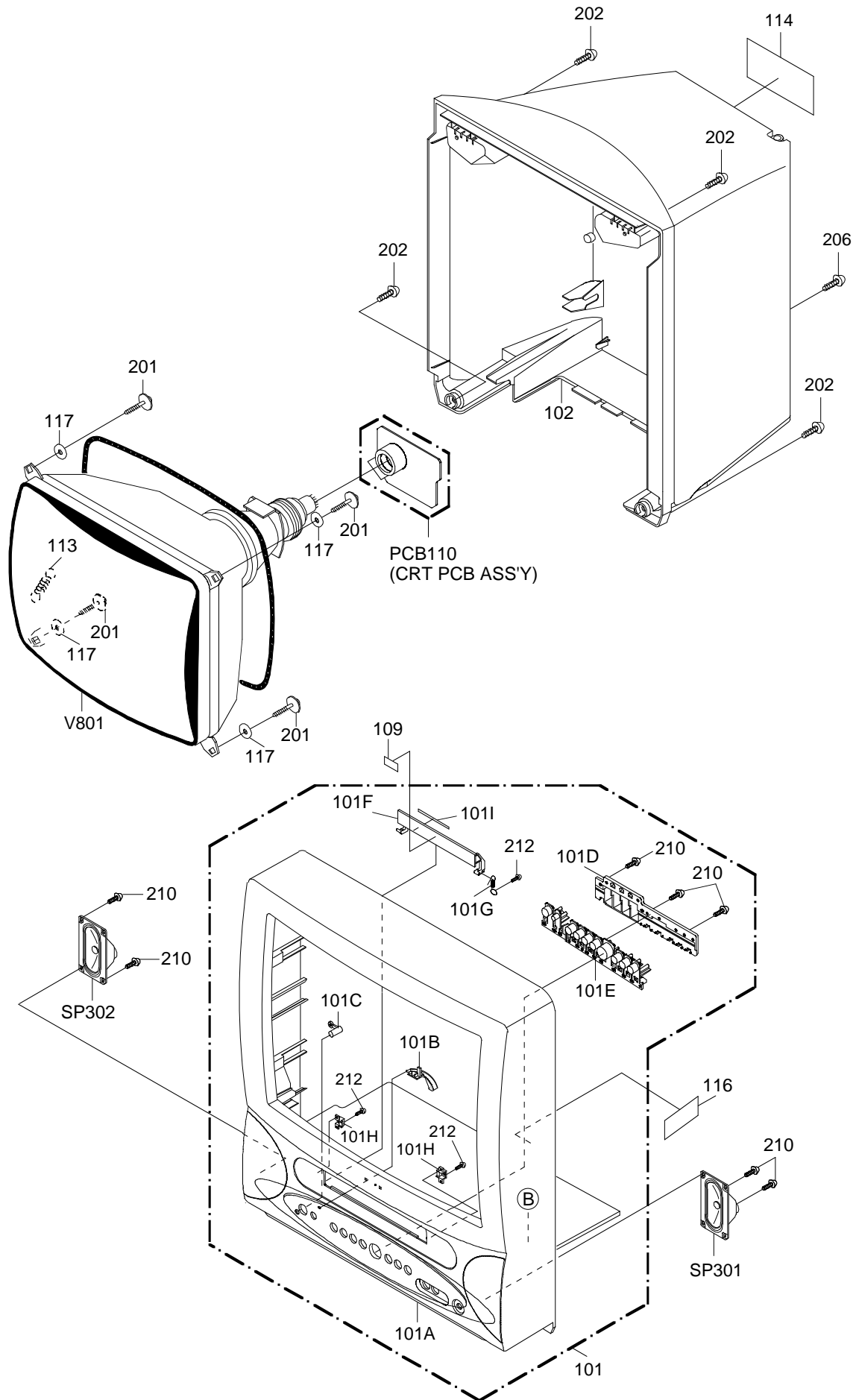
POWER ON  
20μs  
50V

46

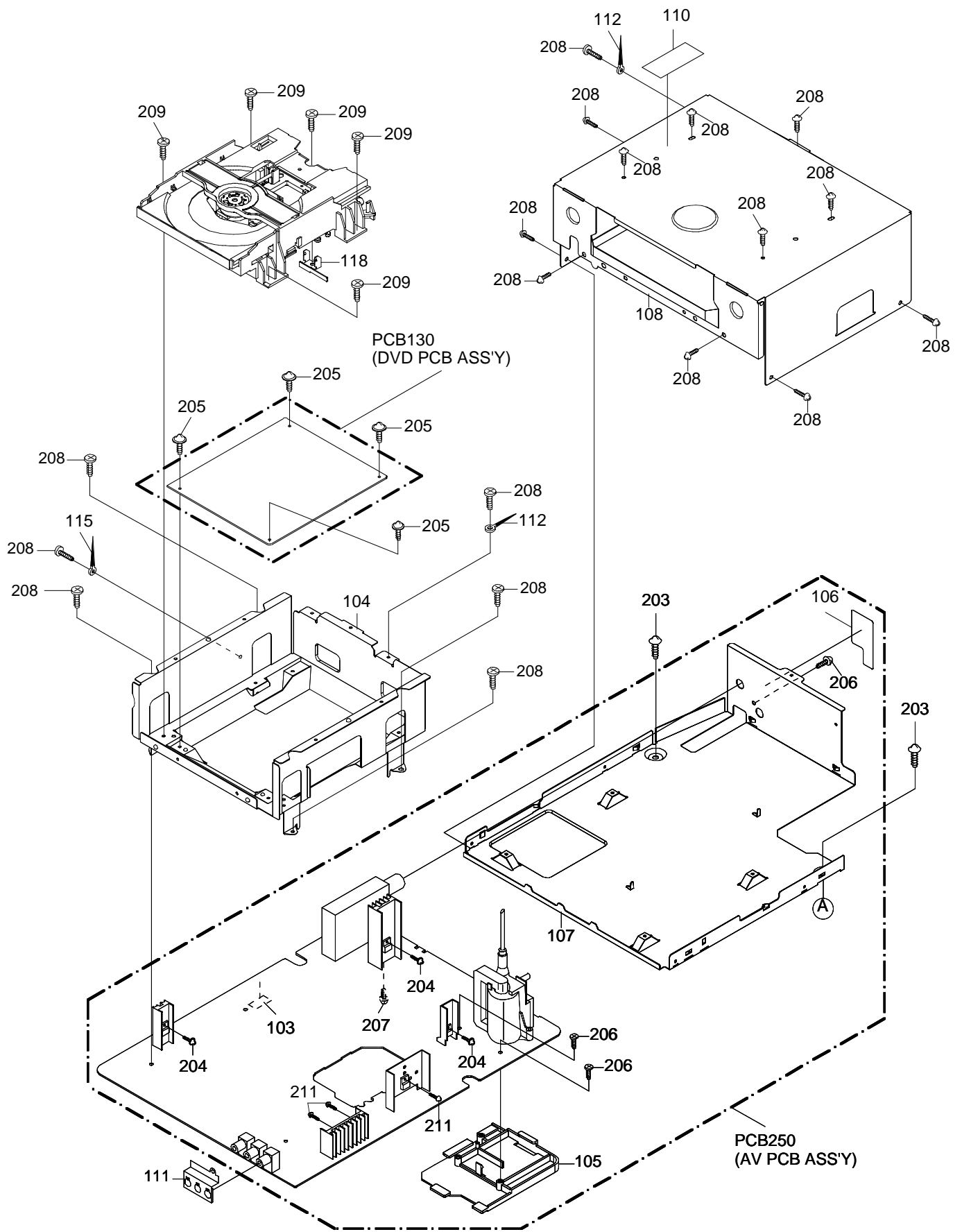


**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

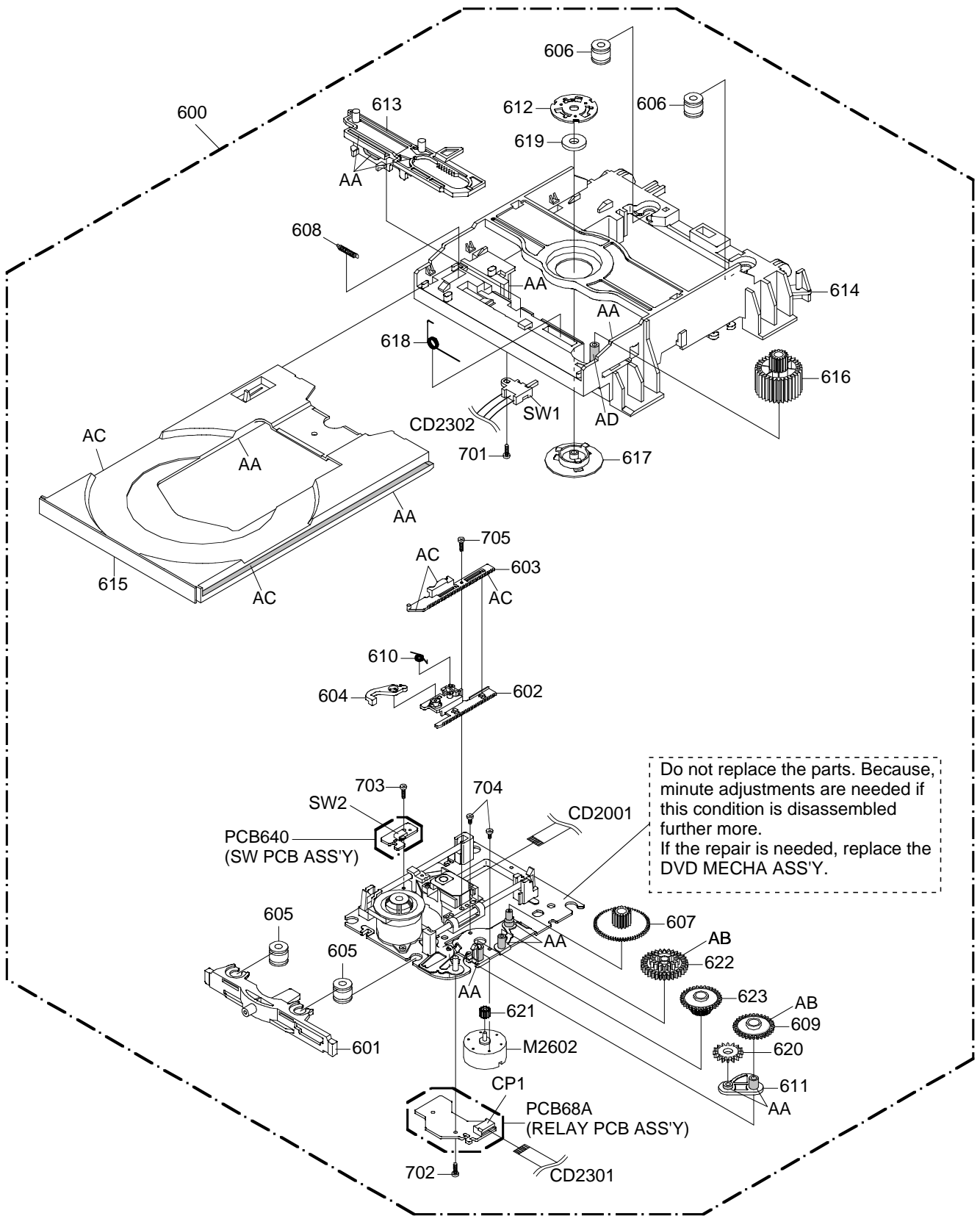
# MECHANICAL EXPLODED VIEW



# MECHANICAL EXPLODED VIEW



# DVD DECK EXPLODED VIEW



Do not replace the parts. Because, minute adjustments are needed if this condition is disassembled further more. If the repair is needed, replace the DVD MECHA ASS'Y.

CLASS	PART NO.	PART NAME	MARK
GREASE	Y315061000	G-555G	AA
	Y315121000	G-337F	AB
	Y315131000	SF-112	AC
	Y31D031000	ORG-102	AD

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

# MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
101	7A701A118A	FRONT,CABI ASS'Y
101A	701WPJC660	CABINET,FRONT
101B	713WPA0257	GLASS,LED
101C	713WPA0258	GUIDE,REMOCON
101D	735WPAA576	STOPPER,BUTTON
101E	735WPBB086	BUTTON,FRAME
101F	712WPBA056	FLAP,DVD
101G	742WKA0001	SPRING,DVD-FLAP
101H	761WPA0283	HOLDER,FLAP
101I	800WQQA077	FELT,SHEET <span style="float: right;">2x107xT=0.5</span>
102	A5K315V740	CABINET,BACK ASS'Y <span style="float: right;">or</span>
	702WPAA679	CABINET,BACK
103	724WNAA001	SHEET,PVC <span style="float: right;">5x10xT0.3</span>
104	761WSAA021	ANGLE DECK
105	761WPA0249	HOLDER,FBT
106	7230007593	SHEET,JACK
107	702WSA0165	PLATE,BOTTOM
108	702WSA0213	SHIELD, TOP
109	7235630001	SHEET,DVD(NEW)
110	7260000341	SHEET,CAUTION
111	752WSA0333	SHIELD,JACK
112	8995034000	CORD CLIP UL CO.
113	741WUA0021	SPRING,EARTH
114	722A08A145	SHEET,RATING <span style="float: right;">or</span>
115	899EFBA001	WIRING CLIP
	899EFBA002	WIRING-CLIP
116	7230006755	SHEET,CAUTION
117	800WR0A011	SHEET CRT SUPPORT (D)
118	752WSA0384	ANGLE,DVD 2
201	8121F50B84	SCREW,TAP TITE(P) <span style="float: right;">FAI20 FLAT 5x28</span>
202	8117540A64	SCREW,TAPPING(B0) <span style="float: right;">TRUSS 4x16</span>
203	8117540804	SCREW,TAPPING(B0) <span style="float: right;">TRUSS 4x8</span>
204	8109I30A04	SCREW,TAP TITE(B) <span style="float: right;">WH7 3x10</span>
205	8109I30804	SCREW,TAP TITE(B) <span style="float: right;">WH7 3x8</span>
206	8109230804	SCREW,TAP TITE(B) <span style="float: right;">BIND 3x8</span>
207	8109630802	SCREW,TAP TITE(B) <span style="float: right;">BRAZIER 3x8</span>
208	8109230604	SCREW,TAP TITE(B) <span style="float: right;">BIND 3x6</span>
209	810F130804	SEMS(F) <span style="float: right;">3x8</span>
210	8110630804	SCREW,TAP TITE(P) <span style="float: right;">BRAZIER 3x8</span>
211	8107630804	SCREW,TAP TITE(S) <span style="float: right;">BRAZIER 3x8</span>
212	8110E30804	SCREW,TAP TITE(P) <span style="float: right;">WH10 3x8</span>
---	A5K315V975	INSTRUCTION BOOK KIT
---	J5K31521A	INSTRUCTION BOOK
---	JA5U0100	POLYBAG,INSTRUCTION
---	791WHAA016	LAMIFILM BAG
---	792WHAA077	PACKAGE, TOP
---	792WHAA078	PACKAGE, BOTTOM
---	793WCDC358	GIFT BOX



## DVD DECK REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
600	A5J503C650P	DVD MECHA ASS'Y	A5J503C650P
601	92P100022A	TRAVERSE HOLDER	
602	92P100080A	RACK,FEED 1A	
603	92P100081A	RACK,FEED 2A	
604	92P100035A	LEVER,RACK FEED	
605	92P200006A	INSULATOR(F)	
606	92P200007A	INSULATOR(R)	
607	92P100029A	GEAR,FEED	
608	92P300009A	SPRING,RACK L	
609	92P100028A	GEAR,MIDDLE 3	
610	92P300019A	SPRING,RACK FEED 1A	
611	92P100040A	ARM,IDLER 2	
612	92P000001A	CLAMPER PLATE	
613	92P100019A	RACK,LOADING	
614	92P100020A	MAIN FRAME M	
615	92P100039A	TRAY	
616	92P100023A	GEAR,MAIN	
617	92P100082A	CLAMPER 2	
618	92P300002A	SPRING,RACK LOADING	
619	92P400002A	MAGNET,CLAMPER	
620	92P100030A	GEAR,IDLER	
621	92P100025A	GEAR,MOTOR	
622	92P100083A	GEAR,MIDDLE 1	
623	92P100027A	GEAR,MIDDLE 2	
701	8110226804	SCREW,TAP TITE(P) BIND	2.6x8
702	8110120604	SCREW,TAP TITE(P) PAN	2x6
703	8107220504	SCREW,TAP TITE(S) BIND	2x5
704	8140117254	SCREW,PAN	M1.7x2.5 P3
705	8110220804	SCREW,TAP TITE(P) BIND	2x8
CD2001	122H001901	CORD JUMPER	2H001901
CD2301	122H080701	CORD JUMPER	2H080701
CD2302	06CH232101	CORD CONNECTOR	CH232101
CP1	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
M2601	1516S08002	SPINDLE MOTOR	JCL9B65
△ M2602	1515S98001	FEED MOTOR	BCD3B81
PCB640	A5E601V640	PCB ASS'Y	BEC001A
PCB68A	A5E601V680	PCB ASS'Y	BEC002A
SW1	0515S32001	SWITCH	SSS-23-6
SW2	0500101036	PUSH SWITCH	ESE22MH22

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>RESISTORS</b>			<b>DIODES</b>		
△ R401	R3X28A331J	R,METAL OXIDE 330 OHM 2W	△ D3808	D2WTRM11C0	DIODE SILICON RM11C-EIC
△ R402	R3X181221J	R,METAL OXIDE 220 OHM 1W	△ D3809	D2WTRM11C0	DIODE SILICON RM11C-EIC
△ R418	R002T22R2J	RC 2.2 OHM 1/2W	D3810	D97U01801B	DIODE,ZENER MTZJ18B T-77
△ R442	R4X5T6223F	R,METAL 22K OHM 1/6W	D3811	D1VT001330	DIODE,SILICON 1SS133T-77
△ R444	R4X5T6562F	R,METAL 5.6K OHM 1/6W	△ D3815	D2WTRM11C0	DIODE SILICON RM11C-EIC
△ R445	R002T4153J	RC 15K OHM 1/4W	△ D3816	D2WTRM11C0	DIODE SILICON RM11C-EIC
△ R447	R65582680J	R,FUSE 68 OHM 1/2W	△ D3817	D2LKB340L0	DIODE SCHOTTKY SB340L-6737
R450	R635815R6J	R,FUSE 5.6 OHM 1W	△ D3818	D2WXN49370	DIODE SILICON 1N4937
△ R803	R3X18A123J	R,METAL OXIDE 12K OHM 2W	△ D3819	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1
△ R805	R3X18A123J	R,METAL OXIDE 12K OHM 2W	△ D3820	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1
△ R807	R3X18A123J	R,METAL OXIDE 12K OHM 2W	△ D3821	D2WXRU2AM0	DIODE SILICON RU2AM-EIC
R2344	R002021R2J	RC 1.2 OHM 1/2W	D3822	D1VT001330	DIODE,SILICON 1SS133T-77
R2345	R002021R2J	RC 1.2 OHM 1/2W	△ D3823	D2LKB340L0	DIODE SCHOTTKY SB340L-6737
△ R3803	R002T2155J	RC 1.5M OHM 1/2W	D3826	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3806	R0G3K2275K	RC 2.7M OHM 1/2W	D3827	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3812	R3X181331J	R,METAL OXIDE 330 OHM 1W	D3828	D97U02R21B	DIODE,ZENER MTZJ2.2B T-77
△ R3817	R5Y2CD010J	R,CEMENT 1 OHM 5W	△ D3830	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1
△ R3821	R3X181R47J	R,METAL OXIDE 0.47 OHM 1W	D3831	D97U03R91B	DIODE,ZENER MTZJ3.9B T-77
△ R3828	R63581R22J	R,FUSE 0.22 OHM 1W	D4001	DDDRL41480	DIODE SILICON MCL4148
<b>CAPACITORS</b>			<b>ICS</b>		
C313	E5EZF3222M	CE 2200 UF 25V	IC101	I55D06079A	IC OEC6079A
△ C402	E02LU8220M	CE 22 UF 100V	IC103	I9UF032310	IC PST3231NR
△ C403	E5EZF3222M	CE 2200 UF 25V	IC199	A5K315V255	INIT DATA
△ C407	E02LF3222M	CE 2200 UF 25V	△ IC302	I0FSP7522N	IC AN7522N
C423	P4J7F3394J	CMPP 0.39 UF 250V PMS	△ IC401	I01TD55220	IC AN5522
△ C428	P4N8FJ862H	CMPP 0.0086UF 1.25KV	IC601	I03FC319N0	IC LA76319NM-MPB-E
C431	E0ELFD220M	CE 22 UF 250V	IC902	I01FF58290	IC AN5829S
C802	C0JBB0713K	CC 0.001 UF 2KV B	IC2301	I03F065600	IC LA6560
C3007	E02L05010M	CE 1 UF 50V	IC2601	ICQK067080	IC ZR36708TQC
△ C3801	P2122B224M	CMP 0.22 UF 275V ECQUL	IC2602	I07E00358F	IC BA10358F-E2
C3811	C0PLRR7E3K	CC 0.0015 UF 2KV R	△ IC3001	I1KA97805A	IC KIA7805API
△ C3815	E51CGC471M	CE 470 UF 200V	IC3002	I1KA97805A	IC KIA7805API
△ C3816	CD39E0MQ3M	CC 0.0047UF 250V	IC3005	I1KA97809A	IC KIA7809API
C3818	E5EZF3222M	CE 2200 UF 25V	△ IC3800	000220001W	PHOTO COUPLER PS2561L1-1-V(W)
△ C3820	E50HU5100M	CE 10 UF 50V	IC4001	ICQK067620	IC ZR36762
△ C3822	E5EZF2222M	CE 2200 UF 16V	IC4002	ICRJC04N0	IC AT24C04N-10SI-2.7
△ C3823	E5EZF3102M	CE 1000 UF 25V	IC4003	I0GF9XZ010	IC PQ070XZ01ZP
△ C3826	E62NFC221M	CE 220 UF 200V	IC4005	IF9J016447	IC M12L64164A-7T or
C3827	E5EZF3222M	CE 2200 UF 25V		IF3J00HGT7	IC HY57V641620HGT-7 or
				IF8J064006	IC IC42S16400-6TG
			IC4007	ICMJ0800A8	IC SST39VF800A-70-4C-EK-D or
				ICMJ0F8009	IC SST39VF800-70-4C-EK
			IC4201	ICQJ045800	IC NJM4580M(TE1)
			IC8502	I17F02KEG0	IC PCM1742KEG/2K
<b>DIODES</b>			<b>TRANSISTORS</b>		
D101	D1VT001330	DIODE,SILICON 1SS133T-77	Q101	TAAA1504SY	TRANSISTOR SILICON KTA1504S_Y_RTK
D102	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	Q105	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D103	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	Q301	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D105	D1VT001330	DIODE,SILICON 1SS133T-77	Q302	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D106	D97U01201B	DIODE,ZENER MTZJ12B T-77	Q305	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D107	D1VT001330	DIODE,SILICON 1SS133T-77	△ Q405	TCAT03227Y	TRANSISTOR SILICON KTC3227_Y-AT
D401	D2WTO11E10	DIODE SILICON 11E1-EIC	△ Q406	TD3Q021400	TRANSISTOR SILICON TT2140LS-YBC11
△ D402	D2WXN49370	DIODE SILICON 1N4937	Q601	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D403	D97U03001B	DIODE,ZENER MTZJ30B T-77	Q602	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D404	D97U03001B	DIODE,ZENER MTZJ30B T-77	Q605	TPYJB05001	COMPOUND TRANSISTOR DTA114EKAT146
D405	D1VT001330	DIODE,SILICON 1SS133T-77	△ Q804	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
D406	D1VT001330	DIODE,SILICON 1SS133T-77	△ Q805	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
D408	D97U03301B	DIODE,ZENER MTZJ33B T-77	△ Q806	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
D409	D1VT001330	DIODE,SILICON 1SS133T-77	Q2201	TNYJC05001	COMPOUND TRANSISTOR DTC124EKAT146
D410	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	Q2601	T67J1036K0	TRANSISTOR SILICON 2SA1036KT146
D411	D2WXN49370	DIODE SILICON 1N4937	Q2602	T67J1036K0	TRANSISTOR SILICON 2SA1036KT146
△ D416	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	Q2603	T27T030180	FET 2SK3018
D603	D2WXN40050	DIODE SILICON 1N4005-EIC	Q2604	T27T030180	FET 2SK3018
D801	D1VT001330	DIODE,SILICON 1SS133T-77	Q2605	T27T030180	FET 2SK3018
D802	D1VT001330	DIODE,SILICON 1SS133T-77	Q3000	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
D803	D1VT001330	DIODE,SILICON 1SS133T-77	Q3001	TNYJB05001	COMPOUND TRANSISTOR DTC114EKAT146
D2201	0021E2Q140	LED LTL-1CHEE-002A	△ Q3003	TCA0043690	TRANSISTOR SILICON KTC4369(O,Y)
D2601	DDARDS1200	DIODE SILICON KDS120RTK	Q3004	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
D3003	D1VT001330	DIODE,SILICON 1SS133T-77	Q3005	TCAT03209Y	TRANSISTOR SILICON KTC3209_Y-AT
D3005	D2WXN40050	DIODE SILICON 1N4005-EIC	Q3006	TCAT032034	TRANSISTOR, SILICON KTC3203_Y-AT
D3006	D2WXN40050	DIODE SILICON 1N4005-EIC	Q3007	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D3007	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	Q3008	TCAT032034	TRANSISTOR, SILICON KTC3203_Y-AT
D3008	D2WXN40050	DIODE SILICON 1N4005-EIC	Q3009	TCAT03209Y	TRANSISTOR SILICON KTC3209_Y-AT
D3009	D97U03R61B	DIODE,ZENER MTZJ3.6B T-77	Q3010	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
D3801	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	Q3800	TCATC31980	TRANSISTOR,SILICON KTC3198-AT(Y,GR)
D3802	D1VT001330	DIODE,SILICON 1SS133T-77	△ Q3802	TCAT032034	TRANSISTOR, SILICON KTC3203_Y-AT
D3803	D1VT001330	DIODE,SILICON 1SS133T-77	△ Q3803	TJXG5NC500	FET STP5NC50FP
D3804	D97U01801B	DIODE,ZENER MTZJ18B T-77			
D3805	D1VT001330	DIODE,SILICON 1SS133T-77			
D3806	D2W0N49370	DIODE SILICON 1N4937-B-EIC			
D3807	D2WXN49370	DIODE SILICON 1N4937			

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>TRANSISTORS</b>					
Q4004	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	B4010	024HC31022 CORE,BEADS FCM2012H-102T04
Q4201	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	B4201	024HT03553 CORE,BEADS W5RH3.5X5X1.0
Q4203	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146	B8502	024HC31022 CORE,BEADS FCM2012H-102T04
Q4209	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146	B8503	024HC31022 CORE,BEADS FCM2012H-102T04
Q4210	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146	CD301	06CU12414A CORD CONNECTOR CU12414A
Q4211	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	CD302	06CU12414A CORD CONNECTOR CU12414A
Q4212	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	CD802	WDL6032038 FLAT CABLE AWM2468 AWG26 6C BLACK 320MM
Q8502	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	CD803	WBL6022038 FLAT CABLE AWM2468 AWG26 4C BLACK 220MM
Q8503	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	CD805	06CU82039A CORD CONNECTOR
Q8504	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	CP101	069S290629 CONNECTOR PCB SIDE A2001WV2-9P
<b>COILS &amp; TRANSFORMERS</b>					
L001	021375101K	COIL	100 UH	CP301	069W120029 CONNECTOR PCB SIDE TID-X02P-M1
L101	021JX6560K	COIL	56 UH	CP302	069W120029 CONNECTOR PCB SIDE TID-X02P-M1
L401	021679472K	COIL	4.7 MH	CP401	069S450089 CONNECTOR PCB SIDE A1561WV2-A5P
L601	02167F101J	COIL	100 UH	CP801	069S320010 CONNECTOR PCB SIDE A2361WV2-2P
L602	021375101K	COIL	100 UH	△ CD3800	1209414909 CORD AC BUSH 9414909 or
L801	021673560K	COIL	56 UH		120R414903 CORD AC BUSH 0R414903
L902	02167F101J	COIL	100 UH	CD4002	06CU2B2001 CORD CONNECTOR CU2B2001
L904	02167F101J	COIL	100 UH	CD8501	122H0C1001 CORD JUMPER 2H0C1001
L3000	02167E100K	COIL	10 UH	CP2601	069JY0T099 CONNECTOR PCB SIDE IMSA-9631S-24Y901
L3001	02167E100K	COIL	10 UH	CP2602	069JV80189 CONNECTOR PCB SIDE IMSA-9615S-08C-PP
△ L3800	028R140031	COIL,DEGAUSS	8R140031	CP2603	069S230639 CONNECTOR PCB SIDE A2001WR2-3P
△ L3801	029T000110	COIL,LINE FILTER	1R1A223F28	△ CP3800	069S420110 CONNECTOR PCB SIDE A1561WV2-2P
L3803	02AHB0A0A4	CORE,FERRITE	W5T_20*10*10A	CP8001	069S2B0629 CONNECTOR PCB SIDE A2001WV2-11P
L4001	02167F2R2J	COIL	2.2 UH	CP8002	069J7C0029 CONNECTOR PCB SIDE IMSA-9604S-12Z14
L4002	02AHB9A972	CORE,FERRITE	W5T29X7.5X19	CP802A	067U006049 WIRE HOLDER B2013H02-6P
L4201	02167F101J	COIL	100 UH	CP802B	067U006049 WIRE HOLDER B2013H02-6P
L4202	02167F101J	COIL	100 UH	CP803A	067U004029 WIRE HOLDER B2013H02-4P
L8502	02167F1R0K	COIL	1 UH	CP803B	067U004029 WIRE HOLDER B2013H02-4P
L8503	02167F1R0K	COIL	1 UH	CP8502	069J7C0019 CONNECTOR PCB SIDE IMSA-9604S-12Z13
L8504	02167F1R0K	COIL	1 UH	EL001	124120301A EYE LET XRY20X30BD
T401	045009003J	TRANS,HORIZONTAL DRIVE	ETH09K14BZ	EL002	124116281A EYE LET XRY16X28BD
△ T3800	0481291074	TRANSFORMER,SWITCHING	81291074	F800	081PC05005 FUSE 51MS050L
<b>JACKS</b>					
△ J801	066F120018	SOCKET,CATHODE RAY TUBE	ISMS01S	△ FB401	043214037F TRANSFORMER,FLYBACK FNI-14B001
△ J2201	060J131016	HEADPHONE JACK	MSJ-2000_AG	FH3800	06710T0009 HOLDER,FUSE EYF-52BCY
J2202	060G421016	RCA JACK	HTJ-032-05AY	FH3801	06710T0009 HOLDER,FUSE EYF-52BCY
J2203	060G421017	RCA JACK	HTJ-032-05AW	OS2202	077Q004017 REMOTE RECEIVER PIC-37243SR
J2204	060G421020	RCA JACK	HTJ-032-05AR	PH3800	069D01001A CONNECTOR PCB SIDE 003P-2100
J4201	060J401082	RCA JACK	MSP-251V-05PBSN	PH3801	069D01001A CONNECTOR PCB SIDE 003P-2100
<b>SWITCHES</b>					
SW2213	0504101T34	SWITCH,TACT	EVQ21505R	△ SP351	070C533019 SPEAKER SG04D11BNA
SW2214	0504101T34	SWITCH,TACT	EVQ21505R	△ SP352	070C533019 SPEAKER SG04D11BNA
SW2215	0504101T34	SWITCH,TACT	EVQ21505R	TM101	076R0HE04A TRANSMITTER R25-2102
SW2216	0504101T34	SWITCH,TACT	EVQ21505R	△ TU001	0163300005 RF UNIT 115-V-K015AR_B
SW2217	0504101T34	SWITCH,TACT	EVQ21505R	△ TH3800	DF5EL3R0A0 DEGAUSS ELEMENT ZPB45BL3R0A
SW2218	0504101T34	SWITCH,TACT	EVQ21505R	△ V801	098Q1404D1 CRT W/DY A34AGT13X98(DL)
SW2219	0504101T34	SWITCH,TACT	EVQ21505R	X101	1002T01606 CERAMIC OSCILLATOR CSTLS16M0X53-A0
SW2220	0504101T34	SWITCH,TACT	EVQ21505R	X601	100CT3R505 CRYSTAL HC-49/C
SW2221	0504101T34	SWITCH,TACT	EVQ21505R	X4001	100BT02701 CRYSTAL HC-49U/S
SW2223	0504101T34	SWITCH,TACT	EVQ21505R		
<b>VARIABLE RESISTORS</b>					
VR401	V1K62H3BT8	VOLUME,SEMI FIXED	NVG6THTB222	RESISTOR	
VR3800	V1K63Q2BTE	VOLUME,SEMI FIXED	NVG6TLTAB471	RC.....	CARBON RESISTOR
<b>P.C. BOARD ASSEMBLIES</b>					
PCB110	A5K314V110L	PCB ASS'Y	TCB412A	CAPACITORS	
PCB130	A5K314V130L	PCB ASS'Y	VMC319A	CC.....	CERAMIC CAPACITOR
PCB250	A5K315V250L	PCB ASS'Y	TMB555A	CE.....	ALUMI ELECTROLYTIC CAPACITOR
<b>MISCELLANEOUS</b>					
ANT001	125C108030	ANTENNA,ROD	HPAS-2S780	CP.....	POLYESTER CAPACITOR
B301	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	CPP.....	POLYPROPYLENE CAPACITOR
B401	024HT03553	CORE,BEADS	W5RH3.5X5X1.0	CPL.....	PLASTIC CAPACITOR
B2601	024HC31022	CORE,BEADS	FCM2012H-102T04	CMP.....	METAL POLYESTER CAPACITOR
B2602	024HC31022	CORE,BEADS	FCM2012H-102T04	CMPL.....	METAL PLASTIC CAPACITOR
B2603	024HC31022	CORE,BEADS	FCM2012H-102T04	CMPP.....	METAL POLYPROPYLENE CAPACITOR
B2604	024HC31022	CORE,BEADS	FCM2012H-102T04		
B2605	024HC31022	CORE,BEADS	FCM2012H-102T04		
B3800	024HT03553	CORE,BEADS	W5RH3.5X5X1.0		
B4001	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4002	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4003	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4004	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4005	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4006	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4007	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4008	024HC31022	CORE,BEADS	FCM2012H-102T04		
B4009	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2		

SPEC.NO.	M5K3-15V
O/R NO.	K455003

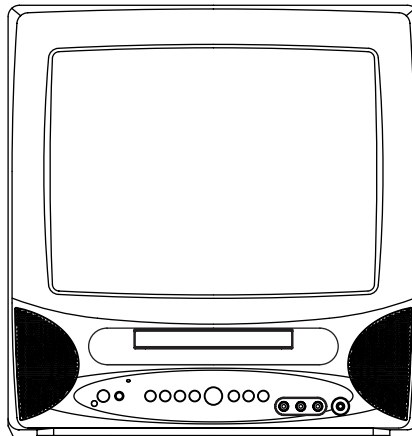
# *Memorex*

CLASS 1  
LASER PRODUCT

## MVD2113A

# SERVICE MANUAL

## COLOR TELEVISION/DVD PLAYER



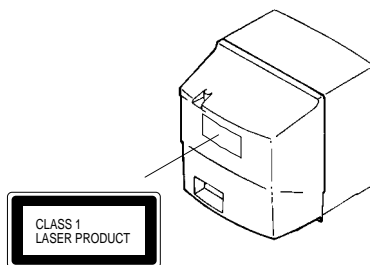
ORIGINAL  
MFR'S VERSION A

## IMPORTANT WARNING

### CAUTION:

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

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



(Printed on the Rear Panel)

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

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

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

## SERVICING NOTICES ON CHECKING

### 1. KEEP THE NOTICES

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

### 2. USE THE DESIGNATED PARTS

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

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

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

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

### 4. PERFORM A SAFETY CHECK AFTER SERVICING

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

## HOW TO ORDER PARTS

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

1. MODEL NUMBER and CHASSIS CODE  
The MODEL NUMBER and VERSION LETTER.
2. PART NO. and DESCRIPTION  
You can find it in your SERVICE MANUAL.

## WHEN REPLACING DVD DECK

### [ When the removal of the DVD Deck ]

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

### [ When the installation of the DVD Deck ]

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

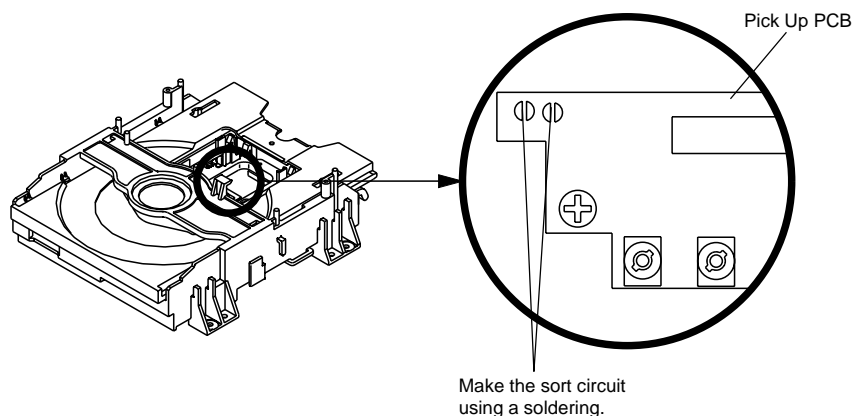


Fig. 1

## 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. Draw the Tray.

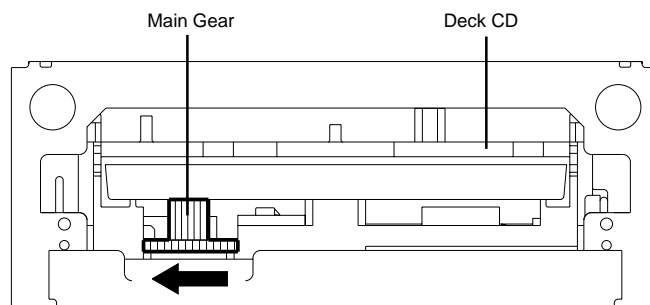


Fig. 1

## 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. Press and hold the 'STOP' key on the front panel.
3. Simultaneously press and hold the '7' key on the remote control unit.
4. Hold both keys for more than 3 seconds.
5. The On Screen Display message 'PASSWORD CLEAR' will appear.
6. The 4 digit password has now been cleared.

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

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## GENERAL SPECIFICATIONS

G-1	TV System	CRT	CRT Size / Visual Size	13 inch / 335.4 mmV
			CRT Type	Normal
			Deflection	90 degree
			Magnetic Field BV/BH	+0.45G / 0.18G
		Color System		NTSC
	Speaker	Position	2 Speaker	
		Size	Front	
		Impedance	1.5 x 2.7 inch	
	Sound Output	Max	8 ohm	
		10%(Typical)	1.5W + 1.5W	
			1.0W + 1.0W	
G-2	DVD System	Color System		NTSC
		Disc		DVD, CD-DA, CD-R/RW DVD-R/RW (Video Format Only)
		Disc Diameter		120 mm , 80 mm
		Deck	Disc Loading System	Front Loading
			Motor	3 Motors
		Pick up		1-Lens 2-Beams System
		Playback time(Max)	DVD DVD 1-Layer	135min (4.7GB)
			DVD 2-Layer	245min (8.5GB)
			CD	74min
			Video CD	74min
		Search speed	Fwd	4 step
				Actual
				2-45 times (DVD)
		4-40 times (CD)		
	Rev	4 step		
		Actual		
		2-45 times (DVD)		
		4-40 times (CD)		
	Slow speed	Fwd 1/7 - 1/2 times		
		Actual		
		--		
		Actual		
		Rev 1/7 - 1/2 times		
		Actual		
		--		
G-3	Tuning System	Broadcasting System		US System M
		Tuner and	System	1Tuner
		Receive CH	Destination	US(w/CATV)
			Tuning System	F-Synth
			Input Impedance	VHF/UHF 75 Ohm
			CH Coverage	2-69, 4A, A-5-A-1, A-I, J-W, W+1-W+84
		Intermediate	Picture(FP)	45.75MHz
		Frequency	Sound(FS)	41.25MHz
			FP-FS	4.50MHz
		Preset CH		No
Stereo/Dual TV Sound		US-Stereo		
Tuner Sound Muting		Yes		
G-4	Signal	Video Signal	Input Level	1 V p-p/75 ohm
			Output Level	--
			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
				at DC
			Stand by (at AC)	5W at 120V 60Hz
			Per Year	-- kWh/Year
	Protector	Power Fuse	Yes	
		Safety Circuit	Yes	
		IC Protector(Micro Fuse)	No	
G-6	Regulation	Safety		UL
		Radiation		FCC
		X-Radiation		DHHS
		Laser		DHHS
G-7	Temperature	Operation		+5°C ~ +40°C
		Storage		-20°C ~ +60°C
G-8	Operating Humidity			Less than 80% RH
G-9	On Screen	Menu(TV)		Yes
	Display	Menu Type		Icon

## GENERAL SPECIFICATIONS

		TV Setup	Yes
		Picture	Yes
		Audio	No
		Picture Preference	Yes
		Channel Setup	Yes
		TV/CATV	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	Bright / Contrast / Sharpness / Color	Yes
		Tint	Yes
		Bass/Treble/Balance	No
		Caption / Text	Yes
		Auto Search/Position	No
		Game	No
		Mute	Yes
<b>G-10</b>	<b>On Screen Display</b>	Menu (DVD)	Yes
		Menu Type	Character
		Language	Yes
		Menu	Yes
		Subtitle	Yes
		Audio	Yes
		Picture	Yes
		TV Screen Size	Yes
		OSD Display On/Off	Yes
		JPEG Interval	No
		Select Files	No
		Sound	Yes
		DRC (Dynamic Range Control)	Yes
		dts Decode	No
		Output(5.1ch/ 2ch)	No
		Surround On/Off	No
		Center On/Off	No
		Sub Woofer On/Off	No
		Parental	Yes
		Password Lock/ Un Lock	Yes
		Rating Level	Yes
		Other	Yes
		OSD Language(Set up Language)	Yes
		Output(RGB/Composite)	No
		Open	Yes
		Close	Yes
		No disc	Yes
		Reading	Yes
		Play	Yes
		Still/Pause	Yes
		Stop	Yes
		Prohibit Mark	Yes
		Step	Yes
		Skip(>=)	Yes
		Skip(<=)	Yes
		Random	Yes (CD )
		Repeat	Yes
		Slow+	Yes
		Slow-	Yes
		Search+	Yes
		Search-	Yes
		Jump	Yes
		Resume	Yes
		Title No.	Yes
		Chapter No.	Yes
		Track No.	Yes
		Time	Yes
		Sub Title No.	Yes
		Angle No.	Yes
		Vocal On/Off	Yes
		Audio No.	Yes
		Audio Stereo L/R	No
		Zoom	Yes
		Marker No.	Yes

## GENERAL SPECIFICATIONS

		Program Play Back	Yes (CD)
		Surround On/Off	No
		Screen Saver	No
		JPEG	No
		Folder Name	No
		File Name	No
		File No	No
		Time	No
		Track No	No
<b>G-11</b>	<b>OSD Language</b>	(TV) (DVD)	English, French, Spanish English, French, Spanish
<b>G-12</b>	<b>Clock and Timer</b>	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
<b>G-13</b>	<b>Remote Control</b>	Unit	RC-HE
		Glow in Dark Remocon	No
		Format	NEC
		Custom Code	71-8Eh
		Power Source	Voltage(D.C) 3V
			UM size x pcs UM-4 x 2 pcs
		Keys	Total Keys 46 Keys
			Power
			1
			2
			3
			4
			5
			6
			7
			8
			9
			0
			Open/Close
			Play
			Stop
			Search+
			Search-
			Skip+
			Skip-
			Slow+
			Slow-
			Still/Pause
			Display/Call
			TV/DVD
			Cancel
			Audio Select
			Angle
			Subtitle
			Top Menu
			Setup/TV Menu
			Return
			DVD Menu
			Up/ Set+/ CH Up
			Down/ Set-/ CH Down
			Left/Select-
			Right/Select+
			Select/Enter
			Play Mode
			Marker
			Input Select
			Volume +
			Volume -
			Repeat A-B
			Zoom/ Quick View
			Mute
			Sleep
			Jump/Closed Caption
			Freeze frame
			No
<b>G-14</b>	<b>Features</b>	CATV	Yes
		Auto Shut Off	Yes
		Auto CH Memory	Yes
		V-Chip	USA V-chip Yes
			CANADA V-chip No
		Auto Search	No
		SAP	Yes
		Game Position	No

## GENERAL SPECIFICATIONS

		FM Transmitter	No	
		Energy Star	No	
		Closed Caption	Yes	
		Comb Filter	No	
		Protect of FBT Leak Circuit	No	
		Choke Coil	No	
		Power On Memory	No	
		Tray Lock	No	
		Parental Lock (DVD Only)	Yes	
		Video CD Playback	No	
		SVCD Playback	No	
		Overlay Graphics And Text	No	
		Command List	No	
		Entry Point Jump	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	
		Surround (Tru Surround)	No	
		Screen Saver	No	
		Picture Preference	Yes	
		Auto Setup	No	
		Audio DAC	192kHz / 24bit	
<b>G-15</b>	<b>Accessories</b>	Owner's Manual Language	English / Spanish	
		w/Guarantee Card	Yes	
		Remote Control Unit	Yes	
		Battery	No	
			UM size x pcs	--
			OEM Brand	-- No
		Rod Antenna	Yes	
			Poles	1 pole
			Terminal	F type
			W/300 ohm to 75 ohm antenna adapter	No
		Loop Antenna	No	
			Terminal	--
		U/V Mixer	No	
		300 ohm to 75 ohm Antenna Adapter	No	
		Antenna Change Plug	No	
		Guarantee Card	No	
		Registration Card	No	
		Warranty Card	No	
		ESP Card	No	
		Service Station List	No	
DC Car Cord (Center+)	No			
Columbia Offer Sheet	No			
Sheet Information (Return)	No			
<b>G-16</b>	<b>Interface</b>	Switch Front Power (Tact)	Yes	
		Channel Up	Yes	
		Channel Down	Yes	
		Volume Up	Yes	
		Volume Down	Yes	
		Play	Yes	
		Open/Close	Yes	
		Skip(>> )	Yes	
		Skip( <<)	Yes	
		Still/Pause	No	
		Stop	Yes	
		Main Power SW	No	
		Indicator Rear Main Power SW	No	
		Indicator Power	Yes (Red)	
		Stand-by	No	
		On Timer	No	
		Terminals Front Video Input	RCA x 1	
		Audio Input	RCA x 2(Stereo)	
		Other Terminal	Head Phone	
		Rear Video Input	No	
		Audio Input	No	
		Video Output	No	
		Audio Output	No	
Digital Audio Output	Coaxial (DVD Only)			
Diversity	No			
DC Jack 12V(Center +)	No			

## GENERAL SPECIFICATIONS

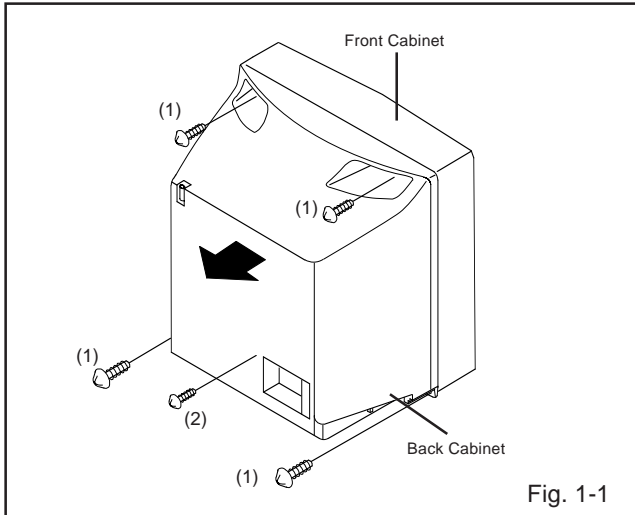
		VHF/UHF Antenna Input	F Type
<b>G-17</b>	<b>Set Size</b>	Approx. W x D x H (mm)	362x365x382
<b>G-18</b>	<b>Weight</b>	Net (Approx.)	11.0kg (24.3lbs)
		Gross (Approx.)	12.5kg (27.6lbs)
<b>G-19</b>	<b>Carton</b>	Master Carton	No
		Content	--- Sets
		Material	--- / ---
		Dimensions W x D x H(mm)	---
		Description of Origin	---
		Gift Box	Yes
		Material	Double/Brown
		W/Color Photo Label	No
		Dimensions W x D x H(mm)	423x447x443
		Design	As Per Buyer's
		Description of Origin	Yes
		Drop Test	Natural Dropping At
		Height (cm)	1 Corner / 3 Edges / 6 Surfaces
Container Stuffing (40' container)	62		
	700 Sets		
<b>G-20</b>	<b>Material</b>	Cabinet	
		Front	PS 94V0 DECABROM
		Rear	PS 94V0 DECABROM
		Jack Panel	-
		PCB	
		Non-Halogen Demand	No
		Eyelet Demand	Yes
<b>G-21</b>	<b>Environment</b>	Pb Free	
		Lead-free Solder	No
		Other	No
		Cd Free	No

# DISASSEMBLY INSTRUCTIONS

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

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

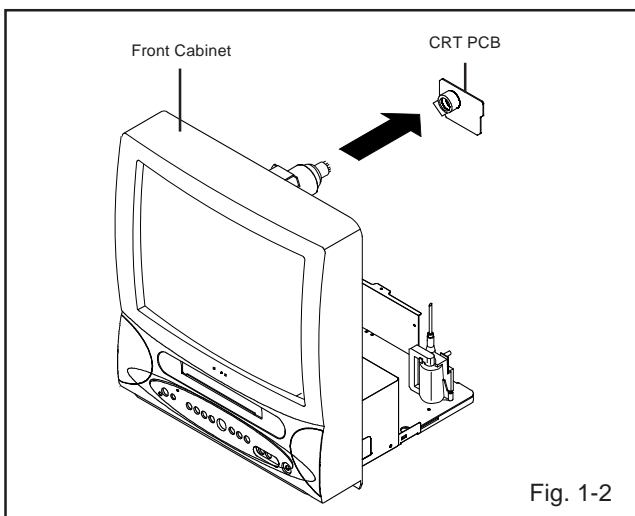
1. Remove the 4 screws (1).
2. Remove the screw (2) which are used for holding the Back Cabinet.
3. Remove the AC cord from the AC cord hook (3).
4. Remove the Back Cabinet in the direction of arrow.



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

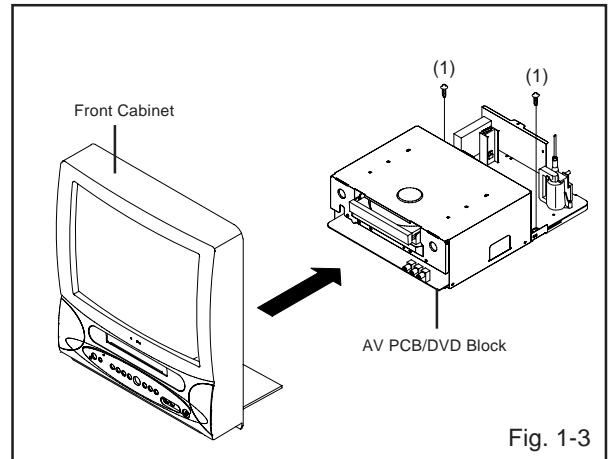
**CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.**

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



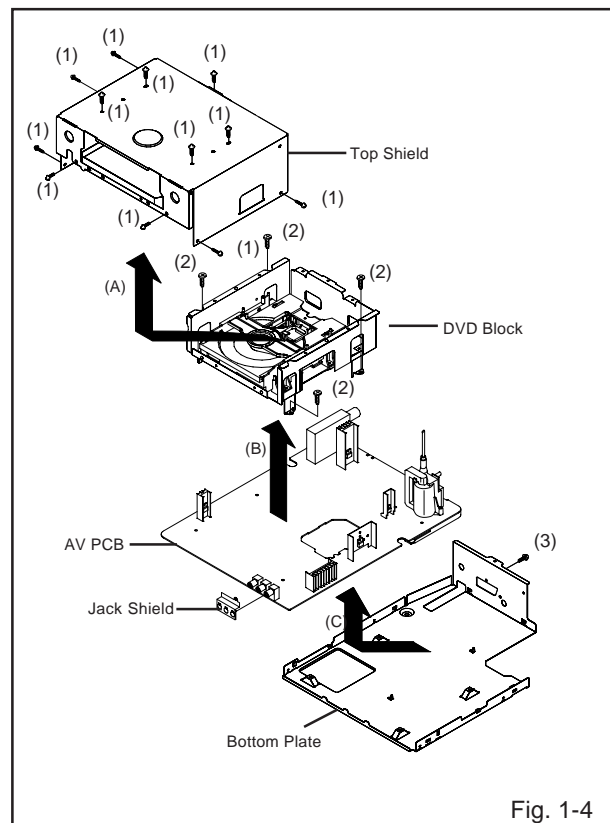
### 1-3: AV PCB/DVD BLOCK (Refer to Fig. 1-3)

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



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

1. Remove the 12 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).



# DISASSEMBLY INSTRUCTIONS

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

1. Make the short circuit on the position as shown **Fig. 1-5** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Remove the 4 screws (1).
3. Remove the DVD Deck in the direction of arrow (A).
4. Disconnect the following connectors:  
(CP2601, CP2602 and CP2603).
5. Remove the 2 screws (2).
6. Remove the DVD PCB in the direction of arrow (B).

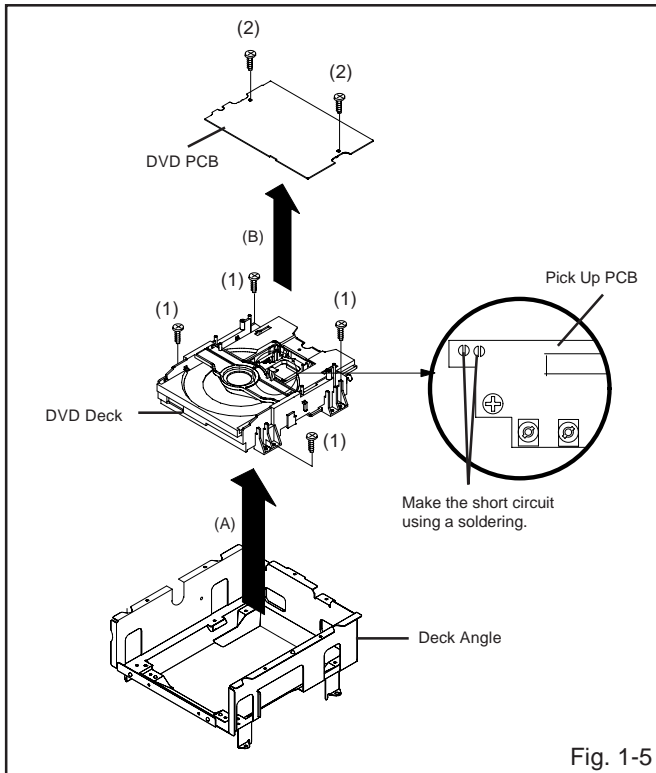


Fig. 1-5

### NOTE

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

# DISASSEMBLY INSTRUCTIONS

## 2. REMOVAL OF DVD DECK PARTS

### NOTE

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

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

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

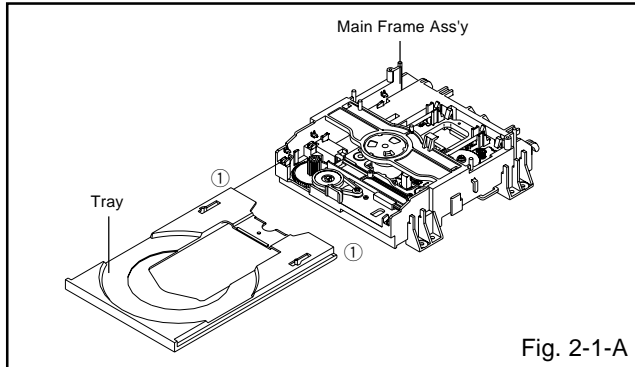


Fig. 2-1-A

### NOTE

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

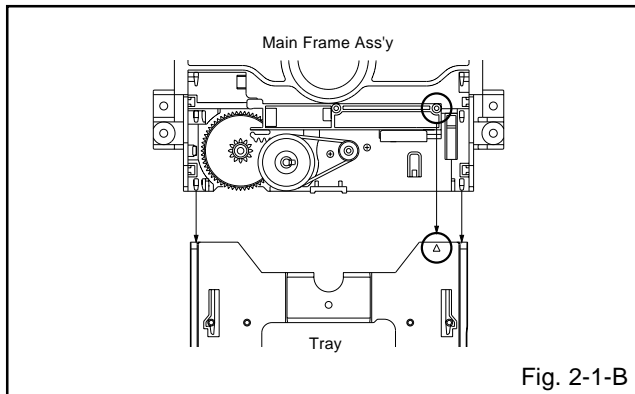


Fig. 2-1-B

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

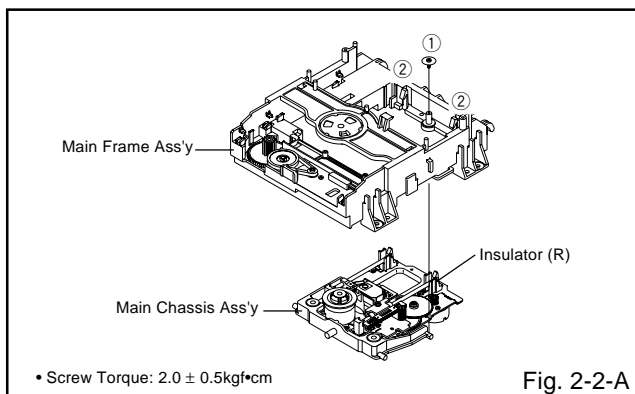


Fig. 2-2-A

### 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.

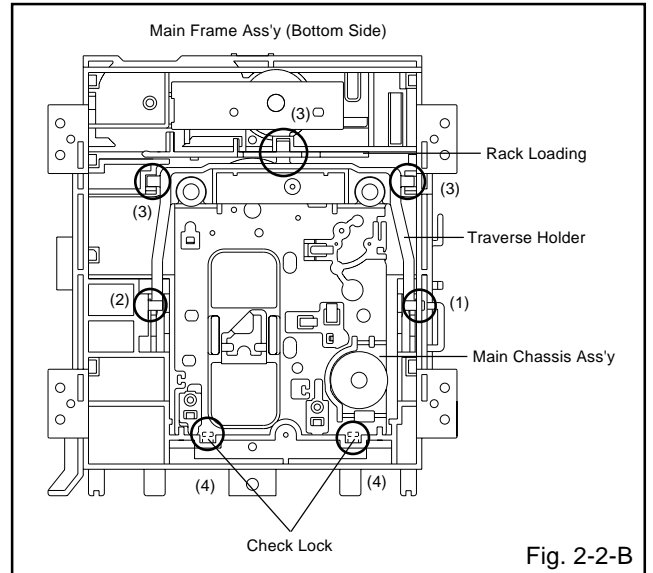


Fig. 2-2-B

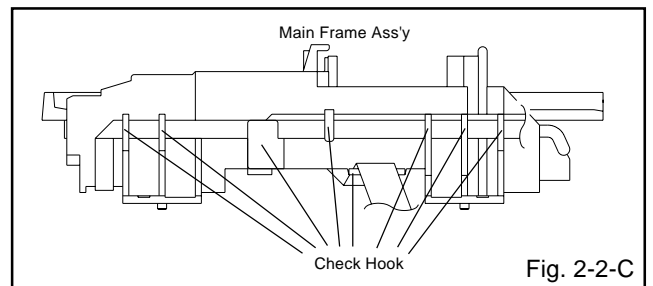


Fig. 2-2-C

### 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.

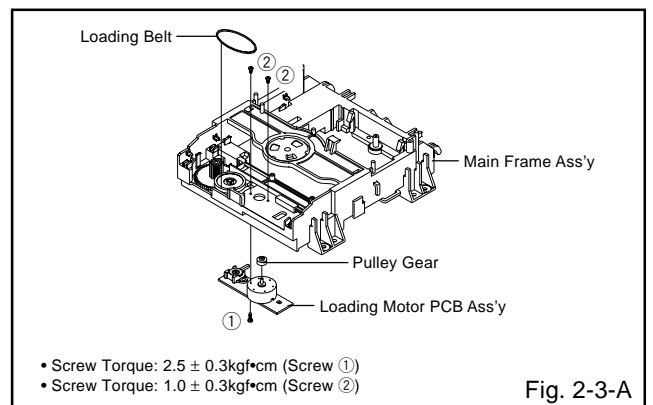


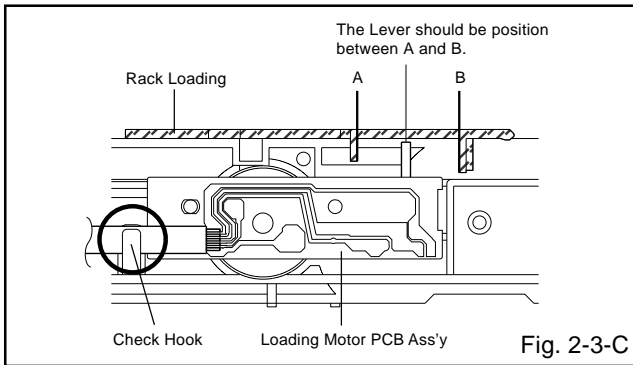
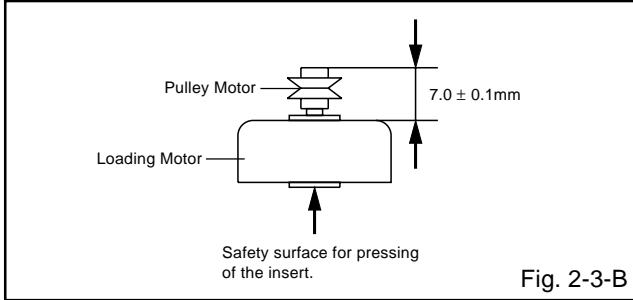
Fig. 2-3-A



# DISASSEMBLY INSTRUCTIONS

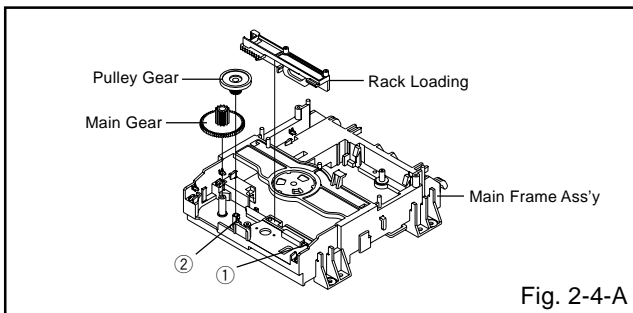
## NOTE

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.



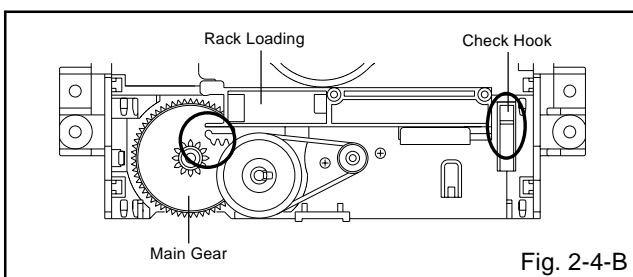
## 2-4: RACK LOADING/MAIN GEAR/PULLEY GEAR (Refer to Fig. 2-4-A)

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.



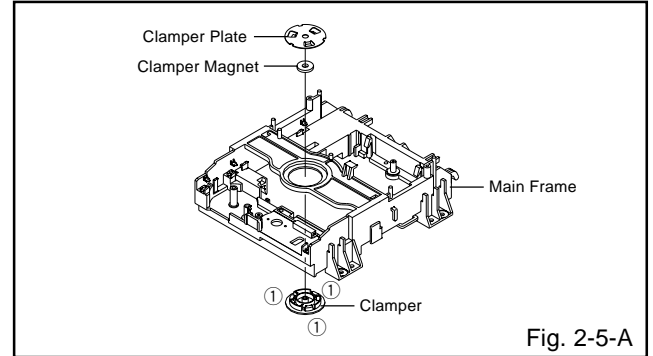
## NOTE

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



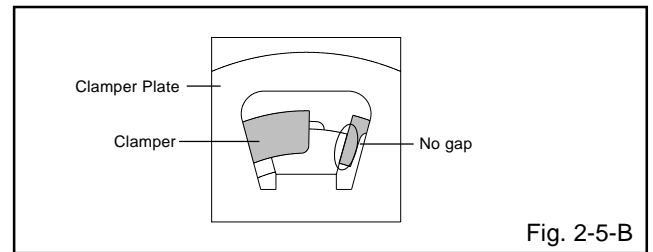
## 2-5: CLAMPER ASS'Y (Refer to Fig. 2-5-A)

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.



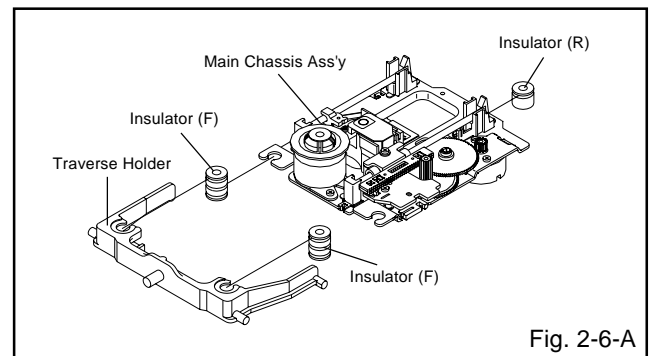
## NOTE

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



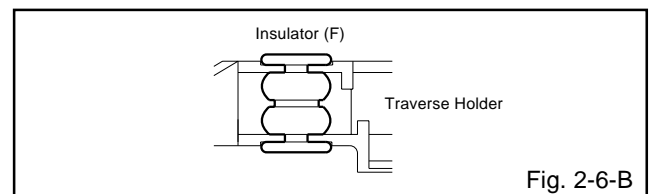
## 2-6: TRAVERSE HOLDER/INSULATOR (F)/INSULATOR (R) (Refer to Fig. 2-6-A)

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



## 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.



# DISASSEMBLY INSTRUCTIONS

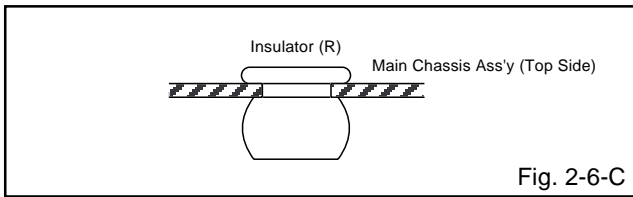


Fig. 2-6-C

## 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.

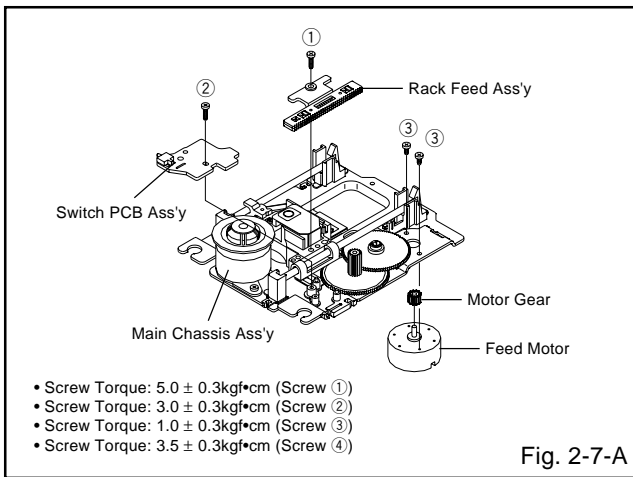


Fig. 2-7-A

### 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.

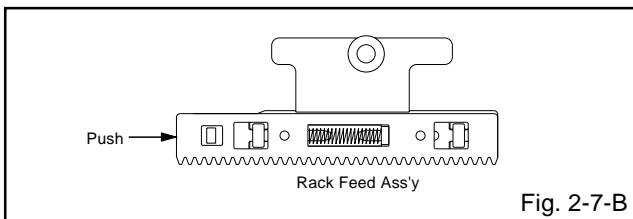


Fig. 2-7-B

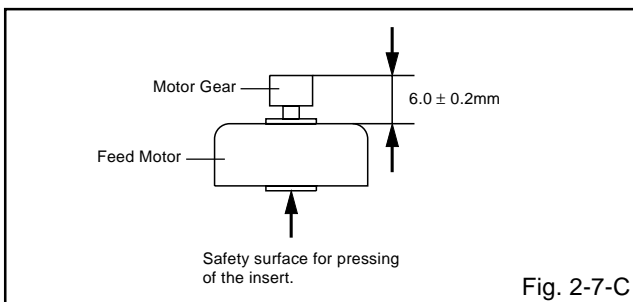


Fig. 2-7-C

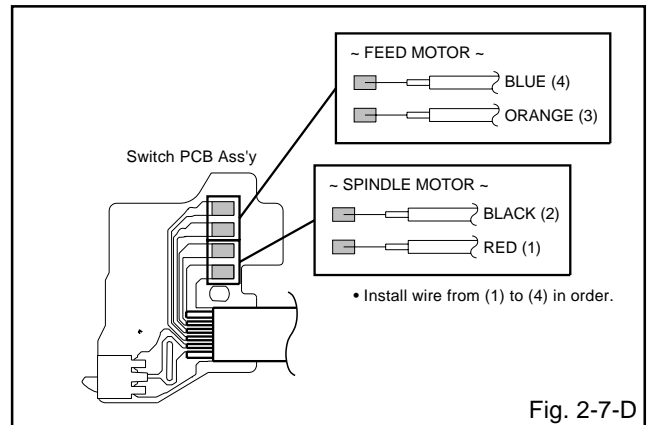


Fig. 2-7-D

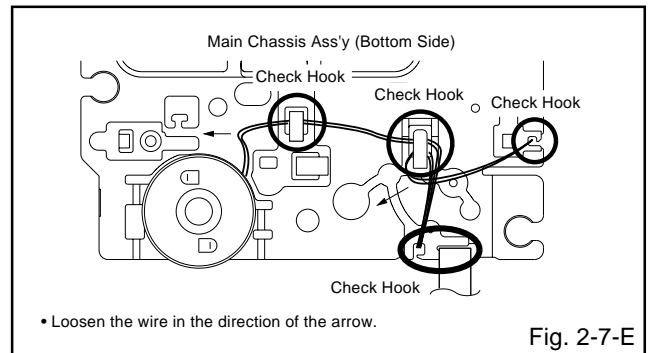


Fig. 2-7-E

# DISASSEMBLY INSTRUCTIONS

## 3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

- \* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- \* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

### REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**

Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground. While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.

A cracking noise will be heard as the voltage is discharged.

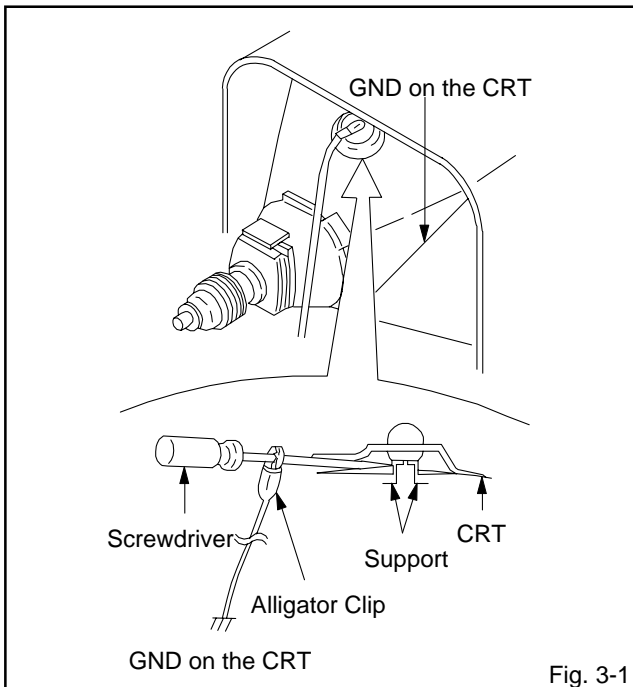


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 3-2.)**

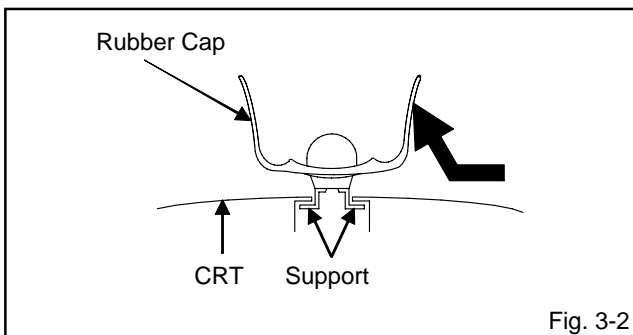


Fig. 3-2

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

### NOTE

Take care not to damage the Rubber Cap.

### INSTALLATION

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

### NOTE

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

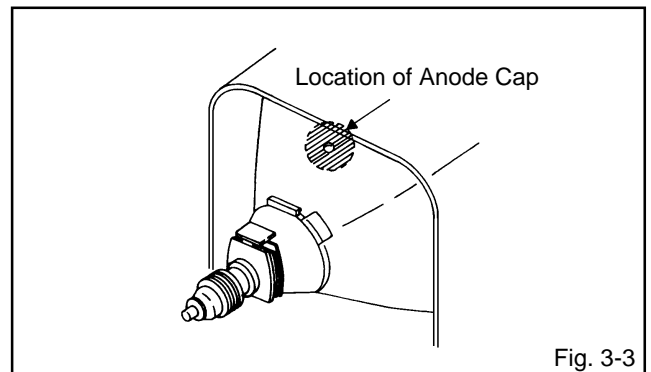


Fig. 3-3

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

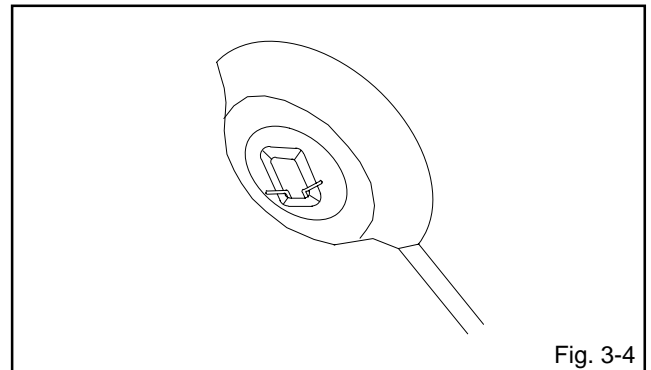


Fig. 3-4

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

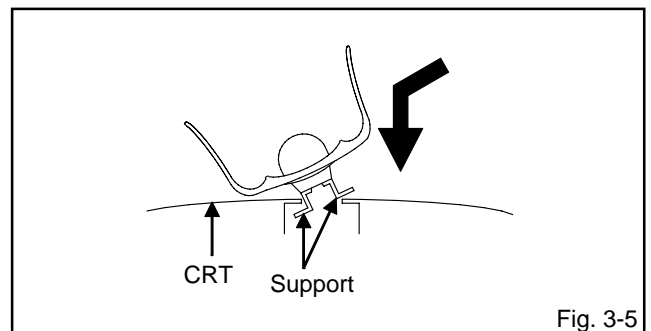


Fig. 3-5

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

# DISASSEMBLY INSTRUCTIONS

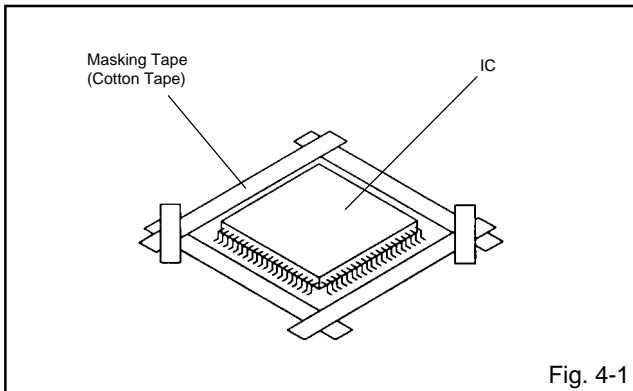
## 4. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

### REMOVAL

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

#### NOTE

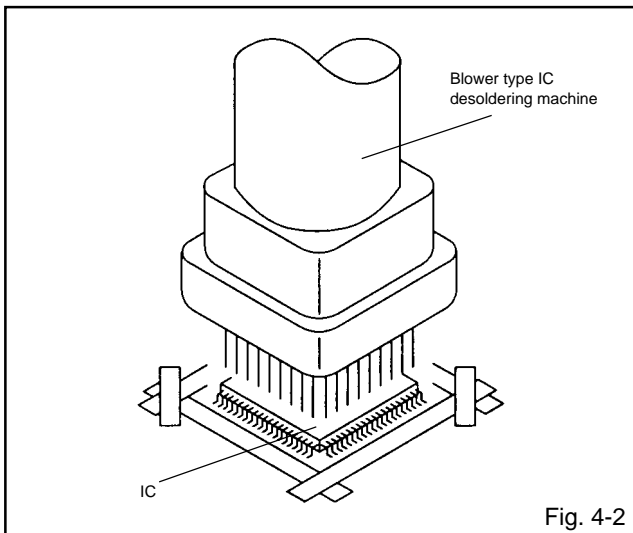
Masking is carried out on all the parts located within 10 mm distance from IC leads.



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

#### NOTE

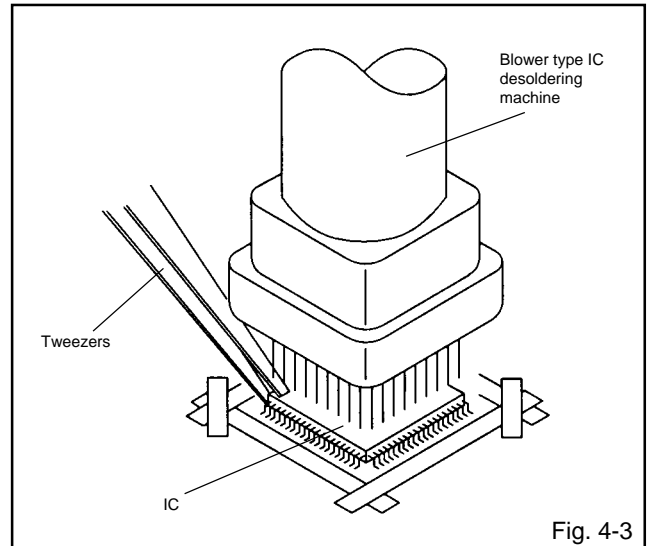
Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 4-3.)

#### NOTE

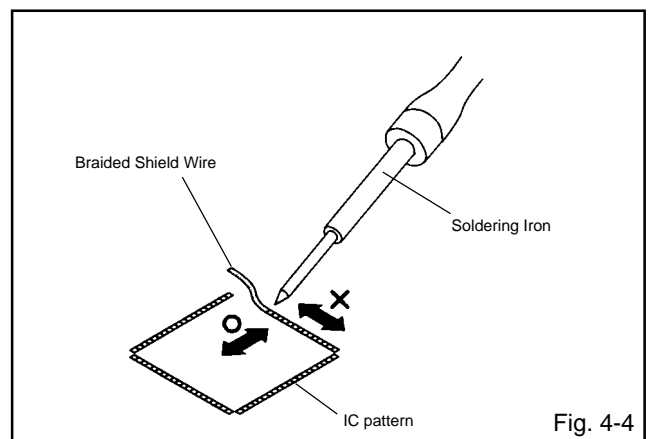
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



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

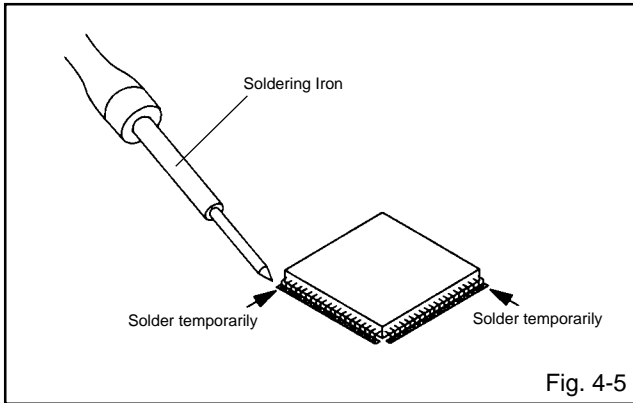
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



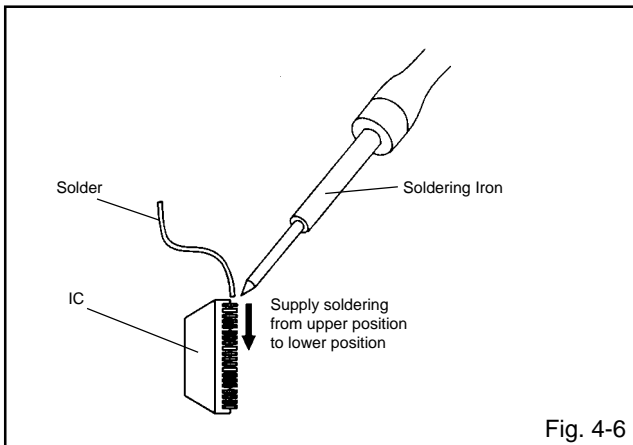
# DISASSEMBLY INSTRUCTIONS

## 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.)



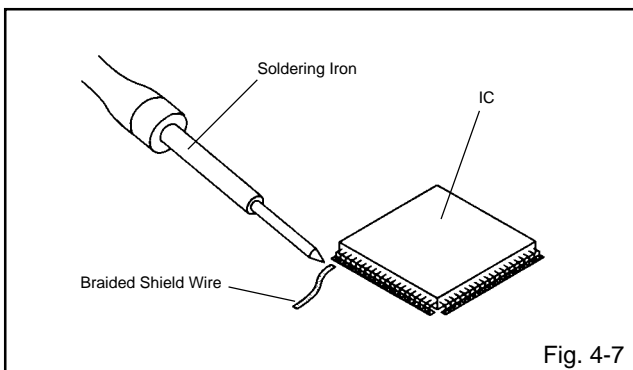
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 4-6.)



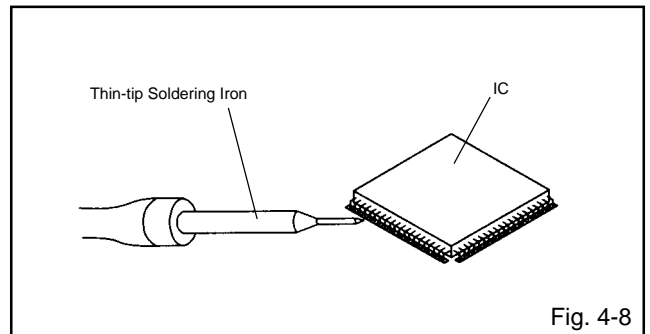
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 4-7.)

### 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, be always sure to replace the IC in this case.

## SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

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

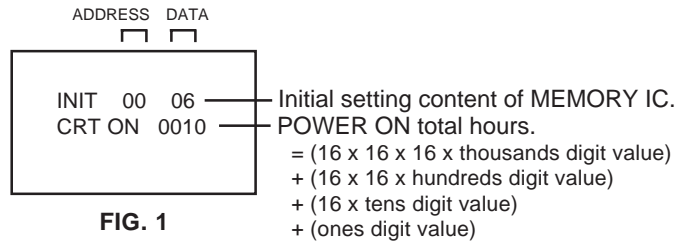
Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	0	1	Releasing of V-CHIP PASSWORD.
VOL. (-) MIN	1	1	Initialization of the factory on TV. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	4	1	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work at the DVD stop mode.
VOL. (-) MIN	6	1	POWER ON total hours are displayed on the screen. Refer to the "PREVENTIVE CHECKS AND SERVICE INTERVALS" (CONFIRMATION OF HOURS USED).  Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	9	1	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	7	3	Releasing of PARENTAL LOCK. Refer to the "PARENTAL CONTROL-RATING LEVEL" NOTE: The function will only work without the setting of DVD disc at DVD mode.
STOP	9	3	Tray cannot be opened. Refer to the "TRAY LOCK". NOTE: No indications on the screen when the Tray Lock is setting.

## CONFIRMATION OF HOURS USED

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

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

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



## WHEN REPLACING EEPROM (MEMORY) IC

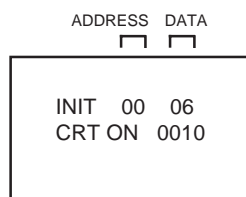
If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

**NOTE:** No need setting for after INI 27.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	06	0F	44	20	D0	35	30	25	15	50	01	00	C1	55	0F	47
10	30	50	50	04	15	77	23	50	20	77	52	00	02	11	00	00
20	0A	0D	10	12	14	16	18	1A	---	---	---	---	---	---	---	---

**Table 1**

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



**FIG. 1**

3. ADDRESS is now selected and should "blink". Using the VOL. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using VOL. UP/DOWN button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

**After the data input, set to the initializing of shipping.**

9. Turn POWER on.
10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 1 second.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

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

# ELECTRICAL ADJUSTMENTS

## 1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

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

### CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease 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 1 second to appear the adjustment mode on the screen as shown in Fig. 1-1.

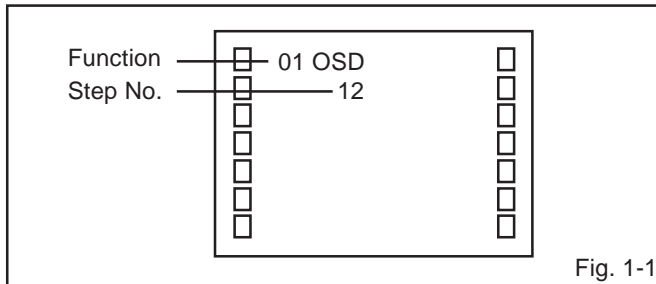


Fig. 1-1

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

NO.	FUNCTION	NO.	FUNCTION
01	OSD H	41	SUB BIAS
02	OSD CONTRAST	42	BRI. DVD(CENT.)
03	CUT OFF	43	BRI. DVD(MAX)
04	H POSITION	44	BRI. DVD(MIN)
05	H BLK L	45	CONT. DVD(CENT.)
06	H BLK R	46	CONT. DVD(MAX)
07	V SIZE	47	CONT. DVD(MIN)
08	V POSITION	48	COL. DVD(CENT.)
09	V LINEARITY	49	COL. DVD(MAX)
10	V S CORRECTION	50	COL. DVD(MIN)
11	V COMP	51	TINT DVD
12	R CUT OFF	52	SHARPNESS DVD
13	G CUT OFF	53	SUB BIAS
14	B CUT OFF	54	BRI. GAME(CENT.)
15	R DRIVE	55	BRI. GAME(MAX)
16	G DRIVE	56	BRI. GAME(MIN)
17	B DRIVE	57	CONT. GAME(CENT.)
18	BRIGHTNESS(CENT.)	58	CONT. GAME(MAX)
19	BRIGHTNESS(MAX)	59	CONT. GAME(MIN)
20	BRIGHTNESS(MIN)	60	SUB BIAS
21	CONTRAST(CENT.)	61	TUNING V MUTE
22	CONTRAST(MAX)	62	POWER ON V MUTE
23	CONTRAST(MIN)	63	INPUT LEVEL
24	COLOR(CENT.)	64	SEPARATION L
25	COLOR(MAX)	65	SEPARATION H
26	COLOR(MIN)	66	X-RAY TEST
27	TINT	67	H STOP
28	SHARPNESS	68	H FREQ
29	SUB BIAS	69	BAST/WEST DC
30	BRI. AV(CENT.)	70	BAST/WEST AMP
31	BRI. AV(MAX)	71	BAST/WEST TILT
32	BRI. AV(MIN)	72	BAST/WEST COR, TOP
33	CONT. AV(CENT.)	73	BAST/WEST COR, BOT
34	CONT. AV(MAX)	74	H SIZE COMP
35	CONT. AV(MIN)	75	H BLK L AV
36	COL. AV(CENT.)	76	H BLK R AV
37	COL. AV(MAX)		
38	COL. AV(MIN)		
39	TINT AV		
40	SHARPNESS AV		

Fig. 1-2

## 2. BASIC ADJUSTMENTS

### 2-1: CONSTANT VOLTAGE

1. Set condition is AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Connect the digital voltmeter to TP401.
4. Adjust the VR3800 until the digital voltmeter is  $135 \pm 0.5V$ .

### 2-2: FOCUS

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

### 2-3: CUT OFF

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



# ELECTRICAL ADJUSTMENTS

## 2-4: WHITE BALANCE

**NOTE:** Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select "G DRV".
5. Press the CH. UP/DOWN button on the remote control to select the "R CUT OFF", "G CUT OFF", "B CUT OFF", "R DRIVE" or "B DRIVE".
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the R CUT OFF, G CUT OFF, B CUT OFF, R DRIVE and B DRIV E at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

## 2-5: HORIZONTAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(04)** on the remote control to select "HPOSI".
4. Press the LEFT/RIGHT button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

## 2-6: VERTICAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(08)** on the remote control to select "VPOSI".
4. Check the step No. V POSI is "02".
5. Adjust the **VR401** until the horizontal line becomes fit to notch of the shadow mask.

## 2-7: VERTICAL SIZE

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

## 2-8: VERTICAL LINEARITY

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

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select "VLIN".
4. Press the LEFT/RIGHT button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

## 2-9: SEPARATION L, H

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

### Method (1)

1. Set the multi-sound signal generator for each different L-ch and R-ch frequency (Ex. L-ch=2KHz, R-ch=400Hz) and receive the RF signal.
2. Connect the oscilloscope to the **Audio Out Jack**.
3. Press the AUDIO button on the remote control to set to the stereo mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(64)** on the remote control to select "SEPAL".
5. Press the LEFT/RIGHT button on the remote control to adjust it until the audio output wave becomes a fine sine wave.
6. Press the CH UP button 1 time to set to "SEPAH" mode.
7. Press the LEFT/RIGHT button on the remote control to adjust it until the audio output wave becomes a fine sine wave.

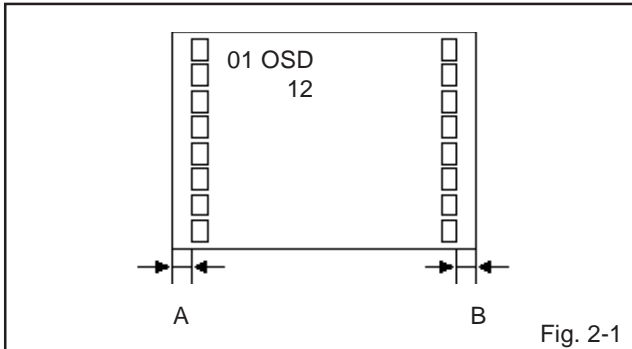
### Method (2)

1. Set the multi-sound signal generator L-ch=1KHz, R-ch=Non input and receive the RF signal.
2. Connect the oscilloscope to the **Audio Out Jack (R-ch)**.
3. Press the AUDIO button on the remote control to set to the stereo mode.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(64)** on the remote control to select "SEPAL".
5. Press the LEFT/RIGHT 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 LEFT/RIGHT button on the remote control to adjust it until the R-ch output becomes minimum.
8. Set the multi-sound signal generator L-ch=Non input, R-ch=1KHz and receive the RF signal.
9. Connect the oscilloscope to the **Audio Out Jack (L-ch)**. Then perform the above adjustments 3~7.

# ELECTRICAL ADJUSTMENTS

## 2-10: OSD POSITION

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



## 2-11: LEVEL

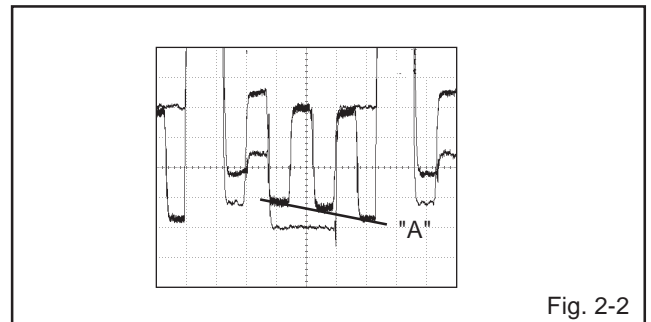
1. Receive the VHF HIGH (70dB).
2. Connect the AC voltmeter to **pin 6 of CP101**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**63**) on the remote control to select "LVL".
4. Press the LEFT/RIGHT button on the remote control until the AC voltmeter is  $75 \pm 2\text{mV}$ .

## 2-12: BRIGHT CENTER

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**18**) on the remote control to select "BRTC".
2. Press the LEFT/RIGHT button on the remote control until the white 0% is starting to be visible.
3. Receive a broadcast and check if the picture is normal.
4. Press the INPUT SELECT button on the remote control to set to the AV mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**30**) on the remote control to select "BRTCA".
6. Press the LEFT/RIGHT button on the remote control until the white 0% is starting to be visible.
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 (**42**) on the remote control to select "BRTCD".
10. Press the LEFT/RIGHT button on the remote control to set the same step numbers as the AV.
11. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**54**) on the remote control to select "BRTCG".
12. Press the LEFT/RIGHT button on the remote control to set the same step numbers as the AV.

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



## 2-14: SHARPNESS

1. Receive the monoscope pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**28**) on the remote control to select "SHARP".
3. Check if the step No. SHARP is "18".
4. Press the INPUT SELECT button on the remote control to set to the AV mode.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**40**) on the remote control to select "SHARPA".
6. Check if the step No. SHARP is "10".
7. Press the TV/DVD button on the remote control to set to the DVD mode.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**52**) on the remote control to select "SHARPD".
9. Press the LEFT/RIGHT button on the remote control to set the same step numbers as the AV.

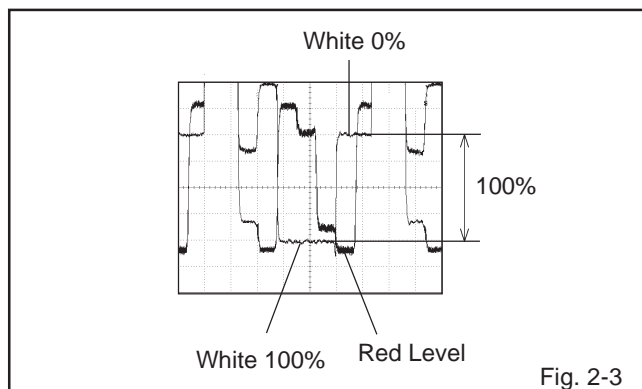
# ELECTRICAL ADJUSTMENTS

## 2-15: OSD CONTRAST

1. Receive the monoscop pattern.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(02)** on the remote control to select "OSDC".
3. Check the step No. OSDC is "05".

## 2-16: COLOR CENTER

1. Receive the color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast, color and tint to normal position.
3. Connect the oscilloscope to **TP022**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(24)** on the remote control to select "COLC".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the LEFT/RIGHT button on the remote control until the red color level is adjusted to  $110 \pm 5\%$  of the white level. **(Refer to Fig. 2-3)**
7. Receive the color bar pattern. (Audio Video Input)
8. Press the INPUT SELECT button on the remote control to set to the AV mode.
9. Using the remote control, set the brightness, contrast, color and tint to normal position.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(36)** on the remote control to select "COLCA".
11. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
12. Press the LEFT/RIGHT button on the remote control until the red color level is adjusted to  $110 \pm 5\%$  of the white level. **(Refer to Fig. 2-3)**
13. Press the TV/DVD button on the remote control to set to the DVD mode.
14. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(48)** on the remote control to select "COLCD".
15. Press the LEFT/RIGHT button on the remote control to decrease the step numbers by 8 steps to the AV.



## 2-17: CONTRAST MAX

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

## 2-18: Confirmation of Fixed Value (Step No.)

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

NO.	FUNCTION	STEP NO.	NO.	FUNCTION	STEP NO.
05	H BLK L	04	47	CONT. DVD(MIN)	05
06	H BLK R	02	49	COL. DVD(MAX)	70
10	V S CORRECTION	08	50	COL. DVD(MIN)	10
11	V COMP	03	53	SUB BIAS	00
16	G DRIVE	07	55	BRI. GAME(MAX)	70
19	BRIGHTNESS(MAX)	70	56	BRI. GAME(MIN)	33
20	BRIGHTNESS(MIN)	33	57	CONT. GAME(CENT.)	40
21	CONTRAST(CENT.)	40	59	CONT. GAME(MIN)	05
23	CONTRAST(MIN)	05	60	SUB BIAS	00
25	COLOR(MAX)	70	61	TUNING V MUTE	00
26	COLOR(MIN)	10	62	POWER ON V MUTE	40
29	SUB BIAS	00	68	H FREQ	3F
31	BRI. AV(MAX)	70	69	BAST/WEST DC	00
32	BRI. AV(MIN)	33	70	BAST/WEST AMP	00
33	CONT. AV(CENT.)	40	71	BAST/WEST TILT	00
35	CONT. AV(MIN)	05	72	BAST/WEST COR, TOP	00
37	COL. AV(MAX)	70	73	BAST/WEST COR, BOT	00
38	COL. AV(MIN)	10	74	H SIZE COMP	00
41	SUB BIAS	00	75	H BLK L AV	07
43	BRI. DVD(MAX)	70	76	H BLK R AV	05
44	BRI. DVD(MIN)	33			
45	CONT. DVD(CENT.)	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.

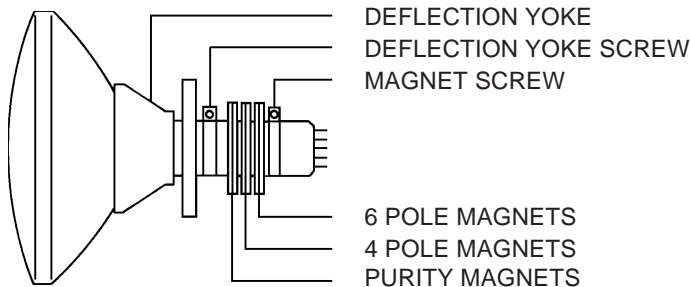


Fig. 3-1

### 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)**

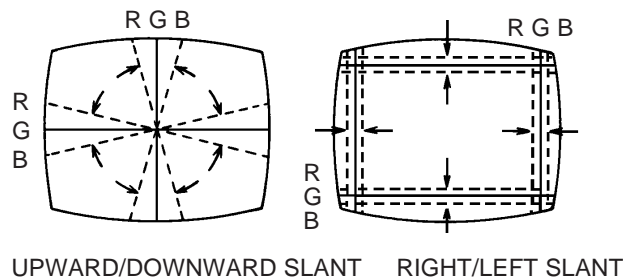


Fig. 3-2-a

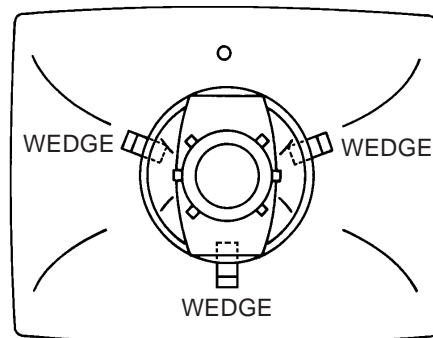
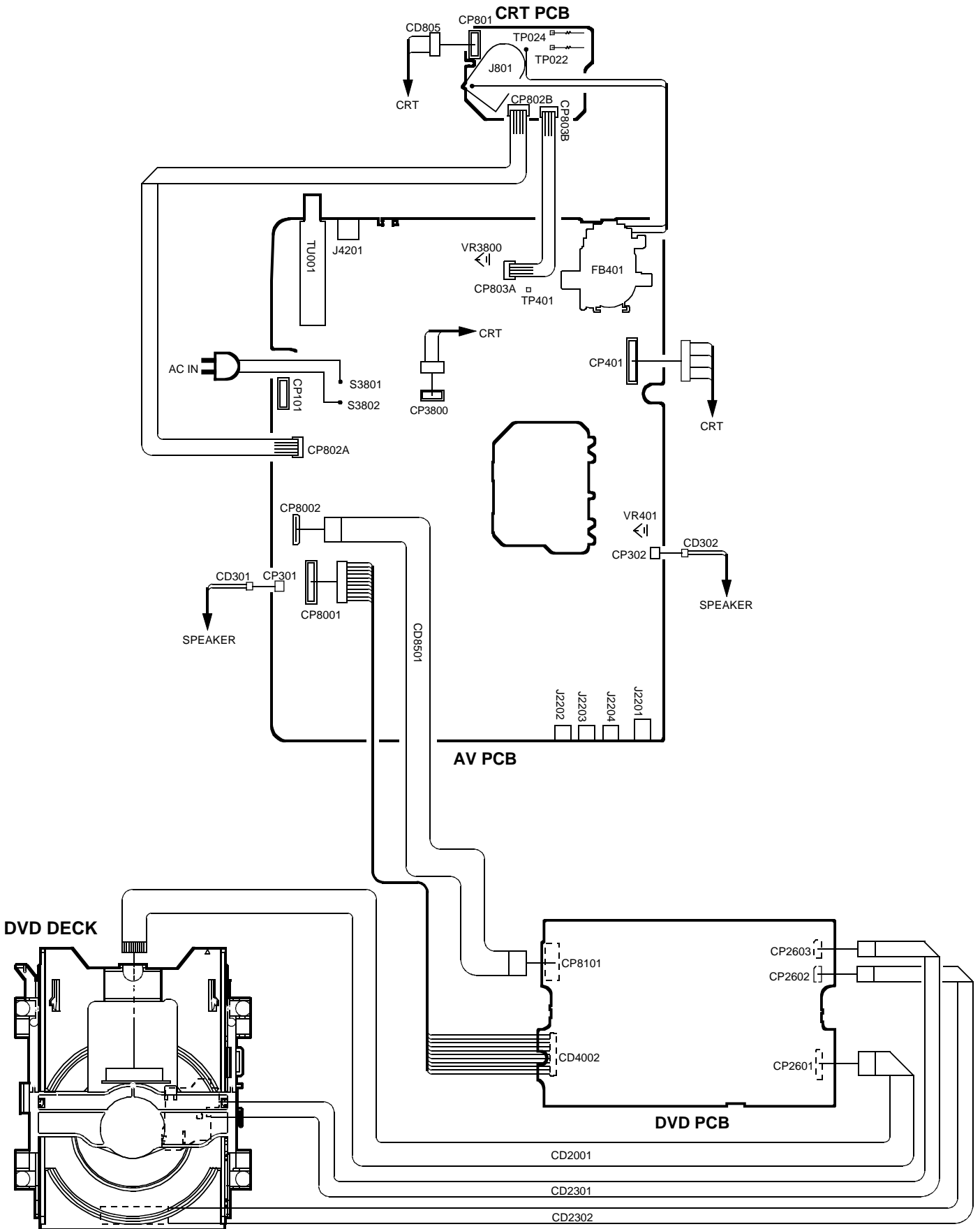


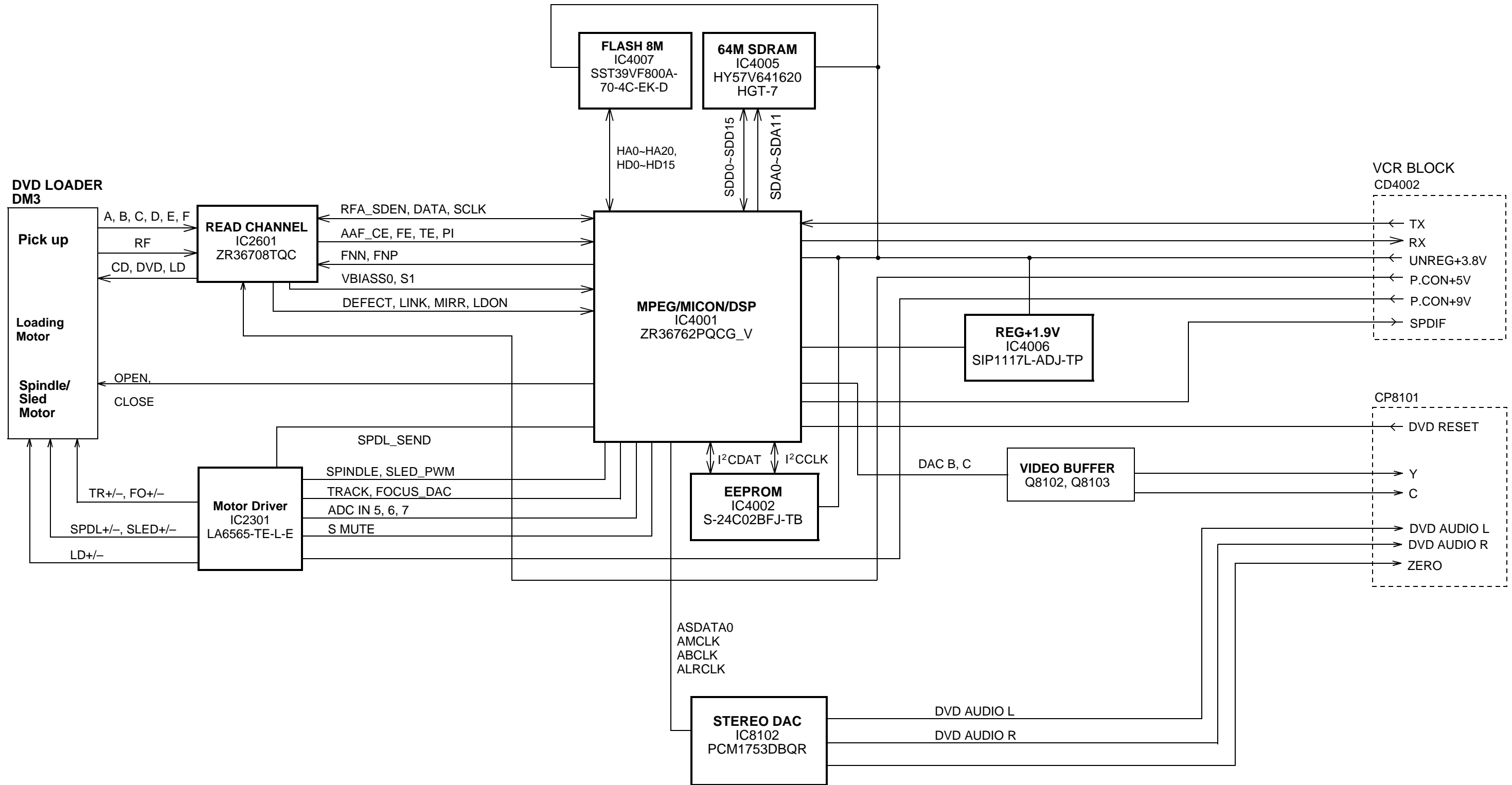
Fig. 3-2-b

# ELECTRICAL ADJUSTMENTS

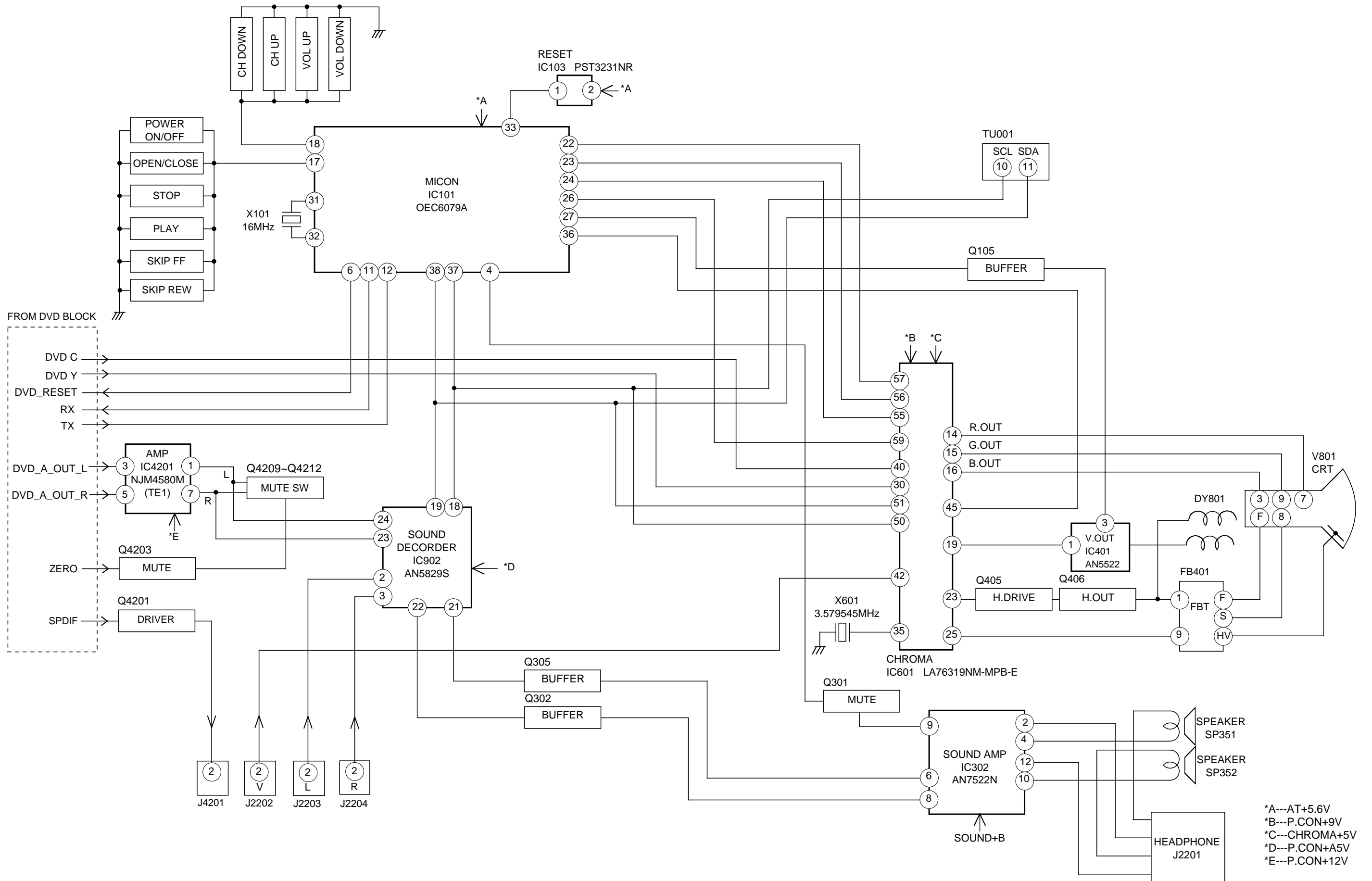
## 4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



# DVD BLOCK DIAGRAM

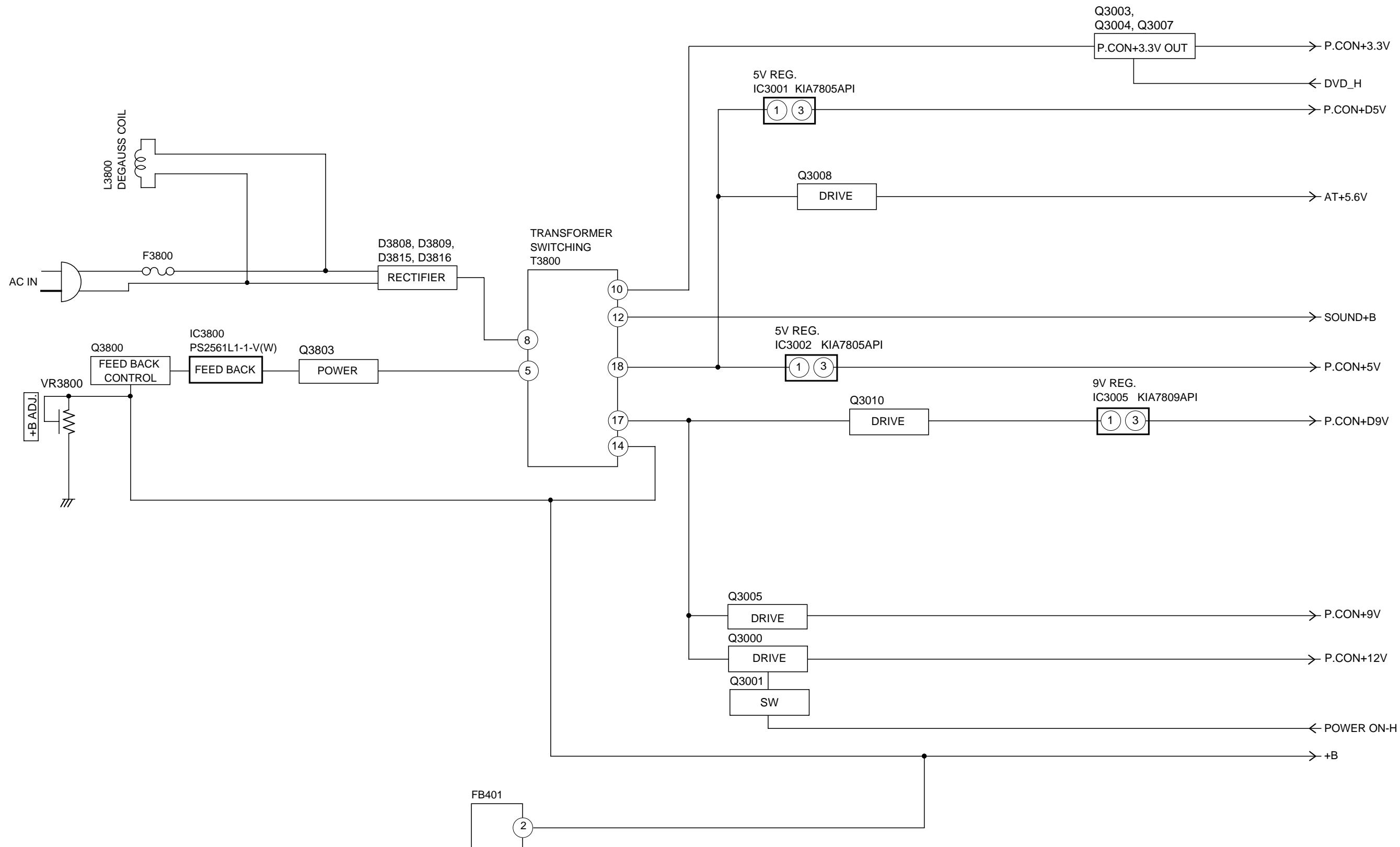


# TV BLOCK DIAGRAM



\*A---P.CON+5.6V  
 \*B---P.CON+9V  
 \*C---CHROMA+5V  
 \*D---P.CON+A5V  
 \*E---P.CON+12V

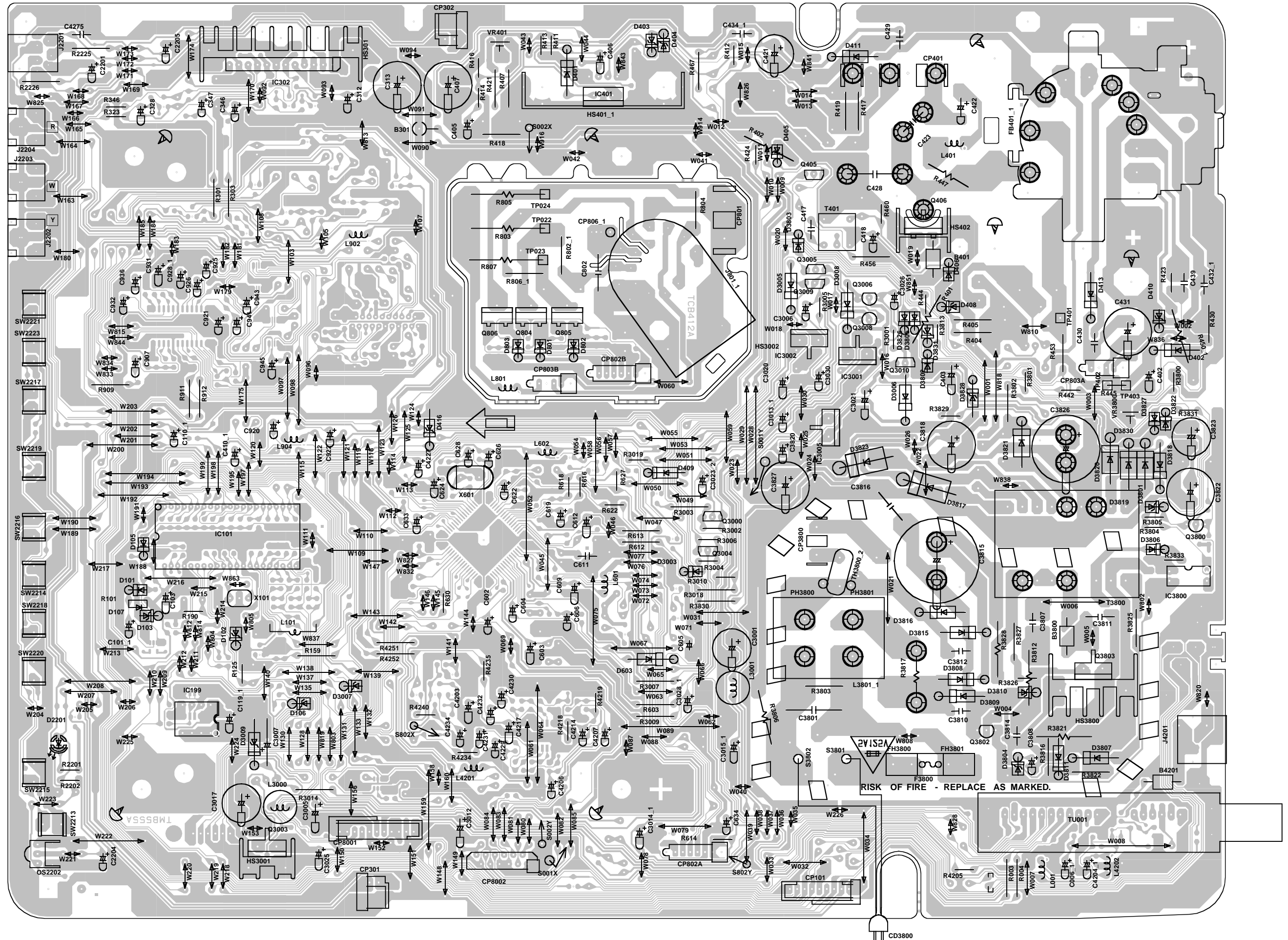
# POWER BLOCK DIAGRAM





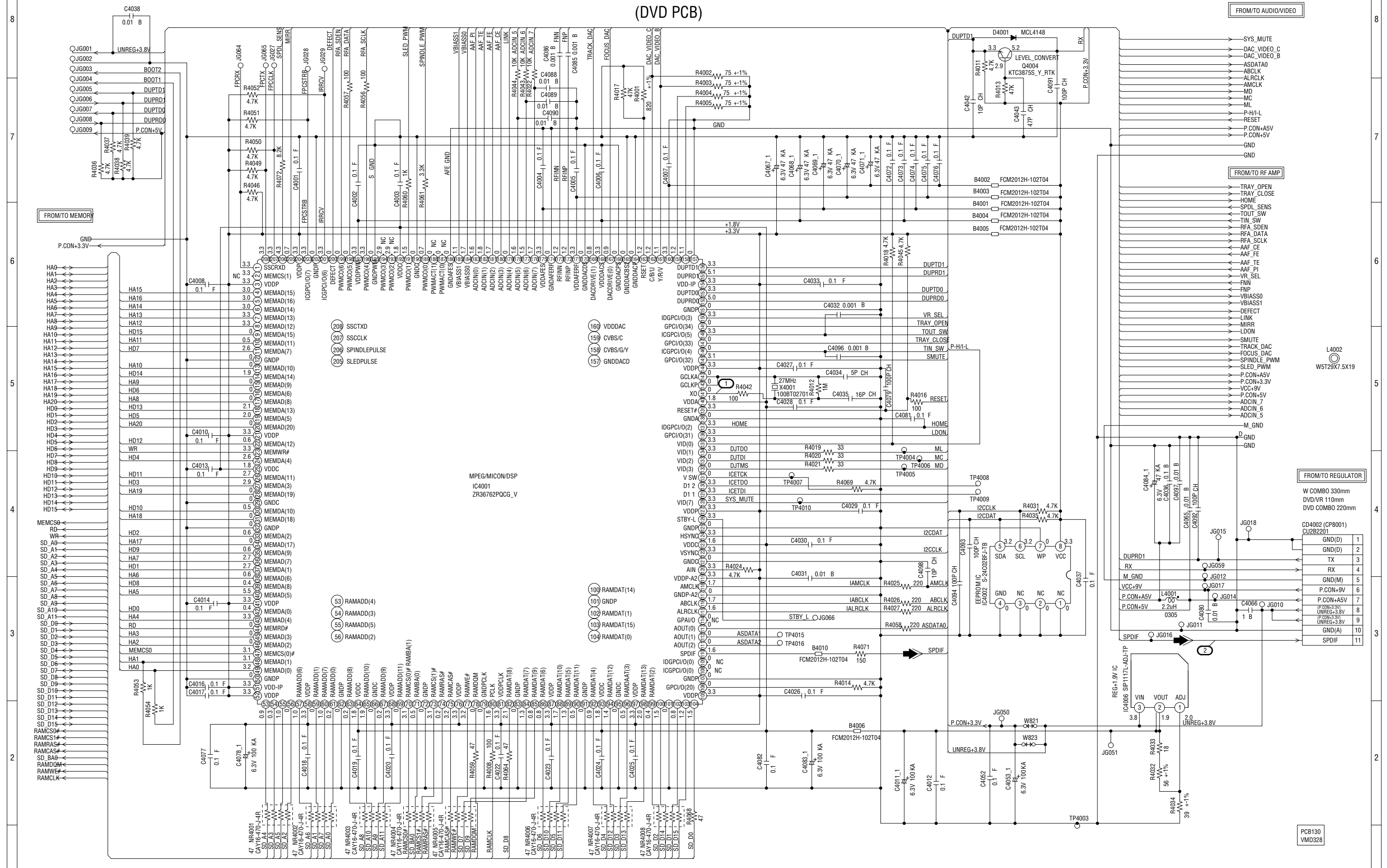


PRINTED CIRCUIT BOARDS  
AV/CRT (INSERTED PARTS)  
SOLDER SIDE





# 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.

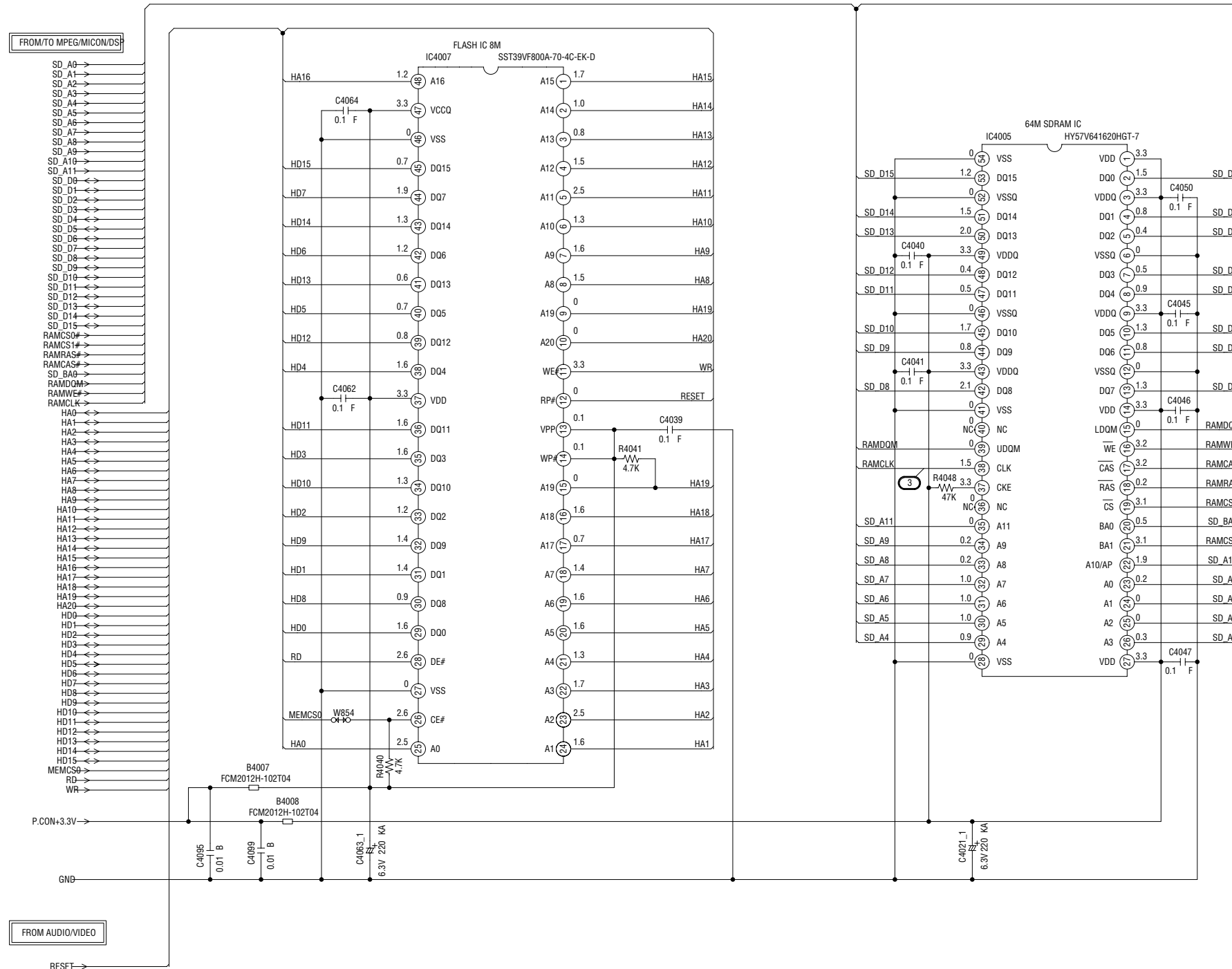
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

◀ DIGITAL AUDIO SIGNAL(PB)

FROM/TO REGULATOR	
W COMBO 330mm	GND(D) 1
DVD/VR 110mm	GND(D) 2
DVD COMBO 220mm	TX 3
	RX 4
	GND(M) 5
	P.CON+9V 6
	P.CON+ASV 7
	P.CON+3.8V 8
	UNREG+3.8V 9
	GND(A) 10
	SPDIF 11

PCB130  
VMD328

# MEMORY SCHEMATIC DIAGRAM (DVD PCB)

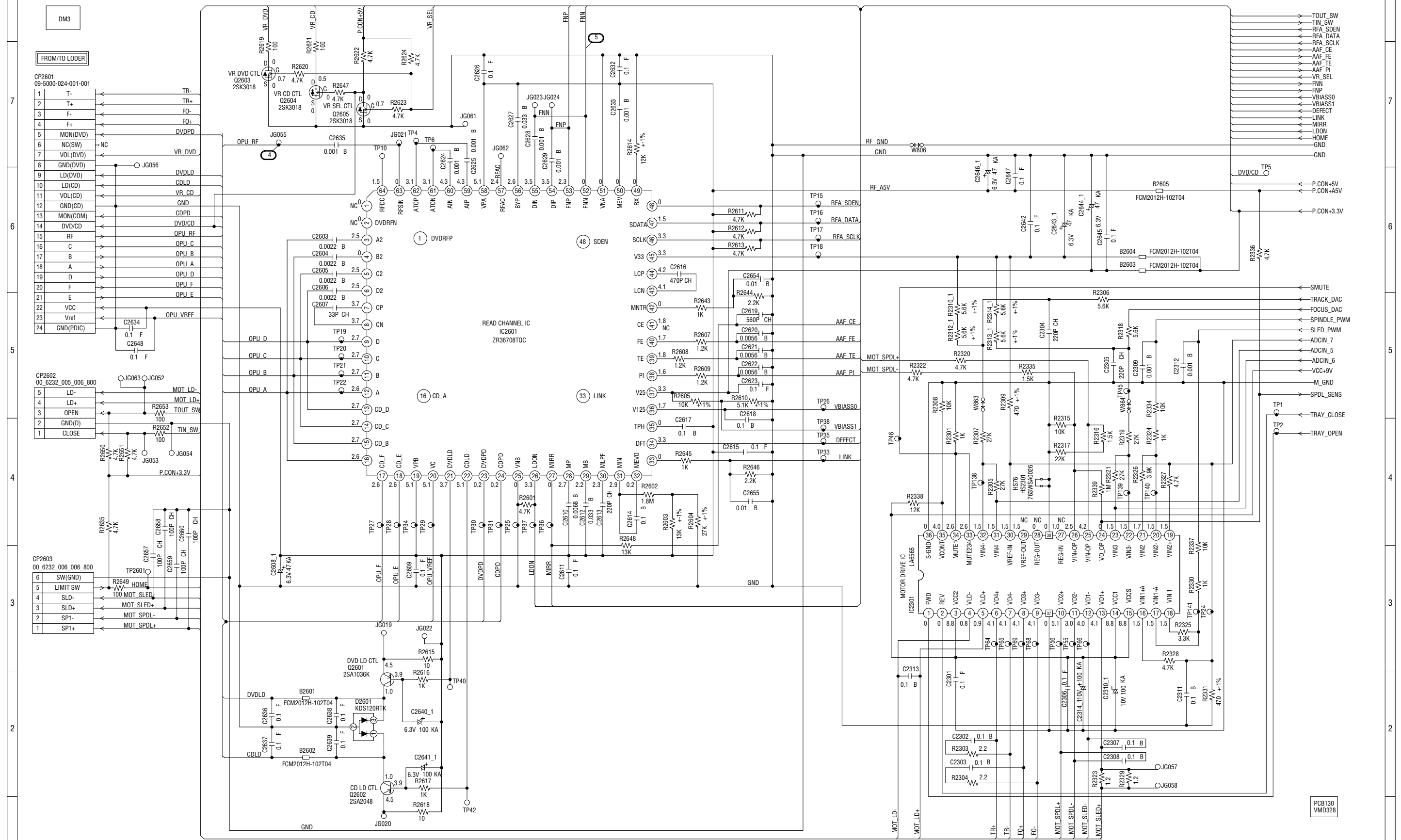


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

PCB130  
VMD328

# RF AMP SCHEMATIC DIAGRAM (DVD PCB)

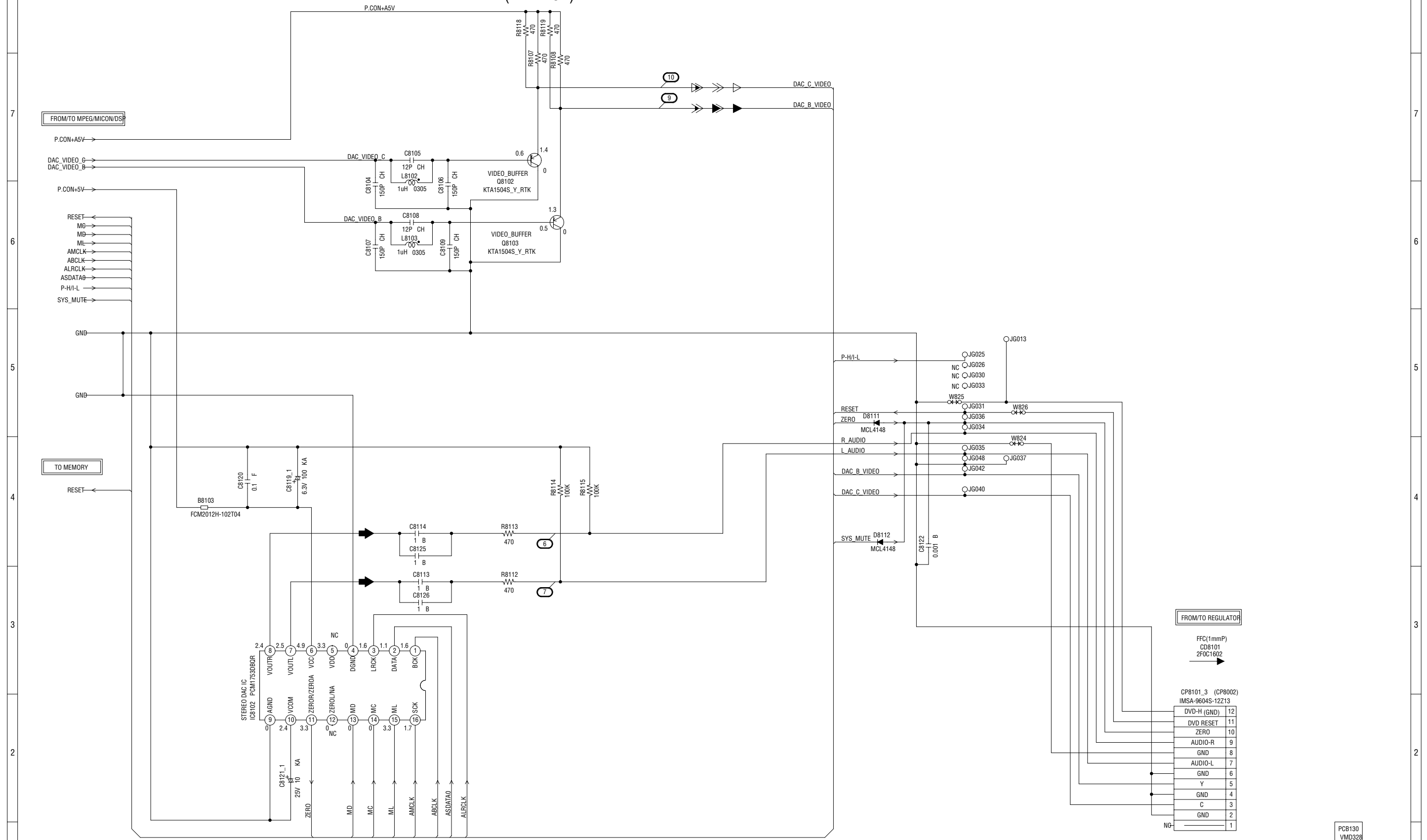


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

PCB130  
VMD328

# AUDIO/VIDEO 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.

- ◁ COMPONENT SIGNAL (U)
- ◁ COMPONENT SIGNAL (V)
- ◁ R. SIGNAL
- ◁ AUDIO SIGNAL (PB)
- ◁ G. SIGNAL
- ◁ B. SIGNAL
- ◁ PLAYBACK COLOR SIGNAL
- ◁ PLAYBACK LUMINANCE SIGNAL

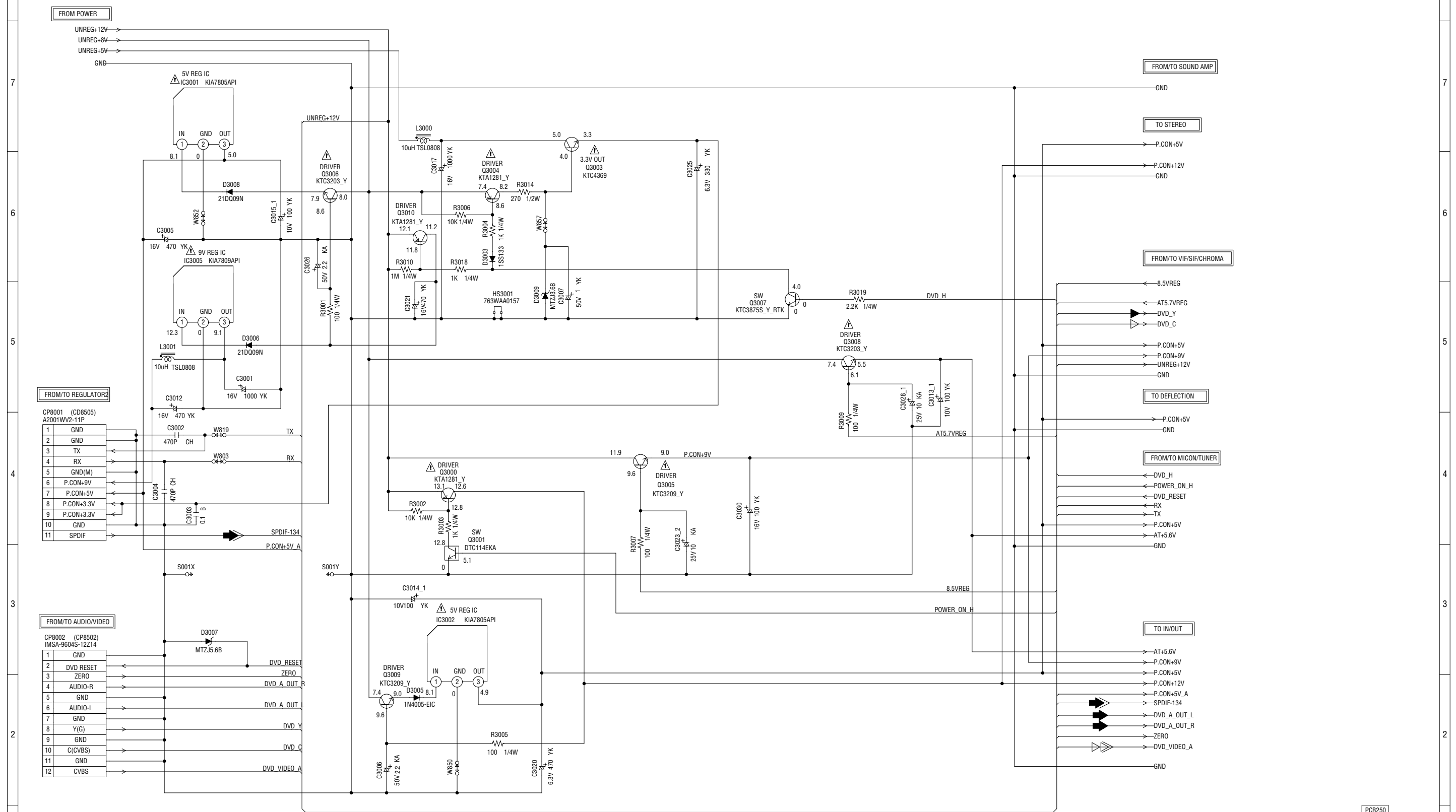
FROM TO REGULATOR

FFC(1mmP)  
CD8101  
2FOC1602

CP8101_3 (CP8002)	
IMSA-9604S-12Z13	
DVD-H (GND)	12
DVD RESET	11
ZERO	10
AUDIO-R	9
GND	8
AUDIO-L	7
GND	6
Y	5
GND	4
C	3
GND	2
NC	1

PCB130  
VMD328

# REGULATOR SCHEMATIC DIAGRAM (AV PCB)



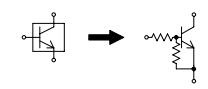
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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 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.

CAUTION: DIGITAL TRANSISTOR

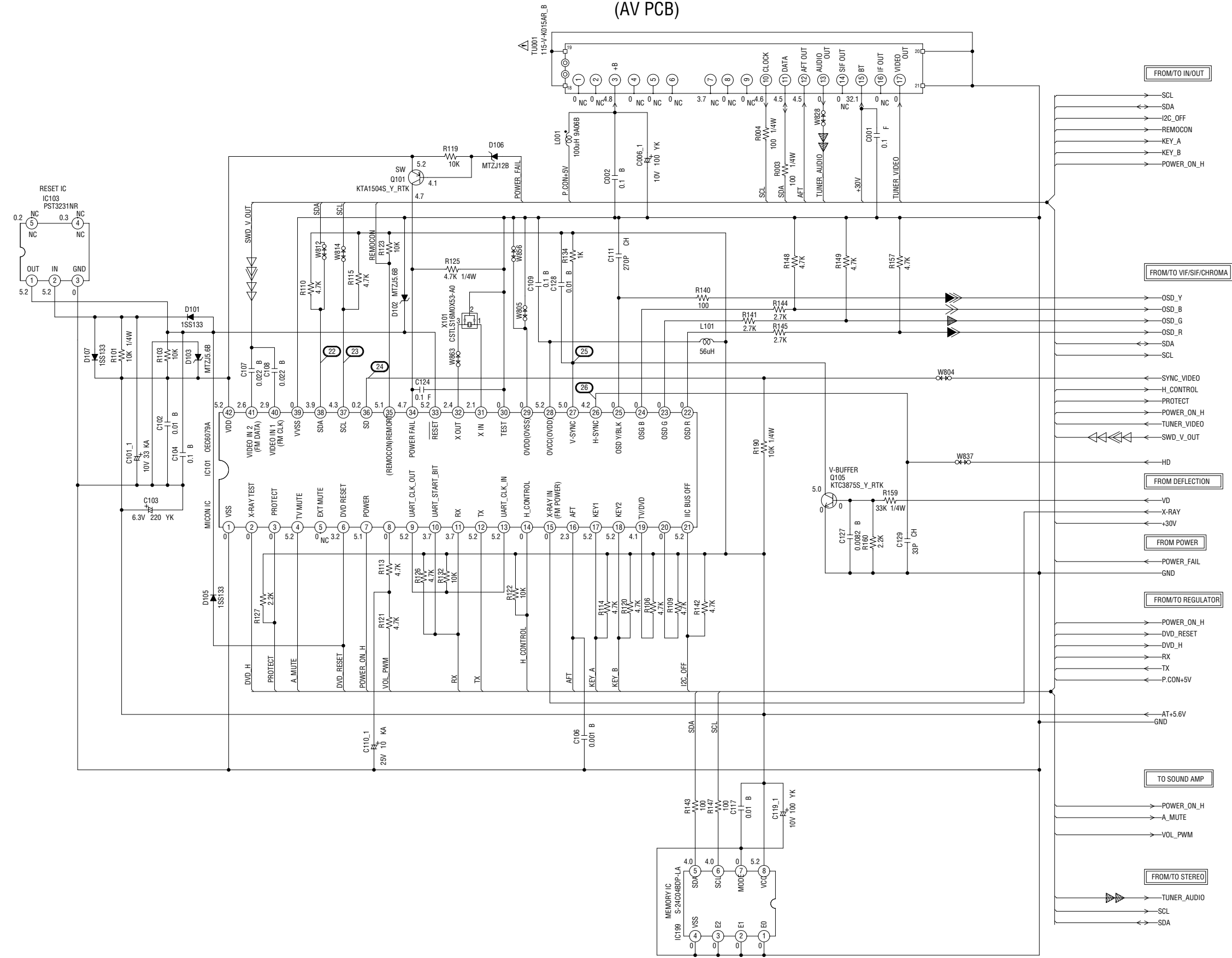


- PLAYBACK LUMINANCE SIGNAL
- PLAYBACK COLOR SIGNAL
- AUDIO SIGNAL (PB)
- PLAYBACK VIDEO SIGNAL
- DIGITAL AUDIO SIGNAL (PB)

PCB250  
TM8555



# 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.

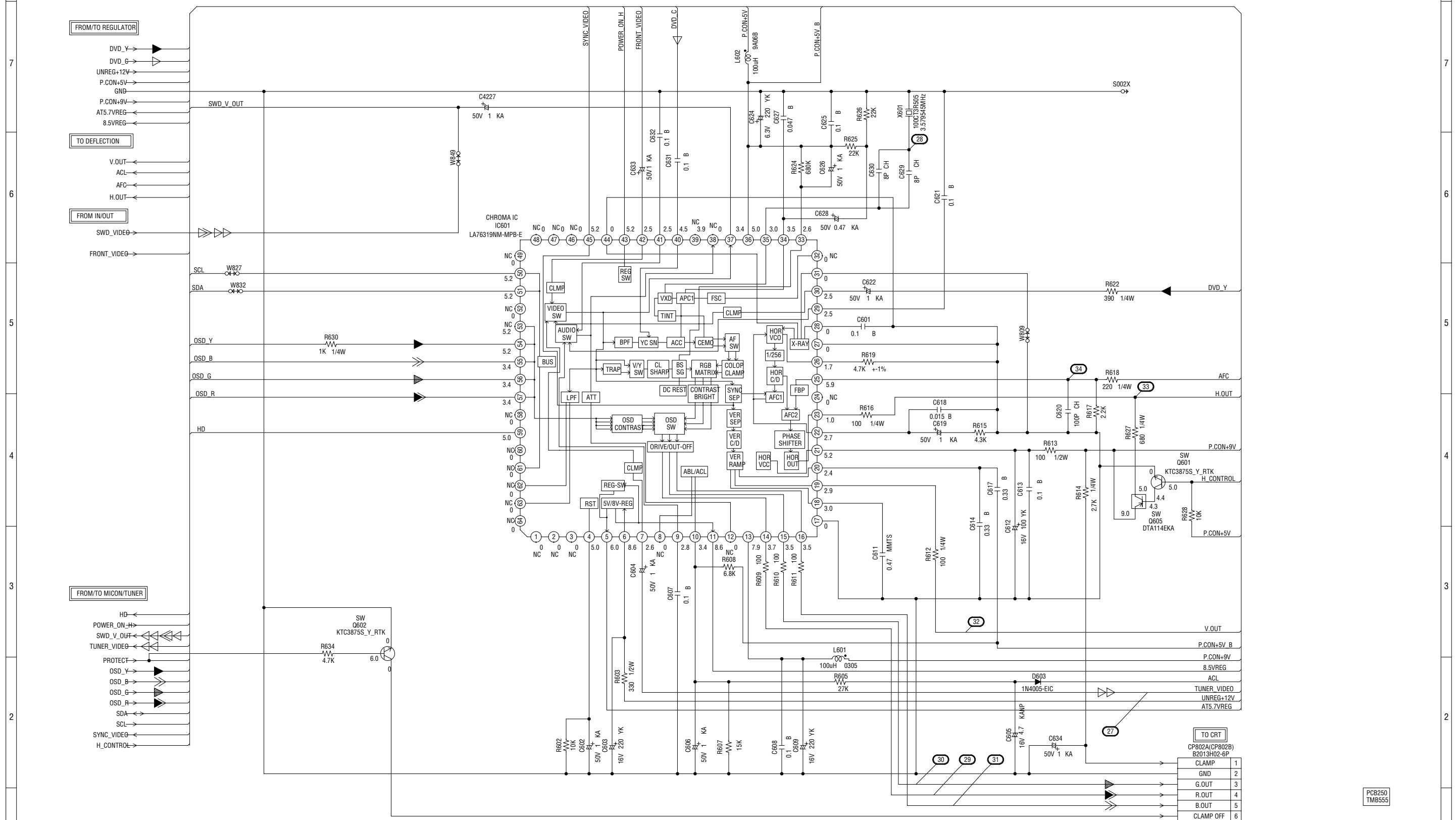
ATTENTION: LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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

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

PCB250  
TM8555

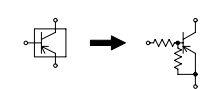
# VIF/SIF/CHROMA SCHEMATIC DIAGRAM (AV PCB)



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.

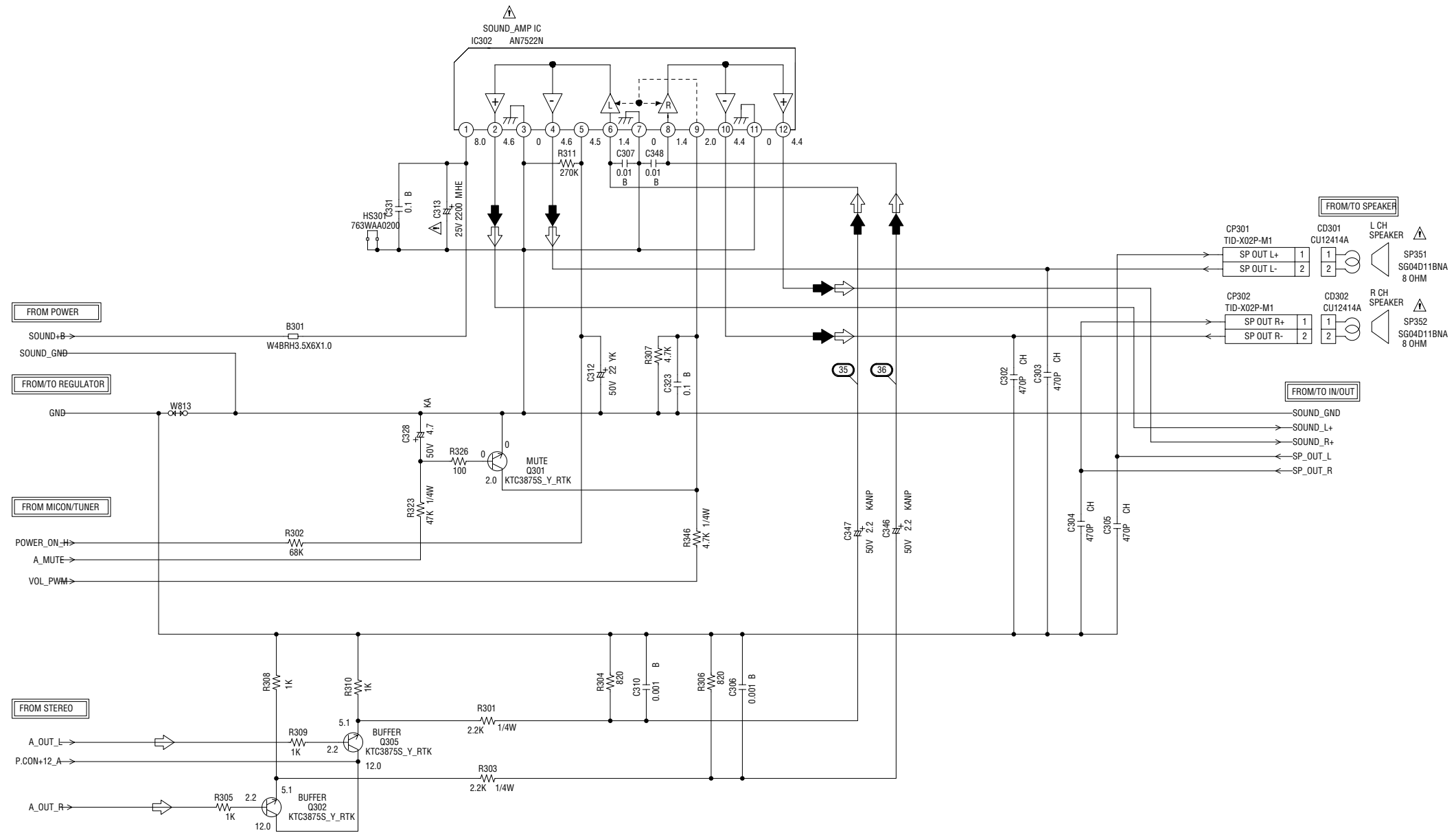
CAUTION: DIGITAL TRANSISTOR



- ◀ B.SIGNAL
- ▲ G.SIGNAL
- ▲ R.SIGNAL
- ▶ PLAYBACK LUMINANCE SIGNAL
- ◀ PLAYBACK COLOR SIGNAL

- ◀ TUNER VIDEO SIGNAL
- ▶ TUNER AUDIO SIGNAL
- ◀ PLAYBACK VIDEO SIGNAL

# 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.

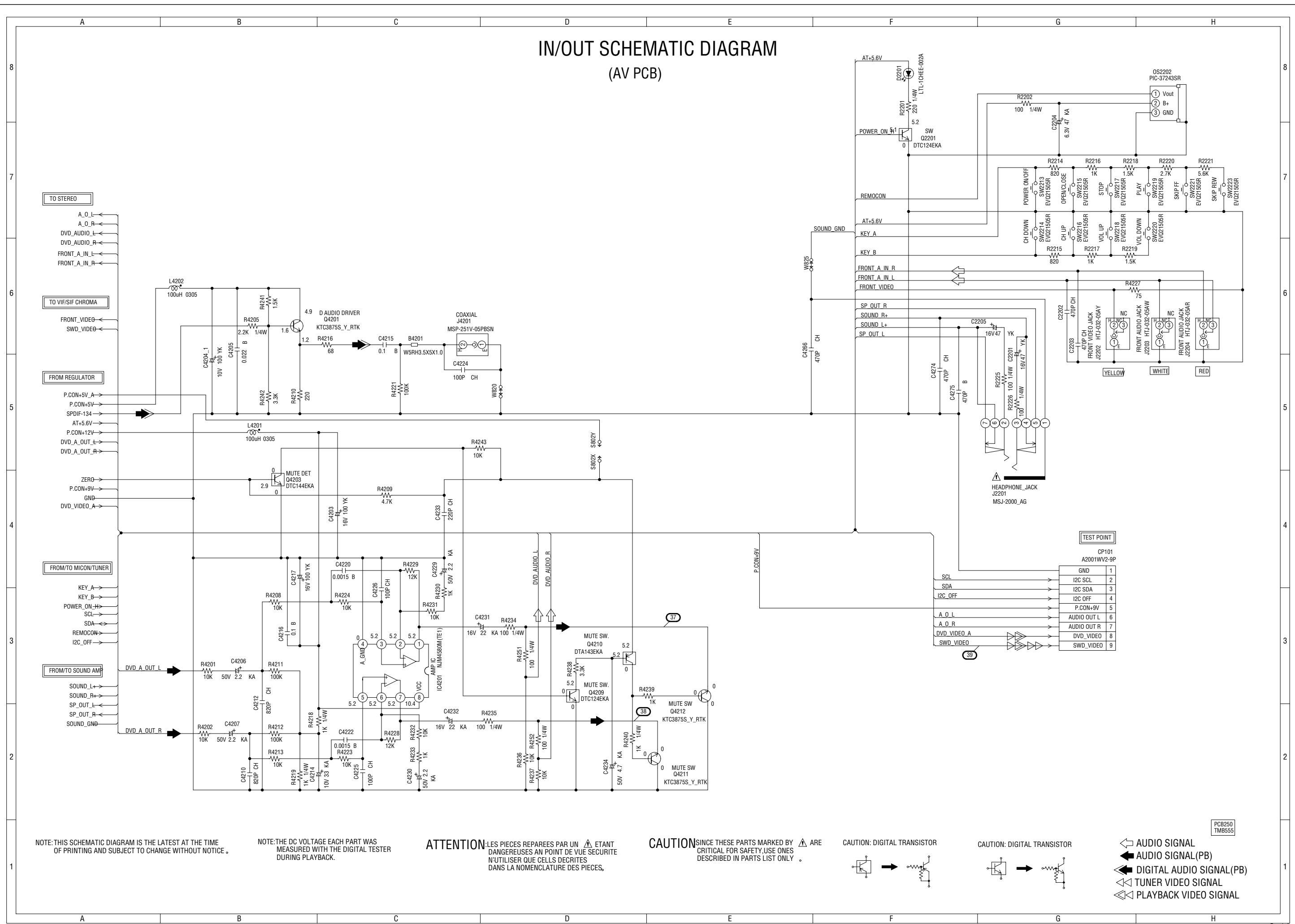
**ATTENTION:** LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES.

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

AUDIO SIGNAL  
 AUDIO SIGNAL (PB)

PCB250  
TMB555

# 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 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.

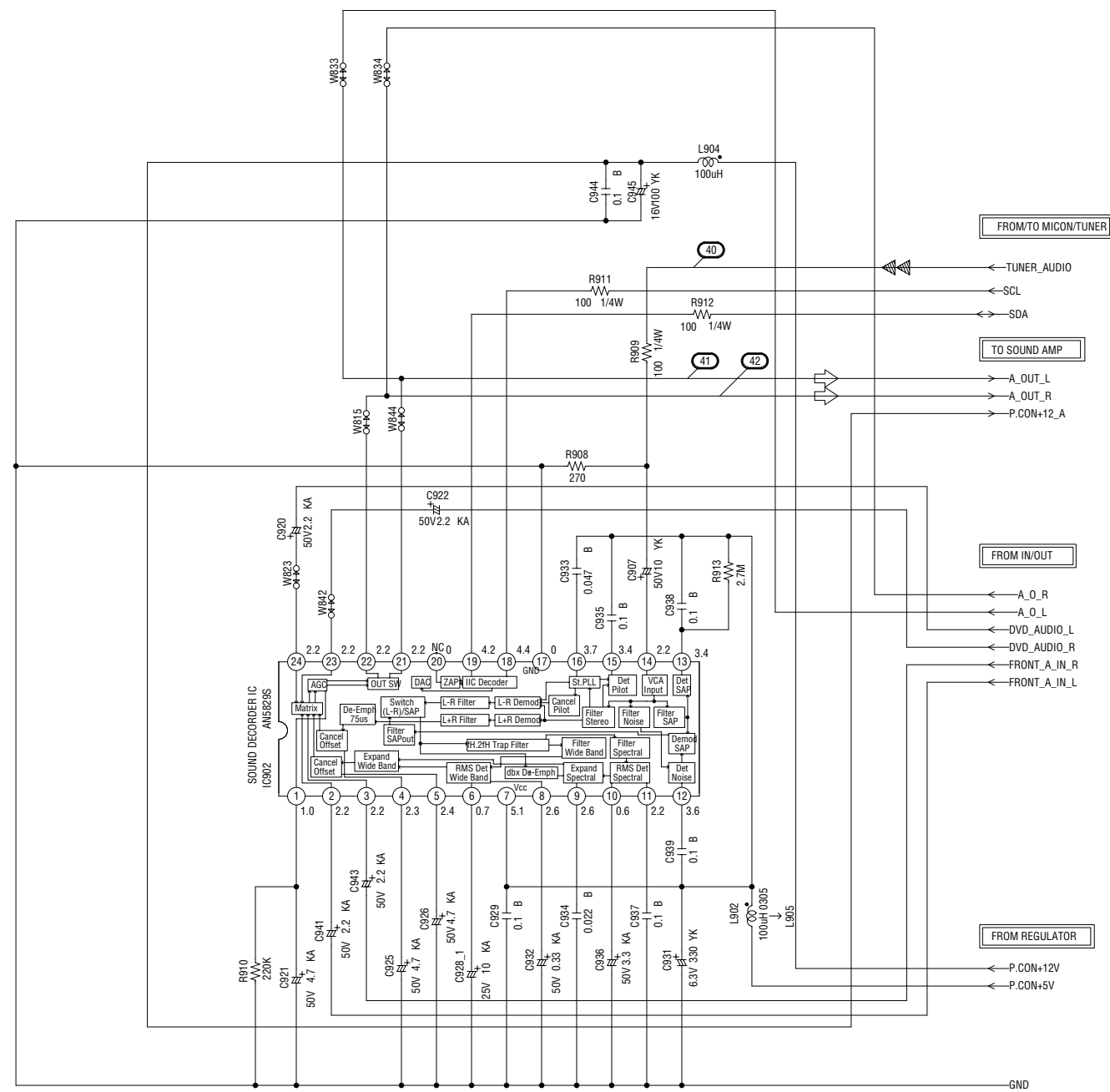
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

- AUDIO SIGNAL
- AUDIO SIGNAL (PB)
- DIGITAL AUDIO SIGNAL (PB)
- TUNER VIDEO SIGNAL
- PLAYBACK VIDEO SIGNAL

PCB250  
TM8555

# STEREO SCHEMATIC DIAGRAM (AV PCB)



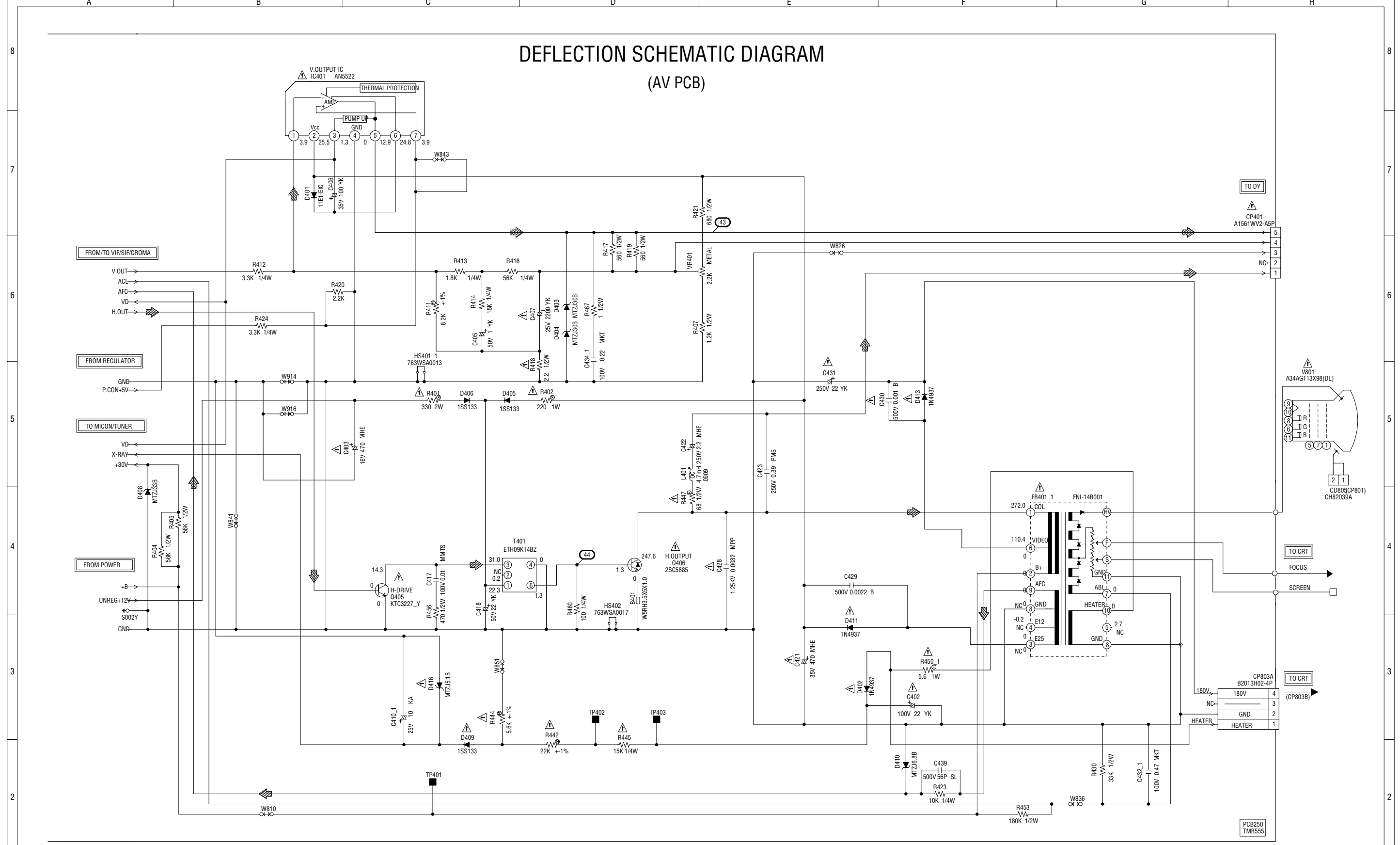
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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.

TUNER AUDIO SIGNAL  
 AUDIO SIGNAL

PCB250  
TM8555

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

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

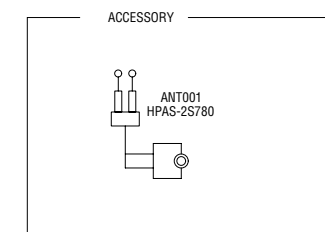
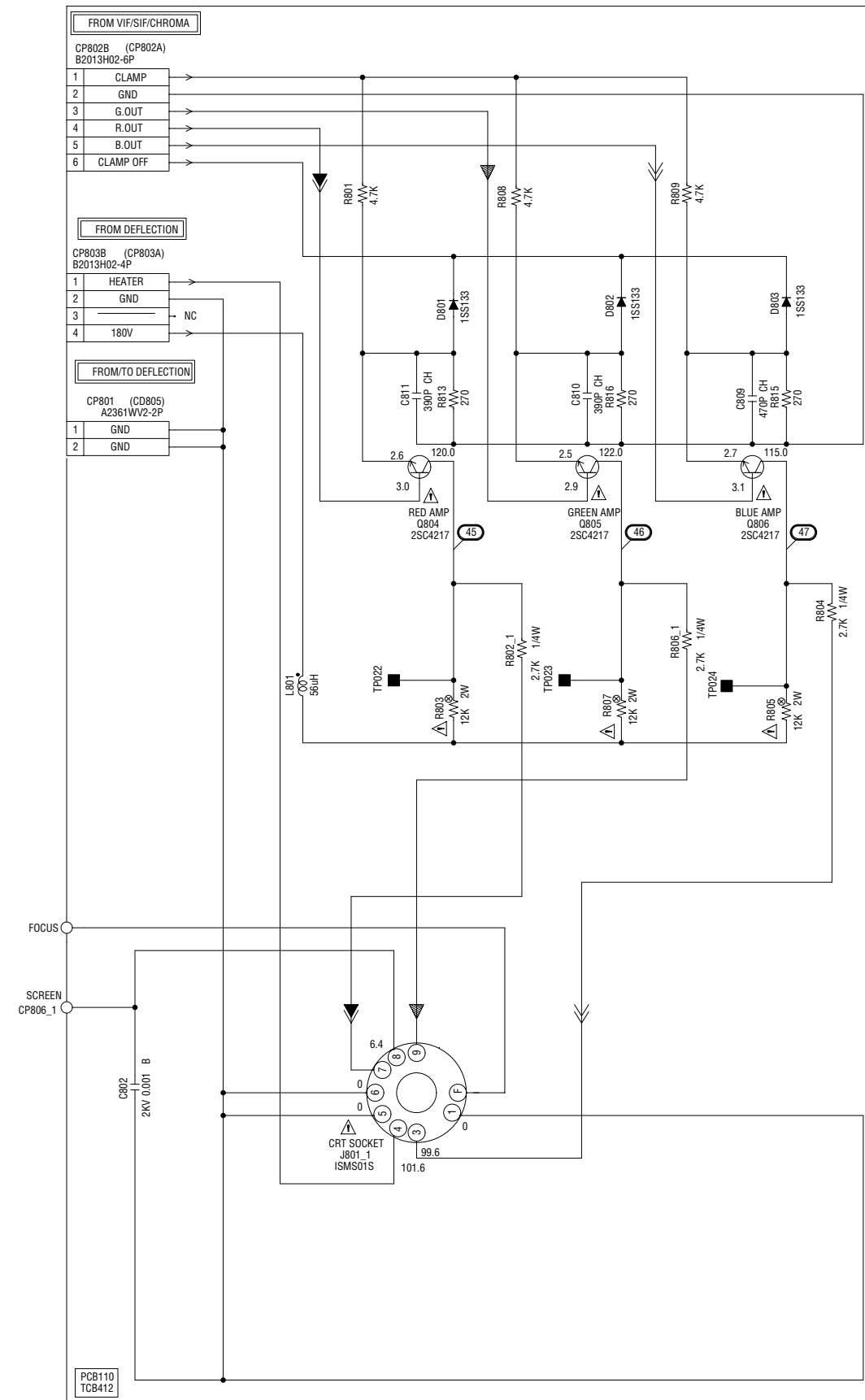
**ATTENTION:** LES PIÈCES RÉPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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

DEFLECTION SIGNAL

# CRT SCHEMATIC DIAGRAM

(CRT PCB)



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

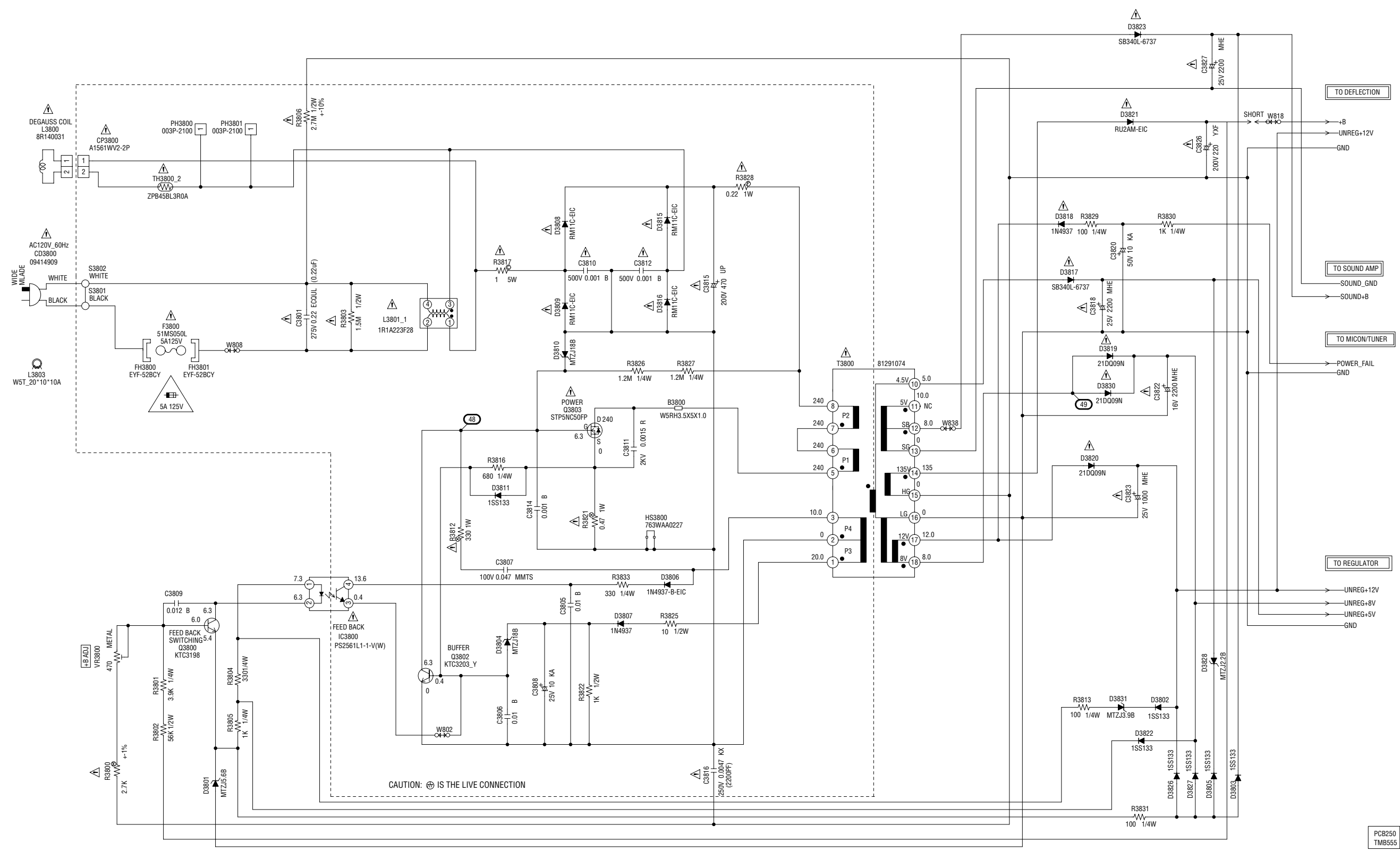
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

**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.

R.SIGNAL  
 G.SIGNAL  
 B.SIGNAL

# POWER SCHEMATIC DIAGRAM (POWER PCB)



**ATTENTION** :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE  
N'UTILISER QUE DES FUSIBLE DE MEME TYPE 5A125V(F3800).

**CAUTION** :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE FUSE 5A125V(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.

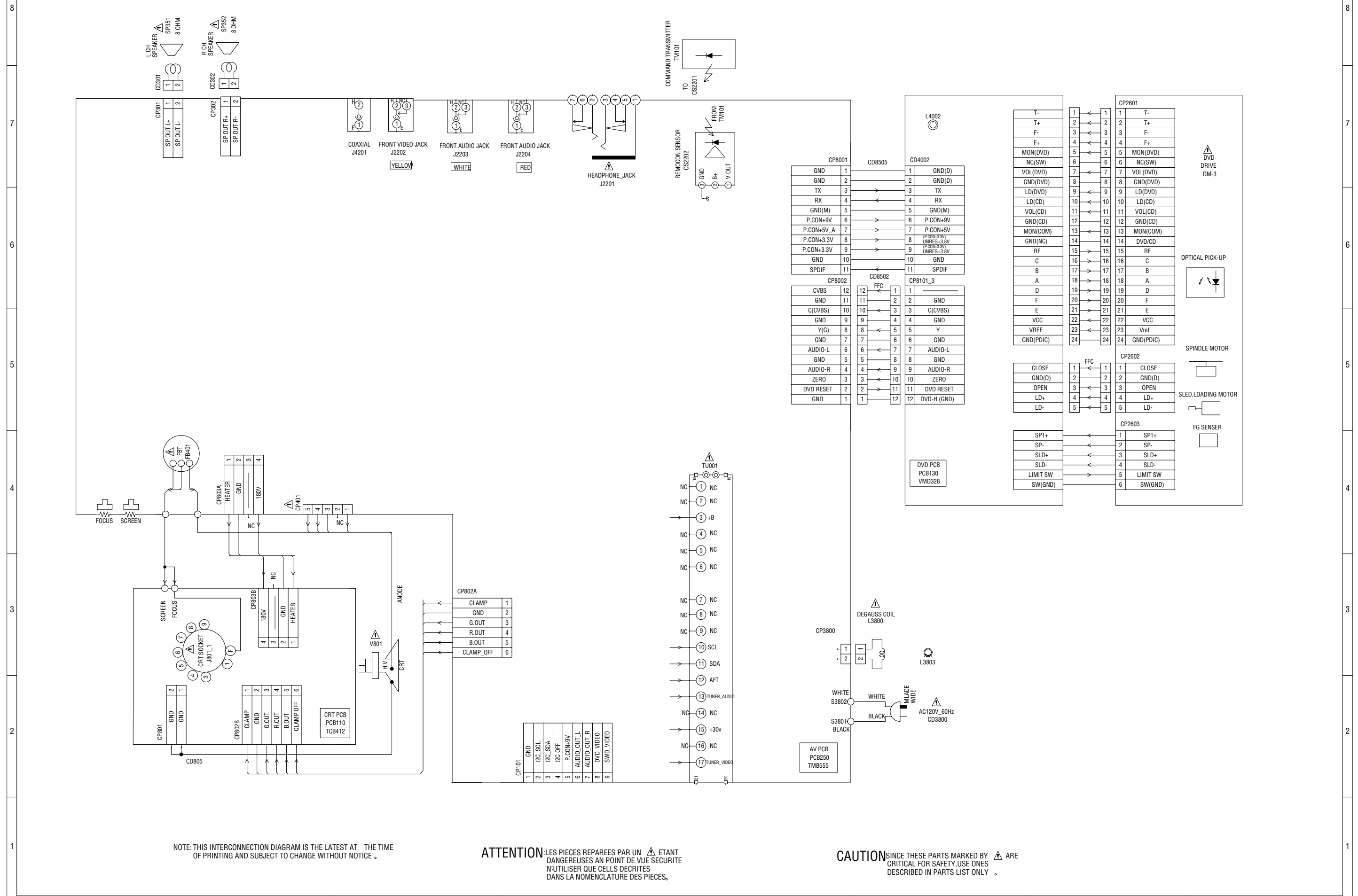
**ATTENTION**:LES PIECES REPARÉES PAR UN ETANT  
DANGEREUSES AN POINT DE VUE SECURITE  
N'UTILISER QUE CELLS DÉCRITES  
DANS LA NOMENCLATURE DES PIECES.

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

PCB250  
TMB555



# INTERCONNECTION DIAGRAM



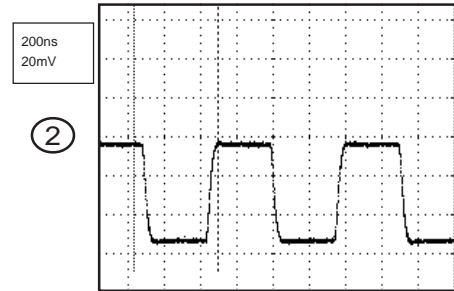
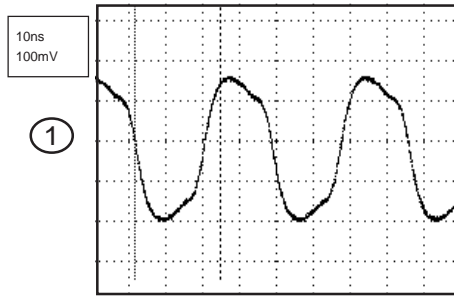
NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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

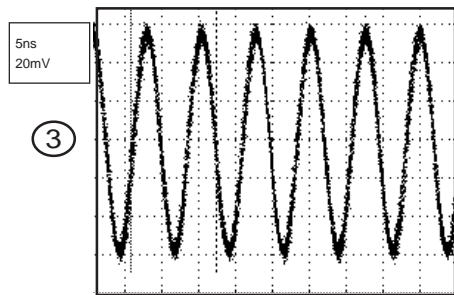
**CAUTION:** SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

# WAVEFORMS

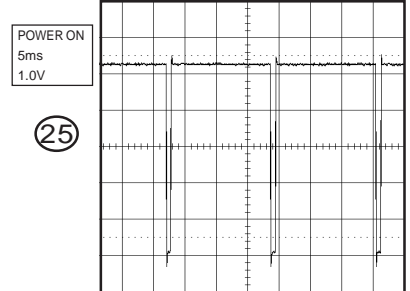
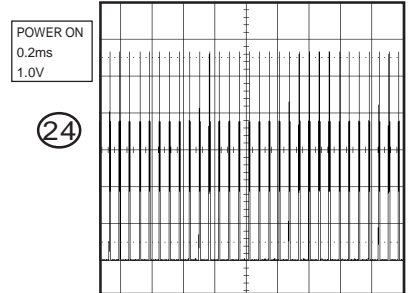
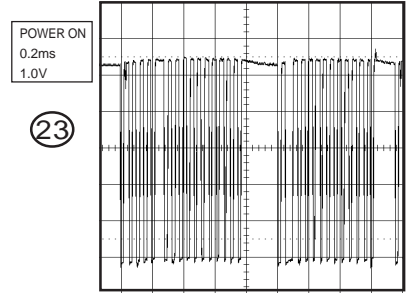
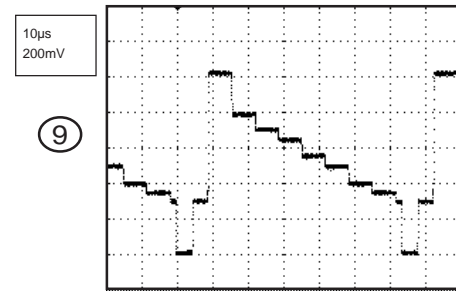
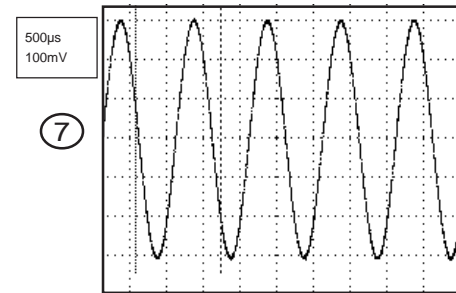
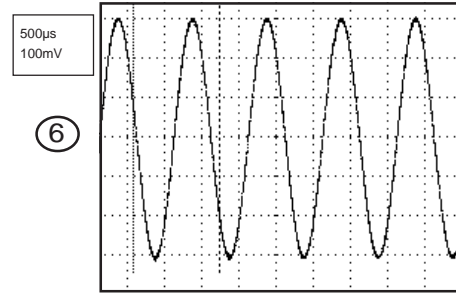
## MPEG/MICON/DSP



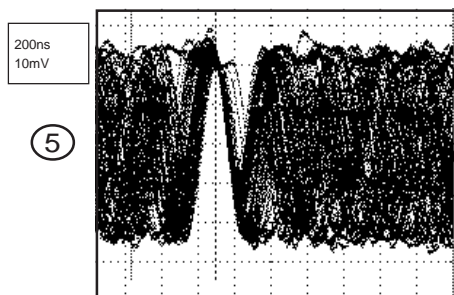
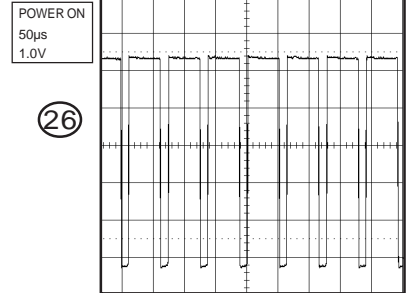
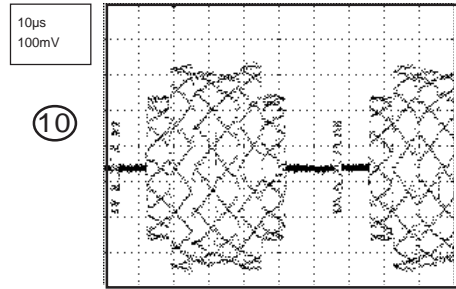
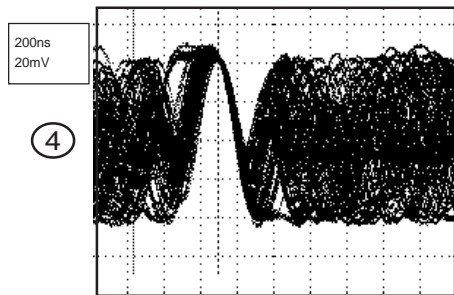
## MEMORY



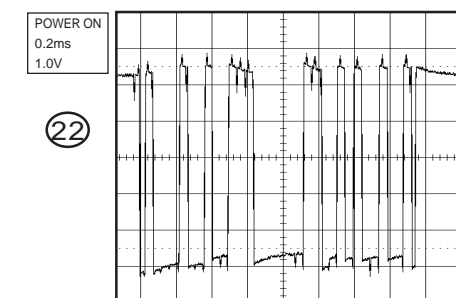
## AUDIO/VIDEO



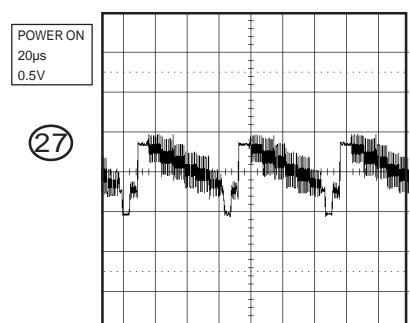
## RF AMP



## MICON/TUNER

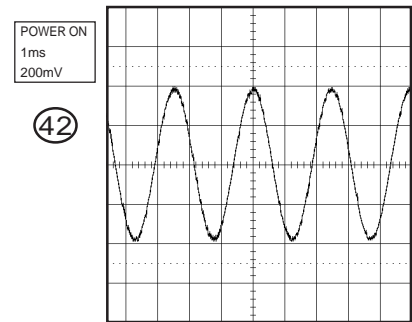
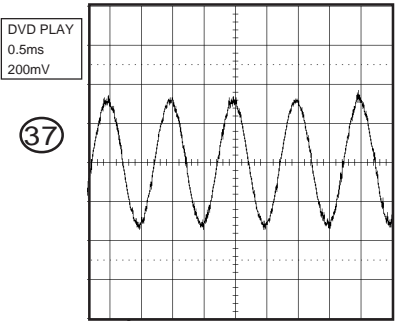
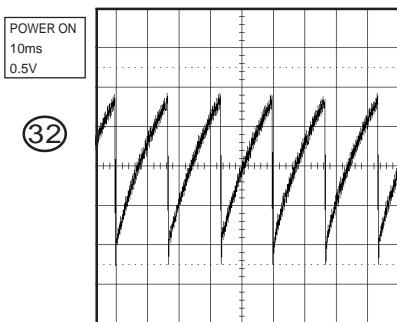
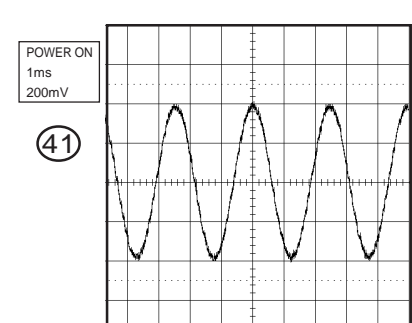
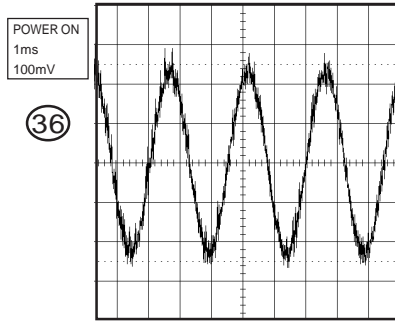
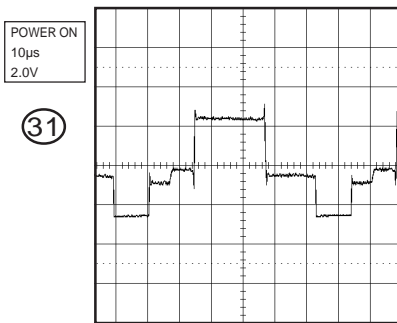
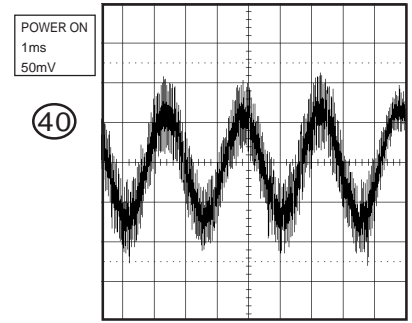
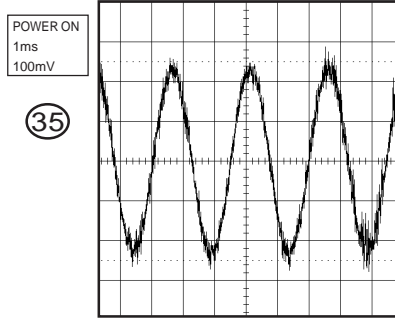
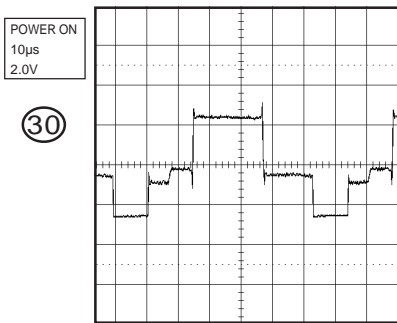
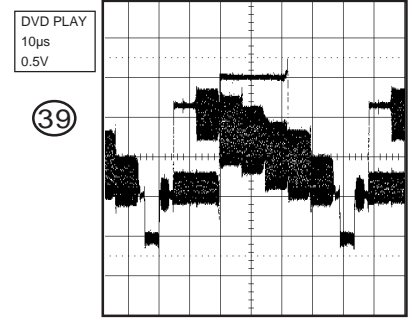
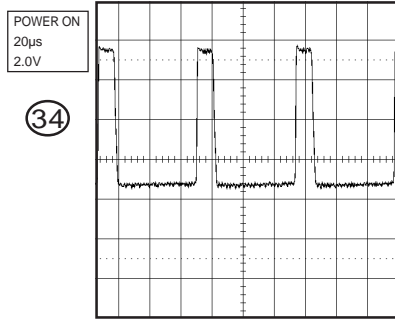
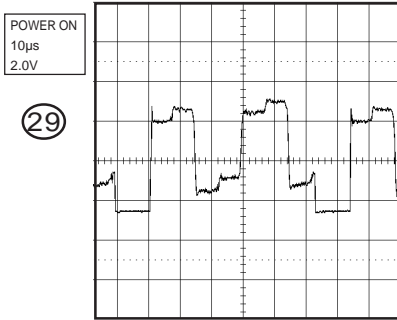
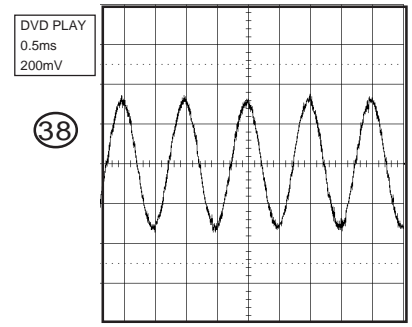
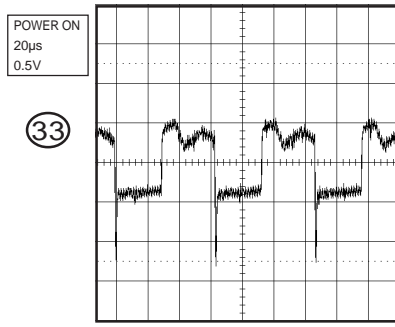
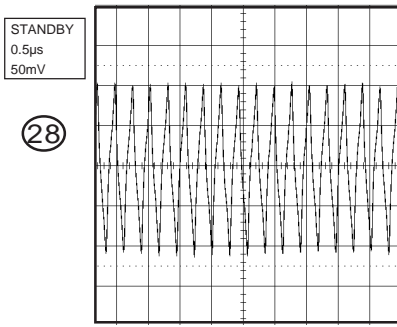


## VIF/SIF/CHROMA



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

# WAVEFORMS



## SOUND AMP

## STEREO

## IN/OUT

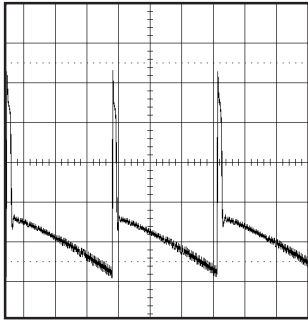
**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

# WAVEFORMS

## DEFLECTION

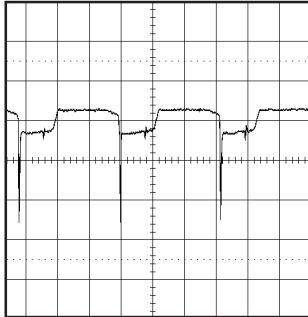
POWER ON  
5ms  
10.0V

43



POWER ON  
20μs  
5.0V

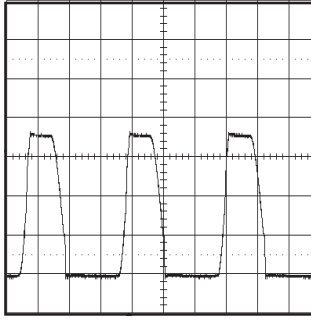
44



## POWER

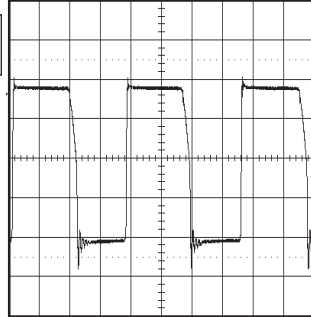
STANDBY  
5μs  
5.0V

48



STANDBY  
5μs  
5.0V

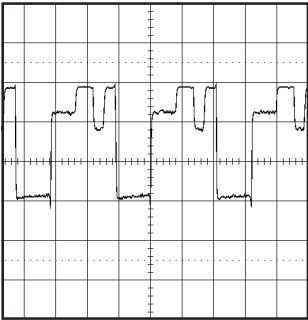
49



## CRT

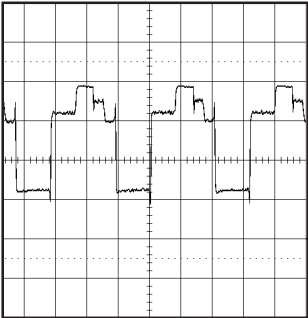
POWER ON  
20μs  
50V

45



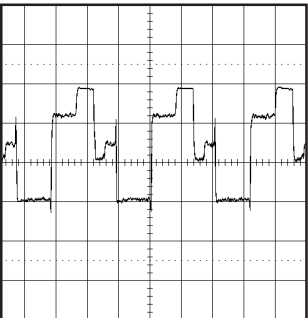
POWER ON  
20μs  
50V

46



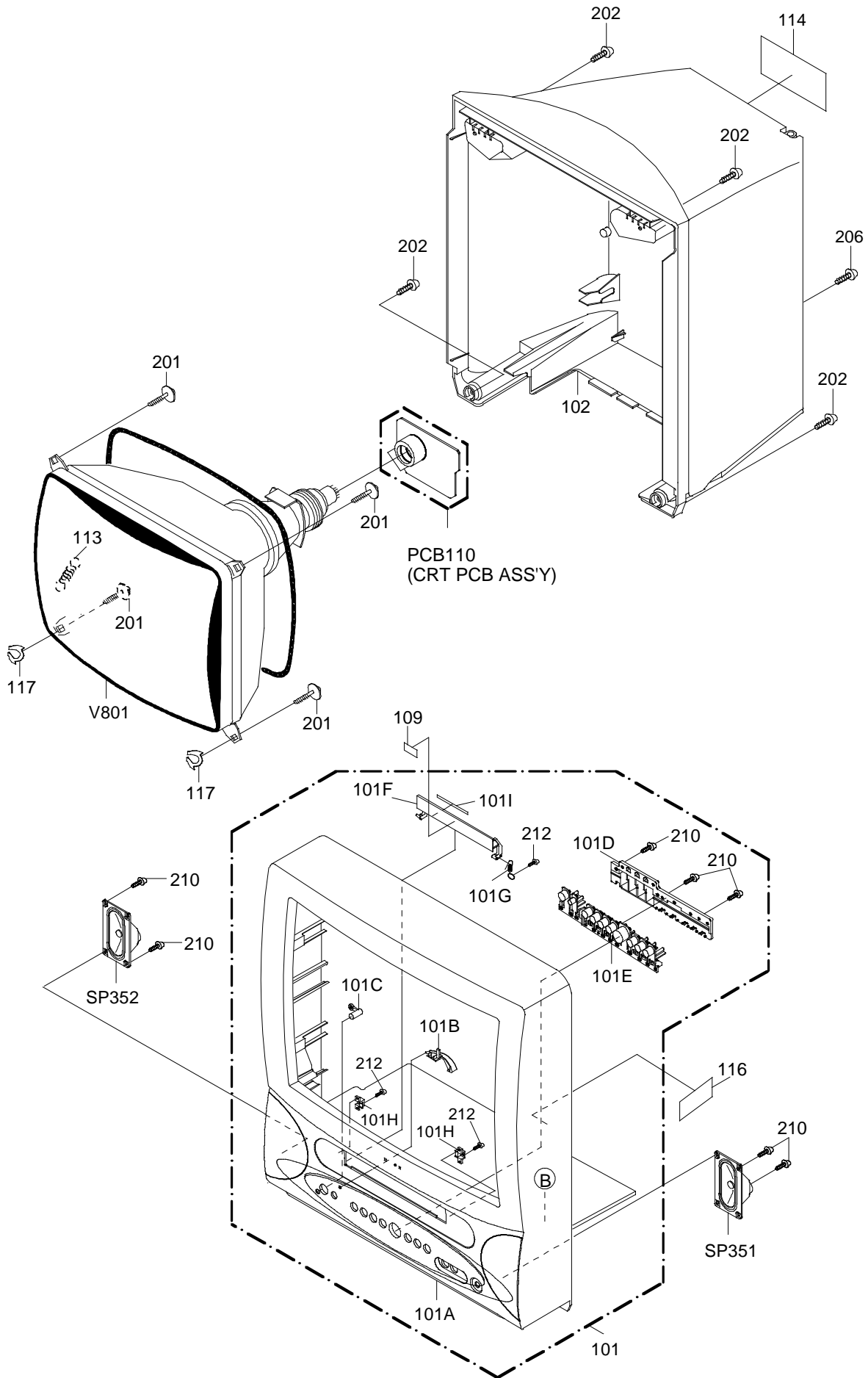
POWER ON  
20μs  
50V

47

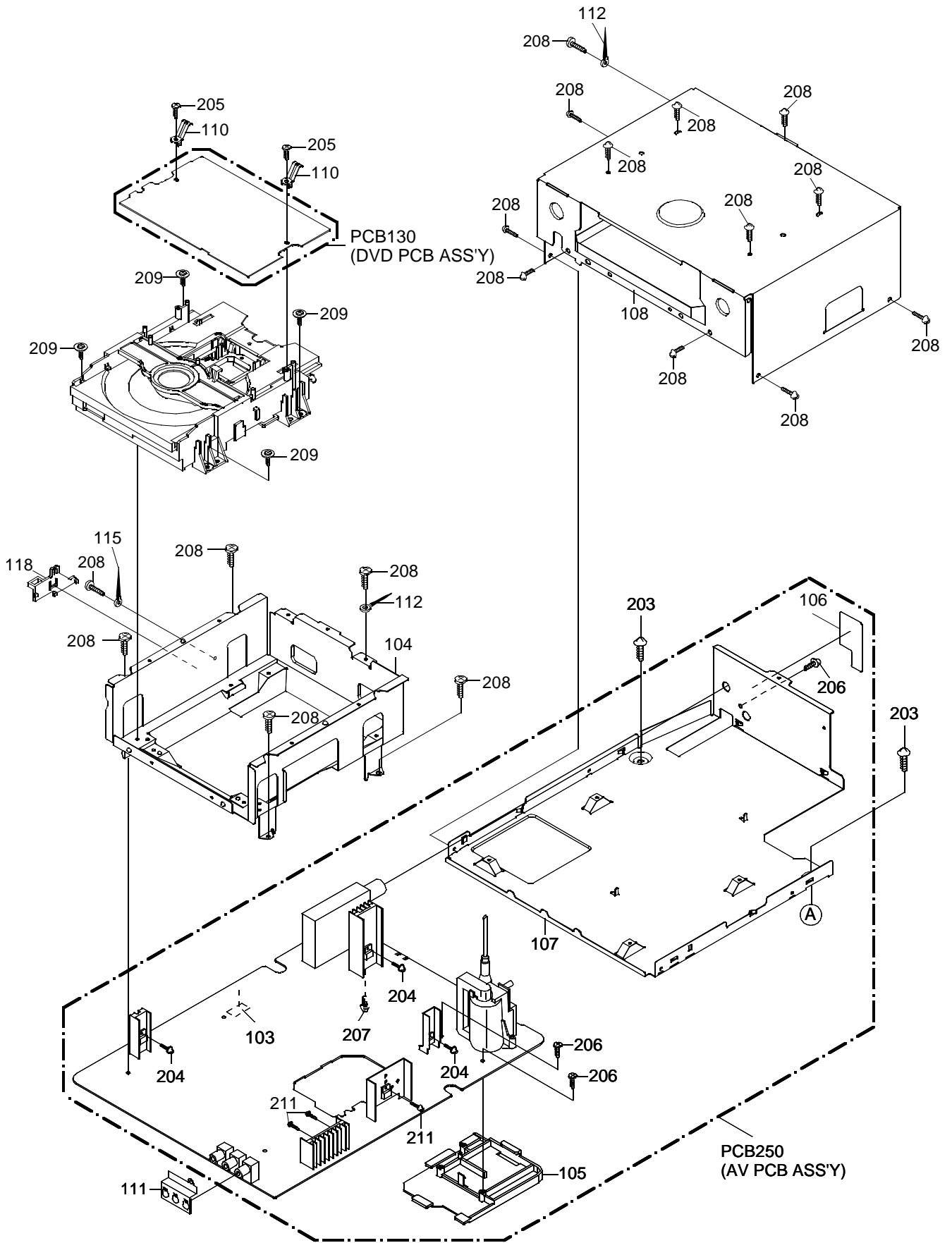


**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

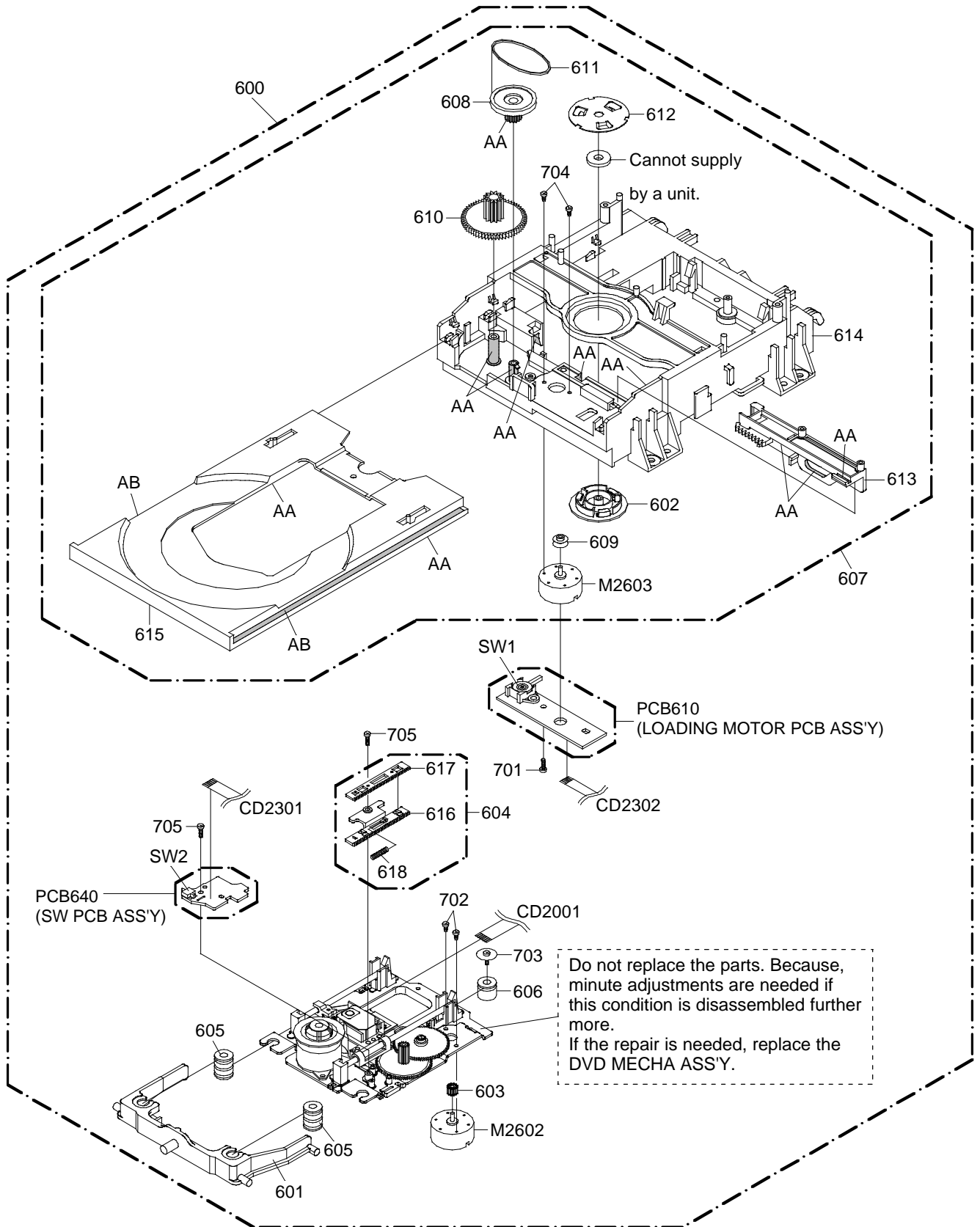
# MECHANICAL EXPLODED VIEW



# MECHANICAL EXPLODED VIEW



# DVD DECK EXPLODED VIEW



CLASS	PART NO.	PART NAME	MARK
GREASE	Y315061000	G-555G	AA
	Y315131000	SF-112	AB

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

## MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
101	7A701A118A	FRONT,CABI ASSY		
101A	701WPJC660	CABINET,FRONT		
101B	713WPA0257	GLASS,LED		
101C	713WPA0258	GUIDE,REMOCON		
101D	735WPAA576	STOPPER,BUTTON		
101E	735WPBB086	BUTTON,FRAME		
101F	712WPBA056	FLAP,DVD		
101G	742WKA0001	SPRING,DVD-FLAP		
101H	761WPA0283	HOLDER,FLAP		
101I	800WQ0A077	FELT,SHEET	2x107xT=0.5	
102	A5P205V740	CABINET,BACK ASS'Y		or
	702WPAA679	CABINET,BACK		
103	724WNAA001	SHEET,PVC	5x10xT0.3	
104	761WSA0155	ANGLE,DECK		
105	761WPA0249	HOLDER,FBT		
106	7230007593	SHEET,JACK		
107	702WSA0165	PLATE,BOTTOM		
108	702WSA0213	SHIELD,TOP		
109	7235630001	SHEET,DVD(NEW)		
110	753WUA0069	SPRING,EARTH		
111	752WSA0333	SHIELD,JACK		
112	8995034000	CORD CLIP UL CO.		
113	741WUA0021	SPRING,EARTH		
114	722A08A153	SHEET,RATING		
115	899EFBA002	WIRING-CLIP		or
	899EFBA001	WIRING CLIP		
116	7230006755	SHEET,CAUTION		
117	769WSA0011	WASHER CRT T=0.5		
118	774WPA0006	HOLDER,WIRE		
201	8121F50B84	SCREW,TAP TITE(P)	FAI20 FLAT	5x28
202	8117540A64	SCREW,TAPPING(B0)	TRUSS	4x16
203	8117540804	SCREW,TAPPING(B0)	TRUSS	4x8
204	8109I30A04	SCREW,TAP TITE(B)	WH7	3x10
205	8110226804	SCREW,TAP TITE(P)	BIND	2.6x8
206	8109230804	SCREW,TAP TITE(B)	BIND	3x8
207	8109630802	SCREW,TAP TITE(B)	BRAZIER	3x8
208	8109230604	SCREW,TAP TITE(B)	BIND	3x6
209	810F130804	SEMS(F)		3x8
210	8110630804	SCREW,TAP TITE(P)	BRAZIER	3x8
211	8107630804	SCREW,TAP TITE(S)	BRAZIER	3x8
212	8110E30804	SCREW,TAP TITE(P)	WH10	3X8
---	791WHAA016	LAMIFILM BAG		
---	792WHAA077	PACKAGE,TOP		
---	792WHAA078	PACKAGE,BOTTOM		
---	793WCDC358	GIFT BOX		
---	J5P20521A	INSTRUCTION BOOK		
---	JA5U0100	POLYBAG,INSTRUCTION		
---	A5P205V975	INSTRUCTION BOOK KIT		



## DVD DECK REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
600	A5M4016650	DVD MECHA ASS'Y	
601	92P100098A	HOLDER, TRAVERSE	
602	92P100094A	CLAMPER	
603	92P100088A	GEAR, MOTOR	
604	92AAA0013A	FEED RACK ASS'Y	
605	92P200013A	INSULATOR(F)	
606	92P200014A	INSULATOR(R)	
607	92SBB0019A	LOADER SUB ASS'Y	
608	92P100095A	GEAR, PULLEY	
609	92P100097A	PULLEY, MOTOR	
610	92P100096A	GEAR, MAIN	
611	92P200012A	BELT, LOADING	
612	92P000014A	PLATE, CLAMPER	
613	92P100093A	RACK, LOADING	
614	92P100091A	FRAME, MAIN	
615	92P100092A	TRAY	
616	92P100089A	RACK, FEED 1	
617	92P100090A	RACK, FEED 2	
618	92P300020A	SPRING, RACK FEED	
701	811022680U	SCREW, TAP TITE(P) BIND	2.6x8
702	814011723U	SCREW, PAN	M1.7x2.3 P3
703	816112080U	SEMS. TAP TITE(P) PAN	W10 2x8
704	814011730U	SCREW, PAN	M1.7x3 P3
705	811022080U	SCREW, TAP TITE(P) BIND	2x8
CD2001	122H001901	CORD JUMPER	2H001901
CD2301	122H062102	CORD JUMPER	2H062102
CD2302	122H052601	CORD JUMPER	2H052601
△ M2602	1515S98002	FEED MOTOR	BCZ3B03
△ M2603	1596S18002	LOADING MOTOR	BCZ3B52
PCB610	A5M4016610	PCB	DED003A
PCB640	A5M4016640	PCB	DED002A
SW1	0515S32002	SWITCH	SSS-13-2
SW2	0500101037	PUSH SWITCH	ESE22MH24

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>RESISTORS</b>			<b>DIODES</b>		
△ R401	R3X28A331J	R,METAL OXIDE 330 OHM 2W	D3810	D97U01801B	DIODE,ZENER MTZJ18B T-77
△ R402	R3X181221J	R,METAL OXIDE 220 OHM 1W	D3811	D1VT001330	DIODE,SILICON 1SS133T-77
△ R418	R002T22R2J	RC 2.2 OHM 1/2W	△ D3815	D2WTRM11C0	DIODE SILICON RM11C-EIC
△ R442	R4X5T6223F	R,METAL 22K OHM 1/6W	△ D3816	D2WTRM11C0	DIODE SILICON RM11C-EIC
△ R444	R4X5T6562F	R,METAL 5.6K OHM 1/6W	△ D3817	D2LKB340L0	DIODE SCHOTTKY SB340L-6737
△ R445	R002T4153J	RC 15K OHM 1/4W	△ D3818	D2WXN49370	DIODE SILICON 1N4937
△ R447	R65582680J	R,FUSE 68 OHM 1/2W	△ D3819	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1
R450	R635815R6J	R,FUSE 5.6 OHM 1W	△ D3820	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1
△ R803	R3X18A123J	R,METAL OXIDE 12K OHM 2W	△ D3821	D2WXRU2AM0	DIODE SILICON RU2AM-EIC
△ R805	R3X18A123J	R,METAL OXIDE 12K OHM 2W	D3822	D1VT001330	DIODE,SILICON 1SS133T-77
△ R807	R3X18A123J	R,METAL OXIDE 12K OHM 2W	△ D3823	D2LKB340L0	DIODE SCHOTTKY SB340L-6737
△ R3803	R002T2155J	RC 1.5M OHM 1/2W	D3826	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3806	R0G3K2275K	RC 2.7M OHM 1/2W	D3827	D1VT001330	DIODE,SILICON 1SS133T-77
△ R3812	R3X181331J	R,METAL OXIDE 330 OHM 1W	D3828	D97U02R21B	DIODE,ZENER MTZJ2.2B T-77
△ R3817	R5Y2CD010J	R,CEMENT 1 OHM 5W	△ D3830	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1
△ R3821	R3X181R47J	R,METAL OXIDE 0.47 OHM 1W	D3831	D97U03R91B	DIODE,ZENER MTZJ3.9B T-77
△ R3828	R63581R22J	R,FUSE 0.22 OHM 1W	D4001	DDDRL41480	DIODE SILICON MCL4148
<b>CAPACITORS</b>			D8111	DDDRL41480	DIODE SILICON MCL4148
C313	E5EZF3222M	CE 2200 UF 25V	D8112	DDDRL41480	DIODE SILICON MCL4148
△ C402	E02LU8220M	CE 22 UF 100V	<b>ICS</b>		
△ C403	E5EZF2471M	CE 470 UF 16V	IC101	I55D06079A	IC OEC6079A
△ C407	E02LF3222M	CE 2200 UF 25V	IC103	I9UF032310	IC PST3231NR
C423	P4J7F3394J	CMPP 0.39 UF 250V PMS	IC199	A5P205V255	INIT DATA
△ C428	P4N8FJ822H	CMPP 0.0082UF 1.25KV	△ IC302	I0FSP7522N	IC AN7522N
C431	E0ELFD220M	CE 22 UF 250V	△ IC401	I01TD55220	IC AN5522
C802	C0JBB0713K	CC 0.001 UF 2KV B	IC601	I03FC319N0	IC LA76319NM-MPB-E
C3007	E02L05010M	CE 1 UF 50V	IC902	I01FF58290	IC AN5829S
△ C3801	P2122B224M	CMP 0.22 UF 275V ECQUL	IC2301	I03F065650	IC LA6565-TE-L-E
C3811	C0PLRR7E3K	CC 0.0015 UF 2KV R	IC2601	ICQK067080	IC ZR36708TQC
△ C3815	E51CGC471M	CE 470 UF 200V	△ IC3001	I1KA97805A	IC KIA7805API
△ C3816	CD39E0MQ3M	CC 0.0047UF 250V	IC3002	I1KA97805A	IC KIA7805API
C3818	E5EZF3222M	CE 2200 UF 25V	IC3005	I1KA97809A	IC KIA7809API
△ C3820	E50HU5100M	CE 10 UF 50V	△ IC3800	000220001W	PHOTO COUPLER PS2561L1-1-V(W)
△ C3822	E5EZF2222M	CE 2200 UF 16V	IC4001	ICQK06762V	IC ZR36762PQCG_V
△ C3823	E5EZF3102M	CE 1000 UF 25V	IC4002	I5HJ002BF0	IC S-24C02BFJ-TB
△ C3826	E62NFC221M	CE 220 UF 200V	IC4005	IF3J00HGT7	IC HY57V641620HGT-7
C3827	E5EZF3222M	CE 2200 UF 25V	IC4006	I1HF9117L0	IC SIP1117L-ADJ-TP
<b>DIODES</b>			IC4007	ICMJO800A8	IC SST39VF800A-70-4C-EK-I or
D101	D1VT001330	DIODE,SILICON 1SS133T-77	IC4201	ICMJO8009	IC SST39VF800-70-4C-EK
D102	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	IC	I0QJ045800	IC NJM4580M(TE1)
D103	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	IC8102	I17F017530	IC PCM1753DBQR
D105	D1VT001330	DIODE,SILICON 1SS133T-77	<b>TRANSISTORS</b>		
D106	D97U01201B	DIODE,ZENER MTZJ12B T-77	Q101	TAAA1504SY	TRANSISTOR SILICON KTA1504S_Y_RTK
D107	D1VT001330	DIODE,SILICON 1SS133T-77	Q105	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D401	D2WT011E10	DIODE SILICON 11E1-EIC	Q301	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
△ D402	D2WXN49370	DIODE SILICON 1N4937	Q302	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D403	D97U03001B	DIODE,ZENER MTZJ30B T-77	Q305	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D404	D97U03001B	DIODE,ZENER MTZJ30B T-77	△ Q405	TCAT03227Y	TRANSISTOR SILICON KTC3227_Y-AT
D405	D1VT001330	DIODE,SILICON 1SS133T-77	△ Q406	TC1G058850	TRANSISTOR SILICON 2SC5885
D406	D1VT001330	DIODE,SILICON 1SS133T-77	Q601	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D408	D97U03301B	DIODE,ZENER MTZJ33B T-77	Q602	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D409	D1VT001330	DIODE,SILICON 1SS133T-77	Q605	TPYJB05001	COMPOUND TRANSISTOR DTA114EKAT146
D410	D97U06R81B	DIODE,ZENER MTZJ6.8B T-77	△ Q804	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
D411	D2WXN49370	DIODE SILICON 1N4937	△ Q805	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
D413	D2WXN49370	DIODE SILICON 1N4937	△ Q806	TC3F042170	TRANSISTOR,SILICON 2SC4217(D,E)-RAC
△ D416	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	Q2201	TNYJC05001	COMPOUND TRANSISTOR DTC124EKAT146
D603	D2WXN40050	DIODE SILICON 1N4005-EIC	Q2601	T67J1036K0	TRANSISTOR SILICON 2SA1036KT146
D801	D1VT001330	DIODE,SILICON 1SS133T-77	Q2602	T67J048TL0	TRANSISTOR SILICON 2SA2048TL
D802	D1VT001330	DIODE,SILICON 1SS133T-77	Q2603	T27T030180	FET 2SK3018
D803	D1VT001330	DIODE,SILICON 1SS133T-77	Q2604	T27T030180	FET 2SK3018
D2201	0021E2Q140	LED LTL-1CHEE-002A	Q2605	T27T030180	FET 2SK3018
D2601	DDARDS1200	DIODE SILICON KDS120RTK	Q3000	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
D3003	D1VT001330	DIODE,SILICON 1SS133T-77	Q3001	TNYJB05001	COMPOUND TRANSISTOR DTC114EKAT146
D3005	D2WXN40050	DIODE SILICON 1N4005-EIC	△ Q3003	TCAA0043690	TRANSISTOR SILICON KTC4369(O,Y)
D3006	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1	Q3004	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
D3007	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	Q3005	TCAT03209Y	TRANSISTOR SILICON KTC3209_Y-AT
D3008	D28T21DQN9	DIODE SCHOTTKY 21DQ09N-TA2B1	Q3006	TCAT032034	TRANSISTOR,SILICON KTC3203_Y-AT
D3009	D97U03R61B	DIODE,ZENER MTZJ3.6B T-77	Q3007	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
D3801	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	Q3008	TCAT032034	TRANSISTOR,SILICON KTC3203_Y-AT
D3802	D1VT001330	DIODE,SILICON 1SS133T-77	Q3009	TCAT03209Y	TRANSISTOR SILICON KTC3209_Y-AT
D3803	D1VT001330	DIODE,SILICON 1SS133T-77	Q3010	TAAT01281Y	TRANSISTOR SILICON KTA1281_Y
D3804	D97U01801B	DIODE,ZENER MTZJ18B T-77	Q3800	TCATC31980	TRANSISTOR,SILICON KTC3198-AT(Y,GR)
D3805	D1VT001330	DIODE,SILICON 1SS133T-77	△ Q3802	TCAT032034	TRANSISTOR,SILICON KTC3203_Y-AT
D3806	D2W0N49370	DIODE SILICON 1N4937-B-EIC	△ Q3803	TJXG5NC500	FET STP5NC50FP
D3807	D2WXN49370	DIODE SILICON 1N4937	Q4004	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
△ D3808	D2WTRM11C0	DIODE SILICON RM11C-EIC	Q4201	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK
△ D3809	D2WTRM11C0	DIODE SILICON RM11C-EIC	Q4203	TNYJD05001	COMPOUND TRANSISTOR DTC144EKAT146

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>TRANSISTORS</b>			<b>MISCELLANEOUS</b>		
Q4209	TNYJC05001	COMPOUND TRANSISTOR DTC124EKAT146	CD803	WBL6022038	FLAT CABLE AWM2468 AWG26 4C BLACK 220MM
Q4210	TPYJA05001	COMPOUND TRANSISTOR DTA143EKAT146	CD805	06CH82039A	CORD CONNECTOR CH82039A
Q4211	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK	CP101	069S290629	CONNECTOR PCB SIDE A2001VV2-9P
Q4212	TCAA3875SY	TRANSISTOR SILICON KTC3875S_Y_RTK	CP301	069W120029	CONNECTOR PCB SIDE TID-X02P-M1
Q8102	TAAA1504SY	TRANSISTOR SILICON KTA1504S_Y_RTK	CP302	069W120029	CONNECTOR PCB SIDE TID-X02P-M1
Q8103	TAAA1504SY	TRANSISTOR SILICON KTA1504S_Y_RTK	CP401	069S450089	CONNECTOR PCB SIDE A1561VV2-A5P
<b>COILS &amp; TRANSFORMERS</b>			CP801	069S320010	CONNECTOR PCB SIDE A2361VV2-2P
L001	021375101K	COIL 100 UH	△ CD3800	1209414909	CORD AC BUSH 9414909
L101	021JX6560K	COIL 56 UH		120R414903	CORD AC BUSH 0R414903
L401	021679472K	COIL 4.7 MH		1207414911	CORD AC BUSH 7414911
L601	02167F101J	COIL 100 UH	CD4002	06CU2B2201	CORD CONNECTOR CU2B2201
L602	021375101K	COIL 100 UH	CD8101	122F0C1602	CORD JUMPER 2F0C1602
L801	021673560K	COIL 56 UH	CP2601	069GYOT119	CONNECTOR PCB SIDE 09-5000-024-001-001
L902	02167F101J	COIL 100 UH	CP2602	069EV53010	CONNECTOR PCB SIDE 00_6232_005_006_800
L904	02167F101J	COIL 100 UH	CP2603	069EV63010	CONNECTOR PCB SIDE 00_6232_006_006_800
L3000	02167E100K	COIL 10 UH	△ CP3800	069S420110	CONNECTOR PCB SIDE A1561VV2-2P
L3001	02167E100K	COIL 10 UH		069S420099	CONNECTOR PCB SIDE A1561VV2-2PK
△ L3800	028R140031	COIL,DEGAUSS 8R140031	CP8001	069S2B0629	CONNECTOR PCB SIDE A2001VV2-11P
△ L3801	029T000110	COIL,LINE FILTER 1R1A223F28	CP8002	069J7C0029	CONNECTOR PCB SIDE IMSA-9604S-12Z14
L3803	02AHB0A0A4	CORE,FERRITE W5T_20*10*10A	CP802A	067U006049	WIRE HOLDER B2013H02-6P
L4001	02167F2R2J	COIL 2.2 UH	CP802B	067U006049	WIRE HOLDER B2013H02-6P
L4002	02AHB9A972	CORE,FERRITE W5T29X7.5X19	CP803A	067U004029	WIRE HOLDER B2013H02-4P
L4201	02167F101J	COIL 100 UH	CP803B	067U004029	WIRE HOLDER B2013H02-4P
L4202	02167F101J	COIL 100 UH	CP8101	069J7C0019	CONNECTOR PCB SIDE IMSA-9604S-12Z13
L8102	02167F1R0K	COIL 1 UH	EL001	124120301A	EYE LET XRY20X30BD
L8103	02167F1R0K	COIL 1 UH	EL002	124116281A	EYE LET XRY16X28BD
T401	045009003J	TRANS,HORIZONTAL DRIVE ETH09K14BZ	F3800	081PC05005	FUSE 51MS050L
△ T3800	0481291074	TRANSFORMER,SWITCHING 81291074	△ FB401	043214037F	TRANSFORMER,FLYBACK FNI-14B001
<b>JACKS</b>			FH3800	06710T0009	HOLDER,FUSE EYF-52BCY
△ J801	066F120018	SOCKET,CATHODE RAY TUBE ISMS01S	FH3801	06710T0009	HOLDER,FUSE EYF-52BCY
△ J2201	060J131016	HEADPHONE JACK MSJ-2000_AG	NR4001	110N4470M3	R.NETWORK CAY16-470-J-4R
J2202	060G421016	RCA JACK HTJ-032-05AY	NR4002	110N4470M3	R.NETWORK CAY16-470-J-4R
J2203	060G421017	RCA JACK HTJ-032-05AW	NR4003	110N4470M3	R.NETWORK CAY16-470-J-4R
J2204	060G421020	RCA JACK HTJ-032-05AR	NR4004	110N4470M3	R.NETWORK CAY16-470-J-4R
J4201	060J401082	RCA JACK MSP-251V-05PBSN	NR4005	110N4470M3	R.NETWORK CAY16-470-J-4R
<b>SWITCHES</b>			NR4006	110N4470M3	R.NETWORK CAY16-470-J-4R
SW2213	0504101T34	SWITCH,TACT EVQ21505R	NR4007	110N4470M3	R.NETWORK CAY16-470-J-4R
SW2214	0504101T34	SWITCH,TACT EVQ21505R	NR4008	110N4470M3	R.NETWORK CAY16-470-J-4R
SW2215	0504101T34	SWITCH,TACT EVQ21505R	OS2202	077Q004017	REMOTE RECEIVER PIC-37243SR
SW2216	0504101T34	SWITCH,TACT EVQ21505R	PH3800	069D01001A	CONNECTOR PCB SIDE 003P-2100
SW2217	0504101T34	SWITCH,TACT EVQ21505R	PH3801	069D01001A	CONNECTOR PCB SIDE 003P-2100
SW2218	0504101T34	SWITCH,TACT EVQ21505R	△ SP351	070C533019	SPEAKER SG04D11BNA
SW2219	0504101T34	SWITCH,TACT EVQ21505R	△ SP352	070C533019	SPEAKER SG04D11BNA
SW2220	0504101T34	SWITCH,TACT EVQ21505R	TM101	076R0HE04B	TRANSMITTER R56-0485
SW2221	0504101T34	SWITCH,TACT EVQ21505R	△ TU001	0163300005	RF UNIT 115-V-K015AR_B
SW2223	0504101T34	SWITCH,TACT EVQ21505R	△ TH3800	DF5EL3R0A0	DEGAUSS ELEMENT ZPB45BL3R0A
<b>VARIABLE RESISTORS</b>			△ V801	098Q1404D1	CRT W/DY A34AGT13X98(DL)
VR401	V1K62H3BT8	VOLUME,SEMI FIXED NVG6THTB222	X101	1002T01606	CERAMIC OSCILLATOR CSTLS16M0X53-A0
VR3800	V1K63Q2BTE	VOLUME,SEMI FIXED NVG6TLTAB471	X601	100CT3R505	CRYSTAL HC-49/U
<b>P.C. BOARD ASSEMBLIES</b>			X4001	100BT02701	CRYSTAL HC-49U/S
PCB110	A5P205V110L	PCB ASS'Y TCB412A	<b>RESISTOR</b>		
PCB130	A5P205V130L	PCB ASS'Y VMD328A	RC..... CARBON RESISTOR		
PCB250	A5P205V250L	PCB ASS'Y TMB555A	<b>CAPACITORS</b>		
<b>MISCELLANEOUS</b>			CC..... CERAMIC CAPACITOR		
ANT001	125C108030	ANTENNA,ROD HPAS-2S780	CE..... ALUMI ELECTROLYTIC CAPACITOR		
B301	024HT03564	CORE,BEADS W4BRH3.5X6X1.0	CP..... POLYESTER CAPACITOR		
B401	024HT03553	CORE,BEADS W5RH3.5X5X1.0	CPP..... POLYPROPYLENE CAPACITOR		
B2601	024HC31022	CORE,BEADS FCM2012H-102T04	CPL..... PLASTIC CAPACITOR		
B2602	024HC31022	CORE,BEADS FCM2012H-102T04	CMP..... METAL POLYESTER CAPACITOR		
B2603	024HC31022	CORE,BEADS FCM2012H-102T04	CML..... METAL PLASTIC CAPACITOR		
B2604	024HC31022	CORE,BEADS FCM2012H-102T04	CMPP..... METAL POLYPROPYLENE CAPACITOR		
B2605	024HC31022	CORE,BEADS FCM2012H-102T04			
B3800	024HT03553	CORE,BEADS W5RH3.5X5X1.0			
B4001	024HC31022	CORE,BEADS FCM2012H-102T04			
B4002	024HC31022	CORE,BEADS FCM2012H-102T04			
B4003	024HC31022	CORE,BEADS FCM2012H-102T04			
B4004	024HC31022	CORE,BEADS FCM2012H-102T04			
B4005	024HC31022	CORE,BEADS FCM2012H-102T04			
B4006	024HC31022	CORE,BEADS FCM2012H-102T04			
B4007	024HC31022	CORE,BEADS FCM2012H-102T04			
B4008	024HC31022	CORE,BEADS FCM2012H-102T04			
B4010	024HC31022	CORE,BEADS FCM2012H-102T04			
B4201	024HT03553	CORE,BEADS W5RH3.5X5X1.0			
B8103	024HC31022	CORE,BEADS FCM2012H-102T04			
CD301	06CU12414A	CORD CONNECTOR CU12414A			
CD302	06CU12414A	CORD CONNECTOR CU12414A			
CD802	WDL6032038	FLAT CABLE AWM2468 AWG26 6C BLACK 320MM			

SPEC.NO.	M5P2-05V
O/R NO.	K465024