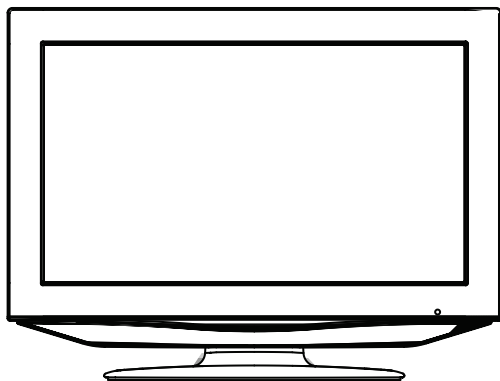


# SHARP SERVICE MANUAL

#####



## LCD COLOR TELEVISION

MODEL **LC-20AD5E-BK**

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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**SHARP CORPORATION**

This document has been published to be used for after sales service only.  
The contents are subject to change without notice.

## 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. BE CAREFUL WITH THE LCD PANEL

Avoid a shock to the panel while servicing. Take enough care to deal with it.

### 5. 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.

### 6. PERFORM A SAFETY CHECK AFTER SERVICING

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

#### (INSULATION CHECK PROCEDURE)

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

When you exchange IC and Transistor with a heat sink, apply silicon grease (YG6260M) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damage to the IC and Transistor).

# HOTEL MODE FUNCTION

The following can be set by the Hotel mode function.

Setting item	FUNCTION
Hotel mode	ON/OFF setting for Hotel mode function.
Power on fixed	Effective/invalid setting of POWER button on the set and remote cotrol. (*Note 1)
Maximum volume	Setting of the maximum volume value (0~50).
Volume fixed	Effective/invalid setting of volume fix level function. (*Note 2)
Volume fix level	Setting of output volume value.
RC button	Effective/invalid setting of remote control key operation. (*Note 3)
Panel button	Effective/invalid setting of main key operation. (*Note 4)
Menu button	Effective/invalid setting of Menu key operation of set and remote cotrol. (*Note 4)
On screen display	Display/non-display setting of analog menu, Call, Audio, Program table(CH List) and volume level. (*Note 5)
Input mode start	Setting of input source at power supply On.
Input mode fixed	During the power on, effective/invalid setting of tuning the channel and input change operation. (*Note 6)
Reset	Various settings of the Hotel mode function return initial State. (*Note 7)

Note 1) When setting it to "Fixed", the sleep timer setting will turn off.

Note 2) When setting it to "Fixed", the VOL+/- key operation of a main/ remote control and the MUTE key operation of a remote control become invalid.

Note 3) When setting it to "No Respond", the remote control key operation and service mode function in Hotel mode are effective.

Note 4) When setting it to "No Respond", the service mode function in Hotel mode are effective.

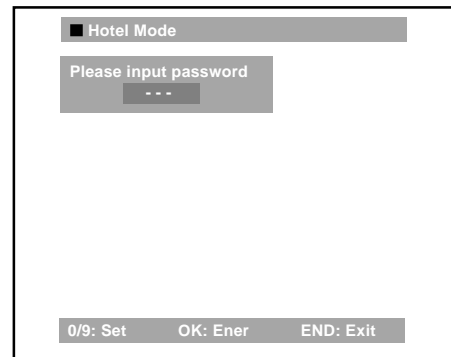
Note 5) The sleep timer setting will turn off when setting it to "No", and the audio change using the AUDIO key is invalid.

Note 6) The Input mode fixed setting becomes effective when the Input mode start setting except for " Normal" setting.

Note 7) Except the Hotel mode function return initial State.

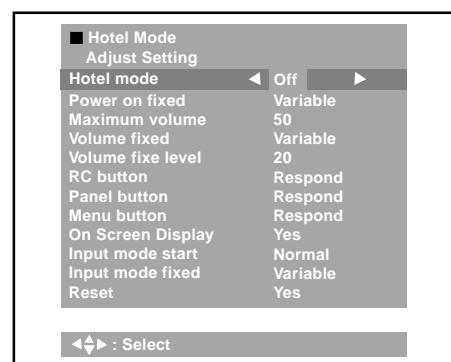
## To set the Hotel mode, please follow the steps below.

1. In power off mode, press and hold the "VOLUME +" button on the front panel.
2. Simultaneously press and hold the " " button on the front panel.
3. Hold both keys for 3 seconds, press the POWER button on the front panel.
4. The password screen is displayed.
5. Press it in order of "0", "2" and "7" key of a remote control unit.  
Then press the ENTER button.
6. The Hotel mode setting menu will appear.
7. Using the LEFT/RIGHT on the remote control, set the Hotel mode to on.
8. Turn off the power.  
The Hotel mode has now been set up.



## To release the Hotel mode, please follow the steps below.

1. In power off mode, press and hold the "VOLUME+" button on the front panel.
2. Simultaneously press and hold the " " button on the front panel.
3. Hold both keys for 3 seconds, press the POWER button on the front panel.
4. The password screen is displayed.
5. Press it in order of "0", "2" and "7" key of a remote control unit.  
Then press the ENTER button.
6. The Hotel mode setting menu will appear.
7. Using the LEFT/RIGHT on the remote control, set the Hotel mode to off.
8. Turn off the power.  
The Hotel mode has now been cleared.



## ABOUT LEAD FREE SOLDER (PbF)

### Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.

(Please refer to figures.)



### Caution:

- Pb free solder has a higher melting point than standard solder;  
Typically the melting point is 86°F~104°F(30°C~40°C) higher.  
Please use a soldering iron with temperature control and adjust it to 650°F ± 20°F (350°C ± 10°C).  
In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100°F/ 600°C).
- All products with the printed circuit board with PbF printing must be serviced with lead free solder.  
When soldering or unsoldering, completely remove all of the solder from the pins or solder area,  
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

### Recommendations

Recommended lead free solder composition is Sn-3.0Ag-0.5Cu.

## 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 on the power.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(3)** on the remote control for more than 2 seconds.
4. The 4 digit password has now been cancelled.

**NOTE:** No indications on the screen when the Parental Lock is setting.  
Initializing password is 0000.

# GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size	20.04 inch / 508.9mmV
			LCD Type	Color TFT LCD
			Number of Pixels	1366(H) x 768(V)
			View Range	88/88 degree
			Left/Right Up/Down	88/88 degree
		Color System		PAL / SECAM
G-2	Tuning	Broadcasting System	Analog	U.K., I.R., CCIR, FRENCH System B/G, D/K, I/I, L
			Digital	DVB-T (OFDM 2k/8k 16QAM/64QAM)
	System	Tuner and Receive CH CH Coverage	System	1Tuner (Analog+Digital)
			Destination	UK, I.R., CCIR Hyper+France CATV
			Analog	IreE2~E4, X~Z+2, S1~S10, E5~E12, S11~S41, E21~E69
			Digital	E5~E12, ItaE~G, F1~F6, Rus6~12, E21~E69
		Intermediate	Analog	BG / II / DK, L / L' (SECAM VL)
		Frequency	Picture(FP)	38.9 / 38.9 / 38.9 / 33.9MHz
			Sound(FS)	33.4 / 32.9 / 32.4 / 40.4MHz
			FP-FS	5.5 / 6.0 / 6.5 / 6.5MHz
			Digital	36.167MHz
		Auto Tuning Method		ALL Band (Not C.C.I.R. CH Plan)
		Preset CH	Analog	99
G-3	Power	Power Source	AC	220-240V AC 50Hz
			DC	---
		Power Consumption	at AC	84 W at AC 230 V 50 Hz
			at DC	--
			Stand by (at AC)	9 W at 230V 50Hz 1 W at 230V 50Hz
			Per Year	-- kWh/Year
G-4	Regulation		Protector	Yes
			Safety	CE(EN60065:2002), SEMKO HOMOLO
			Radiation	CE
			X-Radiation	---
G-5	Temperature		Operation	0°C ~ +40°C
			Storage	-20°C ~ +60°C
G-6	Operating Humidity			35%RH ~ 75% RH
G-7	OSD Language			English, Spanish, German, French, Italian, Swedish, Dutch, Russian, Portuguese, Turkish, Greek, Finnish, Polish
G-8	Clock and Timer	Sleep Timer	Max Time	120 Min
			Step	30 Min
		On/Off Timer	Program(On Timer / Off Timer)	-- Program
		Wake Up Timer		No
		Timer Back-up (at Power Off Mode)	more than	-- Min Sec

## GENERAL SPECIFICATIONS

<b>G-9</b>	<b>Remote Control</b>	Unit	RC-MU
		Glow in Dark Remocon	No
		Remocon Format	SHARP
		Format	SHARP
		Custom Code	10000 / 10001 / 01111
		Power Source	3V
		Voltage(D.C)	UM-3 x 2 pcs
		UM size x pcs	43 Keys
		Total Keys	
		Keys	
		Power (Stand By)	Yes
		TV/Radio	Yes
		DTV/TV	Yes
		Backlight	No
		Mute	Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		Flashback (Quick View)	Yes
		0	Yes
		Input Select	Yes
		Volume Up	Yes
		Volume Down	Yes
		CH Up	Yes
		CH Down	Yes
		Screen size	Yes
		Audio 1/2	Yes
		Information	Yes
		Sleep	Yes
		Guide	Yes
		Digital Menu	Yes
		TEXT / TV	Yes
		Menu	Yes
		End	Yes
		TOP/BOTTOM/FULL	Yes
		UP	Yes
		DOWN	Yes
		LEFT	Yes
		RIGHT	Yes
		OK / Channel list / Index	Yes
		Reveal	Yes
		HOLD/Freeze	Yes
		Subtitle	Yes
		Sub Page	Yes
		Red	Yes
		Green	Yes
		Yellow	Yes
		Cyan	Yes

## GENERAL SPECIFICATIONS

G-10	Features	Power On Memory	Yes
		Auto Shut Off	Yes
		No Operation Off	Yes
		Just Clock Function	No
		Game Position	No
		DNR	Yes
			3D
		Comb Filter	Yes
			3D
		Auto Set Up (Fast installation)	Yes
		Auto tuning (Analog tuner)	Yes
		CH sort	Yes
		ATS	Yes
		Auto clock (Analog tuner)	No
		Plug in start	Yes
		Picture Setting(TV)	Picture Preference (AV Mode)
			Yes
		Brightness , Contrast , Color	Yes
		Tint	Yes
		Sharpness	Yes
		Black Stretch	Yes
		DNR	Yes
		Color Temperature	Yes
		Blue Back	Yes
		Backlight	Yes
		Film Mode	Yes
		Picture Setting(PC)	BRIGHTNESS , CONTRAST
			Yes
		Color Temperature	Yes
		HOR POSITION , VER POSITION	Yes
		PHASE , CLOCK	Yes
		AUTO ADJUST	No
		RED , GREEN , BLUE	Yes
		Backlight	Yes
		Power Management	Yes
		XGA Mode	Yes
		WXGA INPUT	No
		WVGA INPUT	No
		Audio	Nicam
			No
		Tone Control (Bass/Treble/Balance)	Yes
		Loudsp. Sound	Yes
		Auto Vol	Yes
		Clear Voice	Yes
		Surround (Sound wide)	Yes
		BBE	No
		SRS WOW (SRS 3D/Focus/Tru Bass)	No
		Variable Audio Out	No
		Tuning	Auto Tuning
			Yes
		Manual Tuning	Yes
		CH Allocation	Yes
		Lock	Child Lock
			Yes
		Hotel Lock	Yes
		Screen Saver	Inversion
			No
		Full White	No
		Screen Saver	No
		Static Image	No
		Black Side Panel	No
		CH Label	Yes
		T'Text	Yes
			Fasttext / Toptext
		Text type	English , French, Swedish, Hungarian
		Text Language	Turkish, German, Portuguese, Spanish,
			Italian, Greek, Slovakian, Russian, Polish,
			Czech, Rumanian, Estonian, Lettish,
			Lithuanian, Ukrainian, Croatian, Slovenian,
			Latvian
		Wide Mode (AUTO/4:3/FULL SCREEN/16:9/CINEMA/14:9)	Yes
		HD Zoom	No
		Picture Scroll (Vertical Position)	No
		PFC(Power Factor circuit)	Yes
		Freeze frame	Yes (w/o720p, 1080i)
		HD-Ready	Yes
		Plug and Play	Yes
		Reset TV Setting	Yes

## GENERAL SPECIFICATIONS

	Scart Spec	Scart1	AV in	Yes
			AV out	Yes (A.Tuner/D.Tuner)
			S-Video in	Yes
			RGB in	Yes
		Scart2	AV in	Yes
			AV out	Yes (Monitor)
			S-Video in	Yes
			RGB in	Yes
	Digital Text (VBI teletext)		Yes	
	MHEG-5		Yes	
	MHP		No	
	EPG (BBC type 8Days Digital tuner only)		Yes	
	OAD (Over Air Download)		Yes	
	Common Interface (Digital tuner only)		Yes	
	Rec Screen Status		Yes	
	Ch sorting based on Ch List (Digital/Germany only)		Yes	
	Rename Carrier (Digital)		Yes	
	Edit Event Timer		Yes	
	Software Update via CI Slot		Yes	
	Preference Language (Audio/Subtitle/Digital Service)(Digital)		Yes	
	Ch Organizer (Fav, Lock, Skip, Go To, Delete, Rename, Move, Move to)		Yes	
	Parental Lock (Digital)		Yes	
	DVB Subtitle (Digital)		Yes	
	PC Monitor Input		Yes	
			VGA (640x480)	Yes (60Hz)
			VGA (720x400)	No
			WVGA (848x480)	No
			SVGA (800x600)	Yes (60Hz)
			XGA (1024x768)	Yes (60Hz)
			WXGA (1280x768)	Yes (60Hz)
			WXGA (1280x720)	No
			WXGA (1360x768)	Yes (60Hz)
			SXGA (1280x1024)	No
	HDMI Input			Yes
			VGA (640x480)	Yes (60Hz)
			720x480i (4:3)	Yes (60Hz)
			720x480i (16:9)	Yes (60Hz)
			720x480p (4:3)	Yes (60Hz)
			720x480p (16:9)	Yes (60Hz)
			720x576i (4:3)	Yes (50Hz)
			720x576i (16:9)	Yes (50Hz)
			720x576p (4:3)	Yes (50Hz)
			720x576p (16:9)	Yes (50Hz)
			1280x720p	Yes (50/60Hz)
			1920x1080i	Yes (50/60Hz)
	Component Input			Yes
			720x480i (4:3)	Yes (60Hz)
			720x480i (16:9)	Yes (60Hz)
			720x480p (4:3)	Yes (60Hz)
			720x480p (16:9)	Yes (60Hz)
			720x576i (4:3)	Yes (50Hz)
			720x576i (16:9)	Yes (50Hz)
			720x576p (4:3)	Yes (50Hz)
			720x576p (16:9)	Yes (50Hz)
			1280x720p	Yes (50/60Hz)
			1920x1080i	Yes (50/60Hz)



## GENERAL SPECIFICATIONS

G-11	Accessories	Owner's Manual	Language	English, German, French, Italian, Dutch, Spanish Greek, Portuguese, Swedish, Finnish, Danish Norwegian, Polish, Hungarian, Czech, Slovak, Ukrainian Estonia, Latvia, Lithuania
			w/Guarantee Card	No
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	-
			Terminal	-
		Loop Antenna (W/ Antenna Change Plug)		No
			Terminal	-
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		Quick Set-up Sheet		No
		Battery		Yes
			UM size x pcs	UM-3 x 2 pcs
			OEM Brand	No
		AC Adapter		No
		AC Cord (for AC Adapter)		No
		AC Cord x 2		Yes
		AV Cord (2Pin-1Pin)		No
		AQUOS CARE PLAN		Yes
		HDMI-DVI Cable		No
		Registration Card		No
		300 ohm to 75 ohm Antenna Adapter		No
		Information Sheet(Protection Sheet)		No
		Information Sheet(Eco Sheet)		Yes(From '07.AUG O/R)
		Information Sheet(for G-card and AQUOS CARE PLAN)		Yes(Only '07.MAY/JUN oder)
		Cleaning Cloth		Yes
		Guarantee Card		Yes
G-12	Interface	Switch	Power (Tact)	Yes
			System Select	No
			Main Power SW	No
			Channel Up/Menu Up	Yes
			Channel Down/Menu Down	Yes
			Volume Up/Menu >	Yes
			Volume Down/Menu <	Yes
			Input Select/Enter	Yes
			Menu	Yes
		Indicator	Power/Stand-by/EPG Timer	Yes(GREEN / RED / ORANGE)
			On Timer	No

## GENERAL SPECIFICATIONS

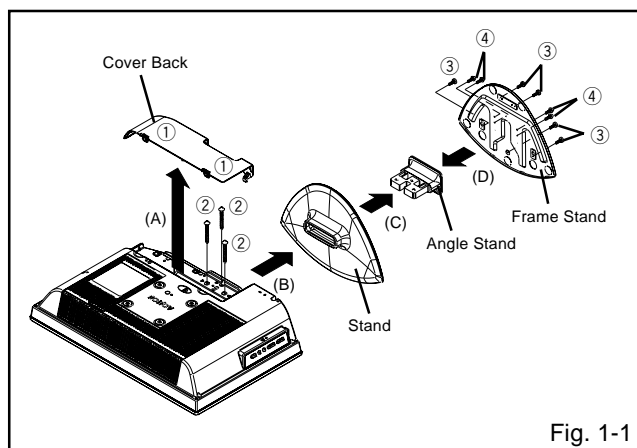
	Terminals	Side	Video Input 1	RCA x 1
			Audio Input 1	RCA x 2(L/MONO, R)
			S- Input 1	Yes
			Video Input 2	No
			Audio Input 2	No
			S- Input 2	No
			Video Output	No
			Audio Output	RCA x 2(Fixed) (L, R)
			Digital Audio Out (Coaxial)	No
			Other Terminal	No
			Euro Scart (21Pin)	No
			Component In	Yes
			Audio Input (Component In use)	RCA x 2(L/MONO, R)
			PC Monitor Input (D-Sub)	No
			Audio Input	No
			HDMI Input 1	No
			Audio Input (HDMI/DVI In use)	No
			HDMI Input 2	No
			Audio Input (HDMI/DVI In use)	No
			RS-232C	No
			Sub Woofer Output	No
			Diversity	No
			Ext Speaker	No
			DC Jack 12V(Center +)	No
			VHF/UHF Antenna Input	No
			AC Inlet	No
			Other Terminal	Headphone
			CI Card Slot	Yes(w/DUMMY CARD)
		Rear	Euro Scart (21Pin)	2Scart
			PC Monitor Input (D-Sub)	Yes
			Audio Input	Mini Pin Jack(ø3.5), STEREO
			HDMI Input 1	Yes
			Audio Input (HDMI/DVI In use)	PC Monitor Audio Input Alternative
			RS-232C	Yes
			VHF/UHF Antenna Input	DIN Type
			AC Inlet	Yes
G-13	Set Size		Approx. W x D x H (mm)	522 x 225 x 395.5
			w/o Stand,Handle Approx. W x D x H (mm)	522 x 101.5 x 359.5
G-14	Weight		Net Approx.	7.3kg (16.5 lbs)
			Net w/o Stand,Handle Approx.	6.5kg (14.7 lbs)
			Gross Approx.	11.5kg (25.0 lbs)
G-15	Carton	Master Carton		No
			Content	----
			Material	-- /--
			Dimensions W x D x H(mm)	-- x -- x --
			Description of Origin	No
		Gift Box		Yes
			Material	Double/Brown
			Dimensions W x D x H(mm)	622 x 320 x 503
			Design	As per Buyer's
			Description of Origin	Yes (Made in Japan)
		Drop Test		Natural Dropping At 1 Corner / 3 Edges / 5 Surfaces
			Height (cm)	48
		Container Stuffing		532 Sets/40' container
		w/Pallet		No
		w/Wrapping		No
G-16	Material	Cabinet	Cabinet Front	PC+ABS 94V0 NON-HALOGEN
			Cabinet Rear	PS 94V0 NON-HALOGEN
		PCB	Non-Halogen	No
			Eyelet	Yes
G-17	Environment	Environmental standard requirement		Green procurement of SHARP
		Pb- Free		Phase3(PHASE3A)
		Measures for Whisker		Yes
		WEEE		Yes

# DISASSEMBLY INSTRUCTIONS

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

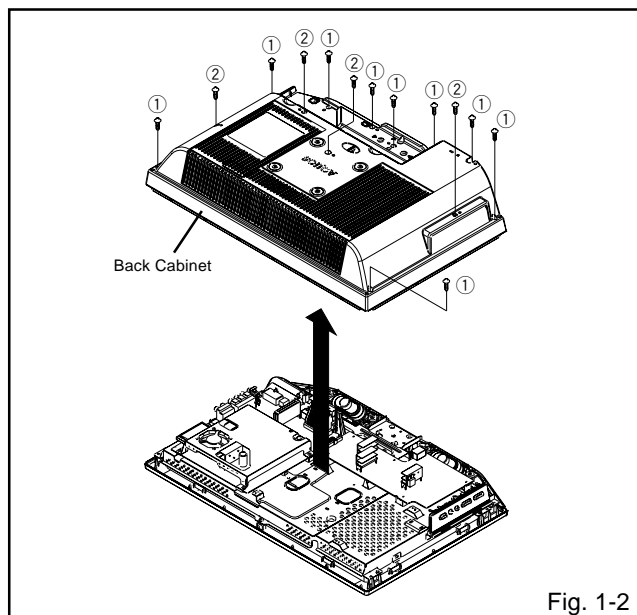
### 1-1: COVER BACK/STAND ASS'Y (Refer to Fig. 1-1)

1. Unlock the 2 supports ①.
2. Remove the Cover Back in the direction of arrow (A).
3. Remove the 3 screws ②.
4. Remove the Stand Ass'y in the direction of arrow (B).
5. Remove the 5 screws ③.
6. Remove the Frame Stand in the direction of arrow (C).
7. Remove the 4 screws ④.
8. Remove the Angle Stand in the direction of arrow (D).



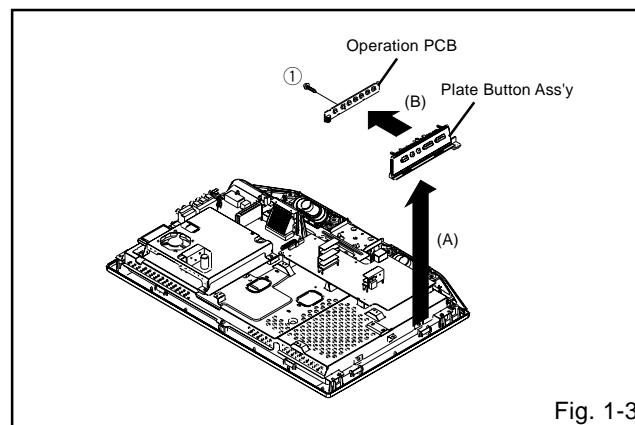
### 1-2: BACK CABINET (Refer to Fig. 1-2)

1. Remove the 9 screws ①.
2. Remove the 4 screws ②.
3. Remove the Back Cabinet in the direction of arrow.



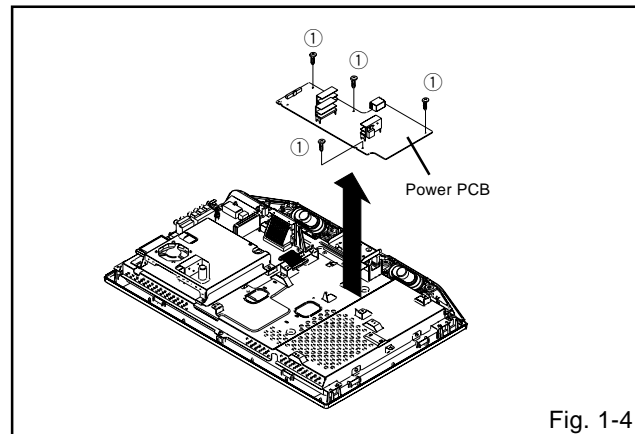
### 1-3: OPERATION PCB (Refer to Fig. 1-3)

1. Disconnect the following connectors: (CP301 and CP4201).
2. Remove the Plate Button Ass'y in the direction of arrow (A).
3. Remove the screw ①.
4. Remove the Operation PCB in the direction of arrow (B).



### 1-4: POWER PCB (Refer to Fig. 1-4)

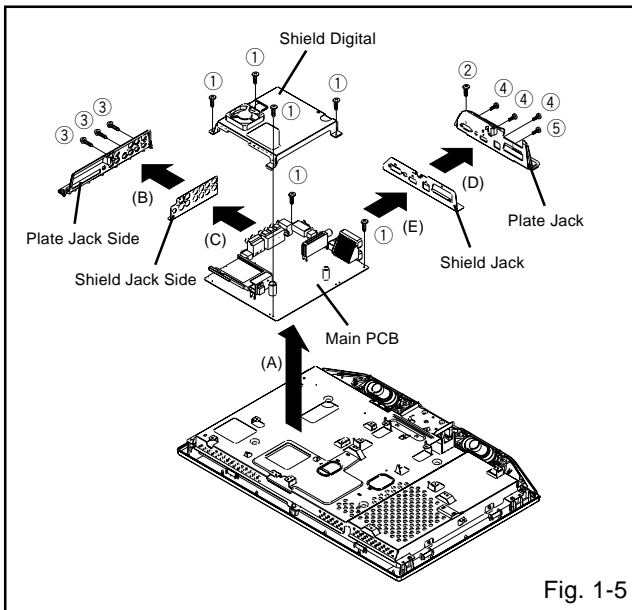
1. Disconnect the following connectors: (CP302, CP3400, CP3401, CP4301 and CP7201).
2. Remove the 4 screws ①.
3. Remove the Power PCB in the direction of arrow.



## DISASSEMBLY INSTRUCTIONS

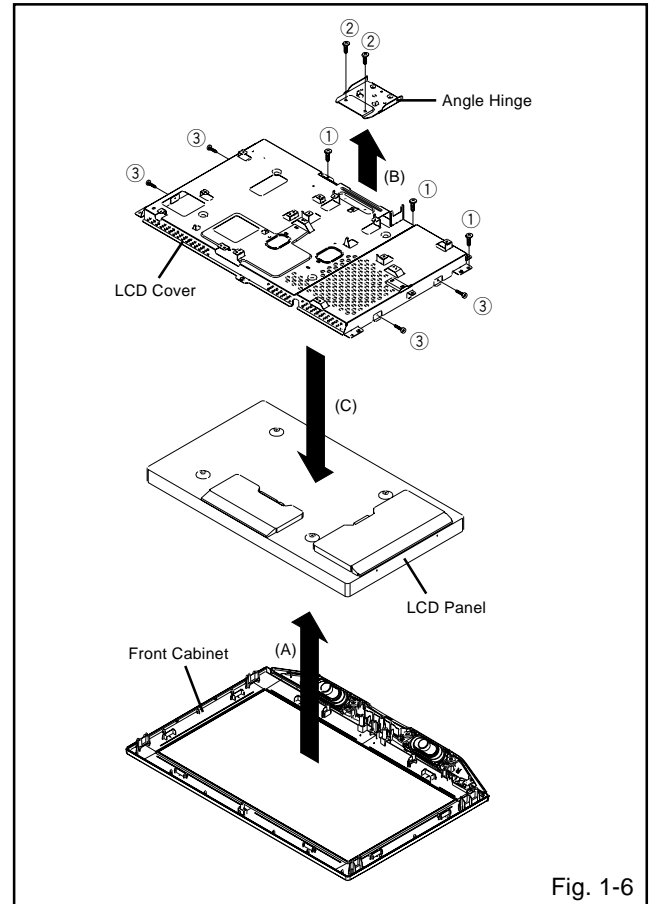
### 1-5: MAIN PCB (Refer to Fig. 1-5)

1. Disconnect the following connectors:  
(CP6700, CP6701, CP6702, CP6703 and CP6705).
2. Remove the 6 screws ①.
3. Remove the screw ②.
4. Remove the Shield Digital and Main PCB in the direction of arrow (A).
5. Remove the 3 screws ③.
6. Remove the Plate Jack Side in the direction of arrow (B).
7. Remove the Shield Jack Side in the direction of arrow (C).
8. Remove the 3 screws ④.
9. Remove the screw ⑤.
10. Remove the Plate Jack in the direction of arrow (D).
11. Remove the Shield Jack in the direction of arrow (E).



### 1-6: COVER LCD/LCD PANEL (Refer to Fig. 1-6)

1. Remove the 3 screws ①.
2. Remove the LCD Cover in the direction of arrow (A).
3. Remove the 2 screws ②.
4. Remove the Angle Hinge in the direction of arrow (B).
5. Remove the 4 screws ③.
6. Remove the LCD Panel in the direction of arrow (C).



# DISASSEMBLY INSTRUCTIONS

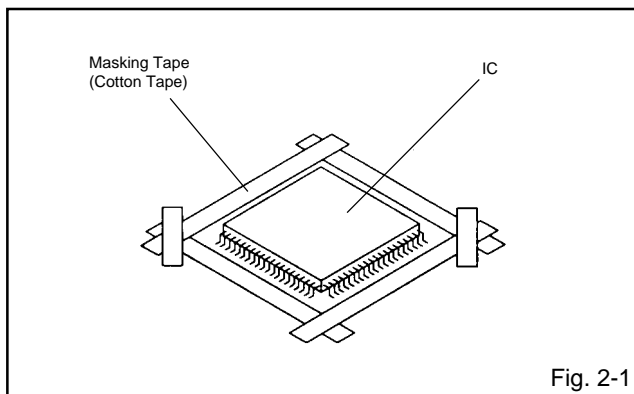
## 2.REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

### REMOVAL

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

#### NOTE

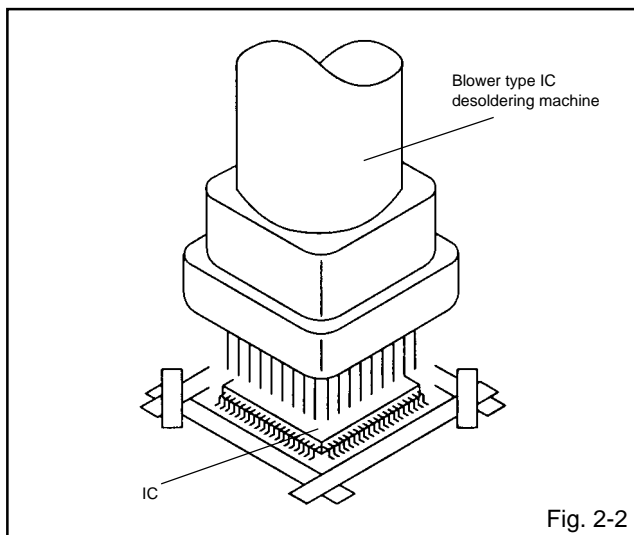
Masking is carried out on all the parts located within 10 mm distance from IC leads.



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

#### NOTE

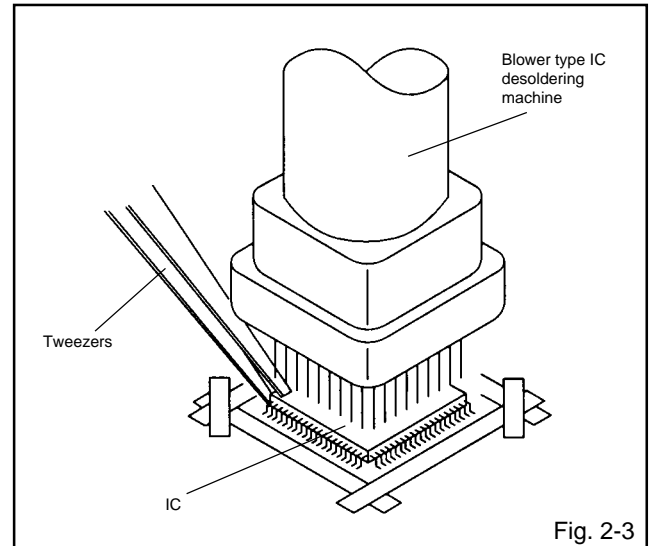
Do not rotate or move the IC back and forth , until IC can move back and forth easily after desoldering the leads completely.



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

#### NOTE

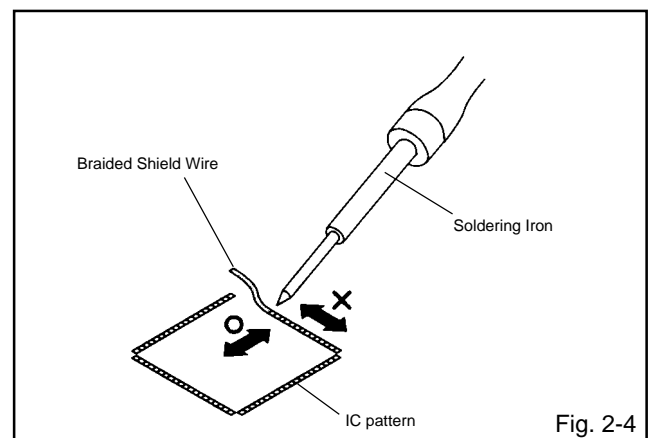
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



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

#### NOTE

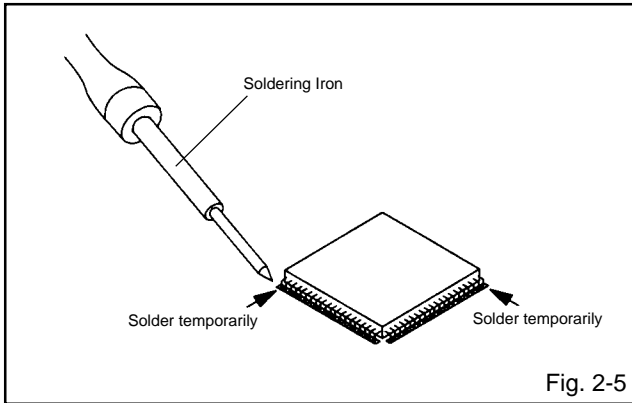
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



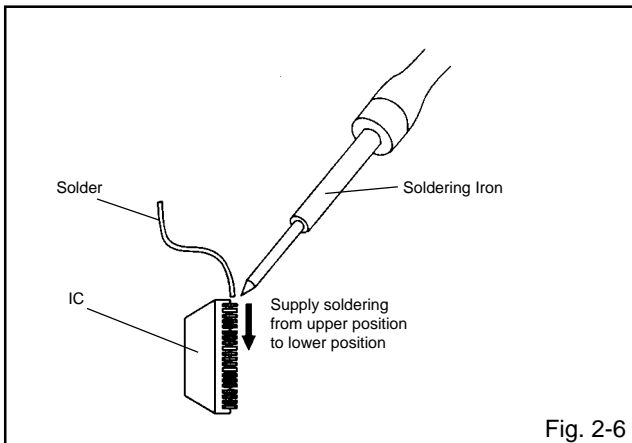
# DISASSEMBLY INSTRUCTIONS

## INSTALLATION

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



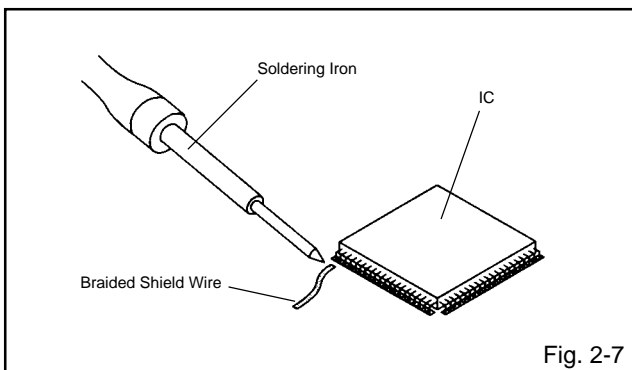
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. (Refer to Fig. 2-6.)



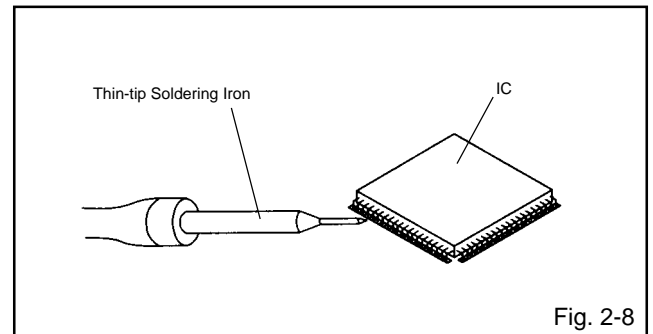
3. Absorb the solder left on the lead using the Braided Shield Wire. (Refer to Fig. 2-7.)

### NOTE

Do not absorb the solder to excess.



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



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

### NOTE

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

## SERVICE MODE LIST

This unit is 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 the standard time in the appropriate condition. (See below chart.)

Set Condition	Set Key	Remocon Key	Standard Time	Operations
POWER ON	VOL. DOWN (Minimum)	1	2 sec.	Initialization of factory TV data. NOTE: If you set factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
POWER ON	VOL. DOWN (Minimum)	2	2 sec.	Check of the SUM DATA, POWER ON total hours, MICON VERSION and DIGITAL TV MICON FIRMWARE on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
POWER ON	VOL. DOWN (Minimum)	6	2 sec.	POWER ON total hours are displayed on the screen. Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
POWER ON	VOL. DOWN (Minimum)	9	2 sec.	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

## WHEN REPLACING EEPROM (MEMORY) IC

### CONFIRMATION OF CHECK SUM, MICON VERSION AND DIGITAL TV MICON FIRMWARE AND POWER ON TOTAL HOURS

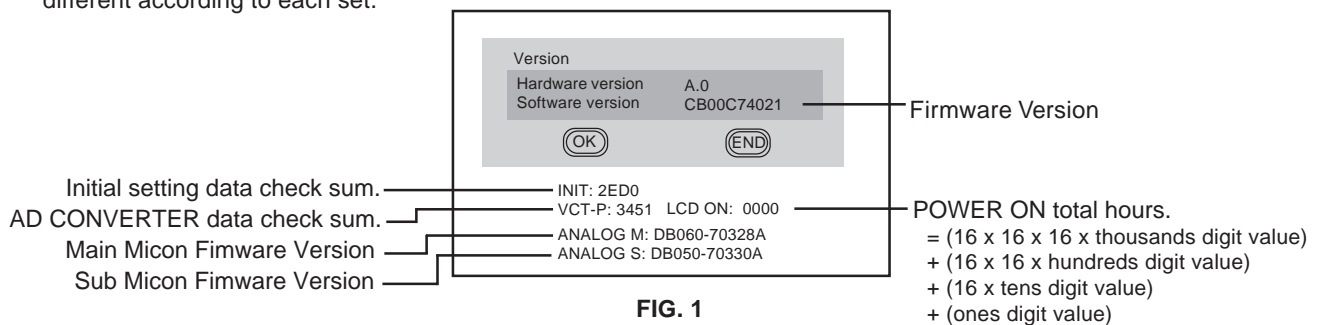
Initial total of MEMORY IC, MICON VERSION, Digital TV MICON Firmware and POWER ON TOTAL HOURS can be checked on the screen. Total hours are displayed in 16 system of notation.

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

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

1. Turn on the POWER, and set to the TV mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(2)** on the remote control for more than 2 seconds.
4. After the confirmation of MICON VERSION and Digital TV MICON Firmware, turn off the power.  
ADDRESS and DATA should appear as FIG 1.

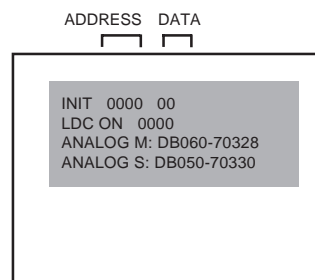
NOTE: The each item value might be different according to each set.



### CONFIRMATION OF INITIAL DATA

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to INITIAL SETTING TABLE (Attached "INITIAL DATA").

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



4. ADDRESS is now selected and should "blink". Using the UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press RIGHT/LEFT button to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
7. Pressing RIGHT/LEFT button will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 6 until all data has been checked.
9. 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.**

10. Turn POWER on.
11. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
12. 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.



## SERVICING FIXTURES AND TOOLS

<p>JG201 Serial Communication Change JIG</p> 	<p>JG203 MICON PROGRAM JIG KIT 25-4</p> 	<p>JG176 EU LCD MICON VER UP ROM DISC DTV ROM DISC JG212 EEPROM DISC JG204 MICON UPDATE TOOL DISC</p> 
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Ref. No.	Part No.	Parts Name	Remarks
JG176	APJG176133	EU LCD MICON VER UP ROM DISC	Up-Date of the VCTP DATA.
JG176	APJG176130	DTV ROM DISC	Up-Date of the Digital Soft Firmware.
JG212	APJG212003	EEP ROM DISC	Up-Date of the EEPROM DATA.
JG201	APJG201000	Serial Communication Change JIG	Connect the set to personal computer.
JG203	APJG203000	MICON PROGRAM JIG KIT 25-4	Connect the set to personal computer.
JG204	APJG204000	MICON UPDATE TOOL DISC	There is WRITING TOOLS in Disc.

## INSTALL FOR WRITING TOOLS

1. Set the MICON UPDATE TOOL DISC (JG204) to PC.

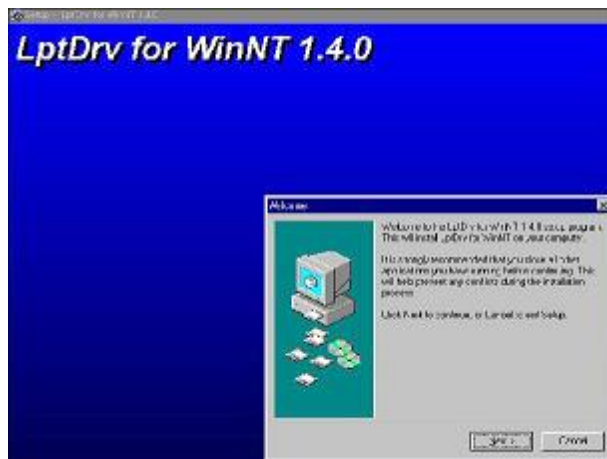
2. Install the LPT driver.

**NOTE : It is necessary to install according to the PC.**

Windows 95/98 : Setup\_LptDrv\_v0104\_9x.exe

Windows 2000/XP : Setup\_LptDrvDev\_v020201\_XP\_2000.exe

Windows NT : Setup\_LptDrv\_v0104\_NT.exe



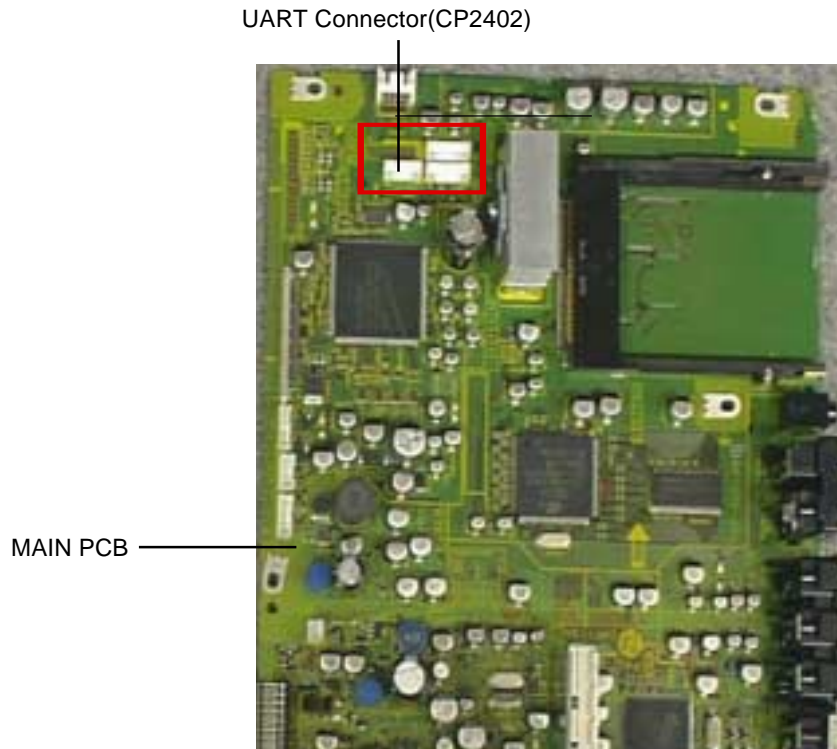
3. Re-boot the PC.

4. Install the "Setup\_Visual\_I2C\_v3-2-3b8h.exe", "Setup\_VI2C\_for\_VCT\_Pro\_v0101.exe" and "Winupload 4.4.3.exe".

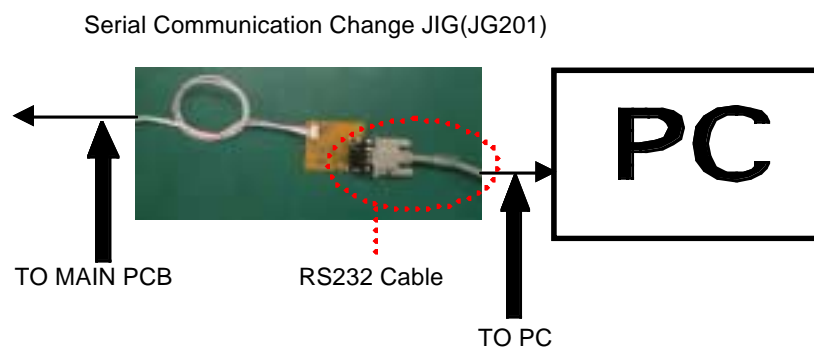
## RE-WRITE FOR DIGITAL SOFT FIRMWARE

Before UPDATE the Digital Soft Firmware, it is necessary to install the WRITING TOOLS into the PC.  
For the installation of WRITING TOOL, refer to the "INSTALL FOR WRITING TOOLS".

1. Unplug the AC cord, and remove the back cabinet.
2. Using the Serial Communication Change JIG (JG201) and RS232 Cable, connect the PC terminal and UART Connector(CP2402) on the MAIN PCB.



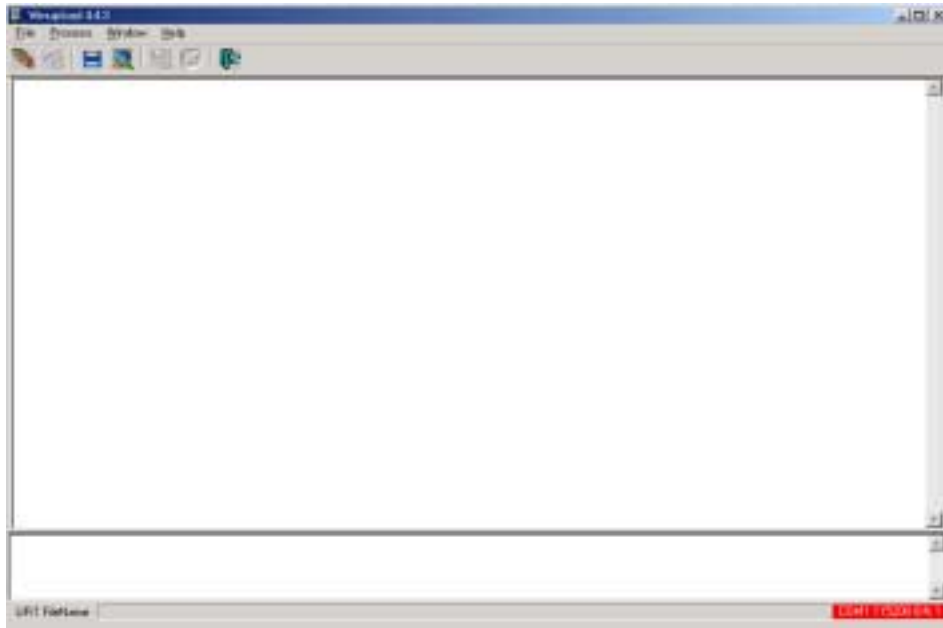
Connect it in order of MAIN PCB → Serial Communication Change JIG(JG201) → RS232 Cable → PC.



3. Insert the AC cord, turn on the power.
4. Press both VOLUME DOWN button on the set and Channel button (2) on the remote control for 2 seconds.  
Confirm that displayed software version.
5. Set the Standby mode.
6. Set the DTV ROM DISC(JG176) to PC.

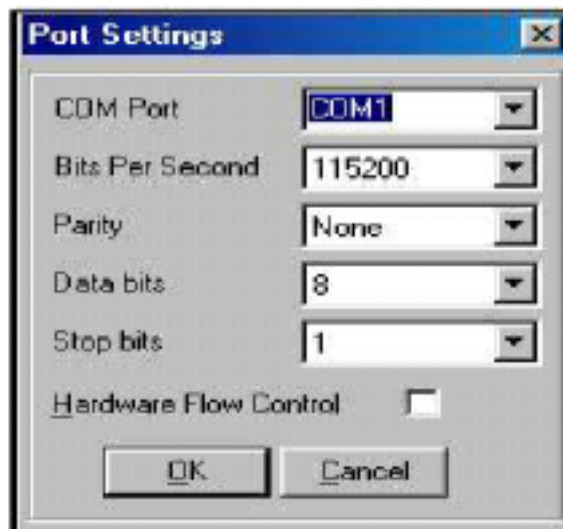
## RE-WRITE FOR DIGITAL SOFT FIRMWARE

7. Start the "Winupload"(Writing tool).



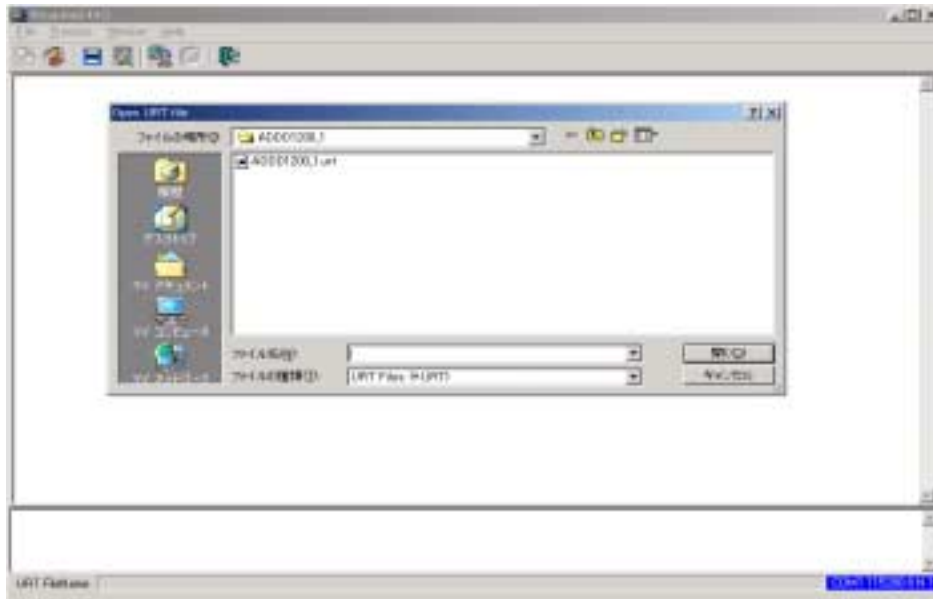
8. Select the "Port Setting" from Process menu, then please set it as follows.

**NOTE:** This step is not necessary from next time.

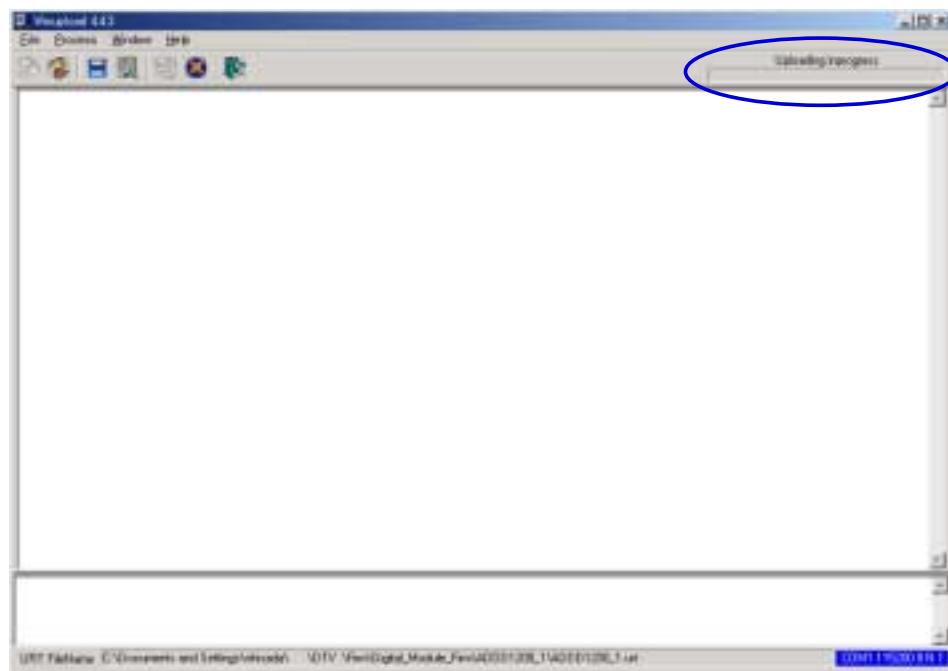


## RE-WRITE FOR DIGITAL SOFT FIRMWARE

9. Select the "Connect" from File menu.
10. Select the "Upload" from Process menu, and select the Software(CB00C74021.urt) in DTV ROM DISC(JG176).



11. Unplug the AC cord on the set, then plug it in again.
12. Turn on the power.  
The following window will appear, Up-date for Software will start.  
"Uploading inprogress" bar will begin to move.



## RE-WRITE FOR DIGITAL SOFT FIRMWARE

13. When the "Uploading inprogress" bar reaches a right edge, the Writing for Digital Soft Firmware will start.  
During the writing for Digital Soft Firmware, writing message will appear on the screen.  
Finish the writing for Digital Soft Firmware, writing message will disappear.

14. Unplug the AC cord, and remove the Serial Communication Change JIG(JG201).

15. Insert the AC cord again.

### **After the write, set to the initializing of shipping.**

16. Turn on the power.

17. Press both VOLUME DOWN button on the set and Channel button (1) on the remote control for 2 seconds.  
The set will turn into the standby mode.

### **Check for the Firmware Version**

18. Turn on the power.

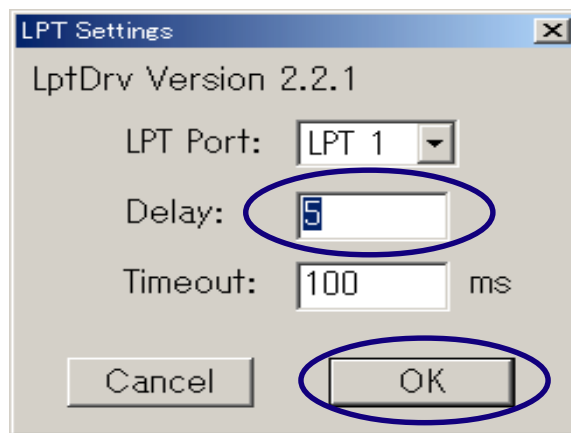
19. Press both VOLUME DOWN button on the set and Channel button (2) on the remote control for 2 seconds.  
When the changed version displays, the Re-write will be completed.

20. Select the "Disconnect" from File menu.

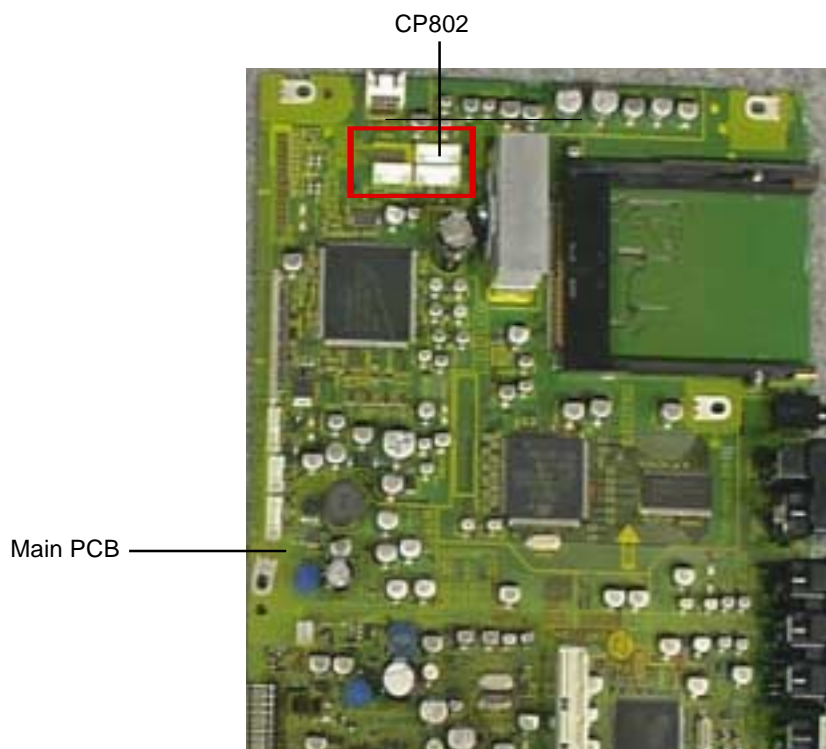
## UPDATE FOR VCTP SOFTWARE

**Before Update the VCTP Software, it is necessary to install the WRITING TOOLS into the PC. For the installation of WRITING TOOLS, refer to the "INSTALL FOR WRITING TOOLS".**

1. Unplug the AC cord, and remove the back cabinet.
2. Short circuit the 1 pin and 2 pin of CP802 on the Main PCB.
3. Insert the AC cord.
4. Remove the short circuit 1 pin and 2 pin of CP802 on the Main PCB.
5. Set the EU LCD MICON VER UP ROM DISC (JG176) to PC.
6. Start the "VCTP" (Writing Tools).
7. Select the "LPT Preferences" from File/Preferences menu, then input "5" to the value of "Delay", and press "OK".  
**NOTE: This step is not necessary from next time.**

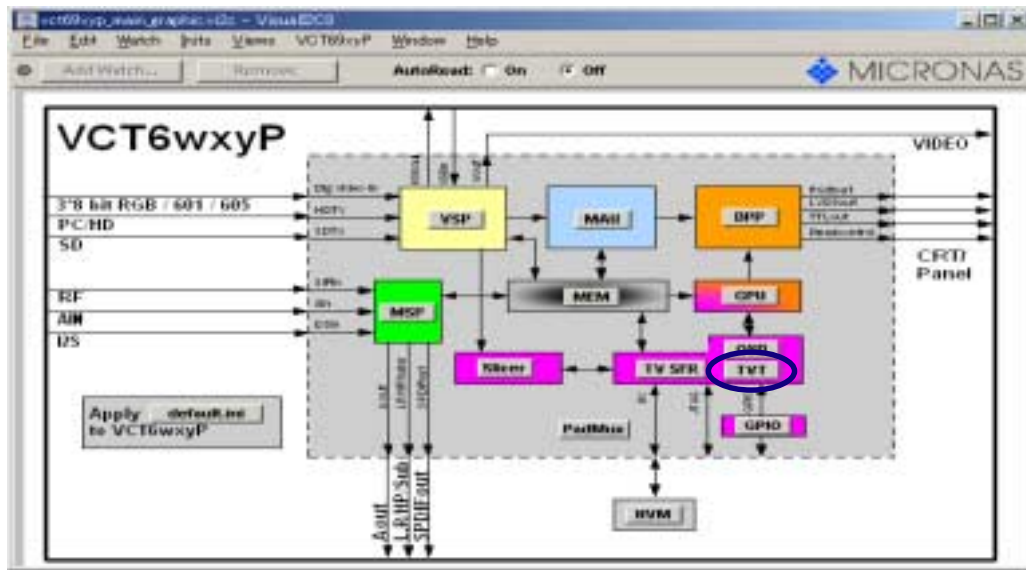


8. Using the MICON PROGRAM JIG KIT 25-4 (JG203), connect the PC Terminal (LPT Port) and 1~4 pin of CP802 on the Main PCB (JG203(Red line) = 1 pin of CP802).



## UPDATE FOR VCTP SOFTWARE

9. Press the "TVT".



10. Remove the check of "Bootloader Version", and check it again.

**NOTE :** When the number of the side of the check box becomes 40, you can proceed to next step.  
If the number doesn't become 40, check the connection and try again from step 1.

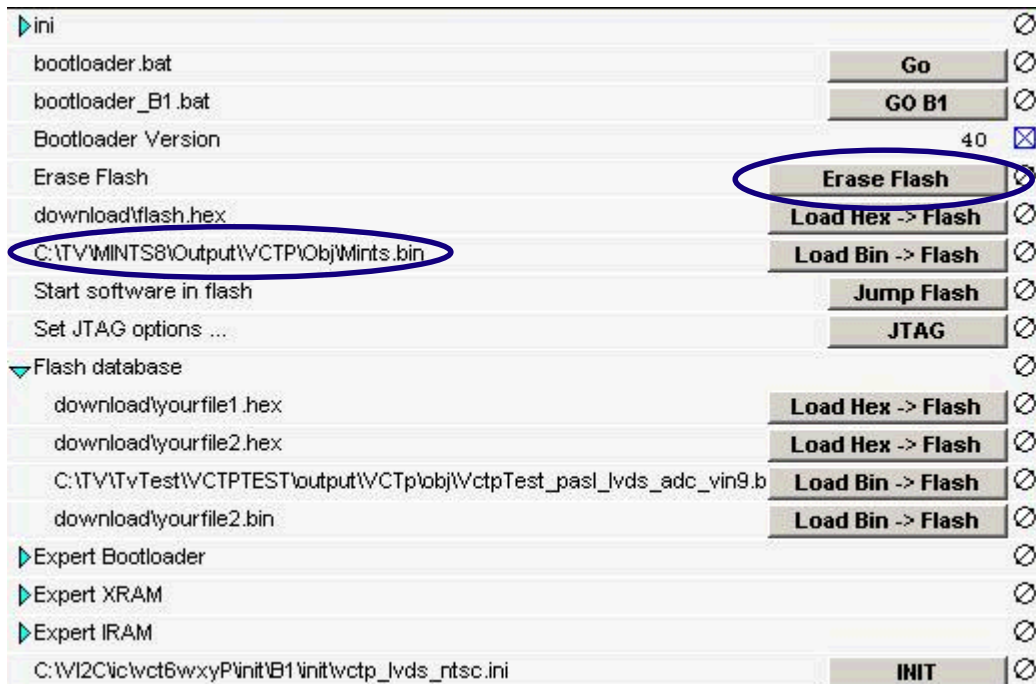
ini	<input type="checkbox"/>
bootloader.bat	<input type="button" value="Go"/>
bootloader_B1.bat	<input type="button" value="GO B1"/>
Bootloader Version	40 <input checked="" type="checkbox"/>
Erase Flash	<input type="button" value="Erase Flash"/>
download\flash.hex	<input type="button" value="Load Hex -&gt; Flash"/>
C:\TV\MINTS8\Output\VCTP\Obj\Mints.bin	<input type="button" value="Load Bin -&gt; Flash"/>
Start software in flash	<input type="button" value="Jump Flash"/>
Set JTAG options ...	<input type="button" value="JTAG"/>
Flash database	<input type="checkbox"/>
download\yourfile1.hex	<input type="button" value="Load Hex -&gt; Flash"/>
download\yourfile2.hex	<input type="button" value="Load Hex -&gt; Flash"/>
C:\TV\TvTest\VCTPTTEST\output\VCTp\obj\VctpTest_pasl_lvds_adc_vin9.b	<input type="button" value="Load Bin -&gt; Flash"/>
download\yourfile2.bin	<input type="button" value="Load Bin -&gt; Flash"/>
Expert Bootloader	<input type="checkbox"/>
Expert XRAM	<input type="checkbox"/>
Expert IRAM	<input type="checkbox"/>
C:\V12C\ic\vct6wxyP\init\B1\init\vctp_lvds_ntsc.ini	<input type="button" value="INIT"/>




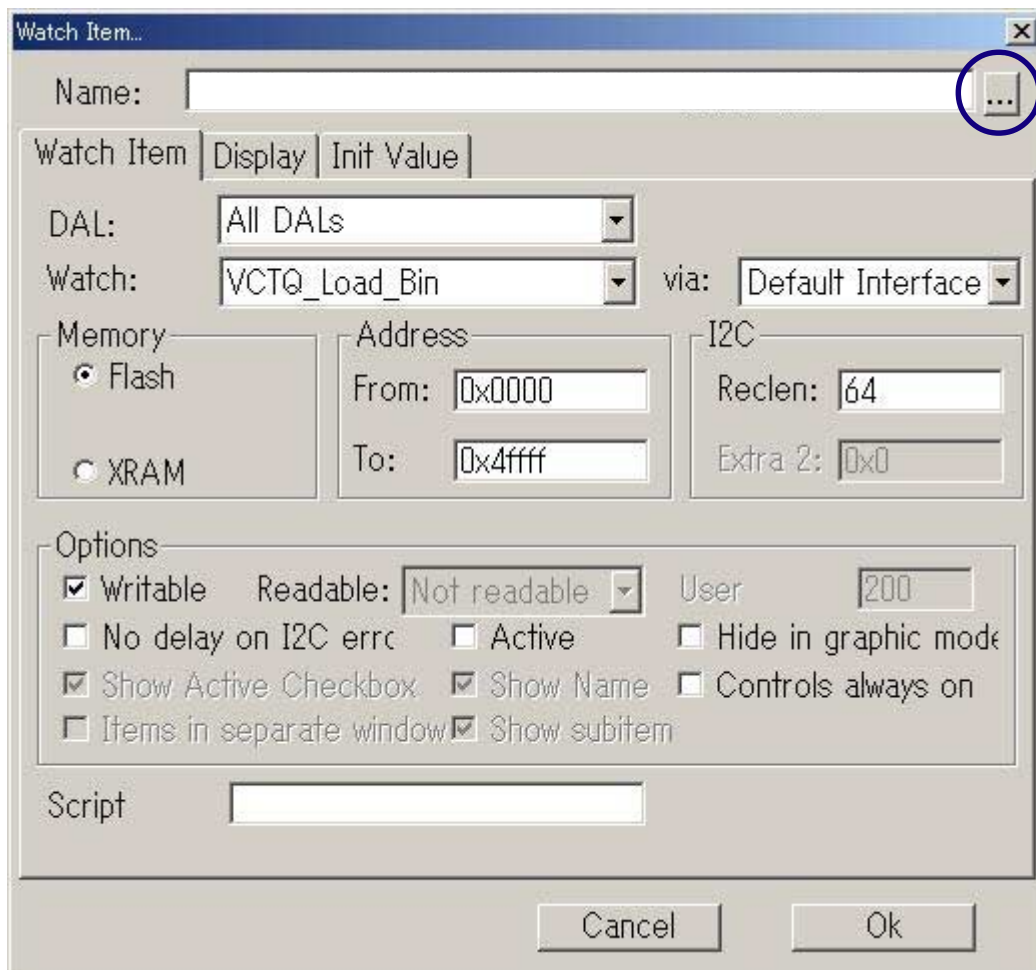
## UPDATE FOR VCTP SOFTWARE

11. Press the “Erase Flash”.

Then, press the “C:\TV\MINTS8\Output\VCTP\Obj\Mints.bin” twice.



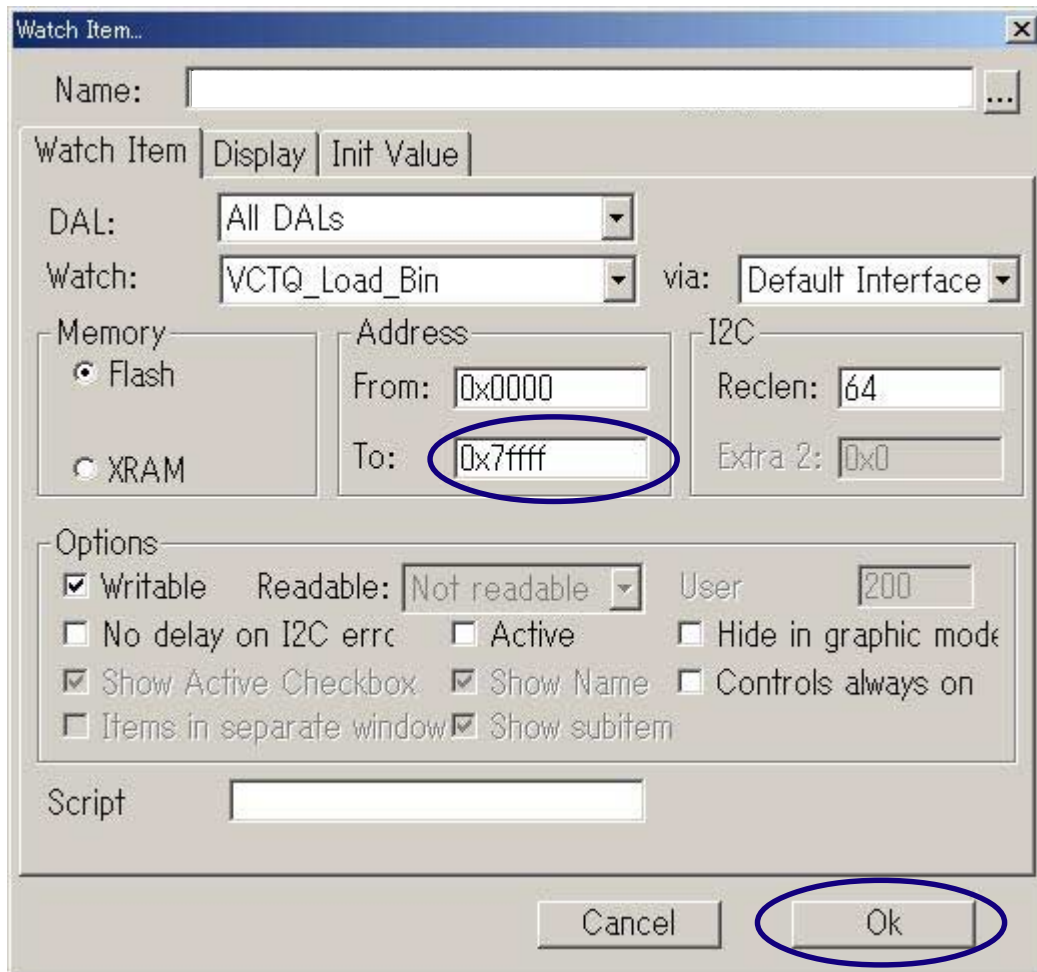
12. Press the , and select the writing Firmware.





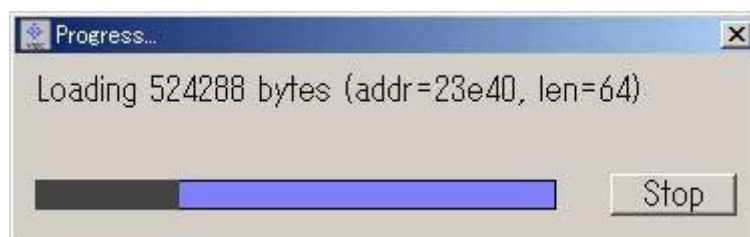
## UPDATE FOR VCTP SOFTWARE

13. Select the "Address", then input the "0x7ffff", and press the "OK".



14. Press the "Load Bin -> Flash".

The following window will appear, then writing will start. After the finishing of the writing, window will close.



15. Finish the writing, unplug the AC cord, and remove the MICON PROGRAM JIG KIT 25-4 (JG203).

16. Insert the AC cord again, turn on the power.

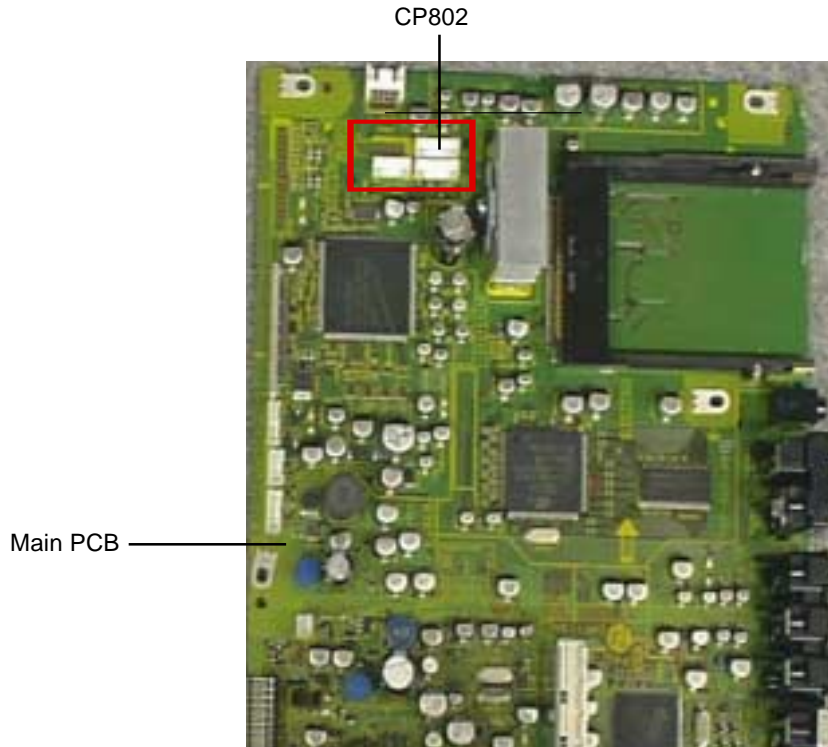
17. Press both VOL. DOWN button on the set and Channel button (2) on the remote control for 2 seconds.

18. Confirm that displayed version agreement with writing.

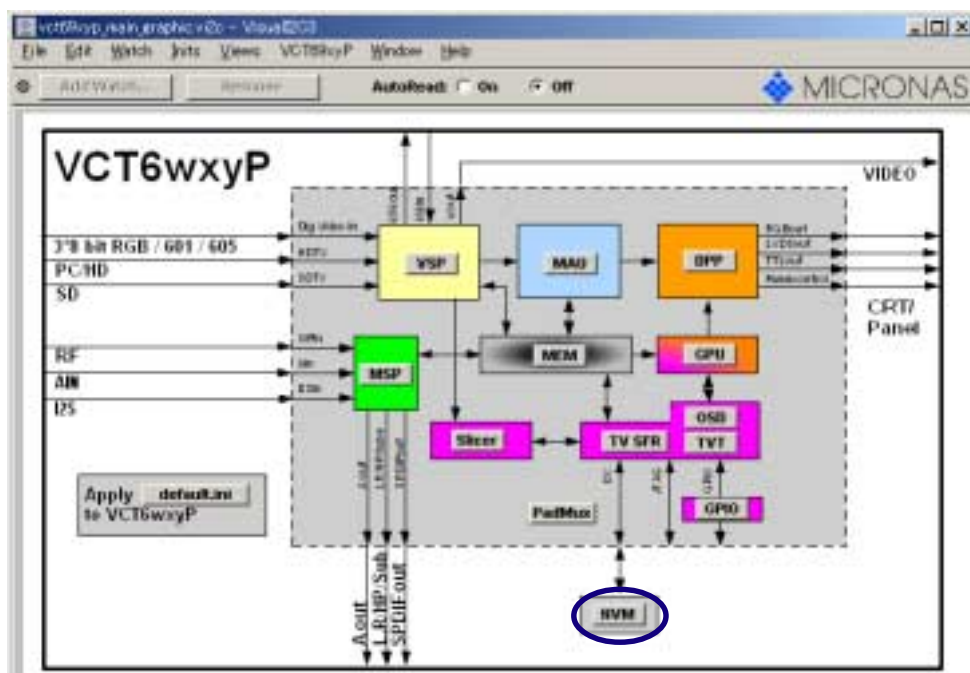
## UPDATE FOR EEPROM DATA

Before Update the EEPROM data, it is necessary to install the WRITING TOOLS into the PC.  
For the installation of WRITING TOOLS, refer to the "INSTALL FOR WRITING TOOLS".

1. Set to the standby mode, and remove the back cabinet.
2. Using the MICON PROGRAM JIG KIT 25-4 (JG203), connect the PC Terminal and Pin 1-4 of CP802 on the Main PCB (JG203(Red line) =1 pin of CP802).

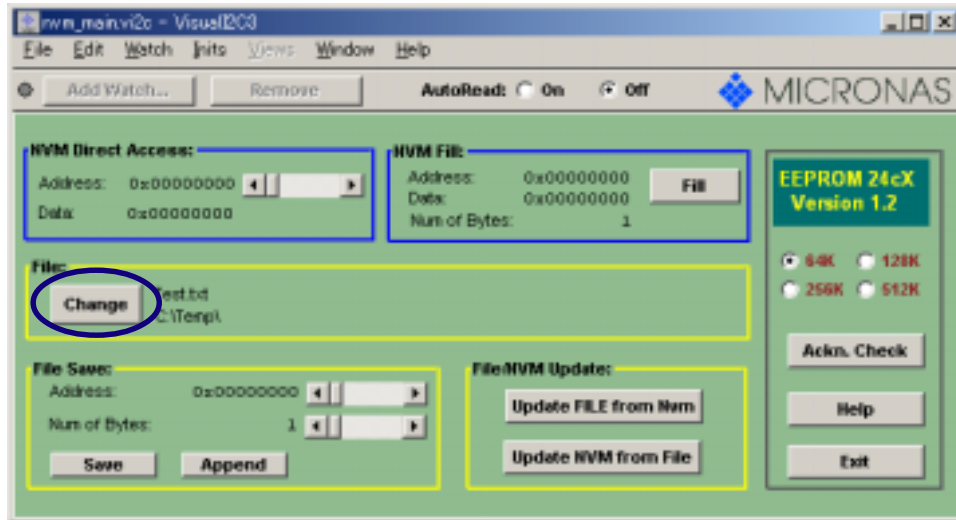


3. Set the EEP ROM DISC (JG212) to PC.
4. Start the "VCTP" (Writing Tools).
5. Press the "NVM".

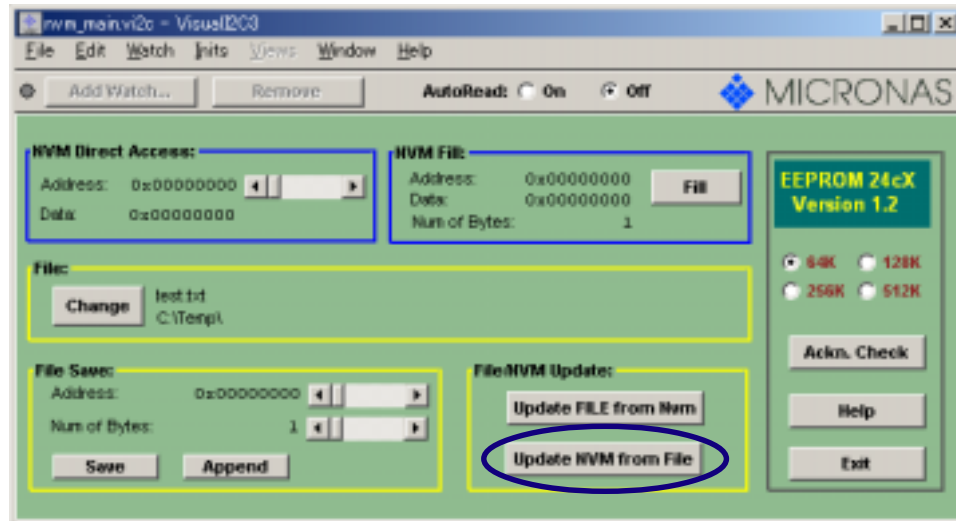


## UPDATE FOR EEPROM DATA

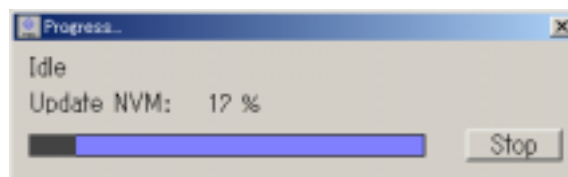
- Press the "Change", and select the writing EEPROM data file (TEXT file).



- Press the "Update NVM from File".



- The following window will appear, writing will start. After the finishing of the writing, the window will close.



- Finish the writing, unplug the AC cord, and remove the MICON PROGRAM JIG KIT 25-4 (JG203).
- Insert the AC cord again, turn on the power.
- Press both VOL. DOWN button on the set and Channel button (2) on the remote control for 2 seconds.
- Confirm that displayed version agreement with writing.

# ELECTRICAL ADJUSTMENTS

## 1. ADJUSTMENT PROCEDURE

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

### CAUTION

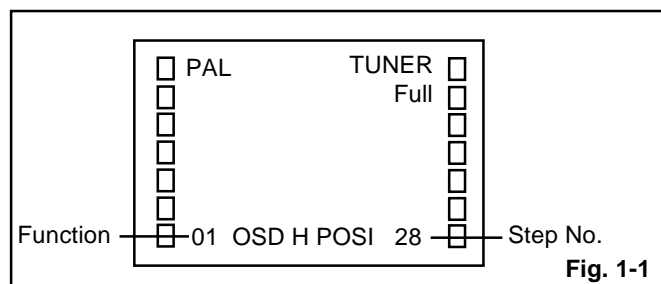
- Use an isolation transformer when performing any service on this chassis.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor with a heat sink, apply silicon grease (**YG6260M**) 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. Pattern Generator

### On-Screen Display Adjustment

1. Set the VOLUME to minimum.
2. Press the VOL. DOWN button on the set and the channel button (**9**) on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in **Fig. 1-1**.



3. Use the UP/DOWN button or Channel button (**0-9**) 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.
5. To display the adjustment screen for TUNER, EXT1, EXT2, EXT3, Component, HDMI1, HDMI2 and PC mode, press the button on the remote control. Press the VOL.DOWN button on the set and the channel (**9**) on the remote control for more than 2 seconds.

NO.	FUNCTION	NO.	FUNCTION
01	H POSI OSD	23	H POSI MIN
02	V POSI OSD	24	V POSI
03	R DRIVE(M)	25	V POSI MAX
04	R CUT OFF(M)	26	V POSI MIN
05	G DRIVE(M)	27	BAKLIGHT CENT
06	G CUT OFF(M)	28	BAKLIGHT MAX
07	B DRIVE(M)	29	BAKLIGHT MIN
08	B CUT OFF(M)	30	BRIGHT CENTER
09	R DRIVE(H)	31	BRIGHT MAX
10	R CUT OFF(H)	32	BRIGHT MIN
11	G DRIVE(H)	33	TINT CENTER
12	G CUT OFF(H)	34	CONTRAST CENTER
13	B DRIVE(H)	35	CONTRAST MAX
14	B CUT OFF(H)	36	CONTRAST MIN
15	R DRIVE(L)	37	CONTRAST 50
16	R CUT OFF(L)	38	COLOR CENTER
17	G DRIVE(L)	39	COLOR MAX
18	G CUT OFF(L)	40	COLOR MIN
19	B DRIVE(L)	41	TEXT H POSI
20	B CUT OFF(L)	42	TEXT V POSI
21	H POSI		
22	H POSI MAX		

Fig. 1-2






## 2. BASIC ADJUSTMENTS

### 2-1: WHITE BALANCE

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Press the button on the remote control to set to the AV mode.
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 "R DRIVE(M)".
6. Press the UP/DOWN button on the remote control to select the "R DRIVE(M)", "R CUT OFF(M)", "G DRIVE(M)", "G CUT OFF(M)", "B DRIVE(M)", "B CUT OFF(M)", "R DRIVE(H)", "R CUT OFF(H)", "G DRIVE(H)", "G CUT OFF(H)", "B DRIVE(H)", "B CUT OFF(H)", "R DRIVE(L)", "R CUT OFF(L)", "G DRIVE(L)", "G CUT OFF(L)", "B DRIVE(L)" or "B CUT OFF(L)".
7. Adjust the LEFT/RIGHT button on the remote control to whiten the R DRIVE(M), R CUT OFF(M), G DRIVE(M), G CUT OFF(M), B DRIVE(M), B CUT OFF(M), R DRIVE(H), R CUT OFF(H), G DRIVE(H), G CUT OFF(H), B DRIVE(H), B CUT OFF(H), R DRIVE(L), R CUT OFF(L), G DRIVE(L), G CUT OFF(L), B DRIVE(L) or B CUT OFF(L) at each step tone sections equally.
8. Perform the above adjustments 6 and 7 until the white achieved.

## ELECTRICAL ADJUSTMENTS

### 2-2: CONTRAST

1. Place the set in Aging Test for more than 15 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "43"
5. Check if the picture is normal.
6. Receive the color bar pattern. (VIDEO1 Input)
7. Using the remote control, set the brightness and contrast to normal position.
8. Press the  button on the remote control to set to the EXT1 mode.
9. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "43".
10. Check if the picture is normal.
11. Receive the color bar pattern. (VIDEO2 Input)
12. Press the  button on the remote control to set to the EXT2 mode. Then perform the above adjustments 3~5.
13. Receive the color bar pattern. (VIDEO3 Input)
14. Press the  button on the remote control to set to the EXT3 mode. Then perform the above adjustments 3~5.
15. Receive the color bar pattern. (AV RGB Input)
16. Press the  button on the remote control to set to the Component mode. Then perform the above adjustments 3~5.
17. Receive the color bar pattern. (S-VIDEO Input)
18. Press the  button on the remote control to set to the HDMI mode. Then perform the above adjustments 3~5.

# ELECTRICAL ADJUSTMENTS

## 2-3: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each of the adjustment item is set correctly referring below. (TUNER/EXT/COMPONENT/HDMI/PC/DTV)

NO.	FUNCTION	TUNER	EXT			COMPONENT(NTSC)				COMPONENT(PAL)				HDMI(NTSC)					HDMI(PAL)				PC					DTV
		Step No.	CVBS	S(Y/C)	RGB	480i	480p	720p	1080i	576i	576p	720p	1080i	480i	480p	VGA	720p	1080i	576i	576p	720p	1080i	640x480	800x600	1024x768	1280x720	1360x768	
			Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	
1	OSD H POSI	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
2	OSD V POSI	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	26	7	7	7	7	7
3	R DRIVE (N)	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850
4	R CUT OFF(N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	0
5	G DRIVE(N)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
6	G CUT OFF (N)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
7	B DRIVE (N)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
8	B CUT OFF (N)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
9	R.DRIVE (C)	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	-	-	-	-	-	850
10	R CUT OFF (C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	0
11	G DRIVE (C)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
12	G CUT OFF (C)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
13	B DRIVE (C)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
14	B CUT OFF (C)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
15	R.DRIVE (W)	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	850	-	-	-	-	-	850
16	R CUT OFF (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	0
17	G DRIVE (W)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
18	G CUT OFF (W)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
19	B DRIVE (W)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
20	B CUT OFF (W)	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	-	-	-	-	-	ADJ
21	H POSI 50 Hz (4:3)	642	642	642	642	-	-	-	-	608	284	-	-	-	-	-	-	-	76	5	-	-	-	-	-	-	-	578
	H POSI 50 Hz (4:3) OTHER	625	625	625	642	-	-	-	-	608	284	307	256	-	-	-	-	-	76	5	138	38	-	-	-	-	-	578
	H POSI 60 Hz (4:3)	584	584	584	582	560	266	-	-	-	-	-	-	52	5	5	-	-	-	-	-	-	129	191	279	258	344	554
	H POSI CENTER (PC)	584	584	584	582	560	266	-	-	-	-	-	-	52	5	5	-	-	-	-	-	-	129	191	279	258	344	554
	H POSI 60 Hz (4:3) OTHER	586	586	586	582	560	266	306	256	-	-	-	-	52	5	5	92	33	-	-	-	-	129	191	279	-	-	545
22	H POSI MAX (PC)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	229	291	379	358	444	-
23	H POSI MIN (PC)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	91	179	158	244	-
24	V POSI 50Hz FULL SCREEN/Cinima OTHER	25	25	25	23	-	-	-	-	25	50	22	19	-	-	-	-	-	13	37	23	19	-	-	-	-	-	25
	V POSI 50Hz FULL SCREEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	V POSI 50Hz Cinema	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	V POSI 60Hz FULL SCREEN/Cinima OTHER	19	19	19	17	19	41	21	18	-	-	-	-	8	27	27	21	18	-	-	-	-	26	26	26	23	23	-
	V POSI CENTER (PC)	19	19	19	17	19	41	21	18	-	-	-	-	8	27	27	21	18	-	-	-	-	26	26	26	23	23	-
	V POSI 60Hz FULL SCREEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
	V POSI 60Hz Cinema	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
25	V POSI MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	51	51	51	51	-
26	V POSI MIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-
27	BAKLIGHT CENTER	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128
28	BAKLIGHT MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255
29	BAKLIGHT MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	BRIGHT CENTER	+	+	+	+	16	16	16	16	16	16	16	16	18	18	18	18	18	18	18	18	11	11	20	20	20	20	20
31	BRIGHT MAX	+	+	+	+	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
32	BRIGHT MIN	+	+	+	+	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64
33	TINT CENTER	+	+	+	+	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0
34	CONTRAST CENTER	+	+	+	+	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
35	CONTRAST MAX	+	+	+	+	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
36	CONTRAST MIN	+	+	+	+	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
37	CONTRAST 50	+	+	+	+	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
38	COLOR CENTER	+	+	+	+	39	39	39	39	39	39	39	39	29	29	29	29	29	29	29	29	34	34	40	40	40	40	40
39	COLOR MAX	+	+	+	+	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
40	COLOR MIN	+	+	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	TEXT H POSI	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
42	TEXT V POSI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: For the step no. with + mark, please adjust it according to the 2-4.

ELECTRICAL ADJUSTMENTS

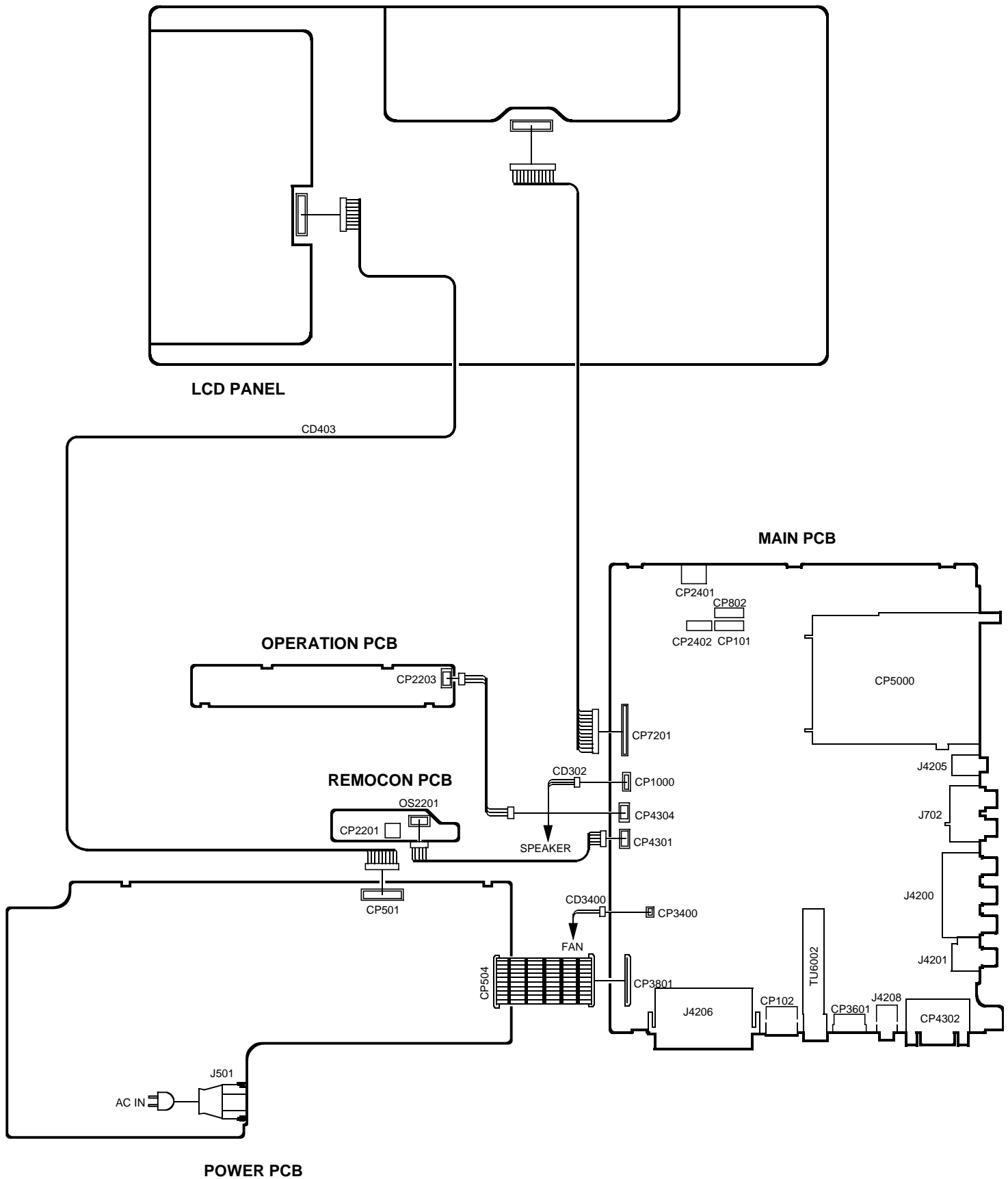
2-4: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of each of the adjustment item is set correctly referring below. (TUNER/EXT)

NO.	FUNCTION	TUNER			EXT1(SCART1), EXT2(SCART2)					EXT3(RCA)					EXT2(SCART2)					EXT3(RCA)					EXT1(SCART1)				
					CVBS					CVBS					S(Y/C)					S(Y/C)					RGB				
		576i			576i			480i		576i			480i		576i			480i		576i			480i		576i			480i	
		PAL50	PAL60	SECAM	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43
		Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.	Step No.
30	BRIGHT CENTER	18	18	18	16	16	16	16	16	15	15	15	15	15	16	16	16	16	16	16	16	16	16	16	4	4	4	4	4
31	BRIGHT MAX	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
32	BRIGHT MIN	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64	-64
33	TINT CENTER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	CONTRAST CENTER	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
35	CONTRAST MAX	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
36	CONTRAST MIN	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
37	CONTRAST 40	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ	ADJ
38	COLOR CENTER	38	38	38	38	38	38	38	34	39	39	38	36	32	38	40	36	36	34	38	40	36	36	34	39	39	39	39	39
39	COLOR MAX	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
40	COLOR MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

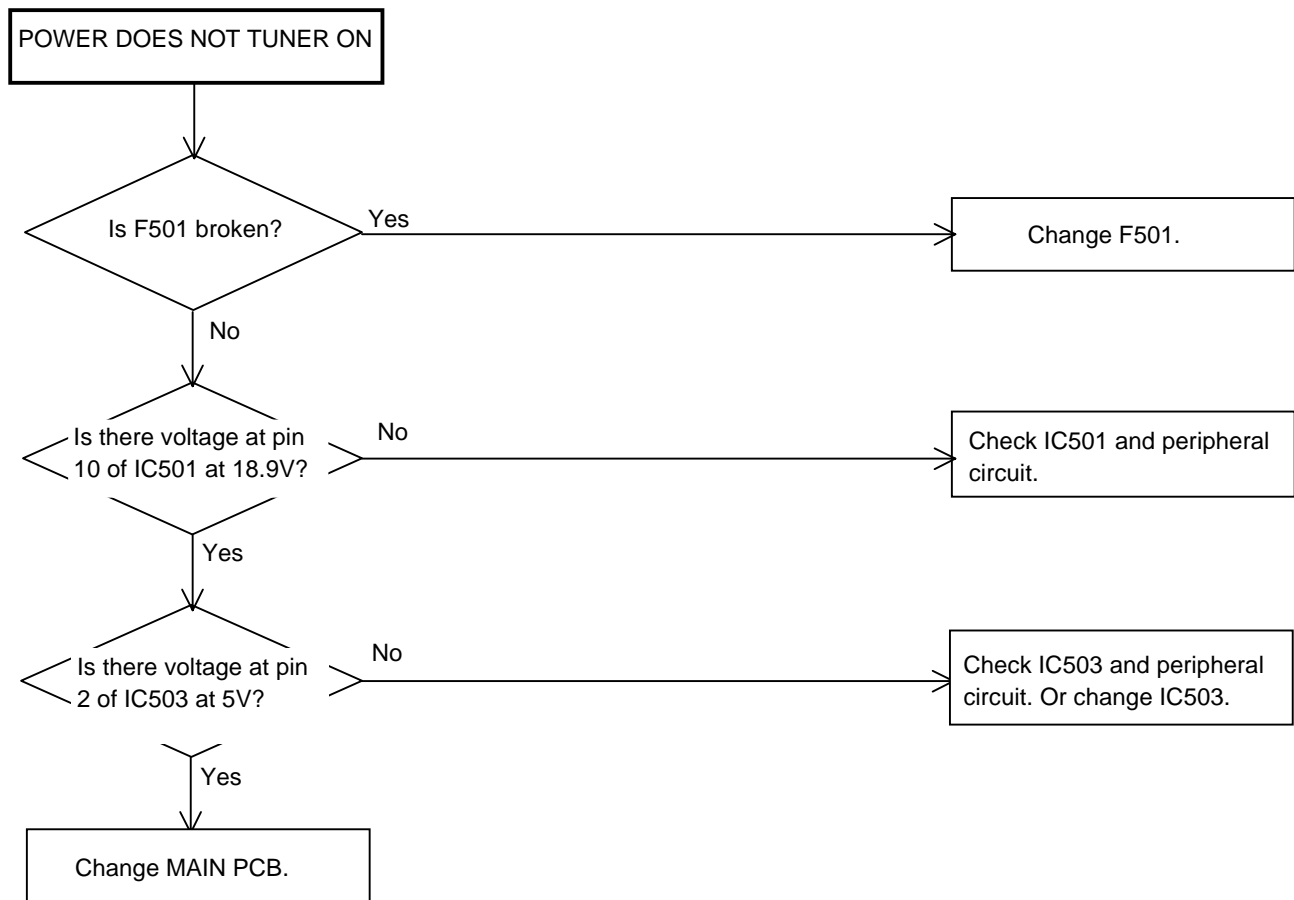
## ELECTRICAL ADJUSTMENTS

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

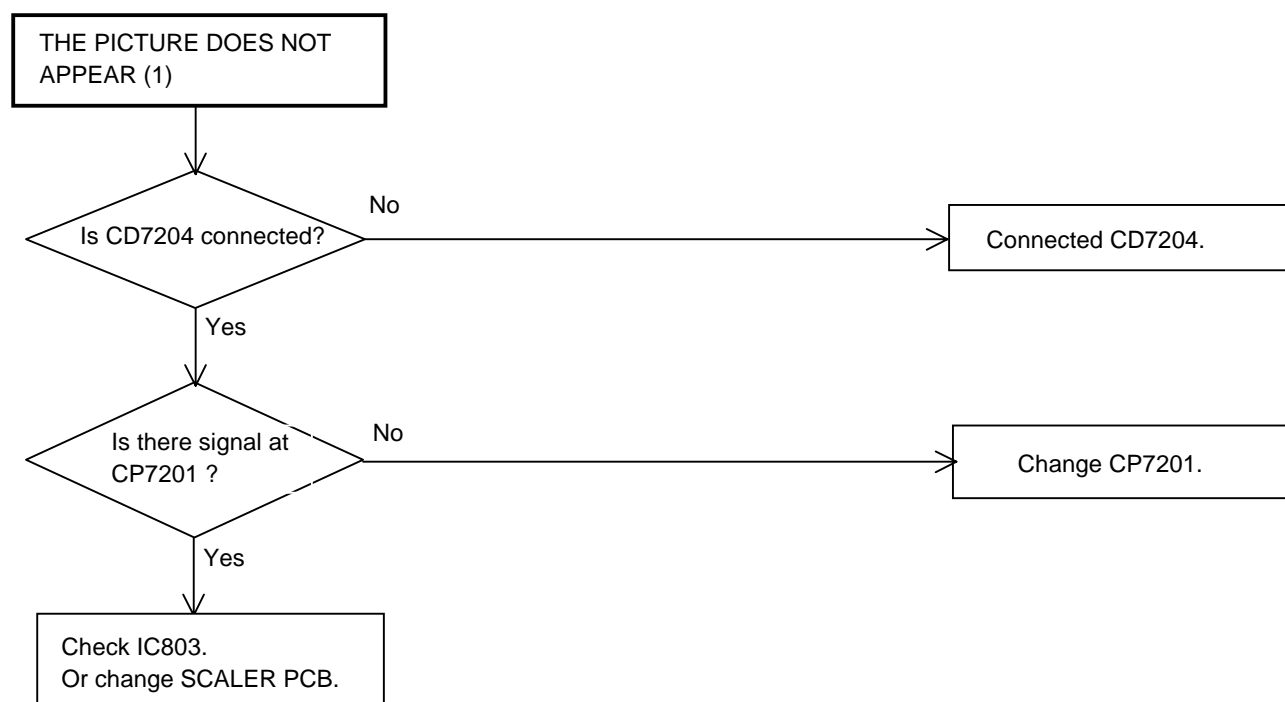




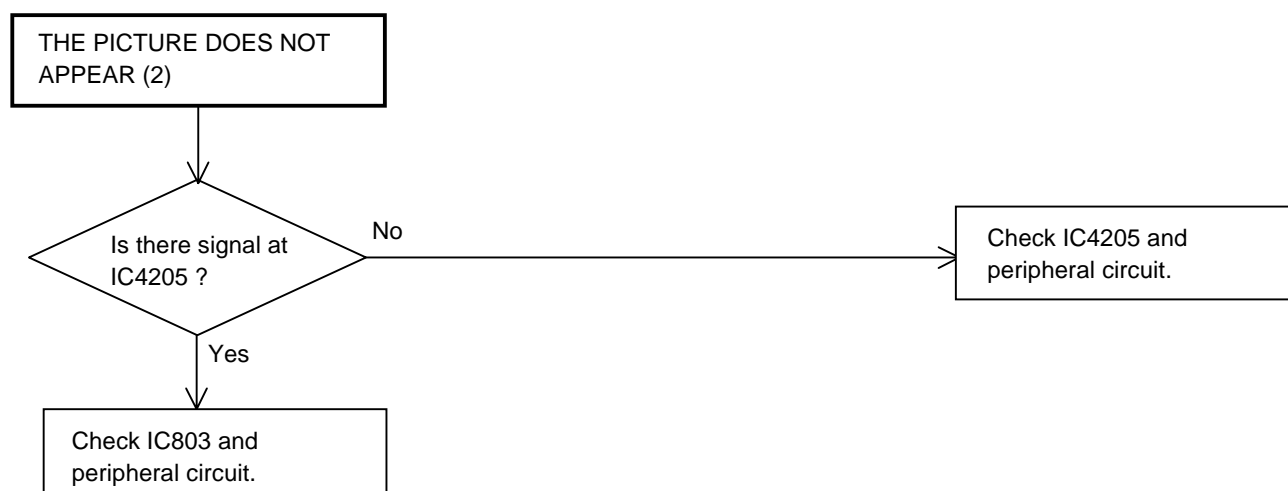
# TROUBLESHOOTING GUIDE



## TROUBLESHOOTING GUIDE



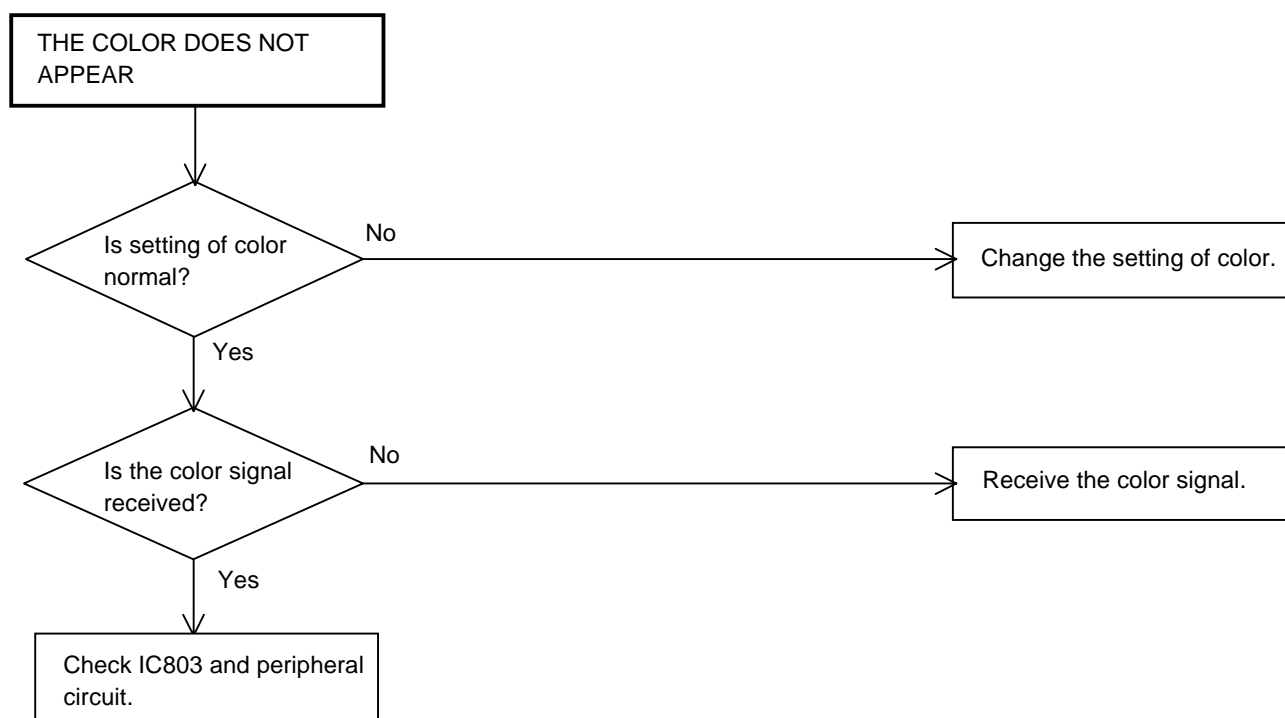
## TROUBLESHOOTING GUIDE



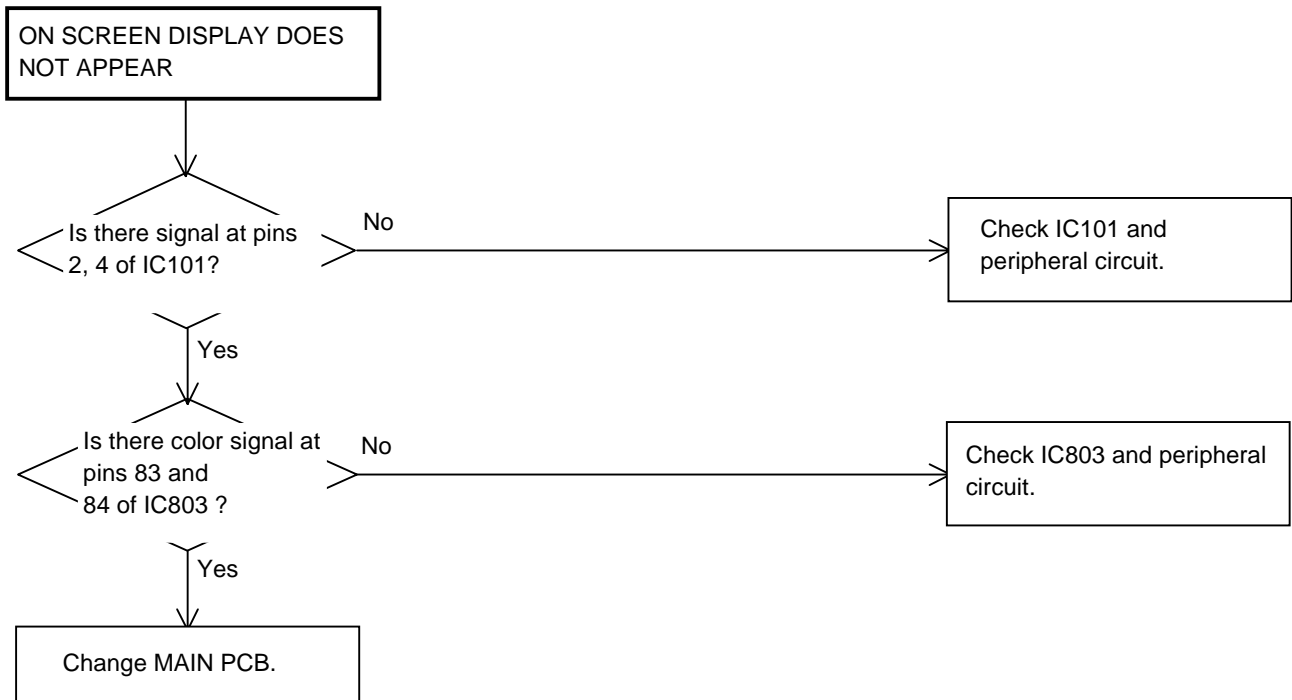
## TROUBLESHOOTING GUIDE



## TROUBLESHOOTING GUIDE



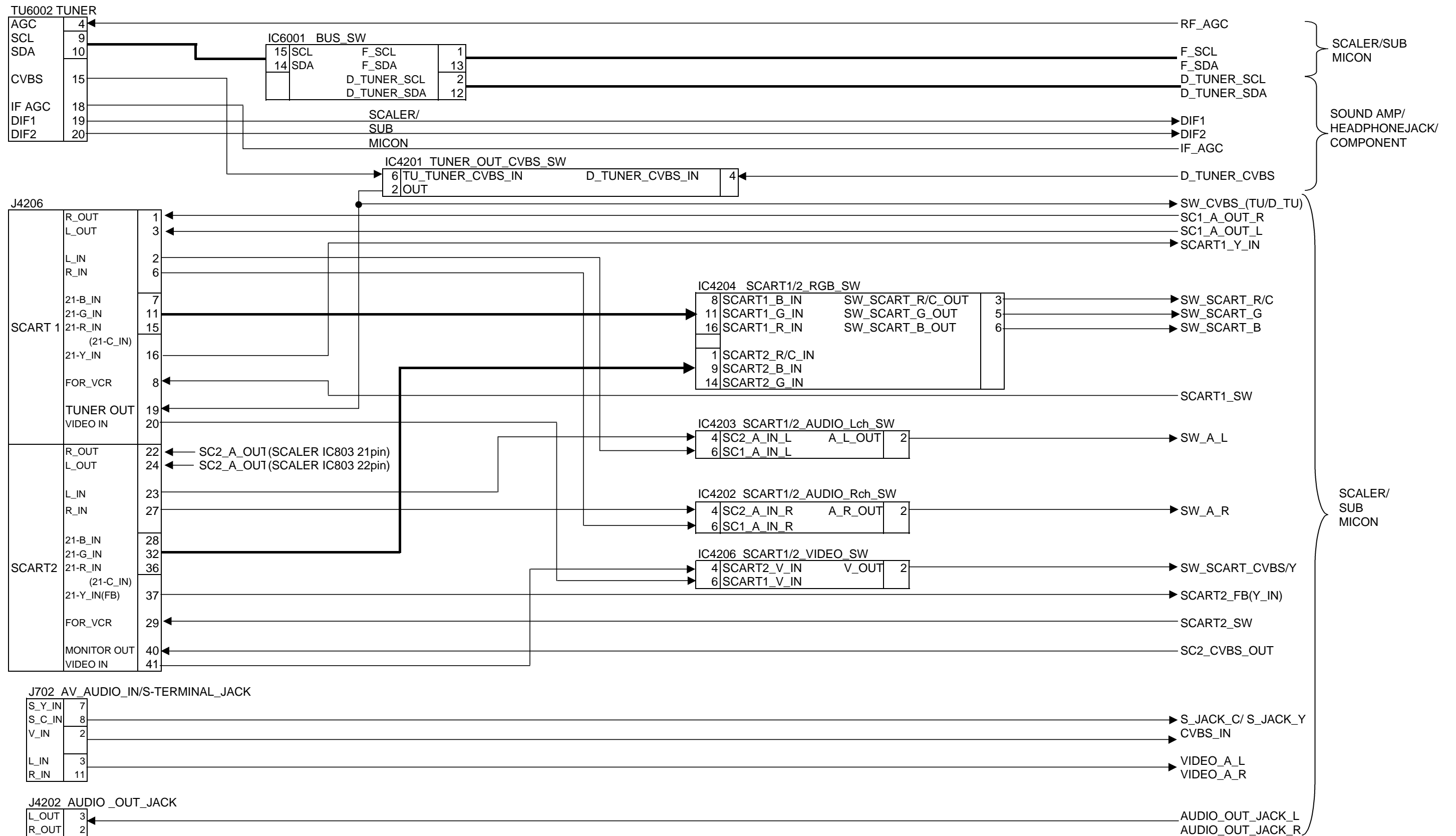
## TROUBLESHOOTING GUIDE



## TROUBLESHOOTING GUIDE

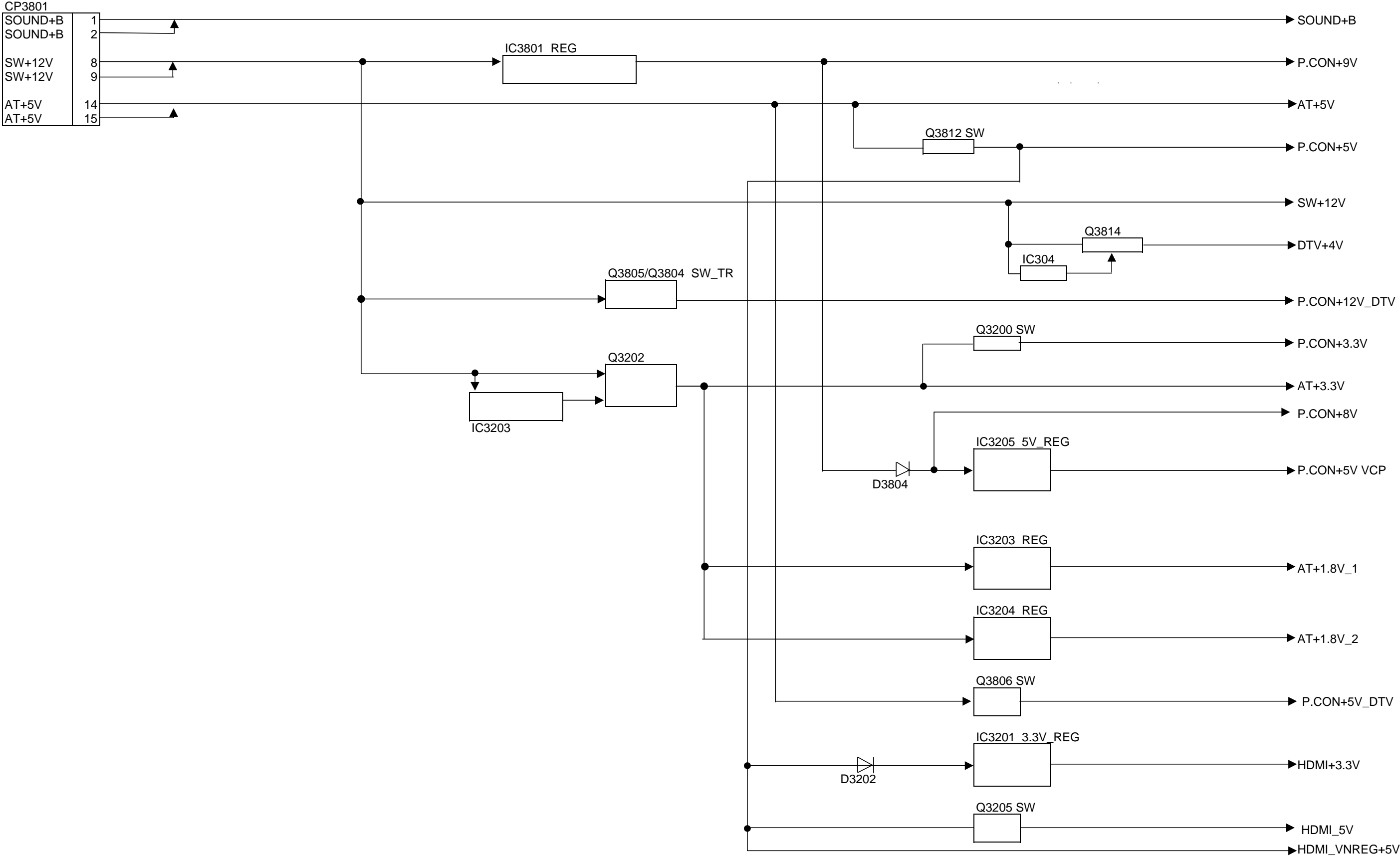


## TUNER/SCART1/SCART2/RCA AUDIO OUT BLOCK DIAGRAM

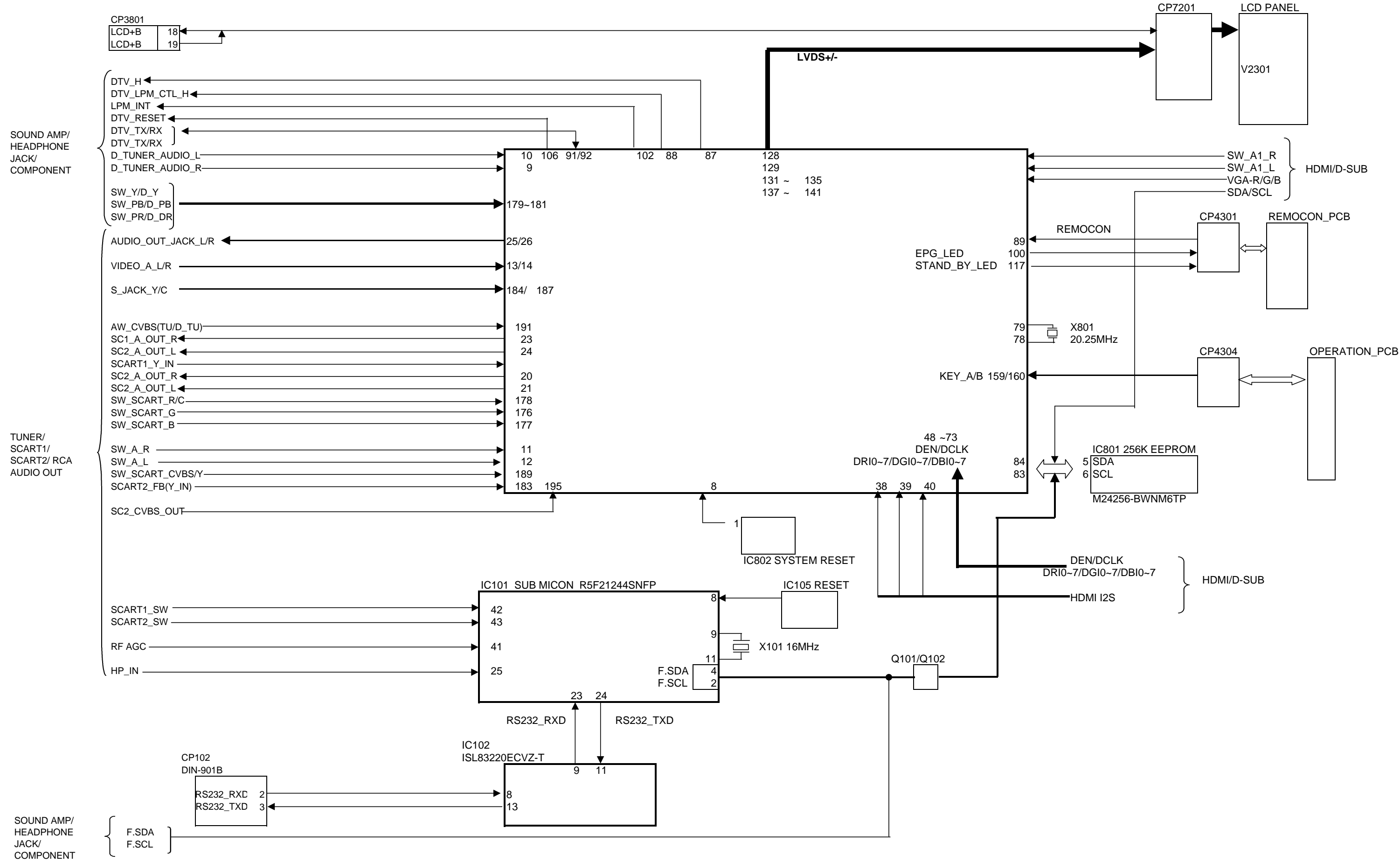




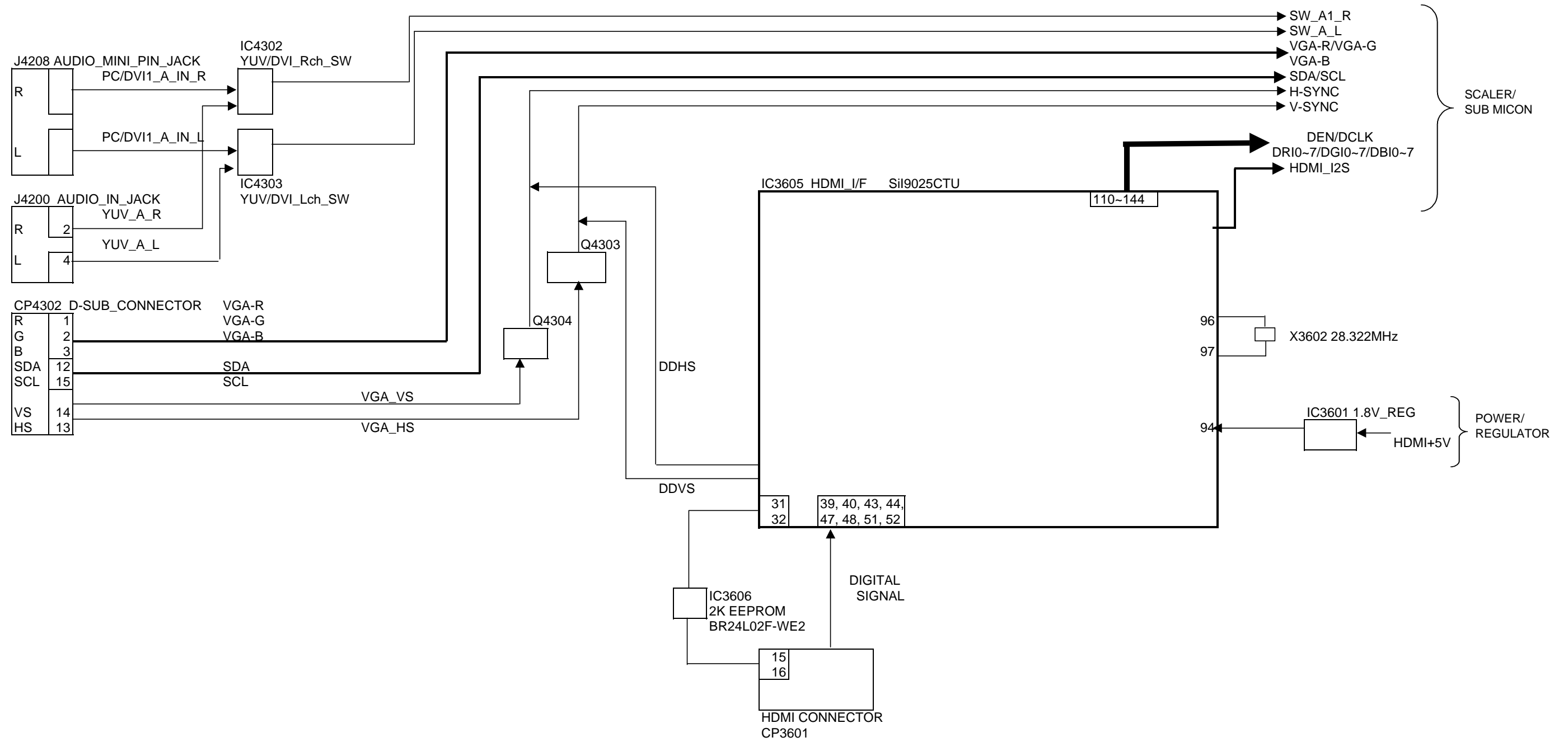
POWER/REGULATOR BLOCK DIAGRAM



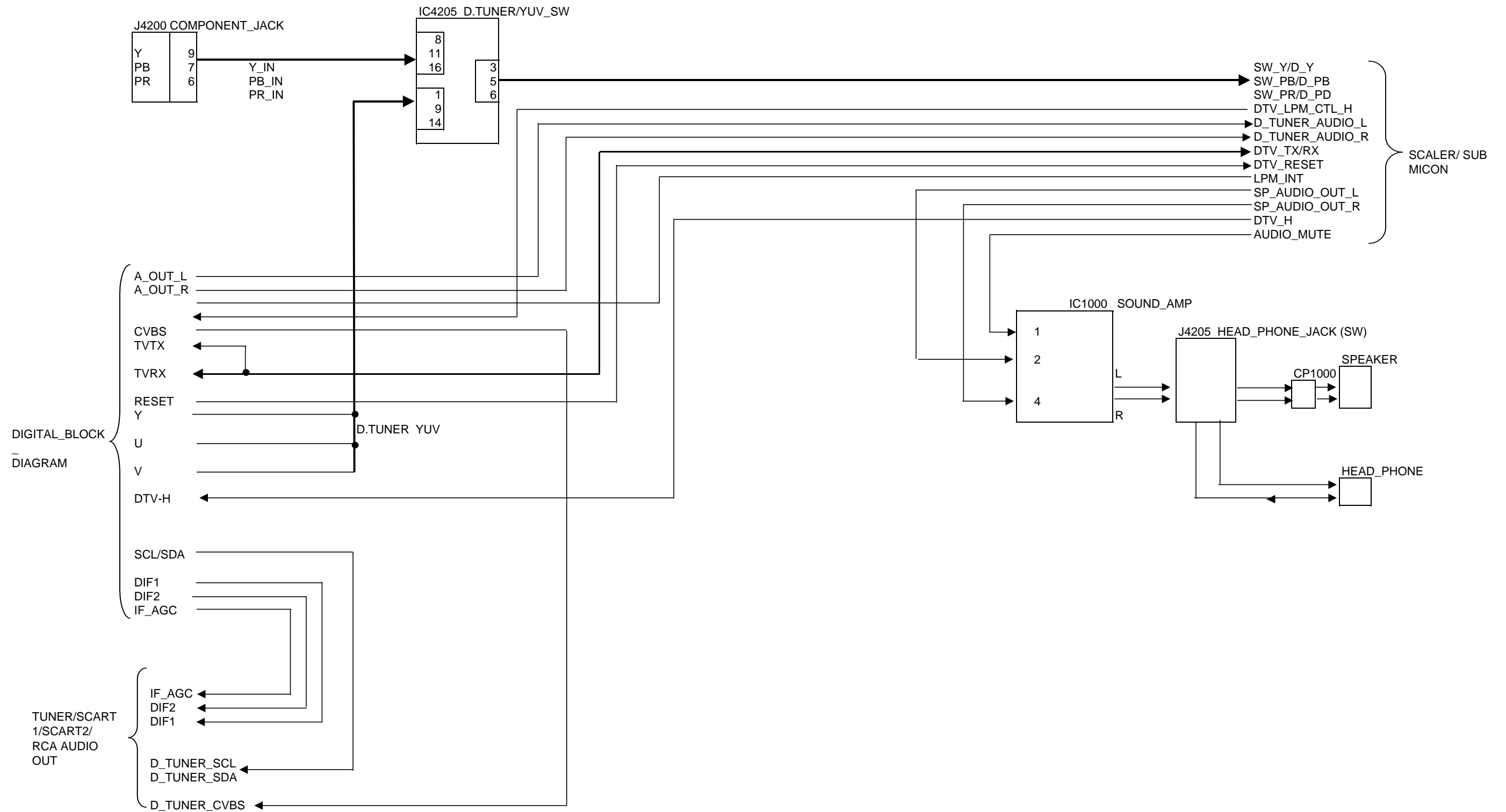
SCALER/SUB MICON BLOCK DIAGRAM



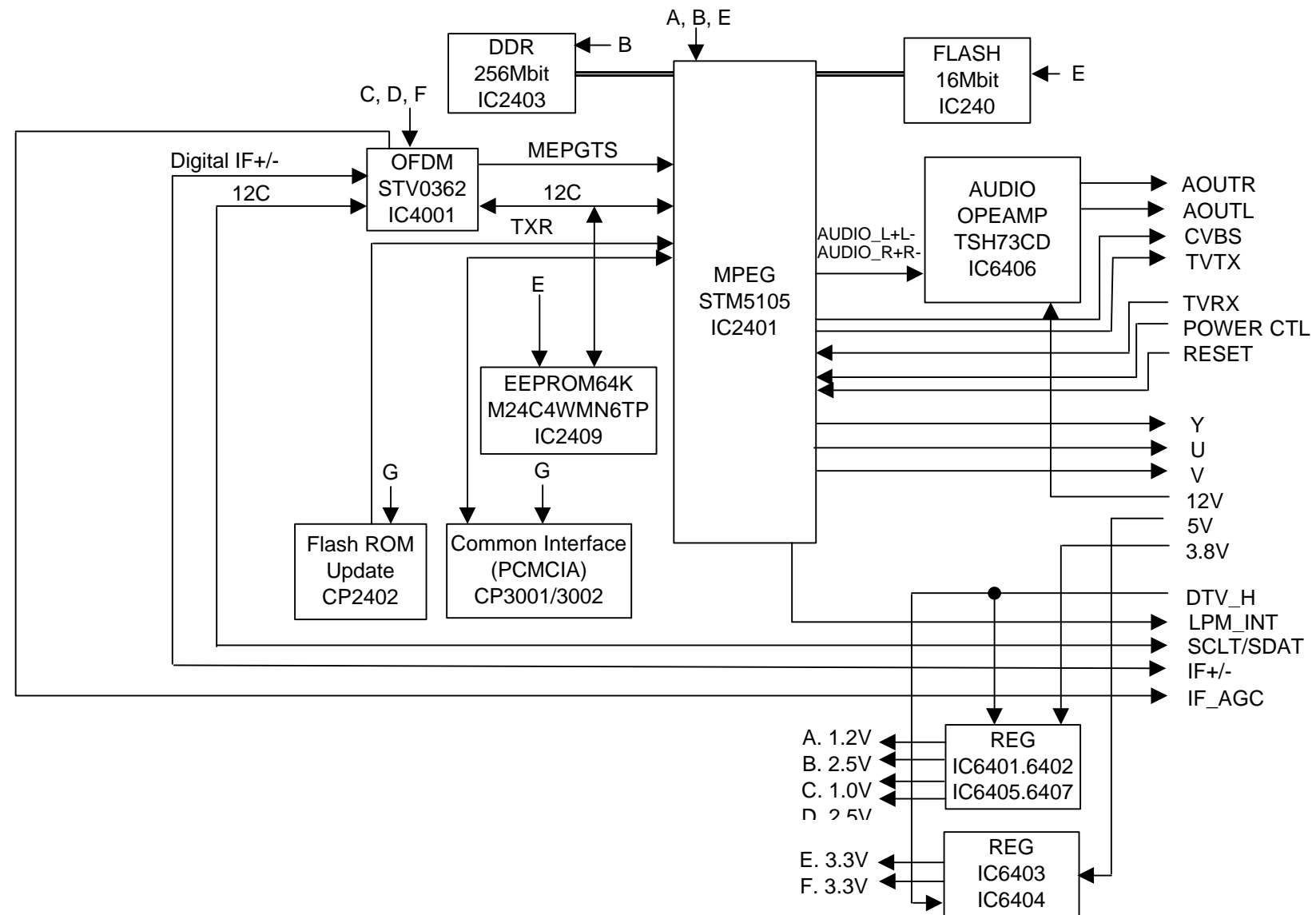
## HDMI/D-SUB BLOCK DIAGRAM



## SOUND AMP/HEADPHONE JACK/COMPONENT JACK BLOCK DIAGRAM



## DIGITAL BLOCK DIAGRAM



L506

8	7		5
1	2	3	4

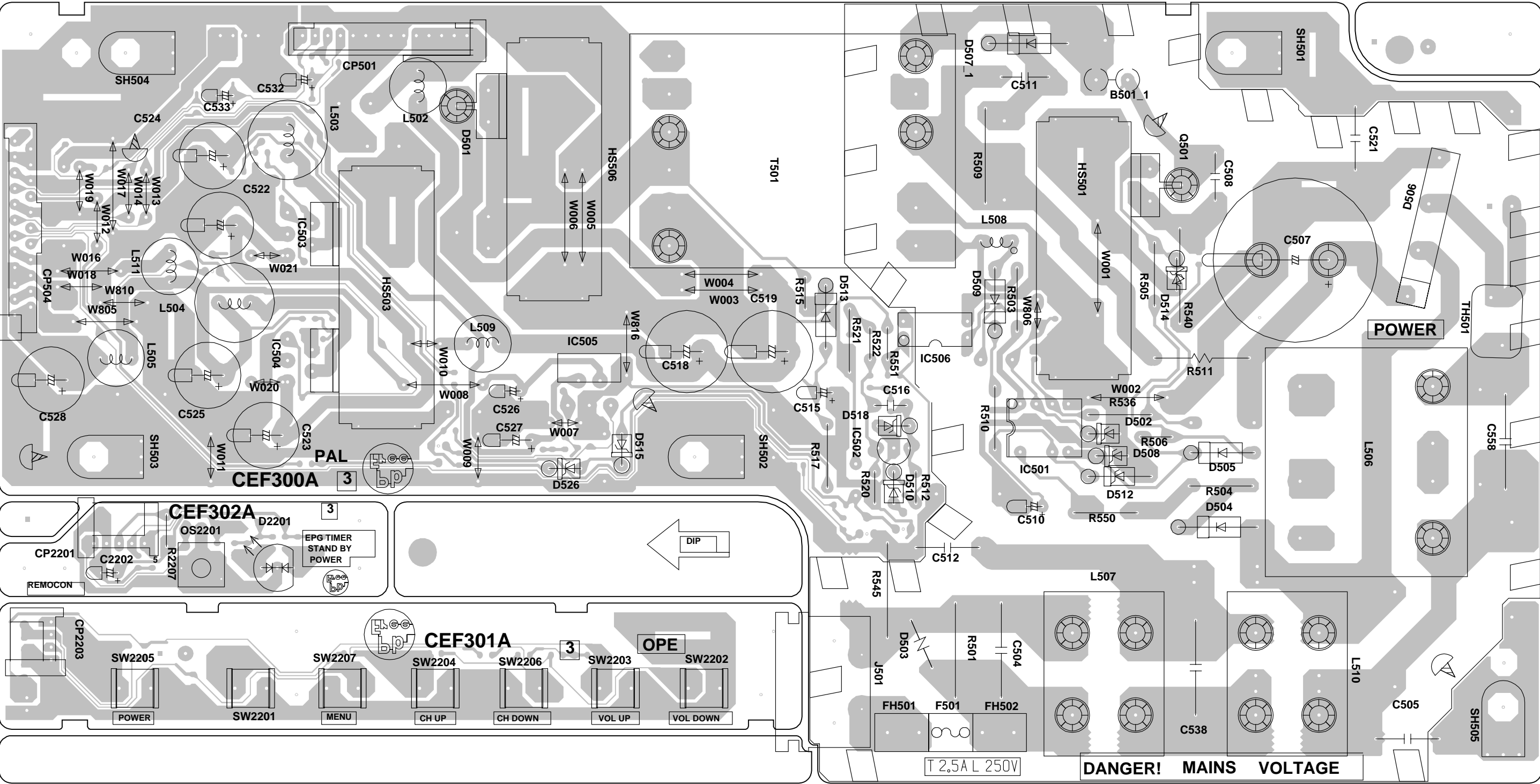




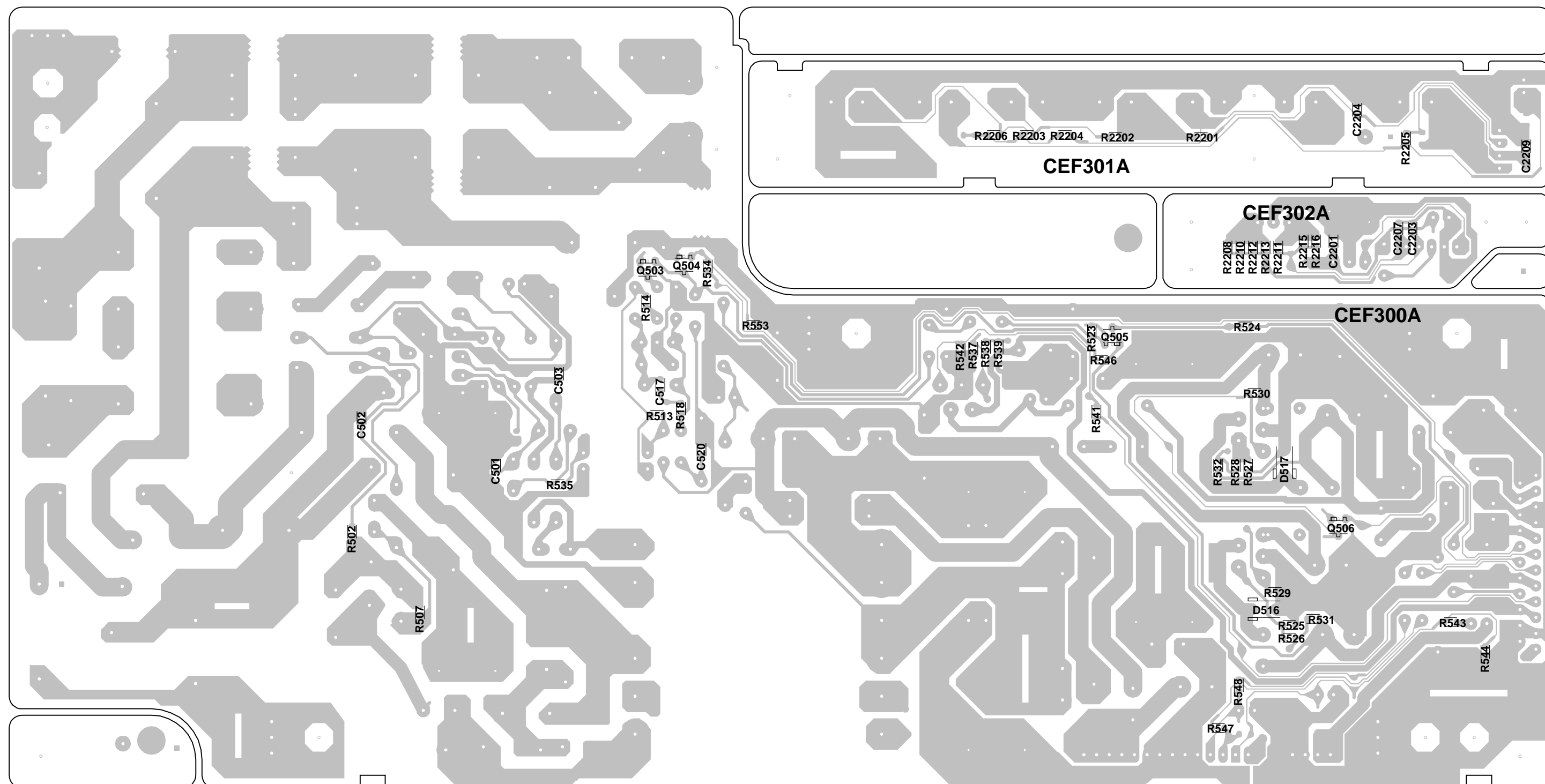




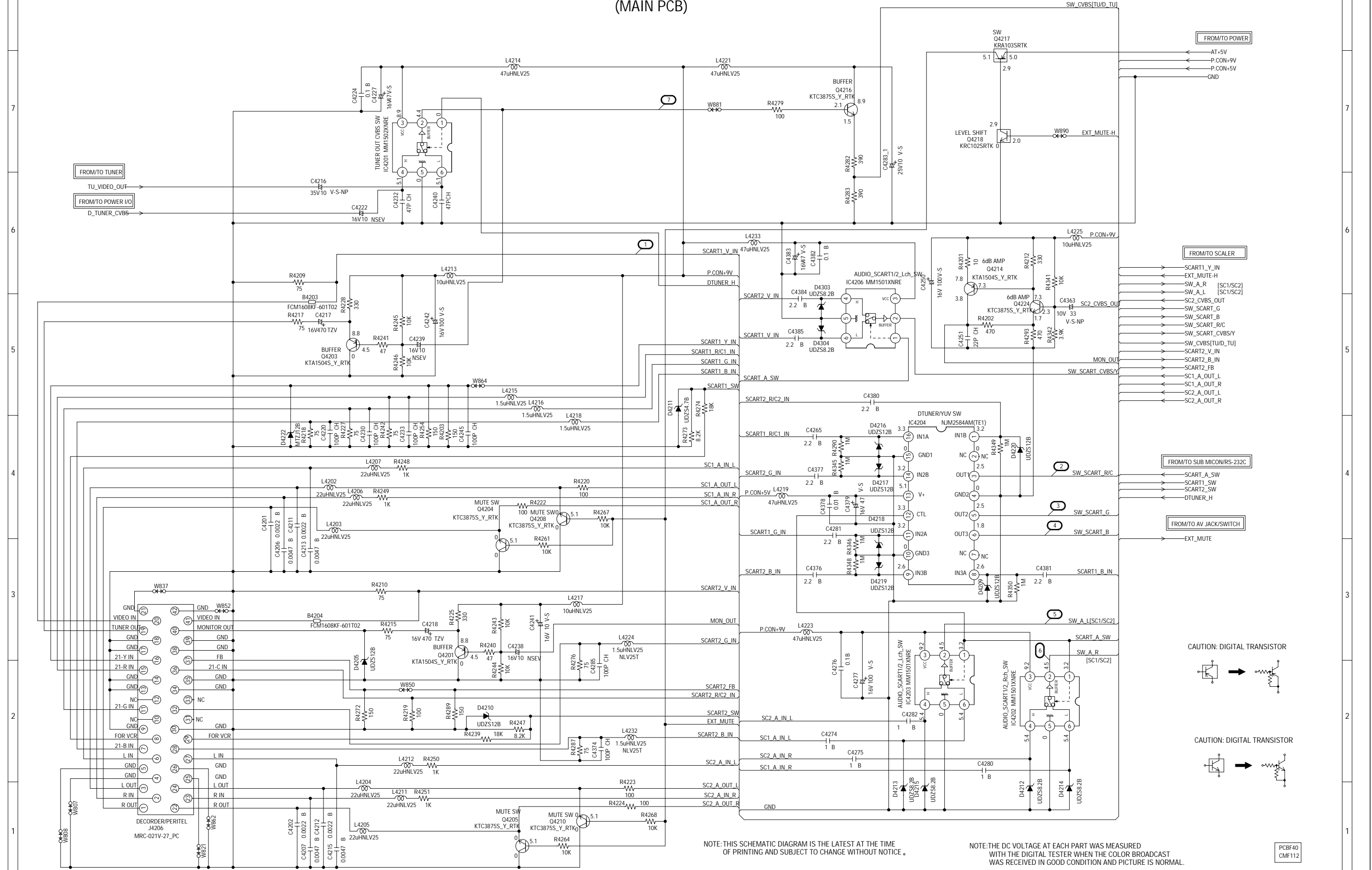
PRINTED CIRCUIT BOARDS  
POWER/REMOCON/OPERATION (INSERTED PARTS)  
SOLDER SIDE



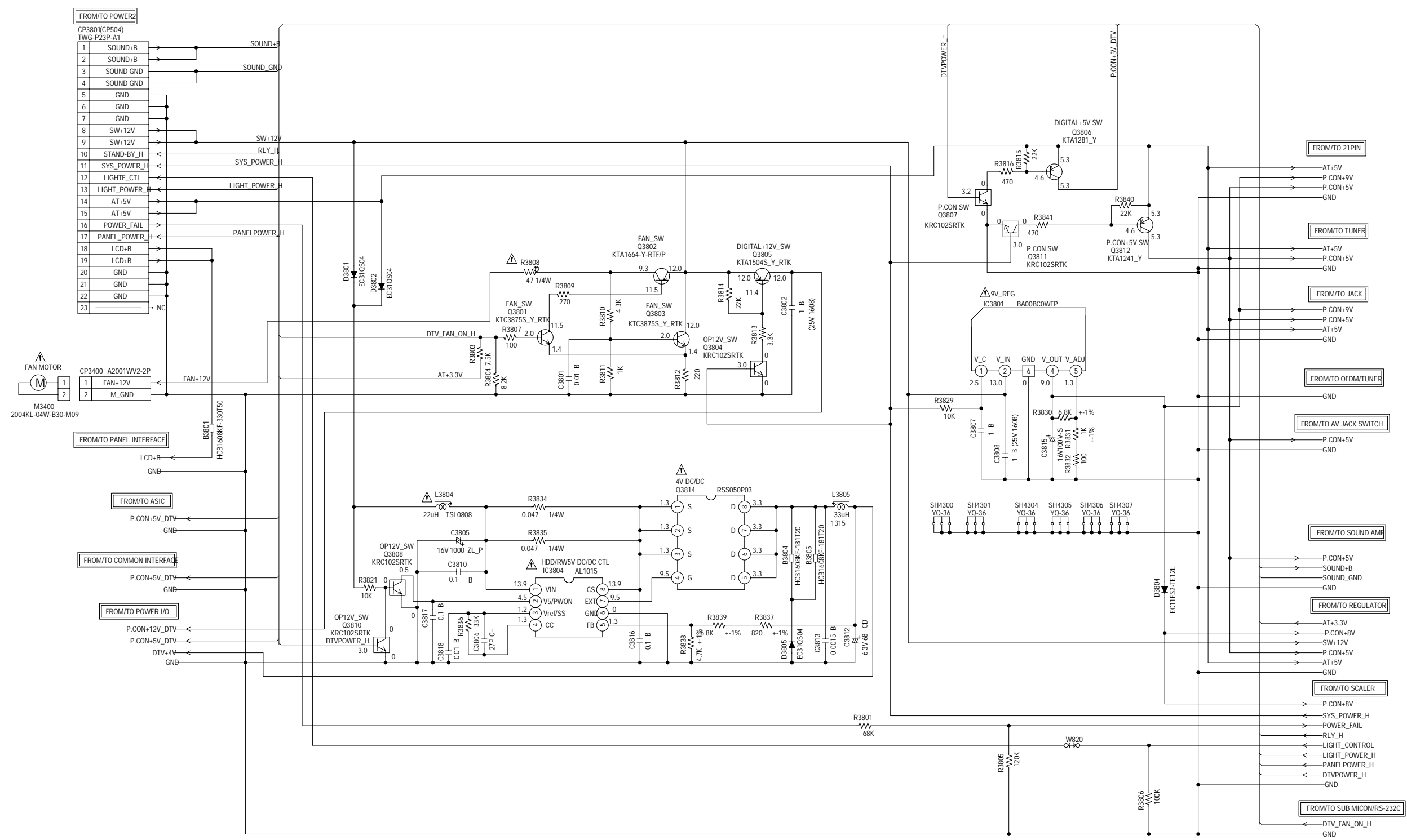
**SOLDER SIDE**



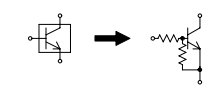
21PIN SCHEMATIC DIAGRAM  
(MAIN PCB)



POWER SCHEMATIC DIAGRAM  
(MAIN PCB)



CAUTION: DIGITAL TRANSISTOR



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

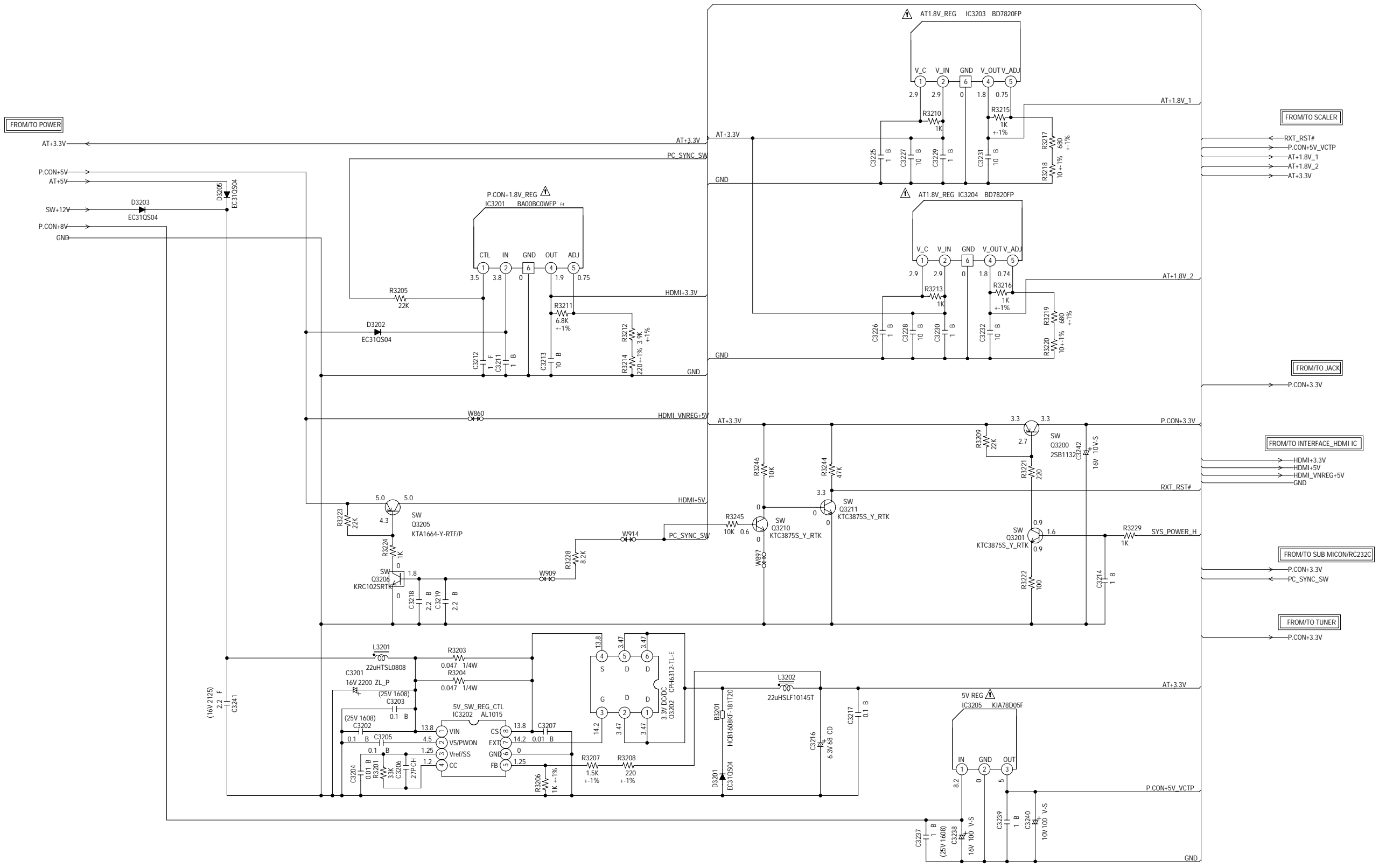
ATTENTION: LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ, N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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.

PCBF40  
CMF112

REGULATOR SCHEMATIC DIAGRAM  
(MAIN PCB)



**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 UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

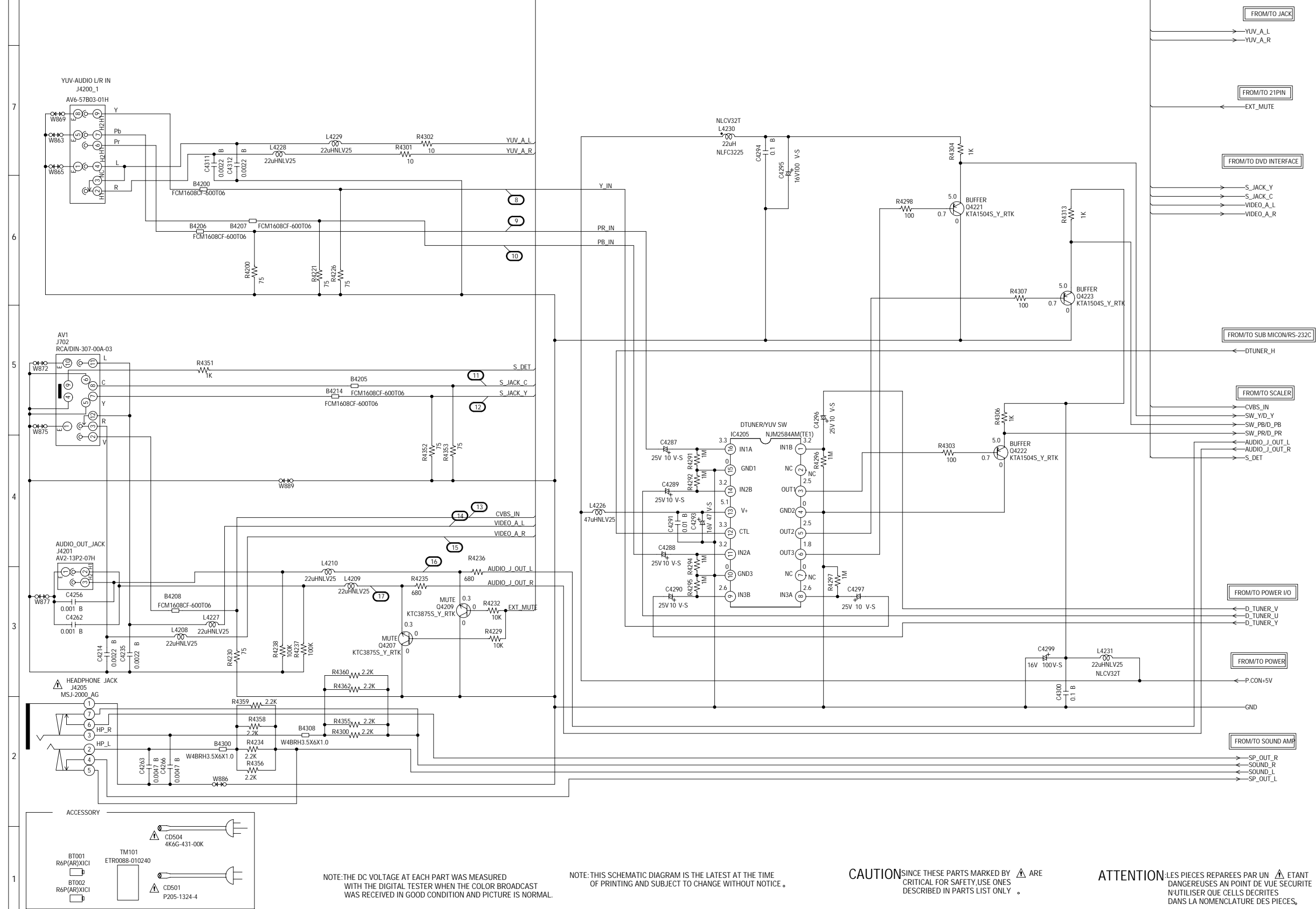
**CAUTION: DIGITAL TRANSISTOR**

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.


PCBF40  
CMF112


## AV JACK / SWITCH SCHEMATIC DIAGRAM (MAIN PCB)



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

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

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

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

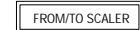
PCBF40  
CMF112


The schematic diagram shows the internal connections of the SOUND AMP circuit. The IC1000 (LA42052-E) is a 13-pin integrated circuit. The connections are as follows:

- Pin 1:** Connected to the Ripple Filter.
- Pin 2:** Labeled IN1, connected to a 2.2k resistor (C1003) and a 16V 100 V-S source.
- Pin 3:** Labeled PRE GND, connected to ground.
- Pin 4:** Labeled IN2, connected to a 2.2k resistor (C1005) and a 16V 470 TVZ source.
- Pin 5:** Labeled STBY, connected to ground.
- Pin 6:** Labeled P.P, connected to ground.
- Pin 7:** Labeled VCC, connected to a 25V 1000 ZL-P source.
- Pin 8:** Labeled OUT2, connected to a 14.0k resistor (C1010) and a 16V 470 TVZ source.
- Pin 9:** Labeled NC, connected to ground.
- Pin 10:** Labeled PWR GND, connected to ground.
- Pin 11:** Labeled NC, connected to a 1.8k resistor (R1014) and a 16V 470 TVZ source.
- Pin 12:** Labeled OUT1, connected to a 14.0k resistor (C1015) and a 16V 470 TVZ source.
- Pin 13:** Labeled NC, connected to ground.

Additional components and connections include:

- Resistors:** R1014 (1.8k 1/10W), R1015 (2.2k 1/10W), R1017 (2.2k 1/10W), and W1010 (0.0047 B).
- Capacitors:** C1003 (16V 100 V-S), C1005 (2.2 B), C1006 (0.0047 B), C1010 (25V 1000 ZL-P), C1011 (16V 470 TVZ), and C1015 (16V 470 TVZ).
- Other components:** HS30 (763W) and a 1.8k 1/10W resistor (R1027) connected to the PWR GND pin.



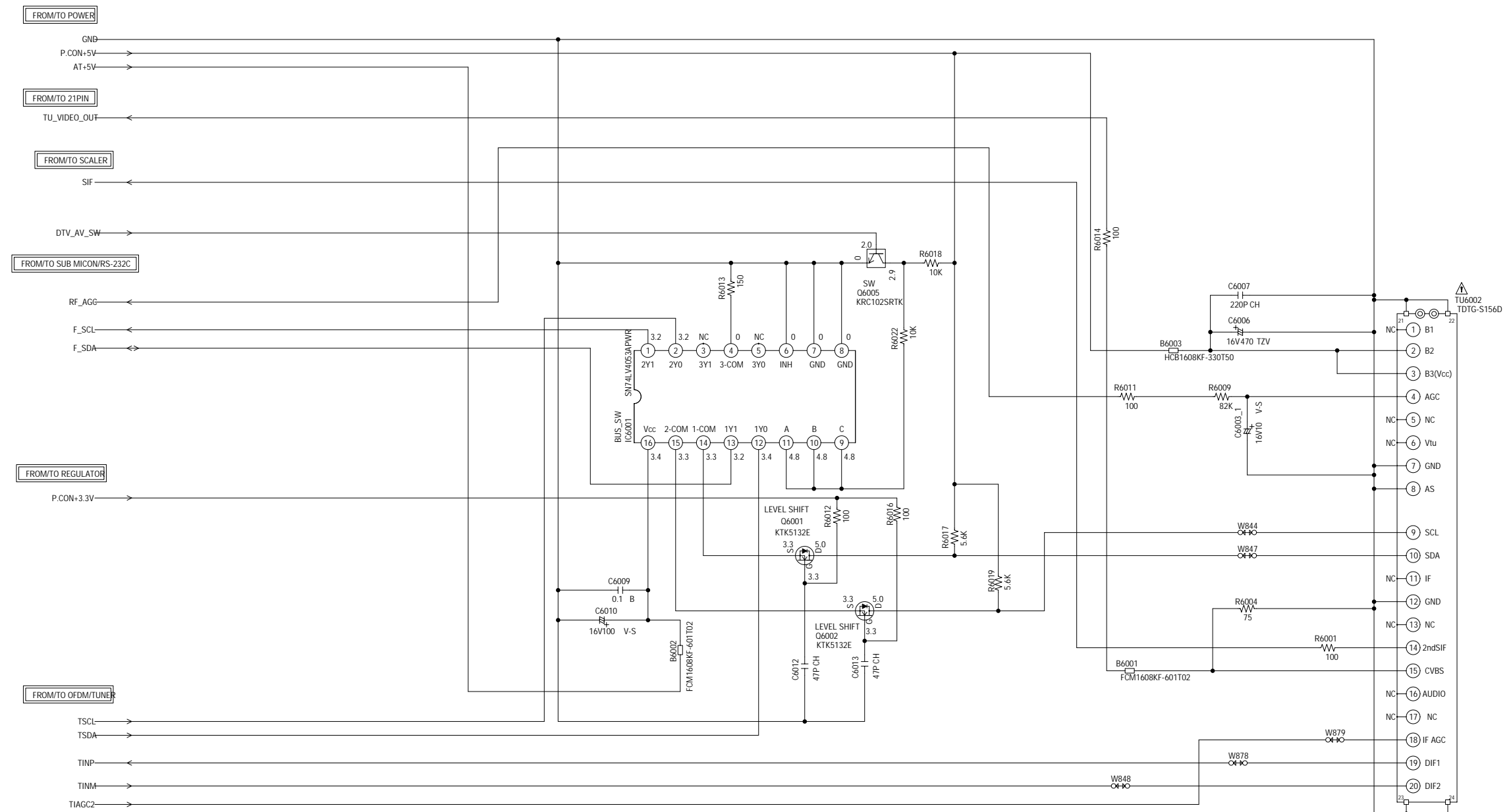
**ATTENTION:** LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

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.

PCBF40  
CMF112


## TUNER SCHEMATIC DIAGRAM

(MAIN PCB)



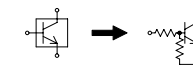
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

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

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

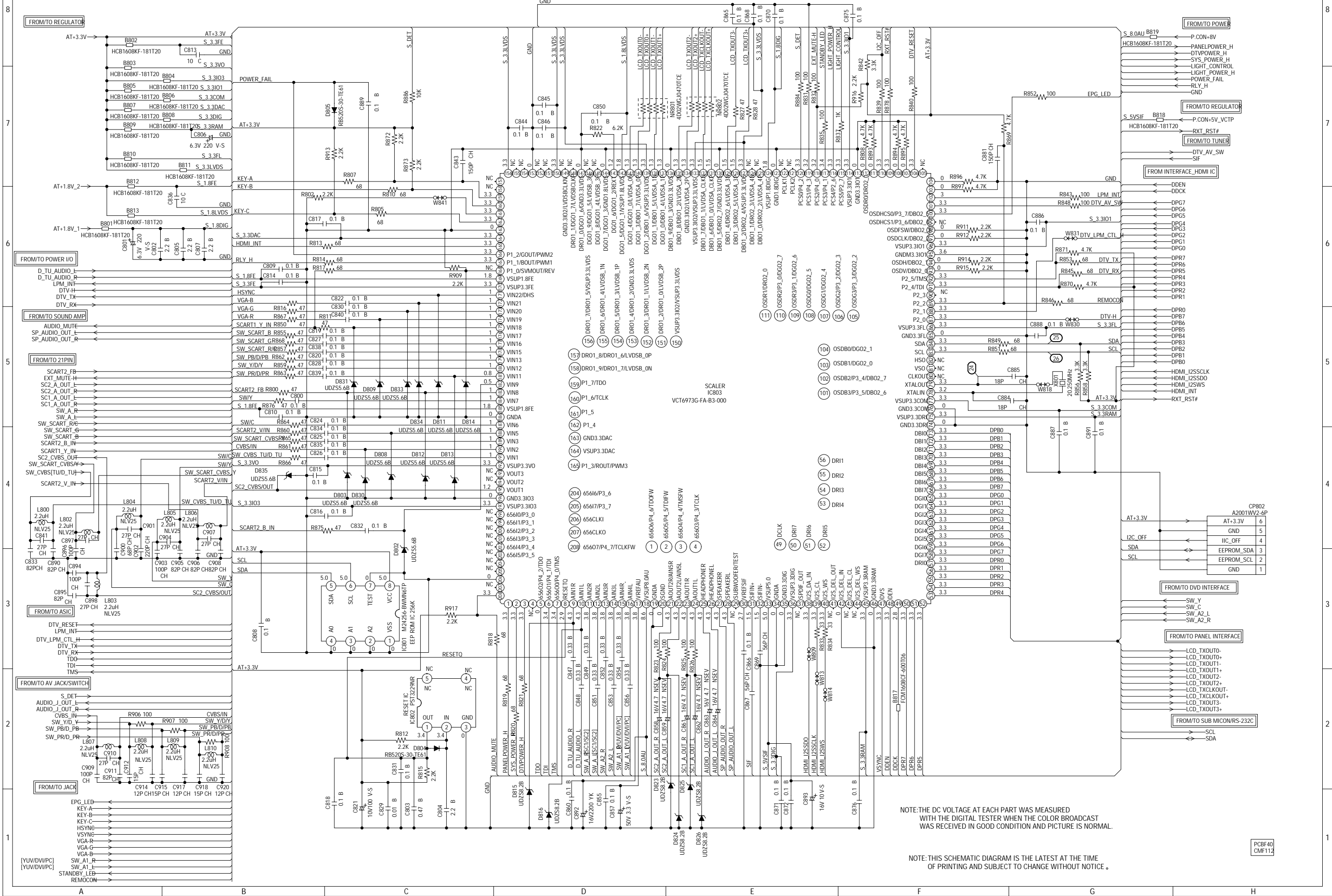
CAUTION: DIGITAL TRANSISTOR



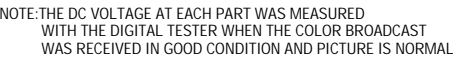
PCBF40  
CMF112



# SCALER SCHEMATIC DIAGRAM (MAIN PCB)

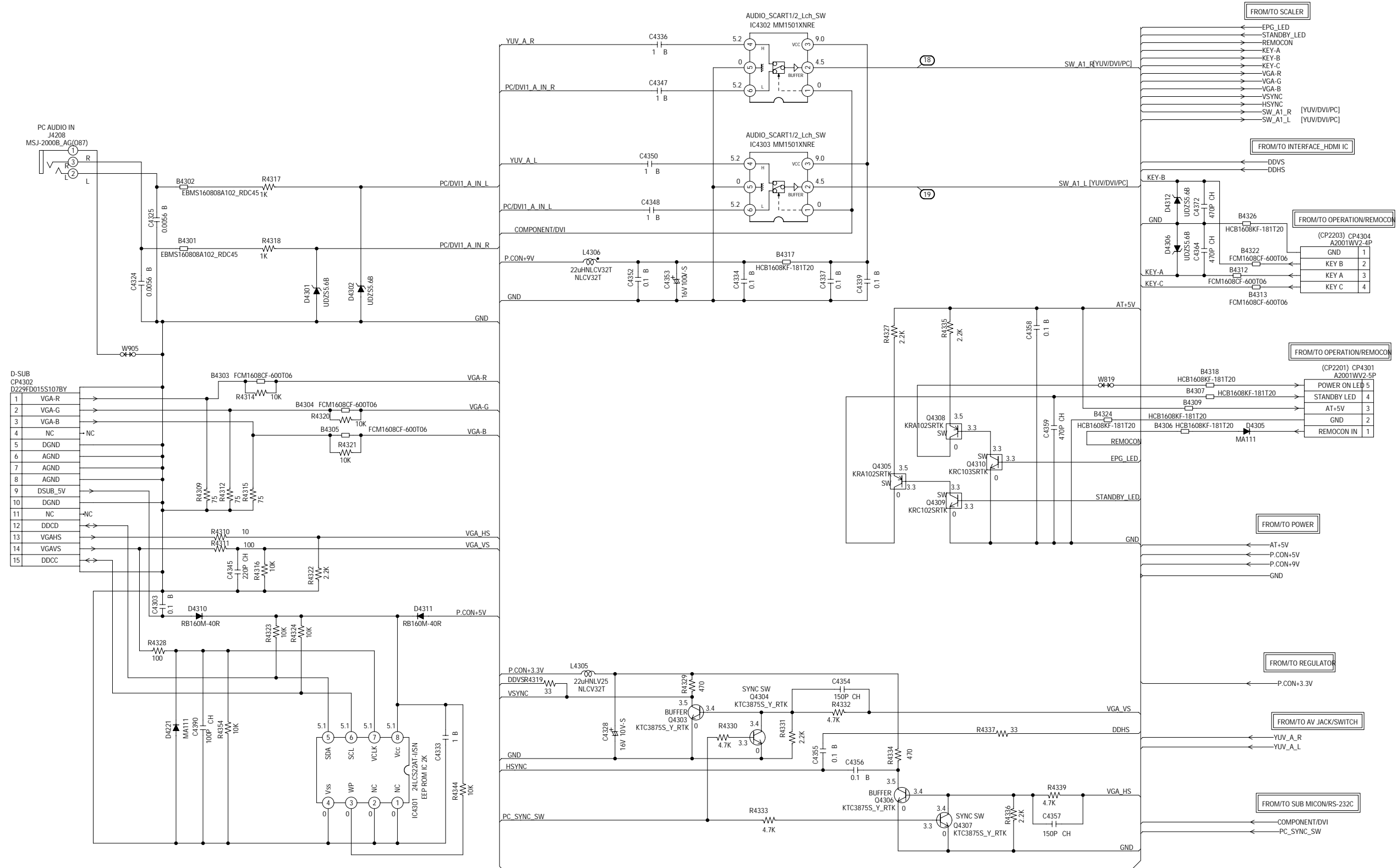


## (MAIN PCB)

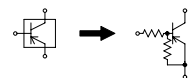


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

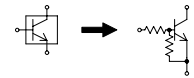
## JACK SCHEMATIC DIAGRAM (MAIN PCB)



CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR

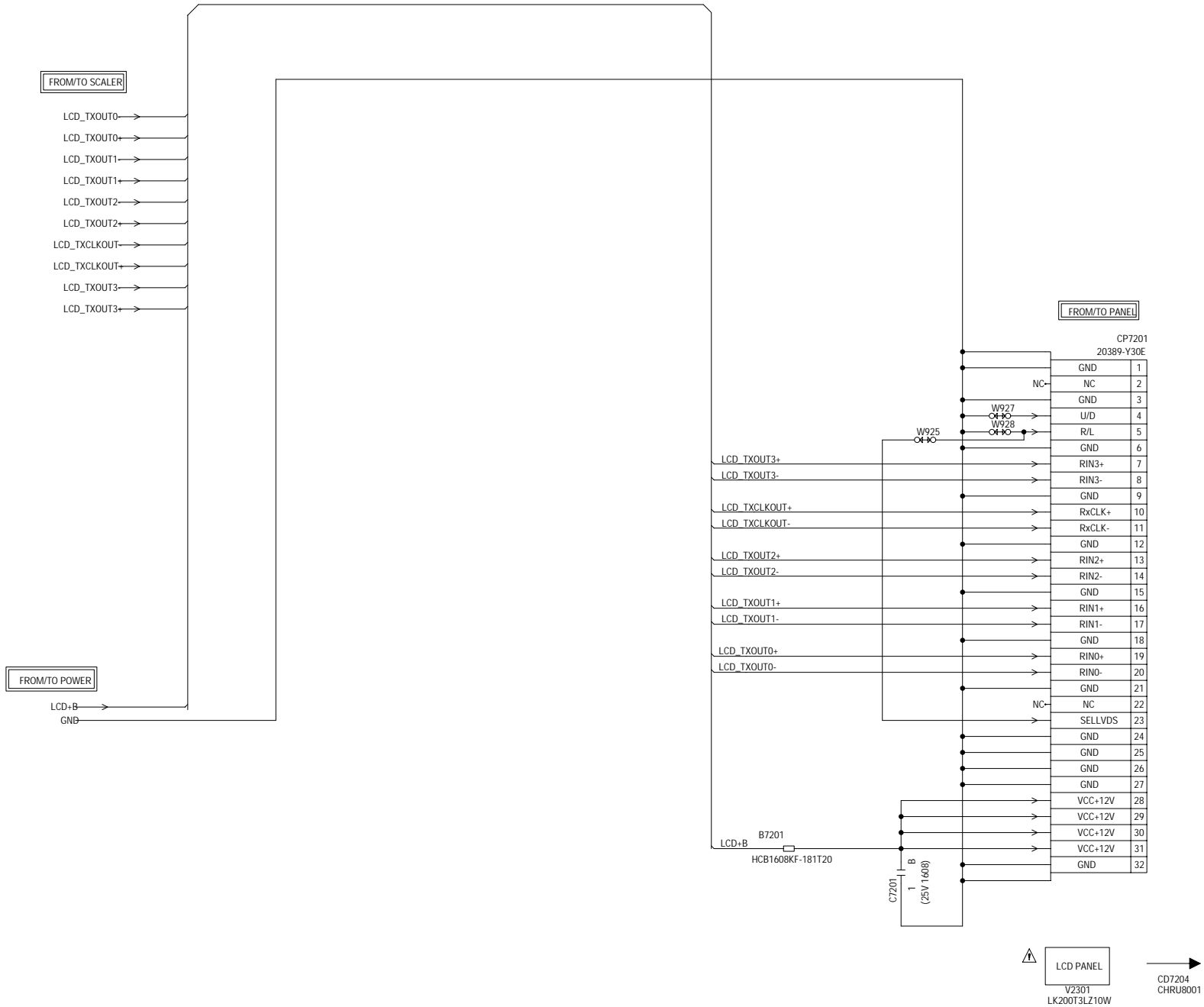



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.


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

PCBF40  
CMF112

PANEL INTERFACE DIAGRAM  
(MAIN PCB)



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

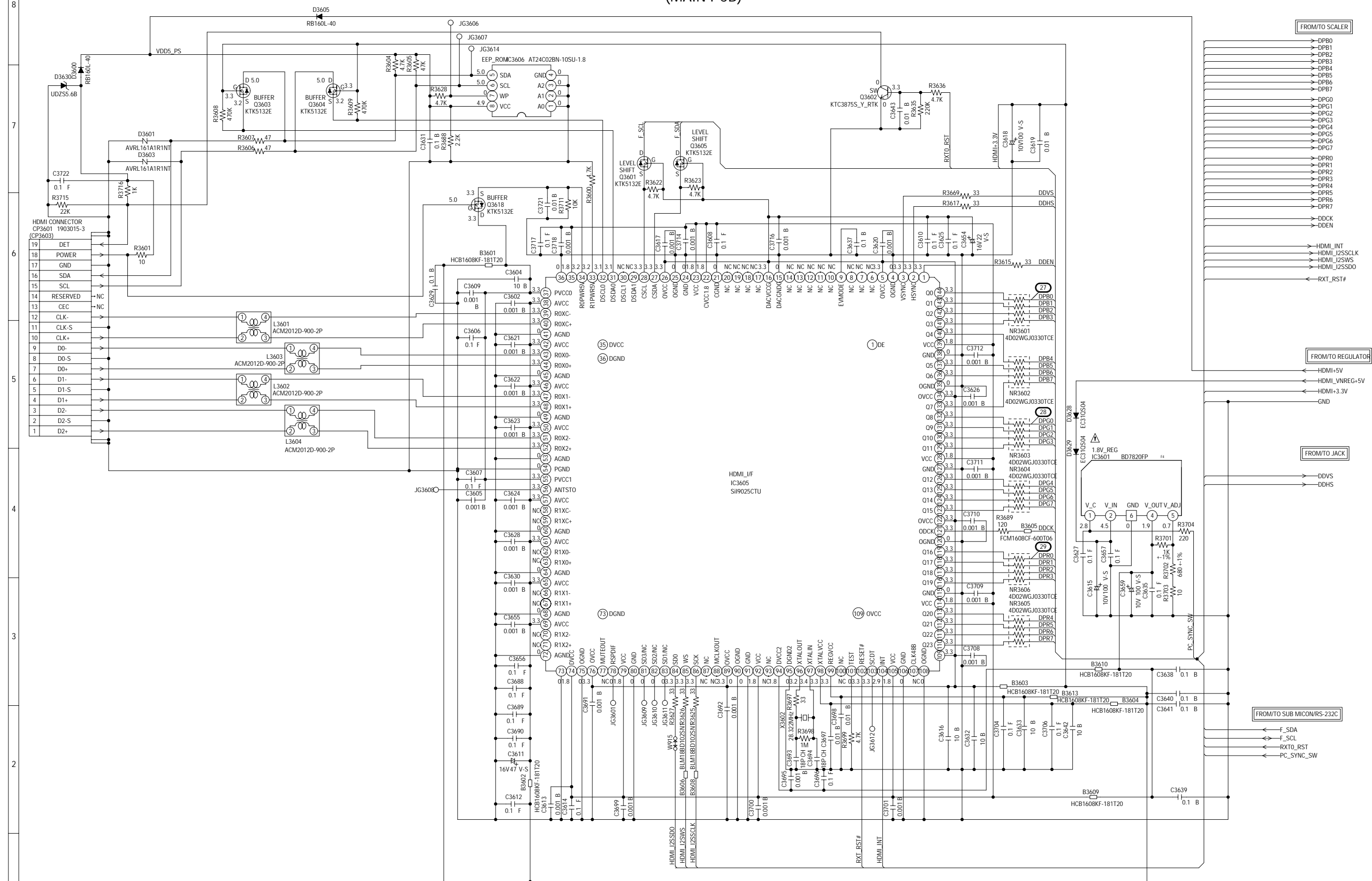
**ATTENTION** LES PIECES REPARÉES PAR UN  ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

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.

PCBF40  
CMF112

## INTERFACE\_HDMI IC SCHEMATIC DIAGRAM

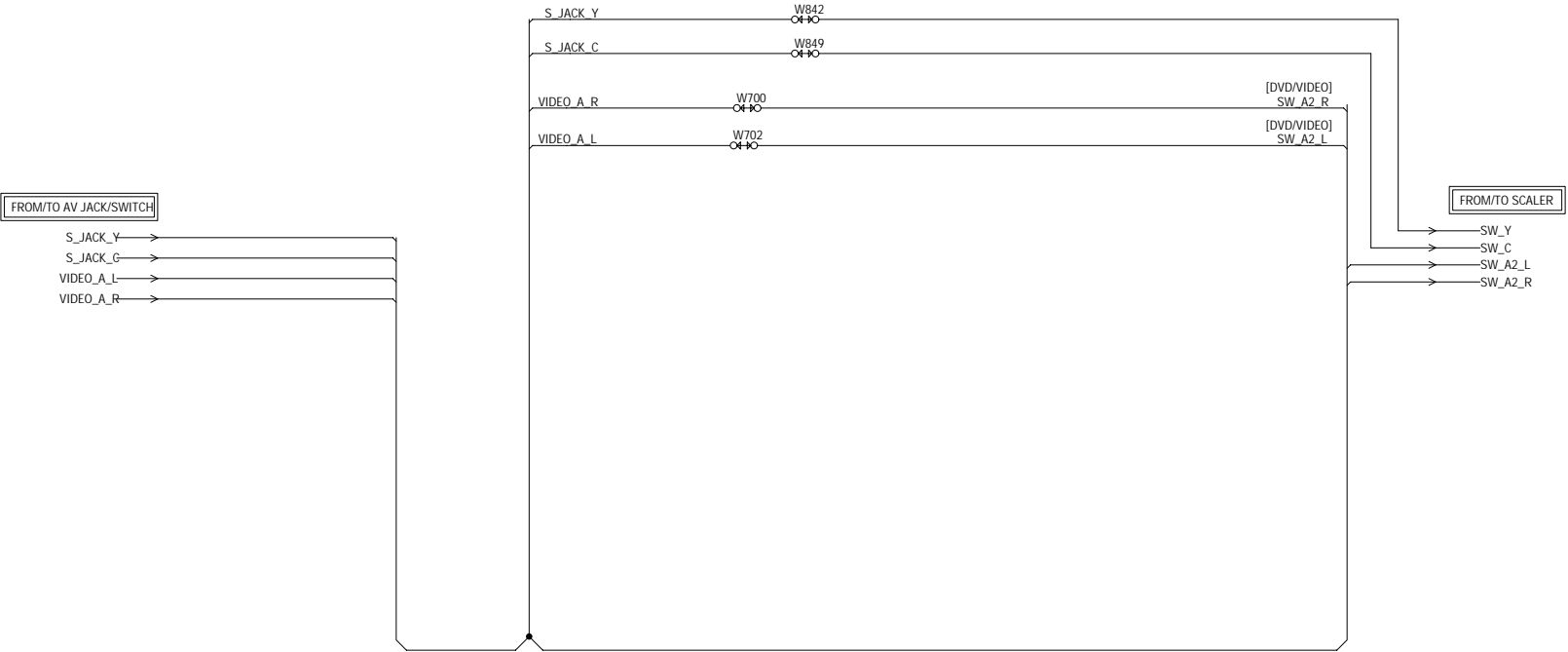


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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.

PCBF40  
CMF112

DVD INTERFACE DIAGRAM  
(MAIN PCB)

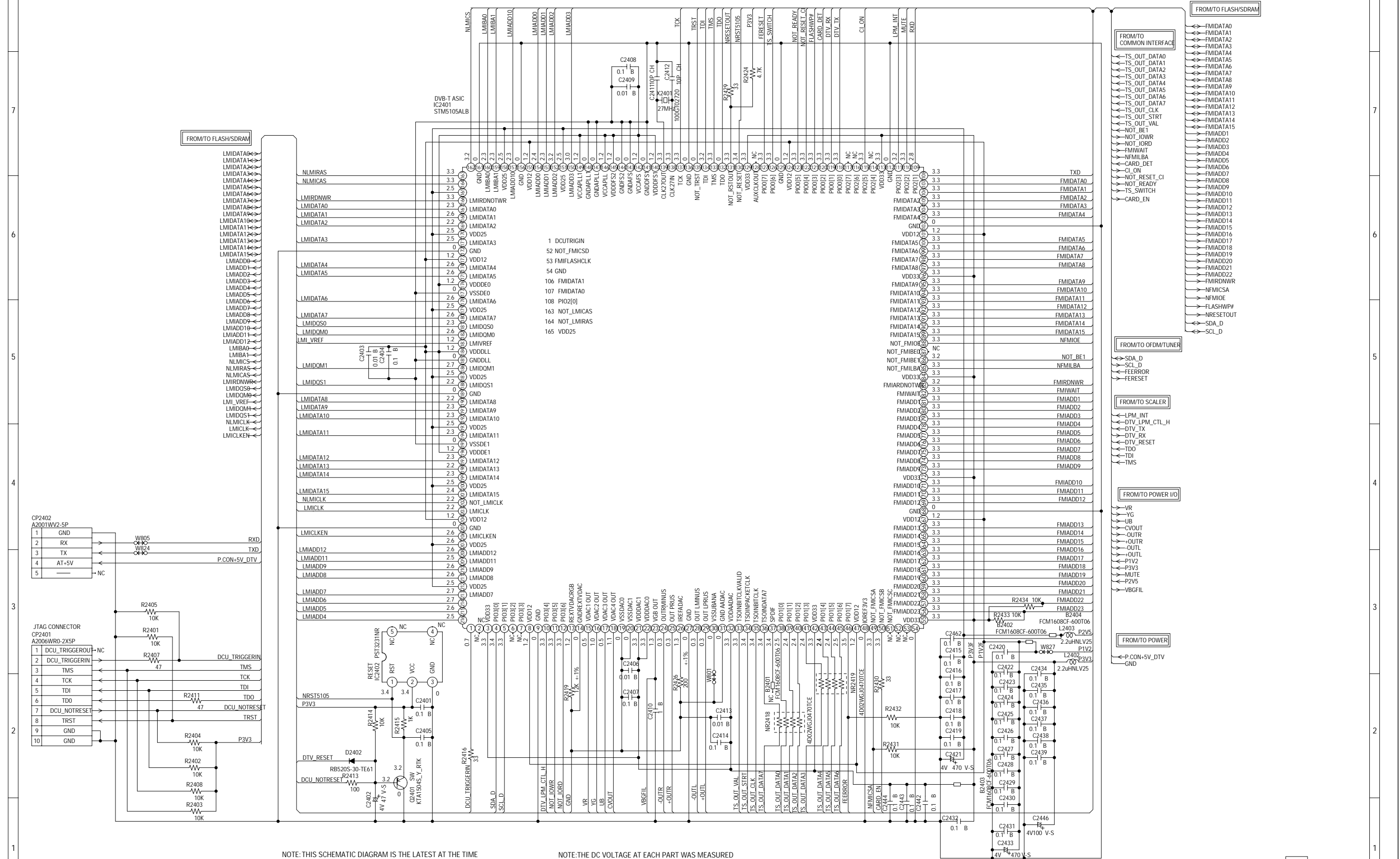


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

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

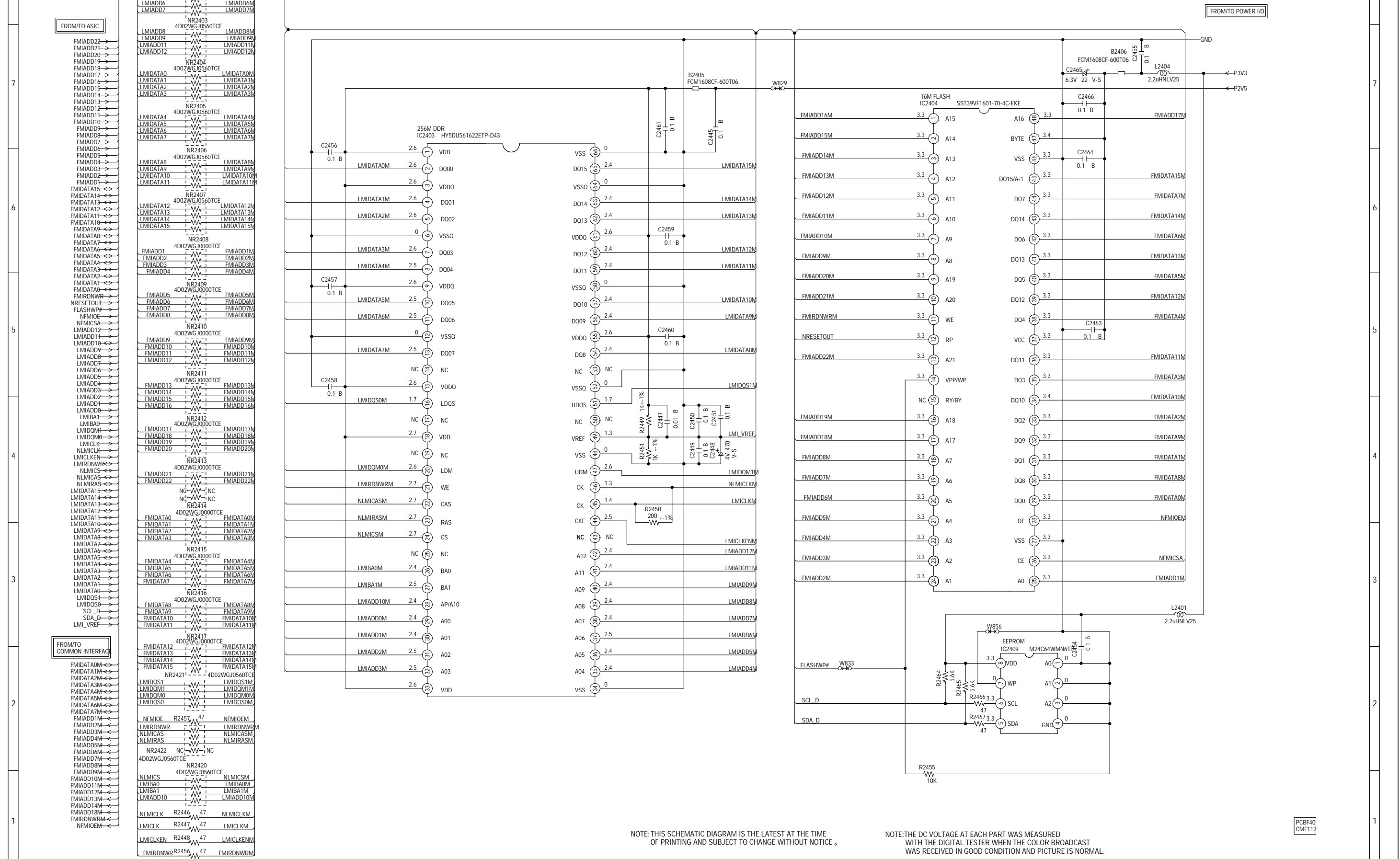
PCBF40  
CMF112

# ASIC SCHEMATIC DIAGRAM (MAIN PCB)



PCB40  
CMG112

## FLASH / SDRAM SCHEMATIC DIAGRAM (MAIN PCB)

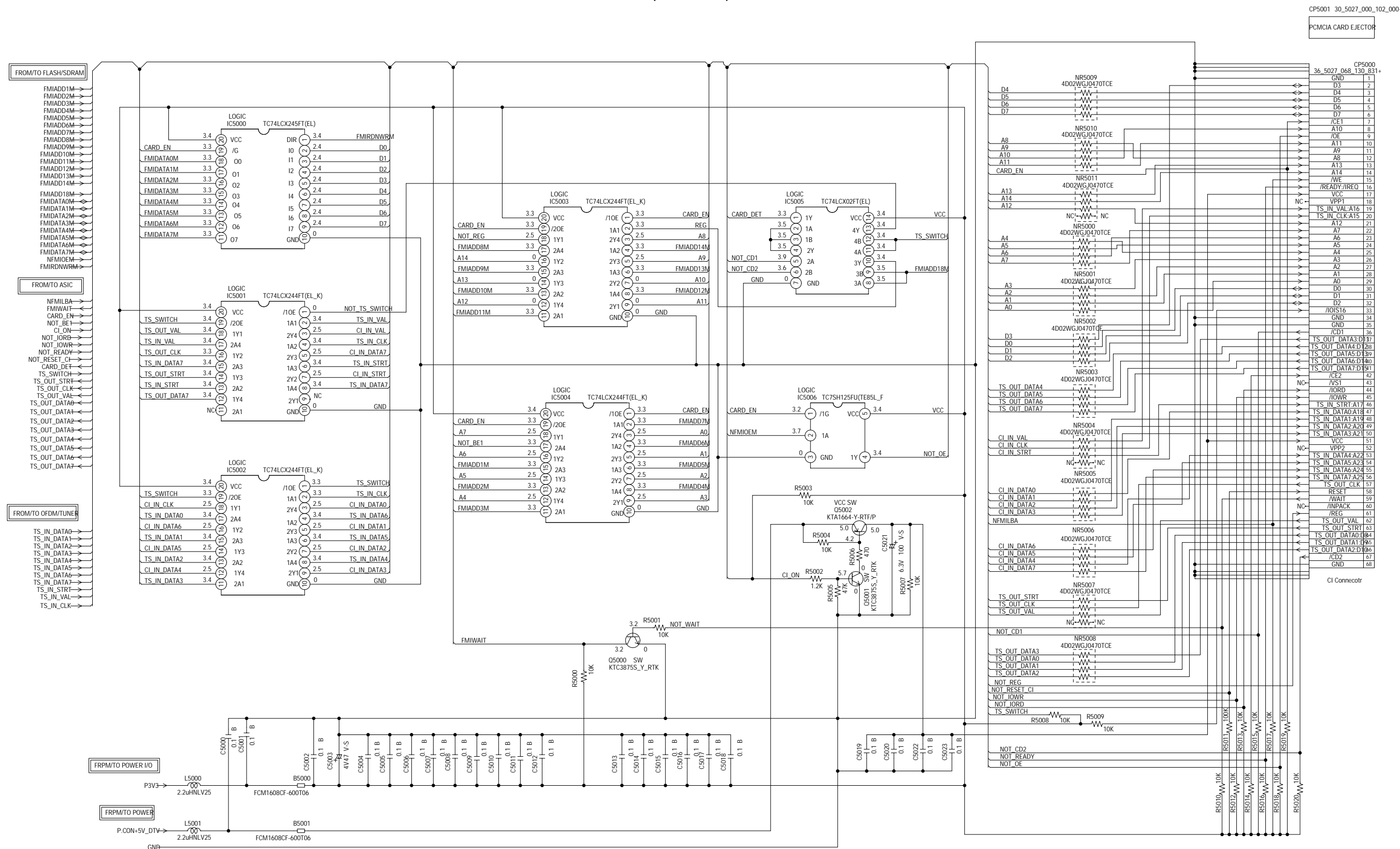


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

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



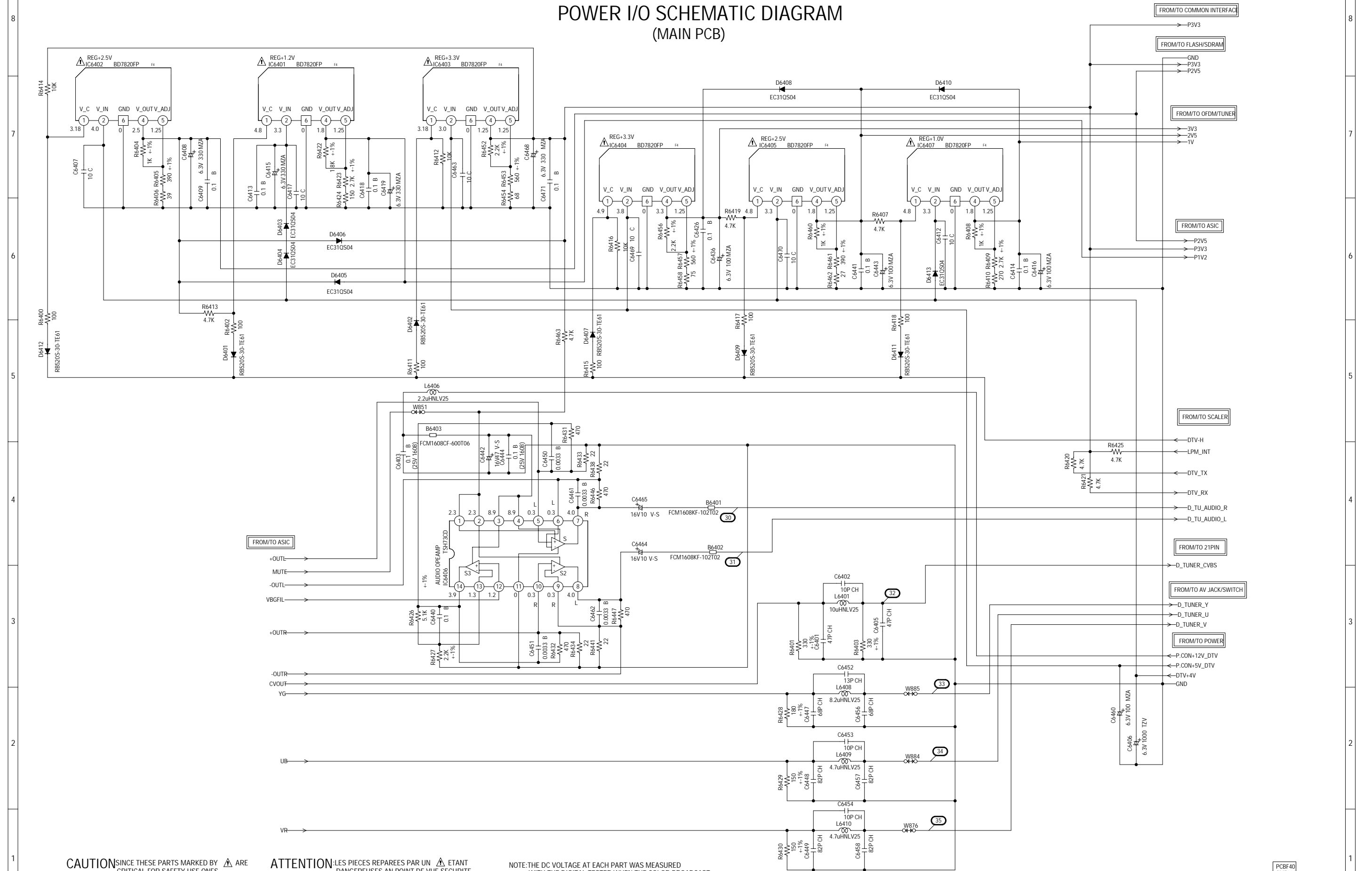
## COMMON INTERFACE SCHEMATIC DIAGRAM (MAIN PCB)





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

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

## POWER I/O SCHEMATIC DIAGRAM (MAIN PCB)



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

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

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

PCBF40  
CMF112

OFDM/TUNER SCHEMATIC DIAGRAM  
(MAIN PCB)

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

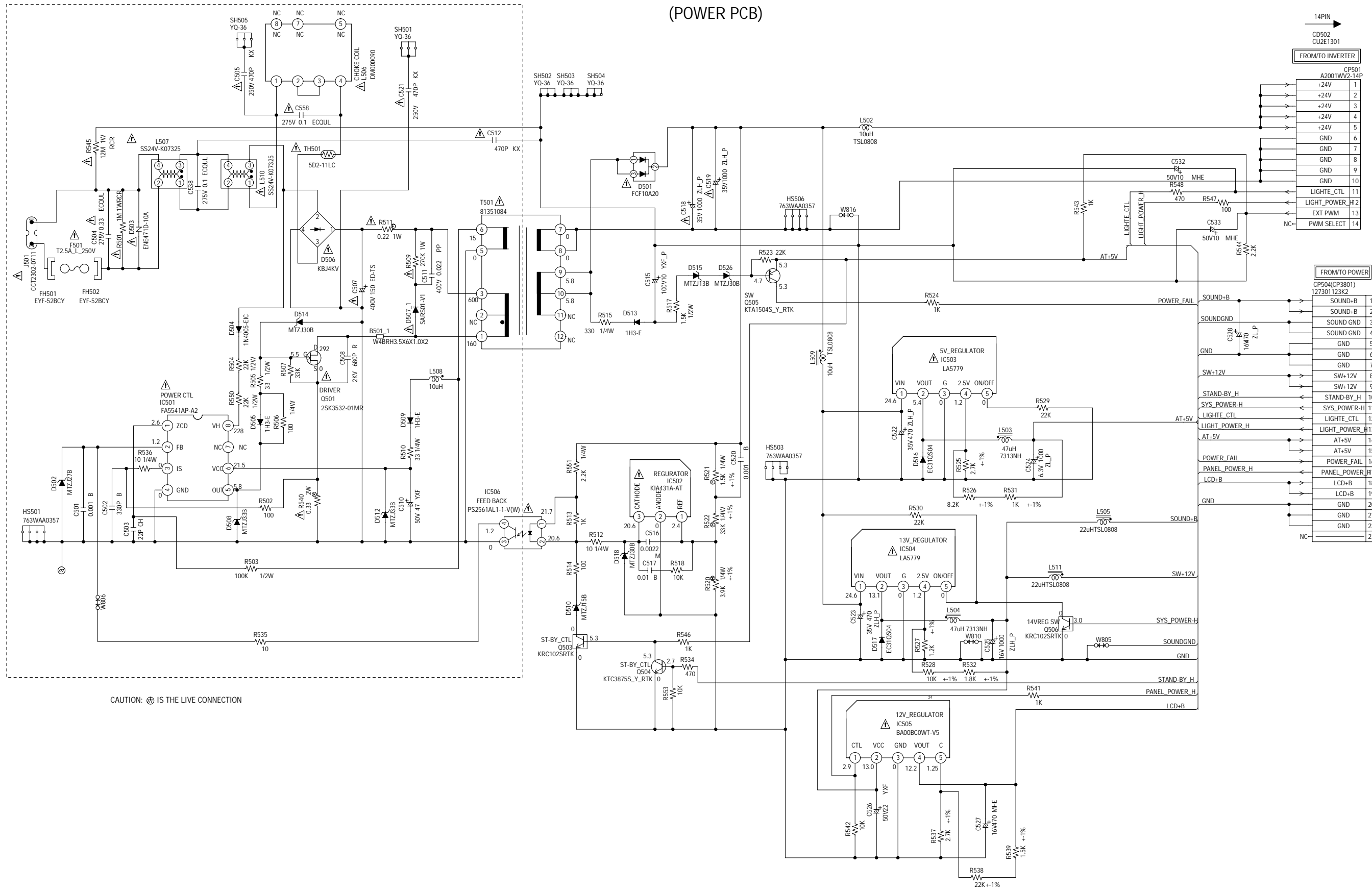
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PCBDH4  
CMF112

H-33	H-34
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PCBDH0  
CMF112

# POWER2 SCHEMATIC DIAGRAM (POWER PCB)



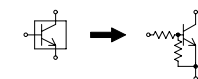
**CAUTION** SINCE THESE PARTS MARKED BY ⚡ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

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

**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.

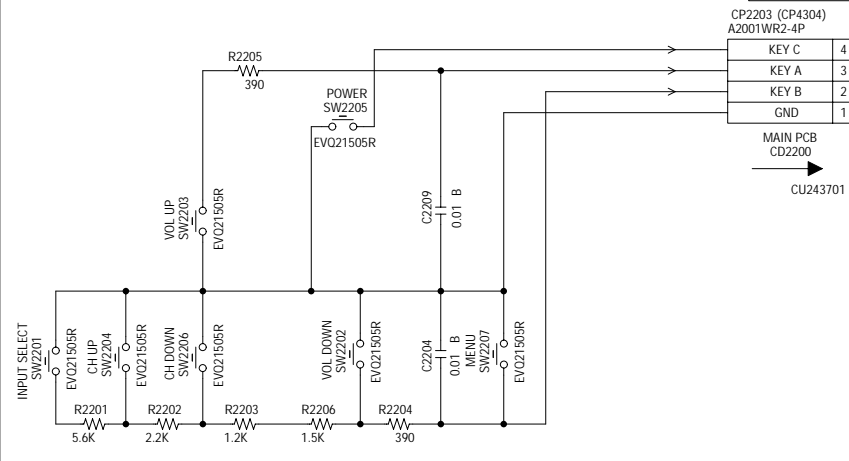
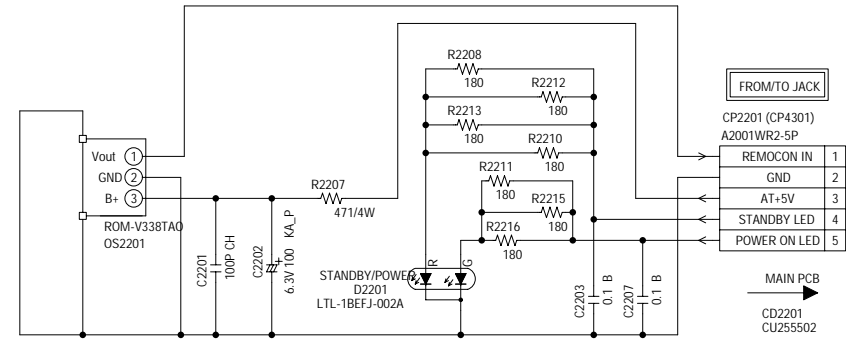
**NOTE:** THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

**CAUTION:** DIGITAL TRANSISTOR



PCB240  
CEF300

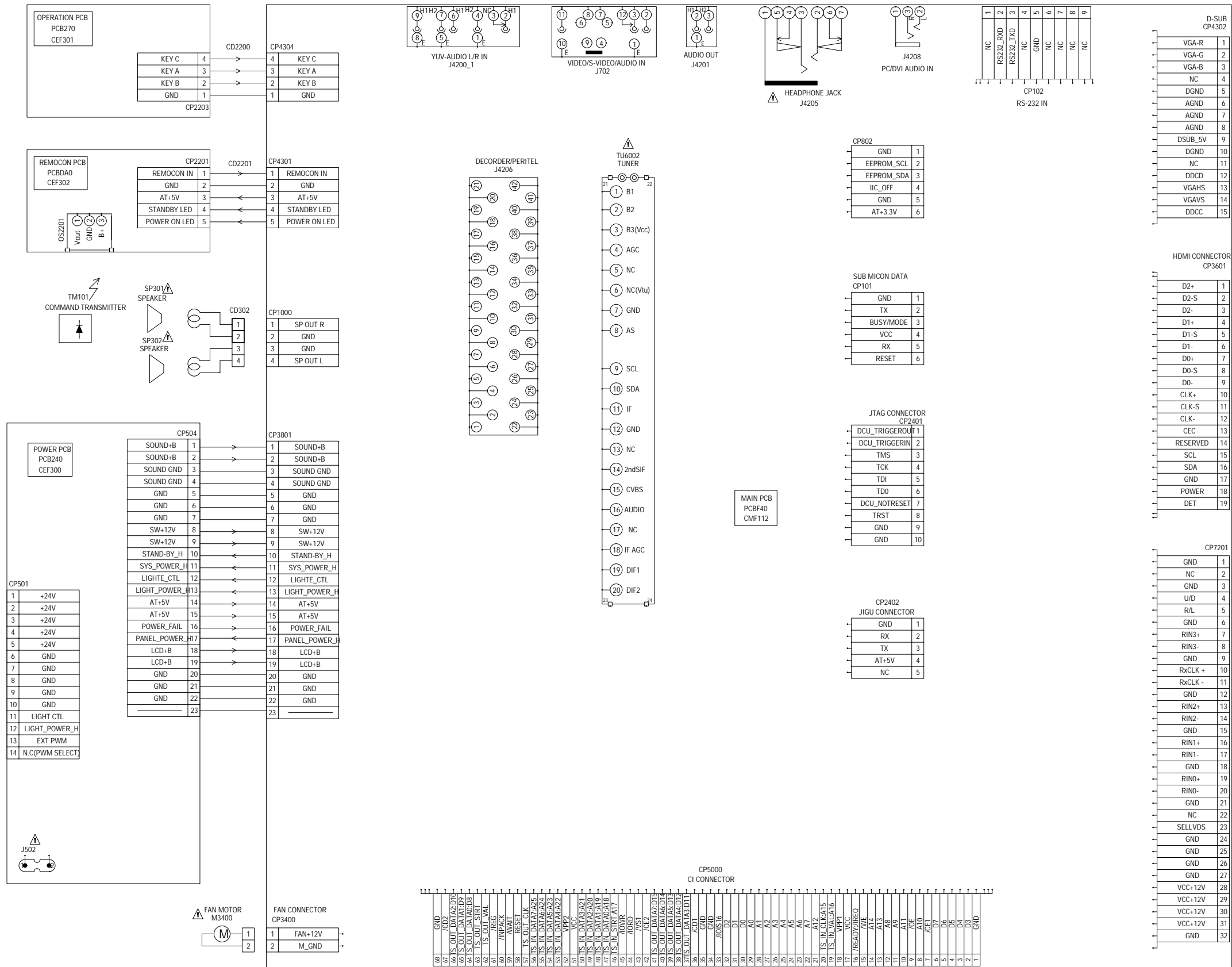
8
7
6
5
4
3
2
1



	PROPER37	PROPER32	SHARP
SW2201	POWER	POWER	POWER
SW2202	INPUT	INPUT	INPUT
SW2207	MENU	MENU	
SW2206	VOL DOWN	CH UP	VOL DOWN
SW2205	VOL UP	CH DOWN	VOL UP
SW2204	CH DOWN	VOL UP	CH DOWN
SW2203	CH UP	VOL DOWN	CH UP

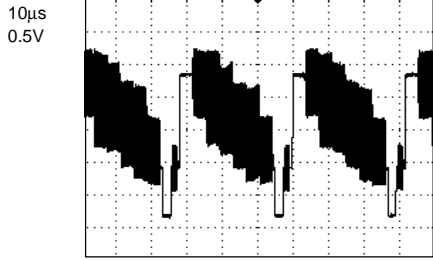
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

# INTERCONNECTION DIAGRAM

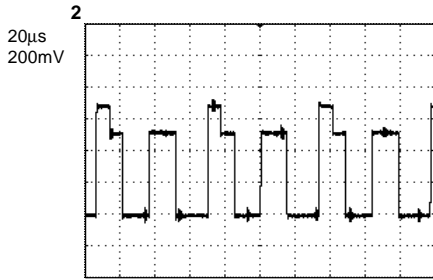
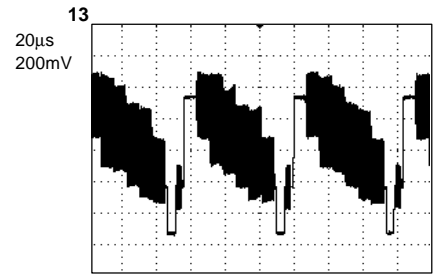
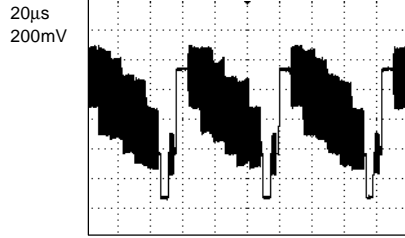


# WAVEFORMS

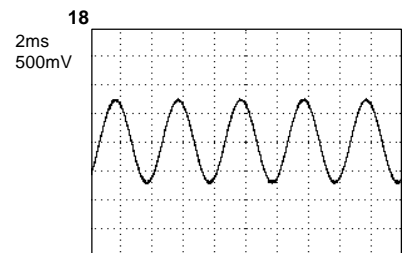
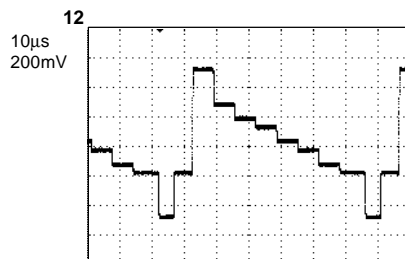
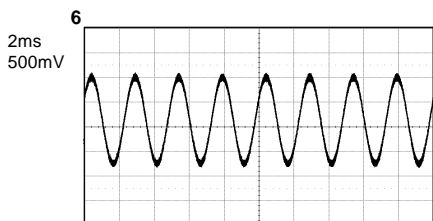
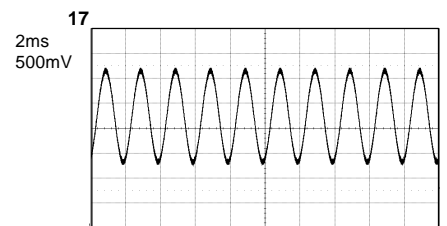
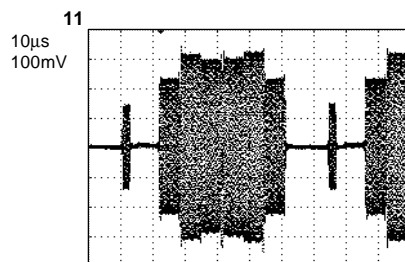
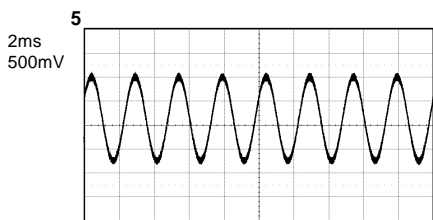
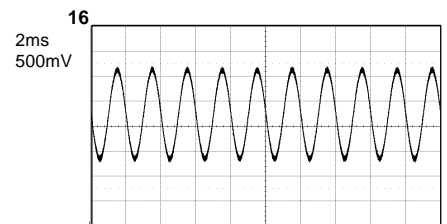
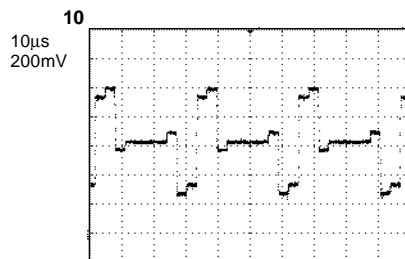
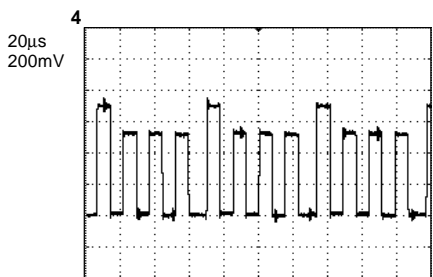
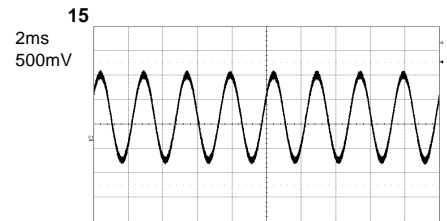
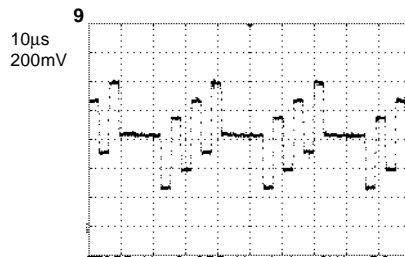
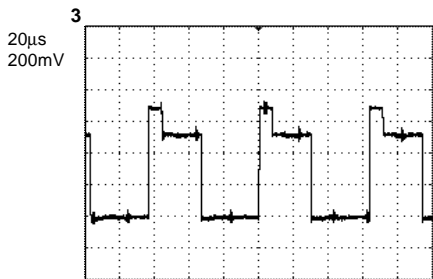
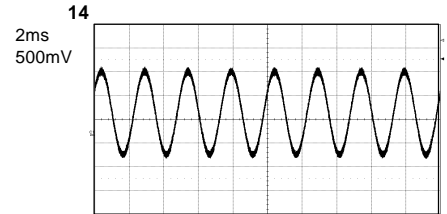
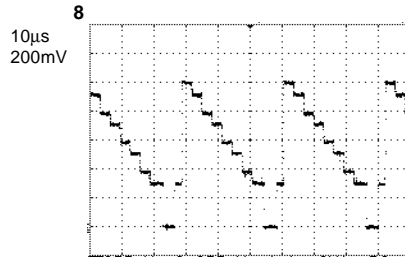
21PIN



TUNER

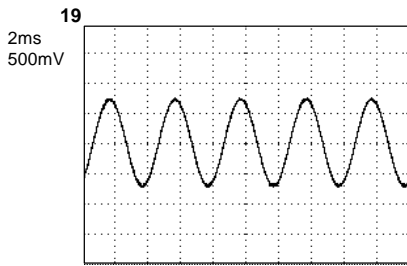


AV JACK/SWITCH

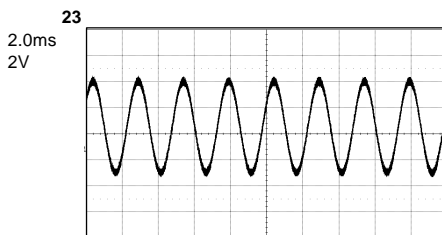
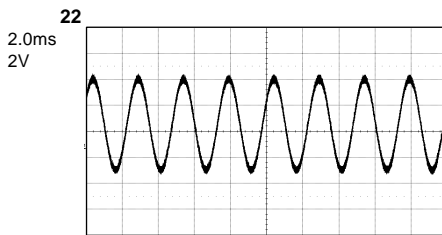
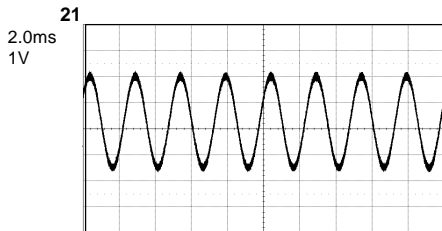
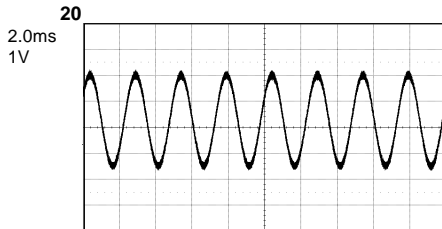


**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

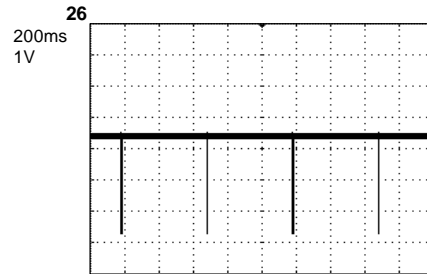
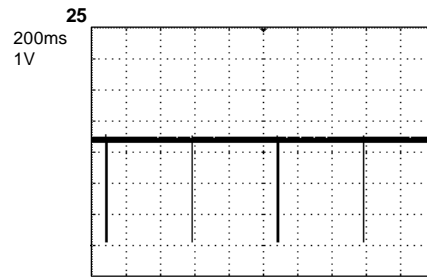
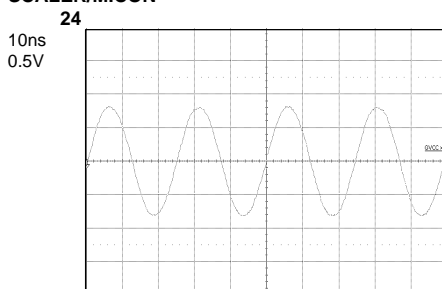
# WAVEFORMS



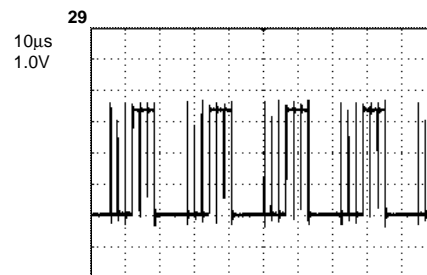
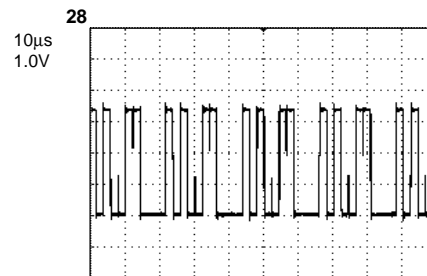
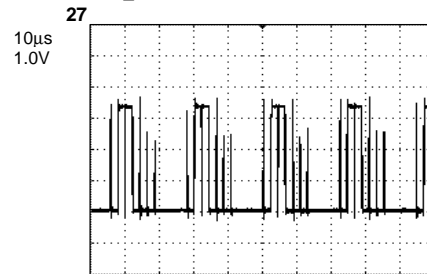
## SOUND AMP/HEADPHONE AMP



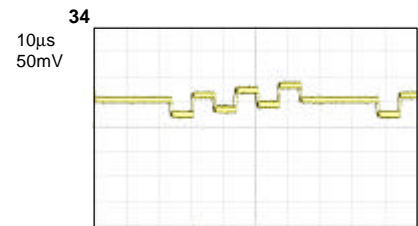
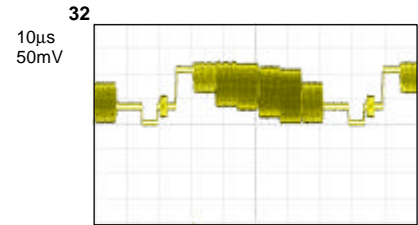
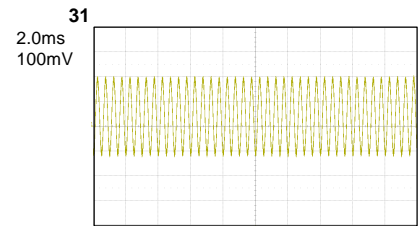
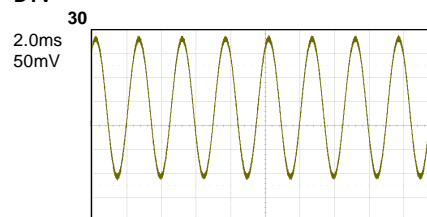
## SCALER/MICON



## INTERFACE\_HDMI IC



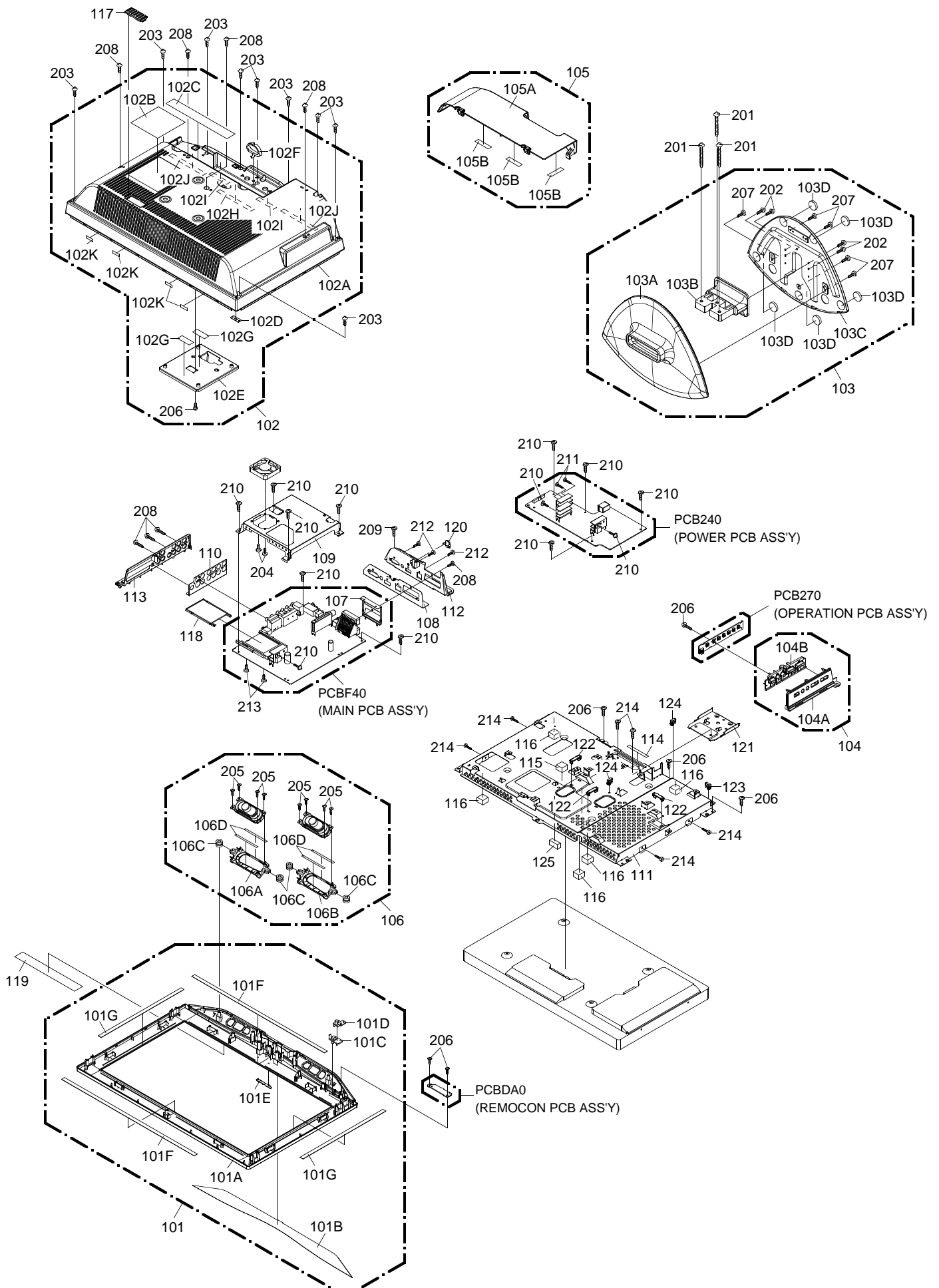
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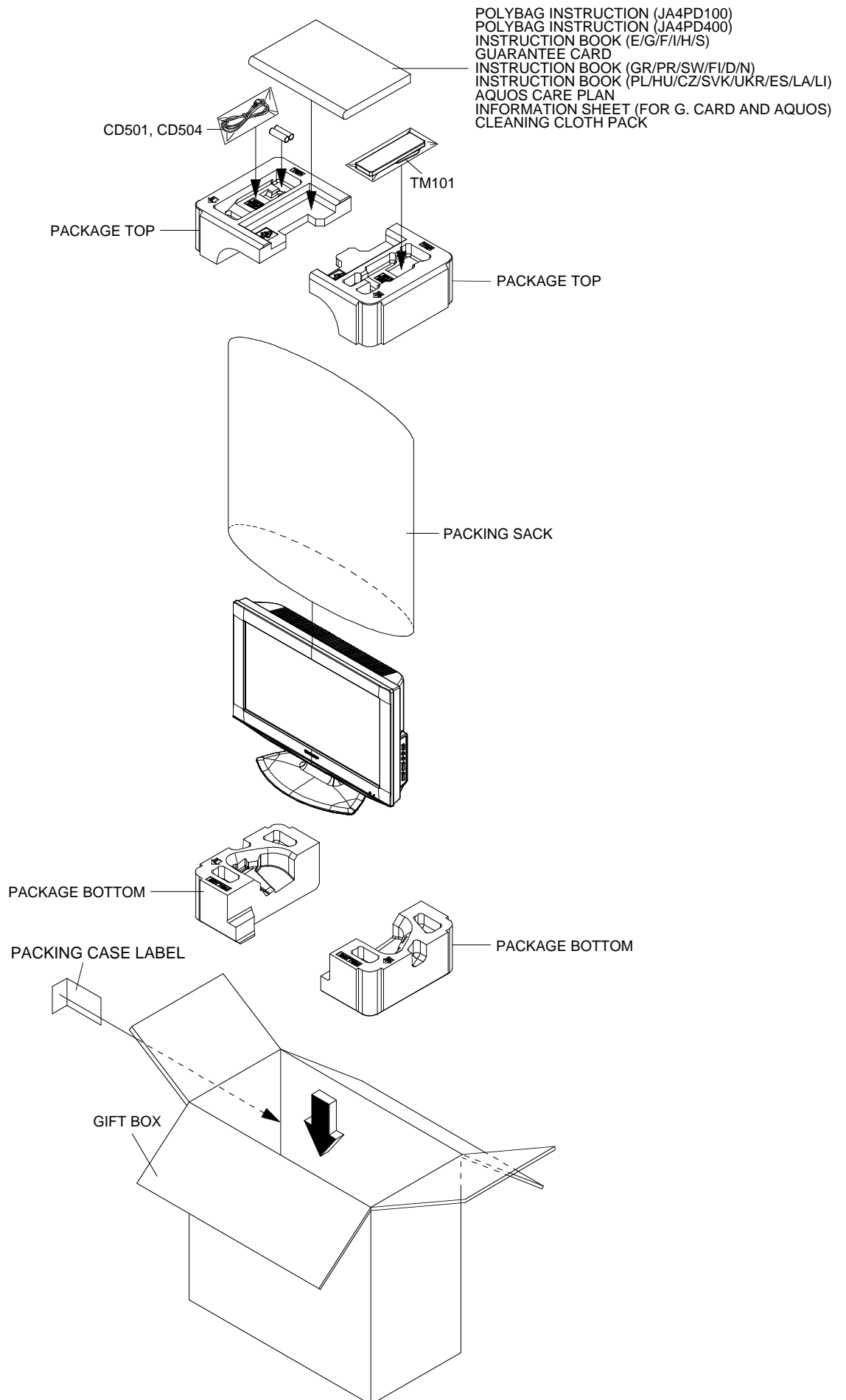
**NOTE:** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.



# MECHANICAL EXPLODED VIEW



# MECHANICAL EXPLODED VIEW (PACKING DIAGRAM)



# MECHA REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
101	9JD7A7010304A	FRONT CABI ASS'Y	
101A	9JD701WPJ1500	CABINET FRONT	
101B	9JD702WNB0009	SHEET SPEAKER	
101C	9JD706WPA0026	COVER LED	
101D	9JD713WPA0412	GLASS LED	
101E	9JD7235270037	BADGE BRAND	
101F	9JD800WQ0A136	FELT SHEET	
101G	9JD800WQ00130	FELT SHEET	5x250xT0.3
102	9JD7A7020141A	BACK CABI ASS'Y	
102A	9JD702WPA1304	CABINET BACK	
102B	9JD7225270048	SHEET RATING	
102C	9JD7230008333	SHEET JACK	
102D	9JD753WUA0091	ANGLE KENSINGTON	
102E	9JD761WSA0511	ANGLE BACK	
102F	9JD774WPA0011	HOLDER CORD	
102G	9JD800WFA0066	CUSHION	30x14xT2
102H	9JD800WQ0A081	FELT SHEET	
102I	9JD800WQ0A119	FELT,SHEET	
102J	9JD800WQ0A129	FELT SHEET	
102K	9JD800WQ00120	FELT SHEET	
103	9JD7A7040028B	STAND ASS'Y	
103A	9JD704WPA0076	STAND	
103B	9JD704WPA0096	FRAME STAND	
103C	9JD761WSA0463	ANGLE STAND	
103D	9JD800WFA0119	CUSHION LEG	
104	9JD7A7110022A	PLATE BUTTON ASS'Y	
104A	9JD711WPD0724	PLATE BUTTON	
104B	9JD735WPB0369	BUTTON FRAME	
105	9JD7A7020142A	COVER BACK ASS'Y	
105A	9JD702WPA1306	COVER BACK	
105B	9JD800WQ0A062	FELT SHEET	
106	9JDA32B01EX33L	SPEAKER CABI ASS'Y	
106A	9JD761WPA0466	HOLDER SPEAKER-L	
106B	9JD761WPA0467	HOLDER SPEAKER-R	
106C	9JD800WR00084	DAMPER SPEAKER	
106D	9JD800WQ00136	FELT SHEET	
107	9JD761WSA0432	SHIELD 21PIN	
108	9JD752WSA0660	SHIELD JACK	
109	9JD752WSA0661	SHIELD DIGITAL	
110	9JD752WSA0662	SHIELD JACK SIDE	
111	9JD761WSA0512	COVER LCD	
112	9JD771WPA0398	PLATE JACK	
113	9JD771WPA0399	PLATE JACK SIDE	
114	9JD800WQ0A081	FELT SHEET	
115	9JD8965TS1017	CUSHION	65TS10-10(17.5x20x14)
116	9JD8965TS1030	CUSHION	W10/H10/L30
117	9JD702WPA1305	COVER CONNECTOR	
118	9JD709WPA0044	DUMMY CARD	
119	9JD7230008334	POP LABEL	
120	9JD761WPA0488	COVER PLATE	
121	9JD761WSA0513	ANGLE HINGE	
122	9JD899RFC21V0	HOLDER CORD	
123	9JD899RLWC2SV	HOLDER WIRE	
124	9JD899RMS1V00	HOLDER WIRE	
125	9JD8965TS1015	CUSHION	65TS10-5(10x5x15)

## MECHA REPLACEMENT PARTS LIST

201	9JD8117540C0S	SCREW TAPPING(B0) TRUSS	4x30
202	9JD8117540A0U	SCREW TAPPING(B0) TRUSS	4x10
203	9JD8110230A4S	SCREW TAP TITE(P) BIND	3x14
204	9JD8110226A0U	SCREW,TAP TITE(P) BIND	2.6x10
205	9JD811022680U	SCREW TAP TITE(P) BIND	2.6x8
206	9JD8110630A0U	SCREW TAP TITE(P) BRAZIER	3x10
207	9JD8110K3080U	SCREW TAP TITE(P) LAMI HEAD	3x8
208	9JD8109230A0S	SCREW TAP TITE(B) BIND	3x10
209	9JD810923080S	SCREW TAP TITE(B) BIND	3x8
210	9JD8109I30A0U	SCREW TAP TITE(B) WH7	3x10
211	9JD810763080U	SCREW TAP TITE(S) BRAZIER	3x8
212	9JD810213080S	SCREW PAN	M3x8
213	9JD8102220A0U	SCREW,BIND	M2x10
214	9JD810A13050U	SCREW WASHER(A)	M3x5
---	9JD7235270064	PACKING CASE LABEL	
---	9JD791WHA0138	PACKING SACK	
---	9JD792PHA0016	PACKAGE BOTTOM	
---	9JD792PHA0021	PACKAGE TOP	
---	9JD793PCD0003	GIFT BOX	
---	9JD890CCOR002	CLEANING CLOTH PACK	
---	9JDJ32A0101A	INSTRUCTION BOOK(E/G/F//H/S)	
---	9JDJ32A0102A	GUARANTEE CARD	
---	9JDJ32A0110A	INSTRUCTION BOOK(GR/PR/SW/FI/D/N)	
---	9JDJ32A0111A	INST BOOK(PL/HU/CZ/SVK/UKR/ES/LA/L	
---	9JDJ32A0119A	AQUOS CARE PLAN	
---	9JDJ32A0129A	INFORMATION SHEET(FOR G.CARD AN	
---	9JDJA4PD100	POLYBAG,INSTRUCTION	
---	9JDJA4PD400	POLYBAG,INSTRUCTION	

# ELECTRIC REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
<b>REMOCON PCB ASS'Y</b>			
*** PCB ***			
PCBDA0	9JDA32B01EDA0L	REMOCON PCB ASS'Y	CEF302A
*** DIODES ***			
D2201	9JD0021E9Q010	LED	LTL-1BEFJ-002A
*** CONNECTORS ***			
CP2201	9JD069S250639	CONNECTOR PCB SIDE	A2001WR2-5P
*** OTHERS ***			
OS2201	9JD077A033001	REMOTE RECEIVER	ROM-V338TAO
<b>MAIN PCB ASS'Y</b>			
*** PCB ***			
PCBF40	9JDA32B01EF40L	MAIN PCB ASS'Y	CMF112A
*** RESISTORS ***			
R3808	9JDR65584470J	R,FUSE	47 OHM 1/4W
*** CAPACITORS ***			
C892	9JDE7EP02222M	CE	2200 UF 16V
C1010	9JDE7EYF3102M	CE	1000 UF 25V
C3201	9JDE7EYF2222M	CE	2200 UF 16V
C3805	9JDE7EYF2102M	CE	1000 UF 16V
*** DIODES ***			
D101	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177
D102	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177
D103	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177
D104	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177
D105	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D107	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61
D108	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D802	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D803	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D804	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61
D805	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61
D808	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D809	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D811	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D812	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D813	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D814	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D815	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17
D816	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17
D823	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17
D824	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17
D825	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17
D826	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17
D830	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D831	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D833	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D834	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D835	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17
D2402	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61
D3201	9JDD28R1QS040	DIODE	EC31QS04-TE12L
D3202	9JDD28R1QS040	DIODE	EC31QS04-TE12L
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A
D3203	9JDD28R1QS040	DIODE	EC31QS04-TE12L
D3205	9JDD28R1QS040	DIODE	EC31QS04-TE12L
D3600	9JDDD7R60L400	DIODE SCHOTTKY	RB160L-40-TE25

or

# ELECTRIC REPLACEMENT PARTS LIST

D3601	9JDD77R1A1R10	DIODE VARISTA	AVRL161A1R1NT	
D3603	9JDD77R1A1R10	DIODE VARISTA	AVRL161A1R1NT	
D3605	9JDDD7R60L400	DIODE SCHOTTKY	RB160L-40-TE25	
D3628	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3629	9JDD28R1QS040	DIODE	EC31QS04-TE12L	
D3630	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D3801	9JDD28R1QS040	DIODE	EC31QS04-TE12L	
D3802	9JDD28R1QS040	DIODE	EC31QS04-TE12L	
D3804	9JDD28R11FS20	DIODE	EC11FS2-TE12L	
D3805	9JDD28R1QS040	DIODE	EC31QS04-TE12L	
D4205	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4209	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4210	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4211	9JDDE7RB4R72B	DIODE ZENER	UDZS4.7B TE-17	
D4212	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17	
D4213	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17	
D4214	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17	
D4215	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17	
D4216	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4217	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4218	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4219	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4220	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4221	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4222	9JDD97U01201B	DIODE_ZENER	MTZJ12B T-77	
D4301	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D4302	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D4303	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17	
D4304	9JDDE7RB8R22B	DIODE ZENER	UDZS8.2B TE-17	
D4305	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4306	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D4310	9JDDD7R60M400	DIODE SCHOTTKY BARRIER	RB160M-40-TR	
D4311	9JDDD7R60M400	DIODE SCHOTTKY BARRIER	RB160M-40-TR	
D4312	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D6401	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61	
D6402	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61	
D6403	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
D6403	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D6404	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D6405	9JDD28R1QS040	DIODE	EC31QS04-TE12L	
D6406	9JDD28R1QS040	DIODE	EC31QS04-TE12L	
D6407	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61	
D6408	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D6409	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61	
D6410	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D6411	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61	
D6412	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	RB520S-30-TE61	
D6413	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	

\*\*\* ICS \*\*\*

IC101	9JDS32B01EM01	MEMORY DATA	R5F21244SNFP	
IC102	9JDICMF032200	IC	ISL83220ECVZ-T	
IC105	9JDI9UF032290	IC	PST3229NR	
IC801	9JDS32B01EE03	MEMORY DATA	M24256-BWMN6TP	
IC802	9JDI9UF032290	IC	PST3229NR	
IC803	9JDS32B01EM02	MEMORY DATA	VCT6973G-FA-B3-000	
IC1000	9JDI03SP20520	IC	LA42052-E	
IC1700	9JDI5PK003620	IC	STV0362	
IC2401	9JDI5PK051050	IC	STM5105ALB	
IC2402	9JDI9UF032310	IC	PST3231NR	
IC2403	9JDI03SP20520	IC	HY5DU561622ETP-D43	
IC2404	9JDS32B01EF01	MEMORY DATA	SST39VF1601-70-4C-EKE	
IC2409	9JDI5PJ0064W0	IC	M24C64WMN6TP	
IC3201	9JDI07F0C0WFO	IC	BA00BC0WFP-E2	
IC3202	9JDI11LF010150	IC	AL1015	
IC3203	9JDI07F078200	IC	BD7820FP-E2	
IC3204	9JDI07F078200	IC	BD7820FP-E2	

# ELECTRIC REPLACEMENT PARTS LIST

IC3205	9JDI1KF98D050	IC	KIA78D05F
IC3601	9JDI07F078200	IC	BD7820FP-E2
IC3605	9JDI07F078200	IC	SII9025CTU
IC3606	9JDS32B01EE04	MEMORY DATA	AT24C02BN-10SU-1.8
IC3801	9JDI07F0C0WFO	IC	BA00BC0WFP-E2
IC3804	9JDI1LF010150	IC	AL1015
IC4201	9JDI0UF015020	IC	MM1502XNRE
IC4202	9JDI0UF015010	IC	MM1501XNRE
IC4203	9JDI0UF015010	IC	MM1501XNRE
IC4204	9JDI0QF025840	IC	NJM2584AM(TE1)
IC4205	9JDI0QF025840	IC	NJM2584AM(TE1)
IC4206	9JDI0UF015010	IC	MM1501XNRE
IC4301	9JDI0UF015010	IC	24LCS22AT-I/SN
IC4302	9JDI0UF015010	IC	MM1501XNRE
IC4303	9JDI0UF015010	IC	MM1501XNRE
IC5000	9JDI55F045FT0	IC	TC74LCX245FT(EL)
IC5001	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)
IC5002	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)
IC5003	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)
IC5004	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)
IC5005	9JDI55J0CX020	IC	TC74LCX02FT(EL)
IC5006	9JDI55F0125F0	IC	TC7SH125FU(TE85L,F
IC6001	9JDI0CJ040530	IC	SN74LV4053APWR
IC6401	9JDI07F078200	IC	BD7820FP-E2
IC6402	9JDI07F078200	IC	BD7820FP-E2
IC6403	9JDI07F078200	IC	BD7820FP-E2
IC6404	9JDI07F078200	IC	BD7820FP-E2
IC6405	9JDI07F078200	IC	BD7820FP-E2
IC6406	9JDI0WF0H73C0	IC	TSH73CDT
IC6407	9JDI07F078200	IC	BD7820FP-E2

## \*\*\* TRANSISTORS \*\*\*

Q101	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q102	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q1000	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q2401	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q3200	9JDT77J011320	TRANSISTOR SILICON	2SB1132T100(Q,R)
Q3201	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3202	9JDT3M000044	COMPOUND TRANSISTOR	CPH6312-TL-E
Q3205	9JDTAAA01664Y	TRANSISTOR SILICON	KTA1664-Y-RTF/P
Q3206	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3210	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3211	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3601	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q3602	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3603	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q3604	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q3605	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q3618	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q3801	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3802	9JDTAAA01664Y	TRANSISTOR SILICON	KTA1664-Y-RTF/P
Q3803	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3804	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3805	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q3806	9JDTAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q3807	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3808	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3810	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3811	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q3812	9JDTAAT01241Y	TRANSISTOR SILICON	KTA1241_Y-AT
Q3814	9JDTJ7M50P030	FET	RSS050P03_TB
Q4201	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4203	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4204	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4205	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4207	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4208	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4209	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4210	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4214	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4216	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4217	9JDTPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
Q4218	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q4221	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK

# ELECTRIC REPLACEMENT PARTS LIST

Q4222	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4223	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q4224	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4303	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4304	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4305	9JDTPAAB05001	COMPOUND TRANSISTOR	KRA102SR TK
Q4306	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4307	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q4308	9JDTPAAB05001	COMPOUND TRANSISTOR	KRA102SR TK
Q4309	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SR TK
Q4310	9JDTNAC05002	COMPOUND TRANSISTOR	KRC103SR TK
Q5000	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q5001	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q5002	9JDTAAA01664Y	TRANSISTOR SILICON	KTA1664-Y-RTF/P
Q6001	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q6002	9JDT2AA5132E0	FET	KTK5132E-RTK/P
Q6005	9JDTNAB05003	COMPOUND TRANSISTOR	KRC102SR TK

## \*\*\* COILS \*\*\*

B101	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B102	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B801	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B802	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B803	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B804	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B805	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B806	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B807	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B808	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B809	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B810	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B811	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B812	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B813	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B817	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B818	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B819	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B1001	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50
B1002	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B1003	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50
B1004	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50
B1005	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0
B1006	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50
B1700	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B1701	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B1702	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B2401	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B2402	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B2403	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B2404	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B2405	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B2406	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B3201	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3601	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3602	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3603	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3604	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3605	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
	9JD024AC5600E	CORE,BEADS	BLM18BB600SN1D
B3606	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
B3608	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
B3609	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3610	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3613	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3801	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50
B3804	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B3805	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B4200	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B4203	9JD024HC56013	CORE,BEADS	FCM1608KF-601T02
B4204	9JD024HC56013	CORE,BEADS	FCM1608KF-601T02
B4205	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B4206	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B4207	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B4208	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06

or



# ELECTRIC REPLACEMENT PARTS LIST

B4214	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4300	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
B4301	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
B4302	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
B4303	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4304	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4305	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4306	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4307	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4308	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
B4309	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4312	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4313	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4317	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4318	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4322	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4324	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4326	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B5000	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B5001	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B6001	9JD024HC56013	CORE,BEADS	FCM1608KF-601T02	or
	9JD024AC5601F	CORE,BEADS	BLM18BD601SN1D	
B6002	9JD024HC56013	CORE,BEADS	FCM1608KF-601T02	or
	9JD024AC5601F	CORE,BEADS	BLM18BD601SN1D	
B6003	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	
B6401	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02	
B6402	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02	
B6403	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B7201	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
L101	9JD0216S4220J	COIL	22 UH	
L102	9JD0216S8220K	COIL	22 UH	
L800	9JD0216SD2R2J	COIL	2.2 UH	
L802	9JD0216SD2R2J	COIL	2.2 UH	
L803	9JD0216SD2R2J	COIL	2.2 UH	
L804	9JD0216SD2R2J	COIL	2.2 UH	
L805	9JD0216SD2R2J	COIL	2.2 UH	
L806	9JD0216SD2R2J	COIL	2.2 UH	
L807	9JD0216SD2R2J	COIL	2.2 UH	
L808	9JD0216SD2R2J	COIL	2.2 UH	
L809	9JD0216SD2R2J	COIL	2.2 UH	
L810	9JD0216SD2R2J	COIL	2.2 UH	
L1700	9JD0216SD2R2J	COIL	2.2 UH	
L1702	9JD0216SD2R2J	COIL	2.2 UH	
L1703	9JD0216SD2R2J	COIL	2.2 UH	
L2401	9JD0216SD2R2J	COIL	2.2 UH	
L2402	9JD0216SD2R2J	COIL	2.2 UH	
L2403	9JD0216SD2R2J	COIL	2.2 UH	
L2404	9JD0216SD2R2J	COIL	2.2 UH	
L3201	9JD02167E220K	COIL	22 UH	
L3202	9JD0216MG220M	COIL	22 UH	
L3601	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L3602	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L3603	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L3604	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L3804	9JD02167E220K	COIL	22 UH	
L3805	9JD021U0L330M	COIL	33 UH	or
	9JD02130G330M	COIL	33 UH	
L4202	9JD0216SD220J	COIL	22 UH	
L4203	9JD0216SD220J	COIL	22 UH	
L4204	9JD0216SD220J	COIL	22 UH	
L4205	9JD0216SD220J	COIL	22 UH	
L4206	9JD0216SD220J	COIL	22 UH	
L4207	9JD0216SD220J	COIL	22 UH	
L4208	9JD0216SD220J	COIL	22 UH	
L4209	9JD0216SD220J	COIL	22 UH	
L4210	9JD0216SD220J	COIL	22 UH	
L4211	9JD0216SD220J	COIL	22 UH	
L4212	9JD0216SD220J	COIL	22 UH	
L4213	9JD0216SD100J	COIL	10 UH	
L4214	9JD0216SD470J	COIL	47 UH	
L4215	9JD0216SD1R5J	COIL	1.5 UH	
L4216	9JD0216SD1R5J	COIL	1.5 UH	
L4217	9JD0216SD100J	COIL	10 UH	
L4218	9JD0216SD1R5J	COIL	1.5 UH	

# ELECTRIC REPLACEMENT PARTS LIST

L4219	9JD0216SD470J	COIL	47 UH
L4221	9JD0216SD470J	COIL	47 UH
L4223	9JD0216SD470J	COIL	47 UH
L4224	9JD0216SD1R5J	COIL	1.5 UH
L4225	9JD0216SD100J	COIL	10 UH
L4226	9JD0216SD470J	COIL	47 UH
L4227	9JD0216SD220J	COIL	22 UH
L4228	9JD0216SD220J	COIL	22 UH
L4229	9JD0216SD220J	COIL	22 UH
L4230	9JD0216MA220K	COIL	22 UH
L4231	9JD0216SD220J	COIL	22 UH
L4232	9JD0216SD1R5J	COIL	1.5 UH
L4233	9JD0216SD470J	COIL	47 UH
L4305	9JD0216SD220J	COIL	22 UH
L4306	9JD0216S8220K	COIL	22 UH
L5000	9JD0216SD2R2J	COIL	2.2 UH
L5001	9JD0216SD2R2J	COIL	2.2 UH
L6401	9JD0216SD100J	COIL	10 UH
L6406	9JD0216SD2R2J	COIL	2.2 UH
L6408	9JD0216SD8R2J	COIL	8.2 UH
L6409	9JD0216SD4R7J	COIL	4.7 UH
L6410	9JD0216SD4R7J	COIL	4.7 UH

## \*\*\* JACKS \*\*\*

CP102	9JD063W100053	JACK	MD24-95V-EC
CP5001	9JD063M800002	HOLDER,IC	30_5027_000_102_000+
J702	9JD063Y000086	JACK PLATE	RCA/DIN-307-00A-03
J4200	9JD060K431027	RCA JACK	AV6-57B03-01H
J4201	9JD060K411041	RCA JACK	AV2-13P2-07H
J4205	9JD060J131016	HEADPHONE JACK	MSJ-2000_AG
J4206	9JD063D000077	SOCKET,21PIN	MRC-021V-27_PC
J4208	9JD060J131019	HEADPHONE JACK	MSJ-2000B_AG(O87)

## \*\*\* CONNECTORS \*\*\*

CP101	9JD069S260629	CONNECTOR PCB SIDE	A2001WV2-6P
CP802	9JD069S260629	CONNECTOR PCB SIDE	A2001WV2-6P
CP1000	9JD069S140419	CONNECTOR PCB SIDE	A2502WV2-4P
CP2401	9JD069S250679	CONNECTOR PCB SIDE	A2006WR0-2X5P
CP2402	9JD069S250629	CONNECTOR PCB SIDE	A2001WV2-5P
CP3400	9JD069S220629	CONNECTOR PCB SIDE	A2001WV2-2P
CP3601	9JD0694YJ3018	CONNECTOR PCB SIDE	1903015-3
CP3801	9JD06CK7N0301	CORD CONNECTOR	TWG-P23P-A1
CP4301	9JD069S250629	CONNECTOR PCB SIDE	A2001WV2-5P
CP4304	9JD069S240629	CONNECTOR PCB SIDE	A2001WV2-4P
CP5000	9JD069EN68020	CONNECTOR PCB SIDE	36_5027_068_130_831+

## \*\*\* CRYSTAL & CERAMIC OSCILLATORS \*\*\*

X101	9JD100GT01616	CRYSTAL	B16000E011
X801	9JD100DT02007	CRYSTAL	DSX840GA
X1700	9JD100GT02720	CRYSTAL	B27000C005
X2401	9JD100GT02720	CRYSTAL	B27000C005
X3602	9JD100DT02801	CRYSTAL	SMD-49

## \*\*\* NETWORKS \*\*\*

NR801	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR802	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR2401	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2402	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2403	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2404	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2405	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2406	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2407	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2408	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2409	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2410	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2411	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2412	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2413	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2414	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE

# ELECTRIC REPLACEMENT PARTS LIST

NR2415	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2416	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2417	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE
NR2418	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR2419	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR2420	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2421	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR2422	9JD110P4560M5	R,NETWORK	4D02WGJ0560TCE
NR3601	9JD110P4330M5	R,NETWORK	4D02WGJ0330TCE
NR3602	9JD110P4330M5	R,NETWORK	4D02WGJ0330TCE
NR3603	9JD110P4330M5	R,NETWORK	4D02WGJ0330TCE
NR3604	9JD110P4330M5	R,NETWORK	4D02WGJ0330TCE
NR3605	9JD110P4330M5	R,NETWORK	4D02WGJ0330TCE
NR3606	9JD110P4330M5	R,NETWORK	4D02WGJ0330TCE
NR5000	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5001	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5002	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5003	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5004	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5005	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5006	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5007	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5008	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5009	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5010	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE
NR5011	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE

## \*\*\* OTHERS \*\*\*

CP4302	9JD06G2S21502	CONNECTOR PCB SIDE	D229FD015S107BY	or
	9JD06G2S21501	CONNECTOR PCB SIDE	D229FD015G107BY	
CP7201	9JD06G3VWT01A	CONNECTOR PCB SIDE	20389-Y30E	
SH4300	9JD126D000044	TERMINAL PIN	YQ-36	
SH4301	9JD126D000044	TERMINAL PIN	YQ-36	
SH4304	9JD126D000044	TERMINAL PIN	YQ-36	
SH4305	9JD126D000044	TERMINAL PIN	YQ-36	
SH4306	9JD126D000044	TERMINAL PIN	YQ-36	
SH4307	9JD126D000044	TERMINAL PIN	YQ-36	

## POWER PCB ASS'Y

### \*\*\* PCB \*\*\*

PCB240	9JDA32B01E240L	POWER PCB ASS'Y	CEF300A
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### \*\*\* RESISTORS \*\*\*

⚠ R501	9JDRC31X1155J	RC	1.5M OHM 1W
R509	9JDRC31X1274J	RC	270K OHM 1W
⚠ R511	9JDR63881R22J	R,FUSE	0.22 OHM 1W
⚠ R540	9JDR3K78AR33J	R,METAL OXIDE	0.33 OHM 2W

### \*\*\* CAPACITORS \*\*\*

C504	9JDP2122B334M	CMP	0.33 UF 275V ECQUL
C505	9JDCD39E0MQ2K	CC	470 PF 250V
⚠ C507	9JDE81GHH151D	CE	150 UF 400V
C508	9JDC03L0R7U2K	CC	680 PF 2KV R
⚠ C511	9JDP332E4223J	CPP	0.022 UF 400V
C512	9JDCD39E0MQ2K	CC	470 PF 250V
⚠ C518	9JDE8E1G4102M	CE	1000 UF 35V
⚠ C519	9JDE8E1G4102M	CE	1000 UF 35V
C521	9JDCD39E0MQ2K	CC	470 PF 250V
C528	9JDE7EYS2471M	CE	470 UF 16V
C538	9JDP2122B104M	CMP	0.1 UF 275V ECQUL
C558	9JDP2122B104M	CMP	0.1 UF 275V ECQUL

### \*\*\* DIODES \*\*\*

D501	9JDD28A10A200	DIODE SILICON	FCF10A20
D502	9JDD97U02701B	DIODE,ZENER	MTZJ27B T-77
⚠ D503	9JDD6C047110A	DIODE VARISTA	ENE471D-10A
D504	9JDD2WXN40050	DIODE SILICON	1N4005-EIC
D505	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E

# ELECTRIC REPLACEMENT PARTS LIST

⚠ D506	9JDD4CZBJ4KV0	DIODE,BRIDGE	KBJ4KV
D507	9JDD2BXARS010	DIODE SILICON	SARS01-V1
D508	9JDD97U03301B	DIODE,ZENER	MTZJ33B T-77
D509	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E
D510	9JDD97U01501B	DIODE,ZENER	MTZJ15B T-77
D512	9JDD97U03301B	DIODE,ZENER	MTZJ33B T-77
D513	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E
D514	9JDD97U03001B	DIODE,ZENER	MTZJ30B T-77
D515	9JDD97U01301B	DIODE,ZENER	MTZJ13B T-77
D516	9JDD28R1QS040	DIODE	EC31QS04-TE12L
D517	9JDD28R1QS040	DIODE	EC31QS04-TE12L
D518	9JDD97U03001B	DIODE,ZENER	MTZJ30B T-77
D526	9JDD97U03001B	DIODE,ZENER	MTZJ30B T-77
*** ICS ***			
IC501	9JDICAJ055410	IC	FA5541AP-A2
IC502	9JDI1KJ9A431A	IC	KIA431A-AT
⚠ IC503	9JDI03T057790	IC	LA5779-E
⚠ IC504	9JDI03T057790	IC	LA5779-E
⚠ IC505	9JDI07F90WTP0	IC	BA00BC0WT-V5
⚠ IC506	9JD000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
*** TRANSISTORS ***			
Q501	9JDT41GK35320	FET	2SK3532-01MR
Q503	9JDTNAA05003	COMPOUND TRANSISTOR	KRC102SR TK
Q504	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q505	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
	9JDT6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q506	9JDTNAA05003	COMPOUND TRANSISTOR	KRC102SR TK
*** COILS ***			
B501	9JD024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
L502	9JD02167E100K	COIL	10 UH
L503	9JD02130G470L	COIL	47 UH
L504	9JD02130G470L	COIL	47 UH
L505	9JD02167E220K	COIL	22 UH
L506	9JD02DM000090	COIL CHOKE	DM000090
⚠ L507	9JD029X000113	COIL,LINE FILTER	SS24V-K07325
L508	9JD021673100K	COIL	10 UH
L509	9JD02167E100K	COIL	10 UH
⚠ L510	9JD029X000113	COIL,LINE FILTER	SS24V-K07325
L511	9JD02167E220K	COIL	22 UH
*** TRANSFORMERS ***			
⚠ T501	9JD0481351084	TRANSFORMER,SWITCHING	81351084
*** JACKS ***			
J501	9JD064Q2A0001	JACK,AC	CCT2302-0711
*** CONNECTORS ***			
CP501	9JD069S2E0629	CONNECTOR PCB SIDE	A2001WV2-14P
⚠ CP504	9JD06977NM020	CONNECTOR PCB SIDE	127301123K2
*** FUSES ***			
F501	9JD080NT2R504	FUSE	50T025H
FH501	9JD06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	9JD06710T0009	HOLDER,FUSE	EYF-52BCY
*** THERMISTOR ***			
TH501	9JDDSQE9E5R0L	THERMISTOR	5D2-11LC
*** OTHERS ***			
EL2401	9JD124116281A	EYE LET	XRY16X28BD
EL2402	9JD124120301A	EYE LET	XRY20X30BD

or

# ELECTRIC REPLACEMENT PARTS LIST

SH501	9JD126D000044	TERMINAL PIN	YQ-36
SH502	9JD126D000044	TERMINAL PIN	YQ-36
SH503	9JD126D000044	TERMINAL PIN	YQ-36
SH504	9JD126D000044	TERMINAL PIN	YQ-36
SH505	9JD126D000044	TERMINAL PIN	YQ-36

## OPERATION PCB ASS'Y

\*\*\* PCB \*\*\*

PCB270	9JDA32B01E270L	OPERATION PCB ASS'Y	CEF301A
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\*\*\* SWITCHES \*\*\*

SW2201	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW2202	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW2203	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW2204	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW2205	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW2206	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW2207	9JD0504101T34	SWITCH,TACT	EVQ21505R

\*\*\* CONNECTORS \*\*\*

CP2203	9JD069S240639	CONNECTOR PCB SIDE	A2001WR2-4P
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## AND OTHERS

\*\*\* CONNECTORS \*\*\*

CD302	9JD06CU148005	CORD CONNECTOR	CU148005
CD502	9JD06CU2E1301	CORD CONNECTOR	CU2E1301
CD2200	9JD06CU243701	CORD CONNECTOR	CU243701
CD2201	9JD06CU255502	CORD CONNECTOR	CU255502
CD7204	9JD06CHRU8001	CORD CONNECTOR	CHRU8001

\*\*\* TUNER \*\*\*

TU6002	9JD0164Y03002	DIGITAL TUNER	TDTG-S156D
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\*\*\* AC CORD \*\*\*

CD501	9JD120Q155804	CORD AC	P205-1324-4
CD504	9JD120D145801	CORD SET AC	4K6G-431-00K

\*\*\* OTHERS \*\*\*

BT001	9JD141L003010	BATTERY,MANGAN	R6P(AR)XICI	or
	9JD141R003018	BATTERY,MANGAN	GR6M	
BT002	9JD141L003010	BATTERY,MANGAN	R6P(AR)XICI	or
	9JD141R003018	BATTERY,MANGAN	GR6M	

M3400	9JD1519Y55L01	FAN MOTOR	2004KL-04W-B30-M09
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SP301	9JD070N435025	SPEAKER	YDP3085-10RN
SP302	9JD070N435025	SPEAKER	YDP3085-10RN

TM101	9JD076B0MU030	TRANSMITTER	ETR0088-010240
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V2301	9JD09E4120009	LCD	LK200T3LZ10W
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## CAPACITORS

CC.....	CERAMIC CAPACITOR
CE.....	ALUMI ELECTROLYTIC CAPACITOR
CP.....	POLYESTER CAPACITOR
CPP.....	POLYPROPYLENE CAPACITOR
CPL.....	PLASTIC CAPACITOR
CMP.....	METAL POLYESTER CAPACITOR
CMPL.....	METAL PLASTIC CAPACITOR
CMPP.....	METAL POLYPROPYLENE CAPACITOR

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