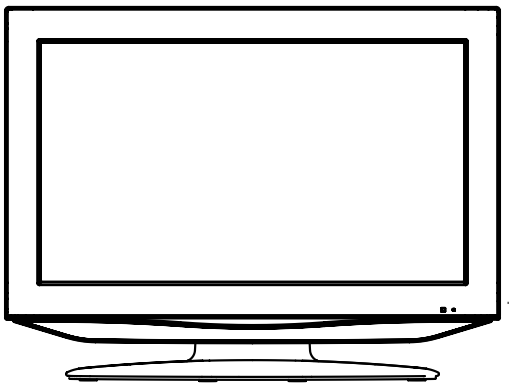
SHARP SERVICE MANUAL

#########



LCD COLOR TELEVISION

MODEL LC-32AD5E-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 eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

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

[Note 2]

External exposure metal: Antenna terminal

HOW TO ORDER PARTS

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

1. MODEL NUMBER and VERSION LETTER
   The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

IMPORTANT

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

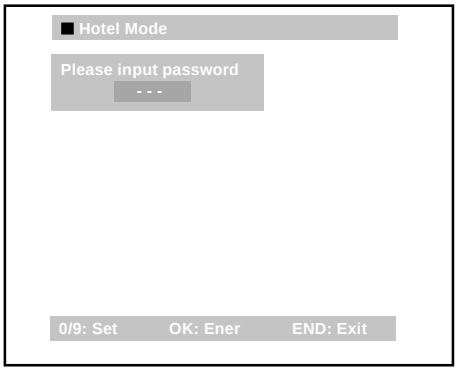
The following can be set by the Hotel mode function.

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 1, 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”, “No signal off” and “No operation off” of the MENU item cannot be set.
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) The remote control operation in Hotel mode are effective.
Note 4) The service mode function in Hotel mode are effective. (Except the POWER key.)
Note 5) When setting it to "No", and the audio change with 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.

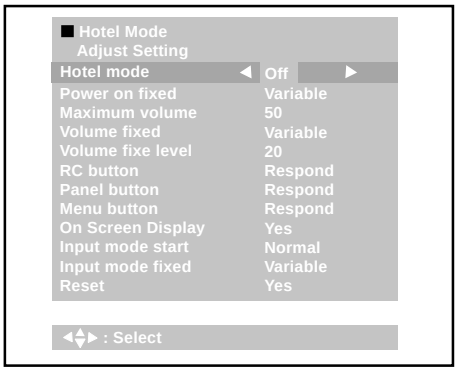
To set the Hotel mode, please follow the steps below.

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.

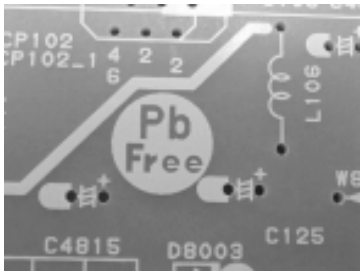
1. In power off mode, press and hold the ‘VOLUME+’ button on the front panel.
2. Simultaneously press and hold the ‘ ⏎ ’ button on the front panel.
3. Hold both keys for 3 seconds, press the POWER button on the front panel.
4. The password screen is displayed.
5. Press it in order of ‘0’, ‘2’ and ‘7’ 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 naw 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		31.5 inch / 800.4mmV
			LCD Type		Color TFT LCD
			Number of Pixels		1366(H) x 768(V)
			View Range	Left/Right	88/88 degree
				Up/Down	88/88 degree
		Color System			PAL / SECAM
		Speaker			2 Speaker
			Position		Front
			Size		1.6 x 4.8 inch
			Impedance		4 ohm
		Sound Output	MAX		10W + 10W
			10%(Typical)		---
		NTSC3.58+4.43 /PAL60Hz			Yes
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	System		1Tuner (Analog+Digital)
		Receive CH	Destination		UK, I.R., CCIR Hyper+France CATV
		CH Coverage	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 Frequency	Analog		BG / II / DK, L / L' (SECAM VL)
				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
			Digital		Carrier 200 / Service 1000
		Stereo/Dual TV Sound			Nicam/A2 Dual
		Tuner Sound Muting			Yes
G-3	**Power**	Power Source	AC		220-240V AC 50Hz
			DC		---
		Power Consumption		at AC	180 W at AC 230 V 50 Hz
				at DC	--
			Stand by (at AC)	w/ EPG Timer	9 W at 230V 50Hz
				w/o EPG Timer	1 W at 230V 50Hz
				Per Year	-- kWh/Year
		Protector	Power Fuse		Yes
G-4	**Regulation**		Safety		CE(EN60065:2002), SEMKO HOMOLO
			Radiation		CE
			X-Radiation		---
G-5	**Temperature**		Operation		0oC ~ +40oC
			Storage		-20oC ~ +60oC
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

G-9	**Remote Control**	Unit		RC-MU
		Glow in Dark Remocon		No
		Remocon Format		SHARP
		Format		SHARP
		Custom Code		10000 / 10001 / 01111
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-3 x 2 pcs
		Total Keys		43 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)	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	Chaild 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
			Text type	Fastext / Toptext
			Text Language	English , French, Swedish, Hungarian 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
		Stand Unit		Yes
		Cable Clamp (x1)		Yes
		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
		Gurantee 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	No
		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)	2Scart
			Component In	Yes
			Audio Input (Component In use)	RCA x 2(L/MONO, R)
			PC Monitor Input (D-Sub)	Yes
			Audio Input	Mini Pin Jack(d: 3.5), STEREO
			HDMI Input 1	Yes
			Audio Input (HDMI/DVI In use)	PC Monitor Audio Input Alternative
			HDMI Input 2	Yes
			Audio Input (HDMI/DVI In use)	Mini Pin Jack(d: 3.5), STEREO
			RS-232C	Yes
			Sub Woofer Output	No
			Diversity	No
			Ext Speaker	No
			DC Jack 12V(Center +)	No
			VHF/UHF Antenna Input	DIN Type
			AC Inlet	Yes
			Other Terminal	Headphone
			CI Card Slot	Yes
		Rear	Euro Scart (21Pin)	No
			PC Monitor Input (D-Sub)	No
			Audio Input	No
			HDMI Input 1	No
			Audio Input (HDMI/DVI In use)	No
			RS-232C	No
			VHF/UHF Antenna Input	No
			AC Inlet	No
G-13	**Set Size**		Approx. W x D x H (mm)	797 x 243 x 583
			w/o Stand,Handle Approx. W x D x H (mm)	797 x 116 x 534
G-14	**Weight**		Net Approx.	16.0kg (34.9lbs)
			Net w/o Stand,Handle Approx.	14.5kg (31.5lbs)
			Gross Approx.	20.5kg (44.8lbs)
G-15	**Carton**	Master Carton		No
			Content	---- Sets
			Material	-- /--
			Dimensions W x D x H(mm)	-- x -- x --
			Description of Origin	No
		Gift Box		Yes
			Material	Double/Brown
			Dimensions W x D x H(mm)	900 x 286 x 680
			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)	40
		Container Stuffing		321 Sets/40' container
		w/Pallet		No
		w/Wrapping		No
G-16	**Material**	Cabinet	Cabinet Front	PC+ABS 94V0 NON-HALOGEN
			Cabinet Rear	PC+ABS 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: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 13 screws ①.
2. Remove the 7 screws ②.
3. Remove the Back Cabinet in the direction of arrow.

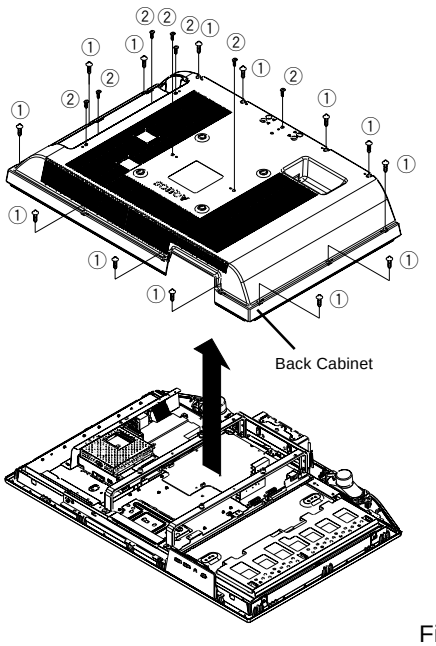


Fig. 1-1

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

1. Disconnect the following connector: (CP2203).
2. Remove the Speaker Ass'y.
3. Remove the Plate Button in the direction of arrow (A).
4. Remove the 3 screws ①.
5. Remove the Operation PCB in the direction of arrow (B).
6. Remove the 5 screws ②.
7. Remove the 2 screws ③.
8. Remove the Angle Hinge in the direction of arrow (C).

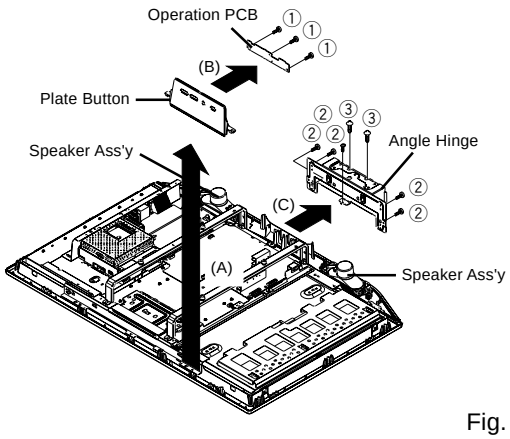


Fig. 1-2

1-3: REMOCON PCB (Refer to Fig. 1-3)

1. Disconnect the following connector: (CP2201).
2. Remove the 2 screws ①.
3. Remove the Remocon PCB in the direction of arrow.

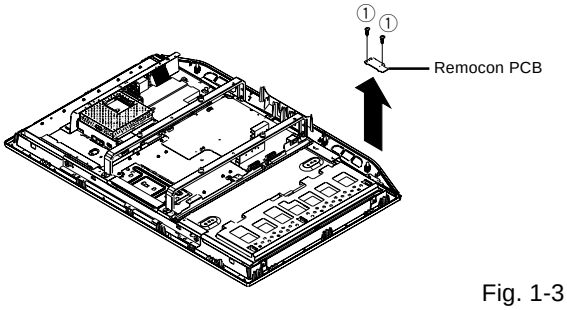


Fig. 1-3

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

1. Remove the Holder Panel.
2. Remove the 5 screws ①.
3. Remove the LCD Block in the direction of arrow.

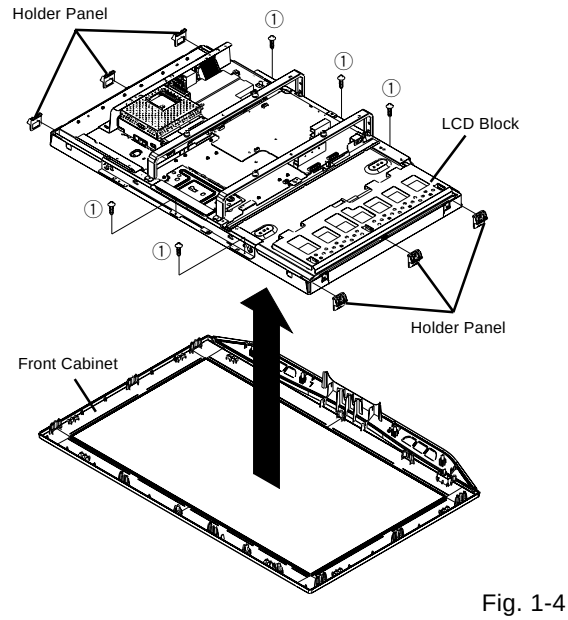


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

1-5: DIGITAL PCB (Refer to Fig. 1-5)

1. Disconnect the following connectors: (CP3801, CP3802).
2. Remove the 4 screws ①.
3. Remove the Shield Digital in the direction of arrow (A).
4. Remove the 4 screws ②.
5. Remove the Digital PCB in the direction of arrow (B).

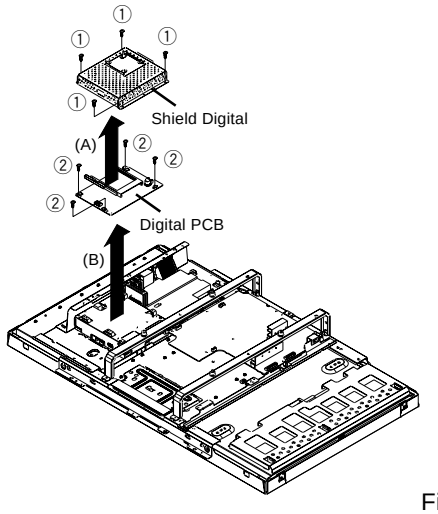


Fig. 1-5

1-6: MAIN PCB (Refer to Fig. 1-6)

1. Disconnect the following connectors: (CP4307, CP6501, CP6503, CP6504, CP7200).
2. Remove the 4 screws ①.
3. Remove the 6 screws ②.
4. Remove the Plate Jack in the direction of arrow (A).
5. Remove the 4 screws ③.
6. Remove the Shield Scaler in the direction of arrow (B).
7. Remove the 3 screws ④.
8. Remove the Main PCB in the direction of arrow (C).

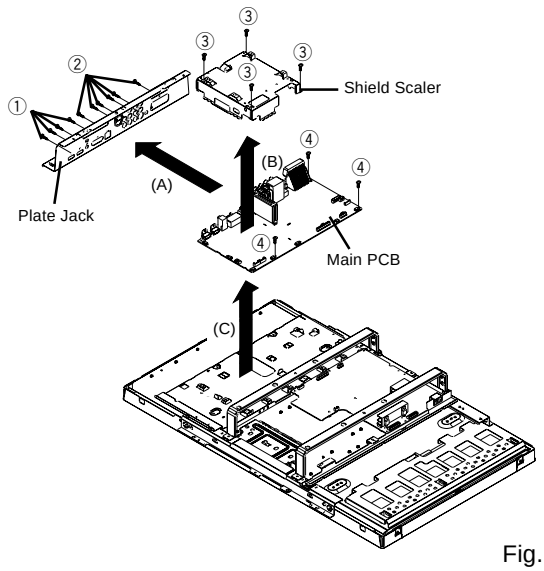


Fig. 1-6

1-7: ANGLE MAIN (Refer to Fig. 1-7)

1. Remove the 2 screws ①.
2. Remove the Angle Main.

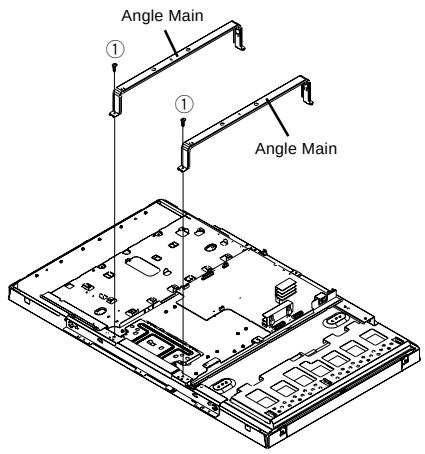


Fig. 1-7

1-8: POWER PCB (Refer to Fig. 1-8)

1. Disconnect the following connector: (CP406).
2. Remove the 5 screws ①.
3. Remove the 3 screws ②.
4. Remove the 2 screws ③.
5. Remove the Angle PCB-1 and Holder PCB Ass'y.
6. Remove the POWER PCB and Angle PCB-3 in the direction of arrow.

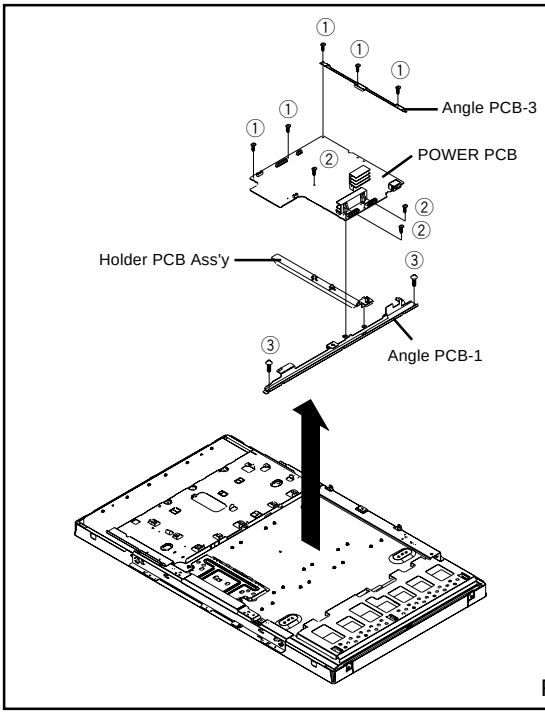


Fig. 1-8

DISASSEMBLY INSTRUCTIONS

1-9: ANGLE LCD TOP AND ANGLE LCD BOTTOM
(Refer to Fig. 1-9)

1. Remove the 3 screws ①.
2. Remove the Angle PCB-2 and Holder Wire in the direction of arrow (A).
3. Remove the 2 screws ②.
4. Remove the Angle LCD Top in the direction of arrow (B).
5. Remove the 2 screws ③.
6. Remove the Angle LCD Bottom in the direction of arrow (C).

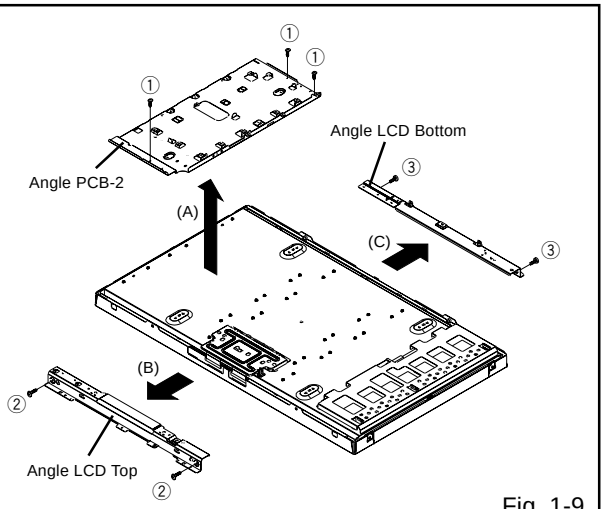


Fig. 1-9

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.

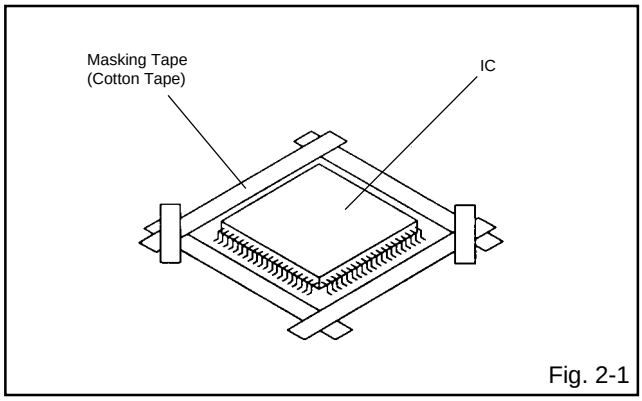


Fig. 2-1

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.

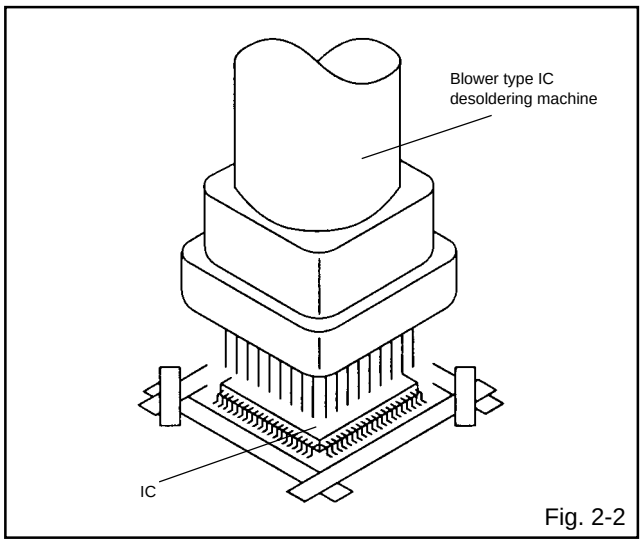


Fig. 2-2

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.

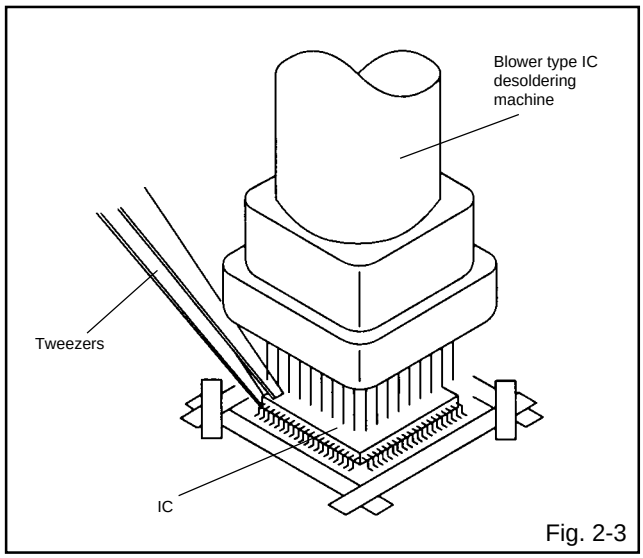


Fig. 2-3

4. Peel off the Masking Tape.

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

   NOTE

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

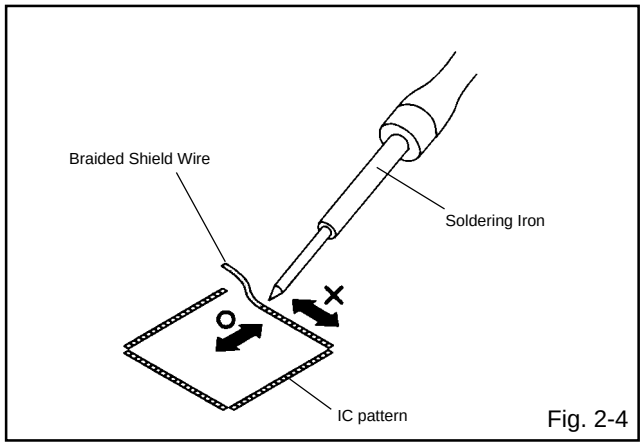


Fig. 2-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

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

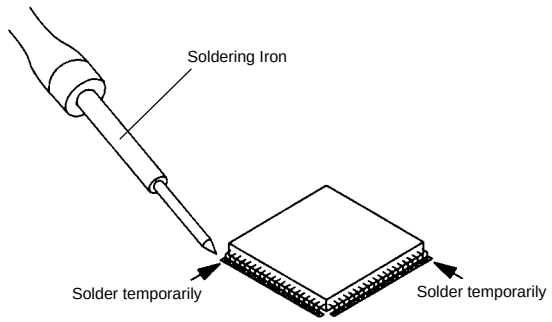


Fig. 2-5

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

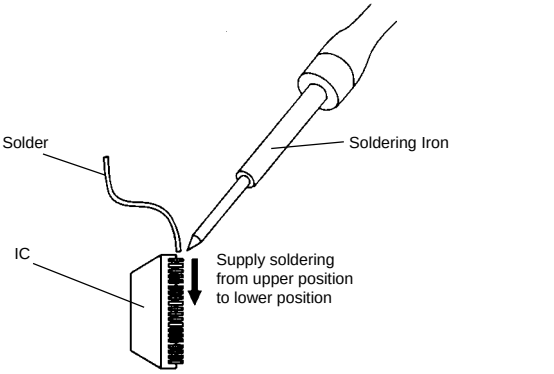


Fig. 2-6

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

   NOTE

   Do not absorb the solder to excess.

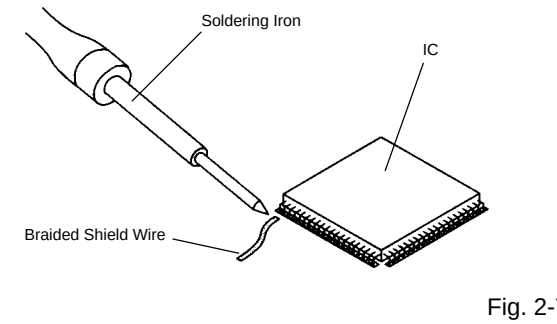


Fig. 2-7

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

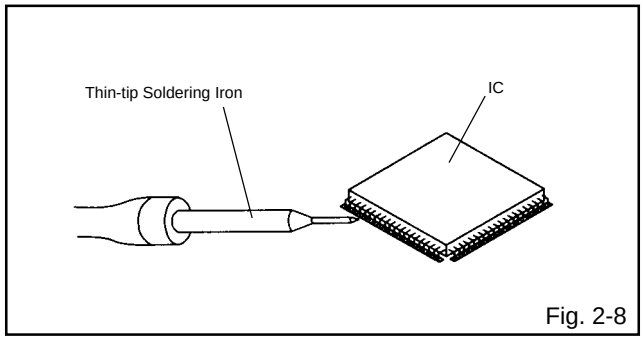


Fig. 2-8

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

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, 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 a the standard time in the appropriate condition. (See below chart.)

Set Condition	Set Key	Remocon Key	Standard Time	Operations
TV mode	VOL. DOWN (Minimum)	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.
ALL mode	VOL. DOWN (Minimum)	2	2 sec.	Check of the SUM DATA, POWER ON total hours and MICON VERSION on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
DTV mode	VOL. DOWN (Minimum)	3	2 sec.	Releasing of PARENTAL LOCK (DIGITAL). Refer to the “PARENTAL CONTROL - RATING LEVEL”.
TV mode	VOL. DOWN (Minimum)	6	2 sec.	Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
ALL mode	VOL. DOWN (Minimum)	9	2 sec.	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

WHEN REPLACING EEPROM (MEMORY) IC

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

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.

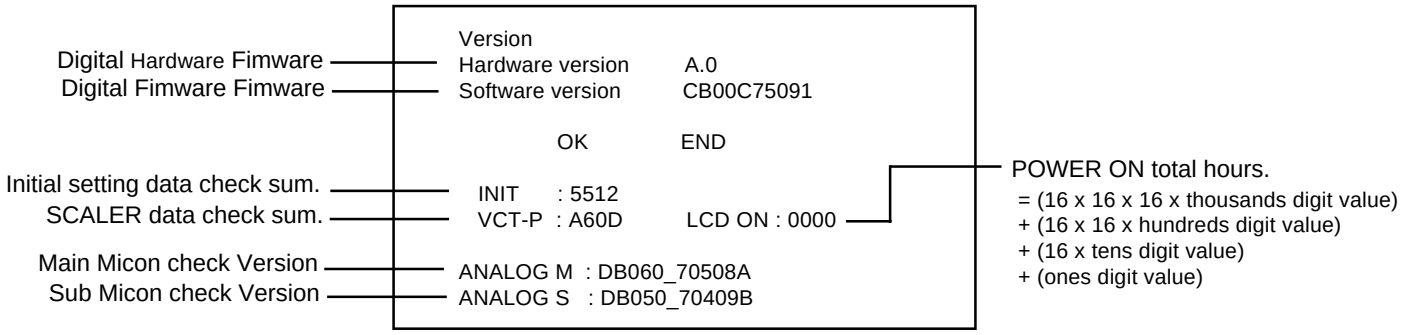


FIG. 1

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.

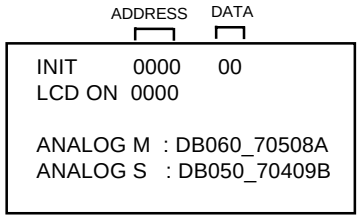


FIG. 2

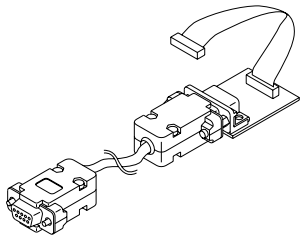
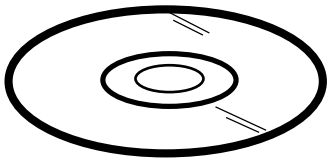
4. ADDRESS is now selected and should "blink". Using the UP/DOWN buton on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press LEFT/RIGHT button to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using UP/DOWN button until required DATA value has been selected.
7. Pressing LEFT/RIGHT 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 on the Power.
11. Set the VOLUME to minimum.
12. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
13. 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

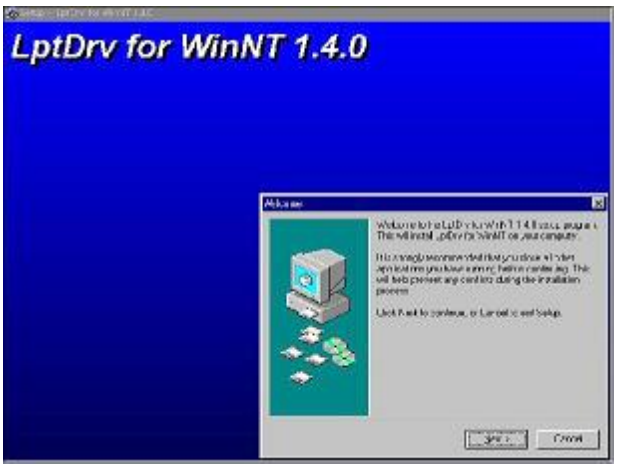
JG201 Serial Communication Change JIG 	JG203 MICON PROGRAM JIG KIT 25-4 	JG176 EU LCD MICON VER UP ROM DISC DTV ROM DISC JG212 EEPROM DISC JG204 MICON UPDATE TOOL DISC 

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	APJG212002	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.

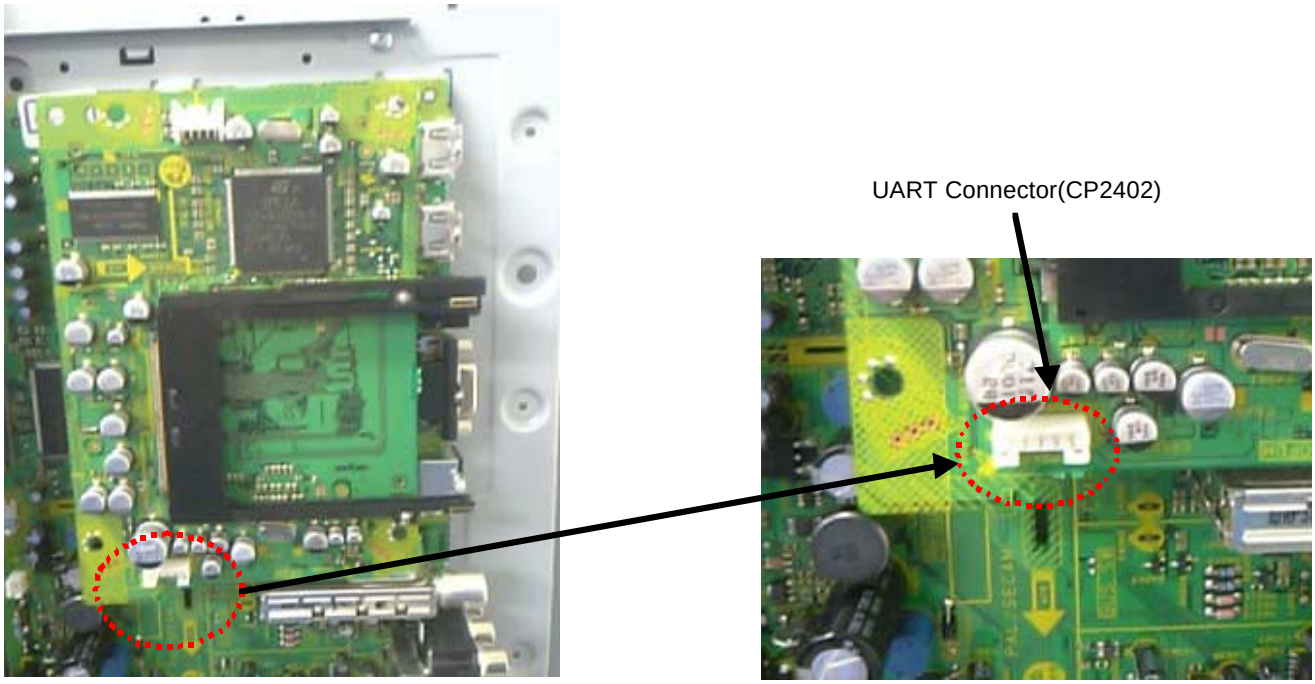
4. Install the “Setup_Visual_I2C_v3-2-3b8h.exe”, “Setup_VI2C_for_VCT_Pro_v0101.exe” and “Winupload 4.4.3.exe”.

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 "INSTALLING FOR WRITING TOOLS".

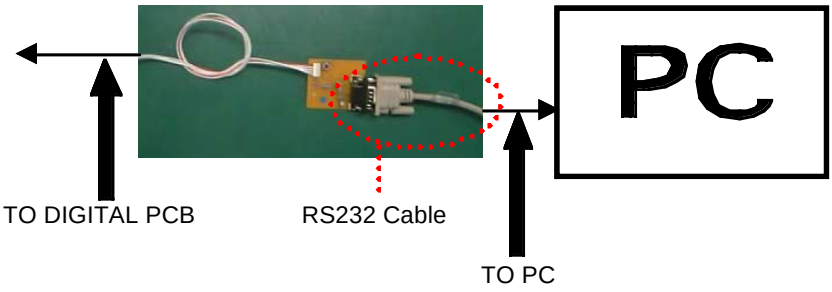
1. Unplug the AC cord, and remove the back cabinet.

2. Using the Serial Communication Change JIG (JG198) and RS232 Cable, connect the PC terminal and UART Connector(CP2402) on the DIGITAL PCB Ass'y.



Connect it in order of Digital Pcb ⟶ Serial Communication Change JIG(JG198) ⟶ RS232 Cable ⟶ PC.

Serial Communication Change JIG(JG198)



3. Insert the AC cord, turn on the power.

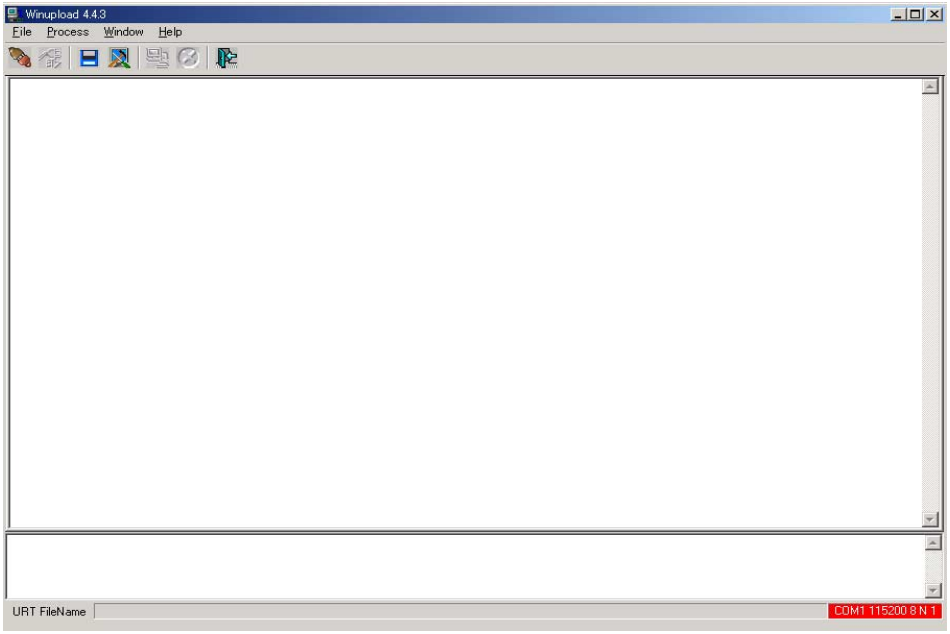
4. Press both VOLUME DOWN button on the set and Channel button (2) on the remote control for 2 seconds. Confirm that displayed software version.

5. Set the Standby mode.

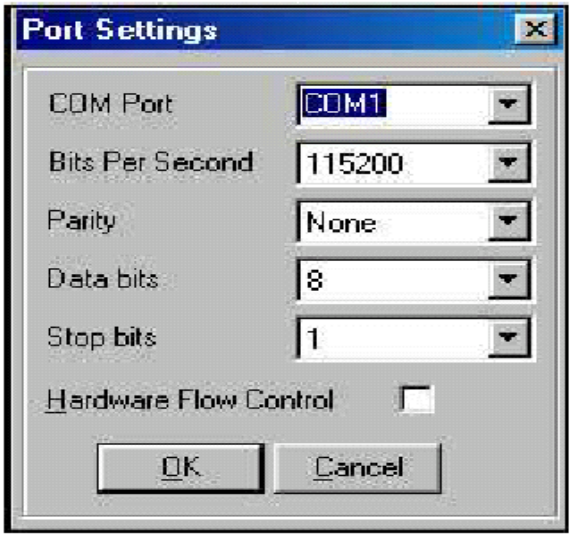
6. Set the DTV ROM DISC(JG176) to PC.

RE-WRITE FOR DIGITAL SOFT FIRMWARE

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



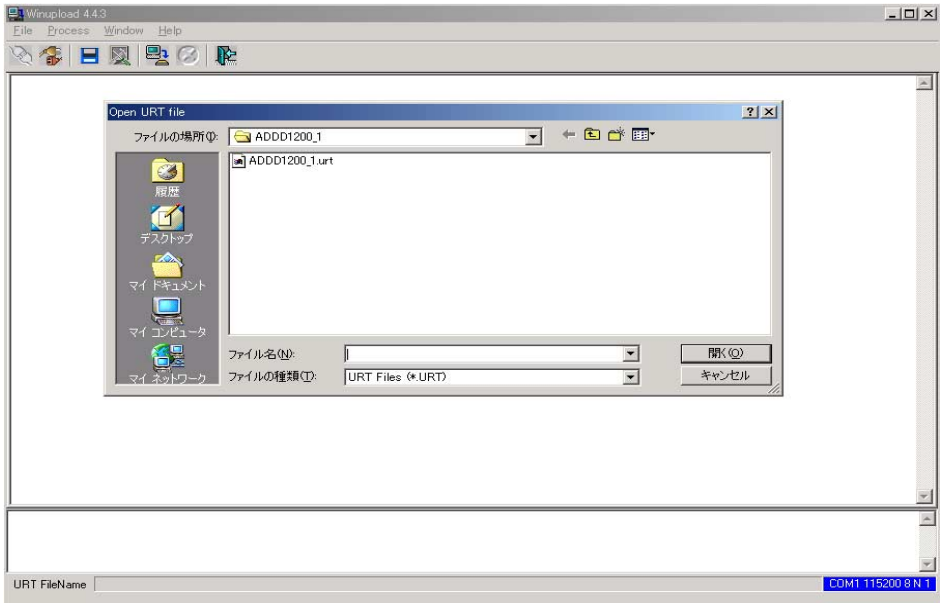
8. Select the "Port Setting" from Process menu, then please set it as follows.
   NOTE: This step is not necessary from next time.



RE-WRITE FOR DIGITAL SOFT FIRMWARE

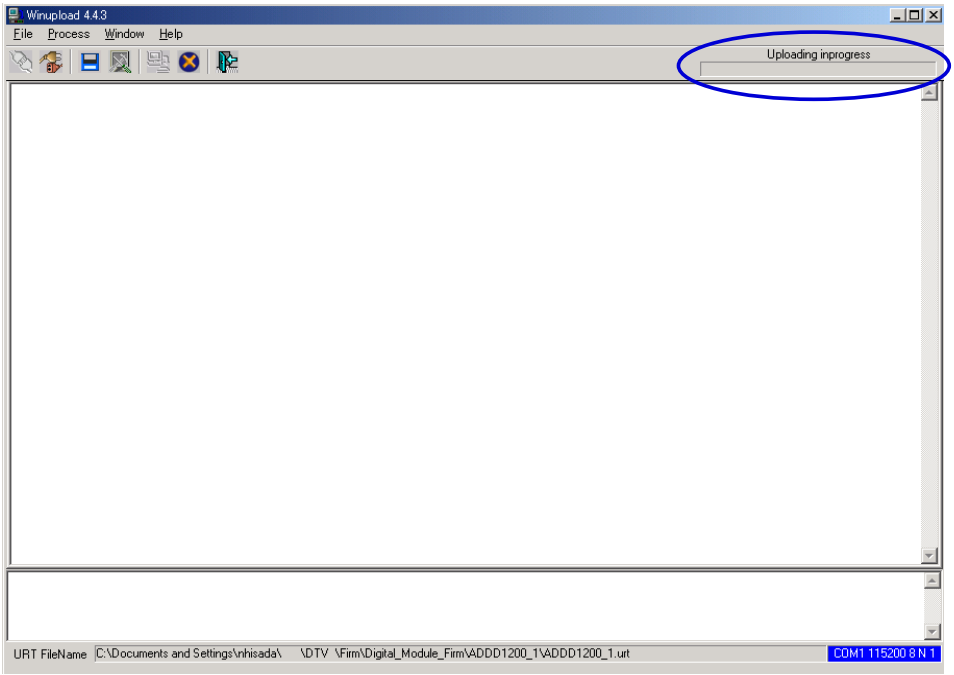
9. Select the "Connect" from File menu.

10. Select the "Upload" from Process menu, and select the Software(CB00C73221.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(JG198).

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.

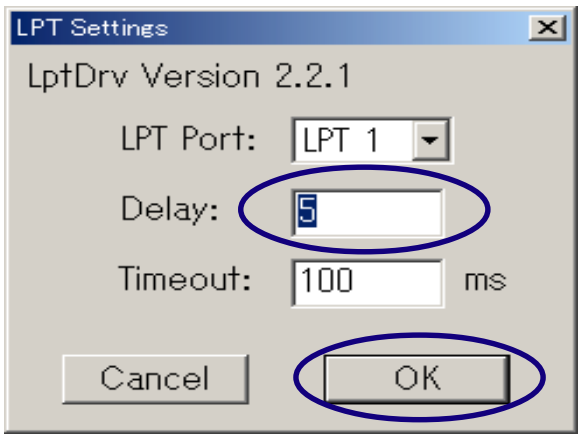
19. Press both VOLUME DOWN button on the set and Channel button (2) on the remote control for 2 seconds.
    When the changed version displays, the Re-write will be completed.

20. Select the "Disconnect" from File menu.

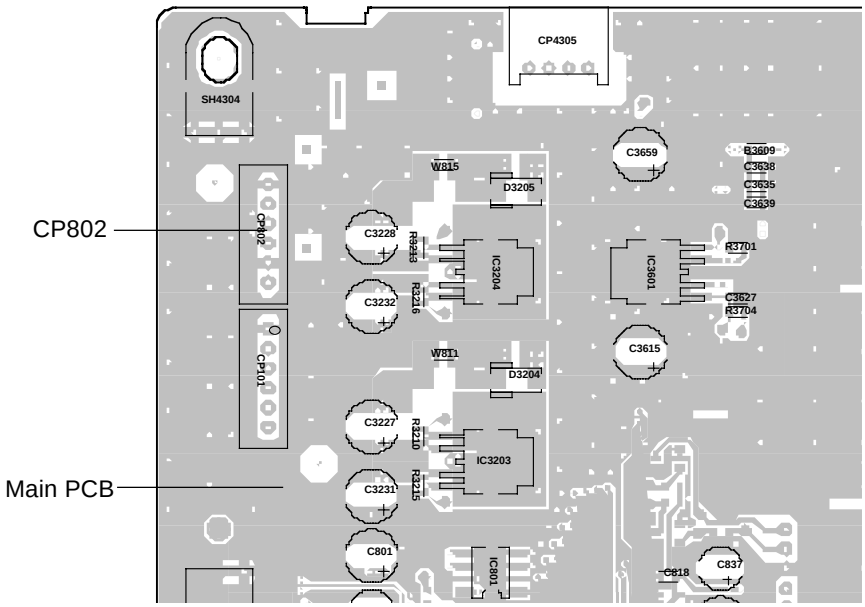
UPDATE FOR VCTP SOFTWARE

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.

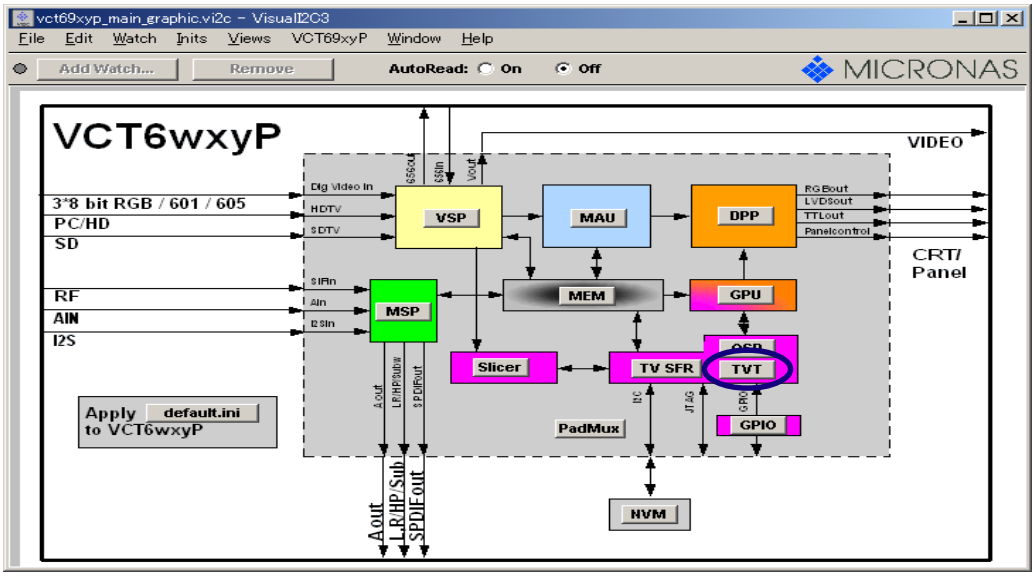


8. Using the MICON PROGRAM JIG KIT 25-4 (JG203), connect the PC Terminal and 1~4 pin of CP802 on the Main PCB (JG203(Red line) =1 pin of CP802).



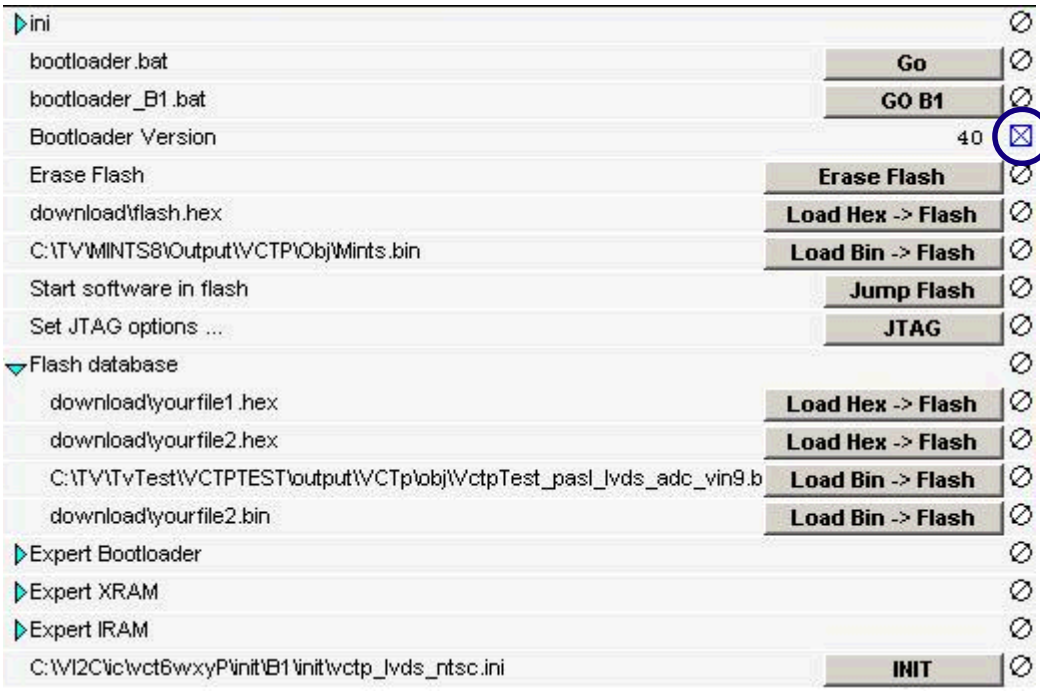
UPDATE FOR VCTP SOFTWARE

9. Press the “TVT”.



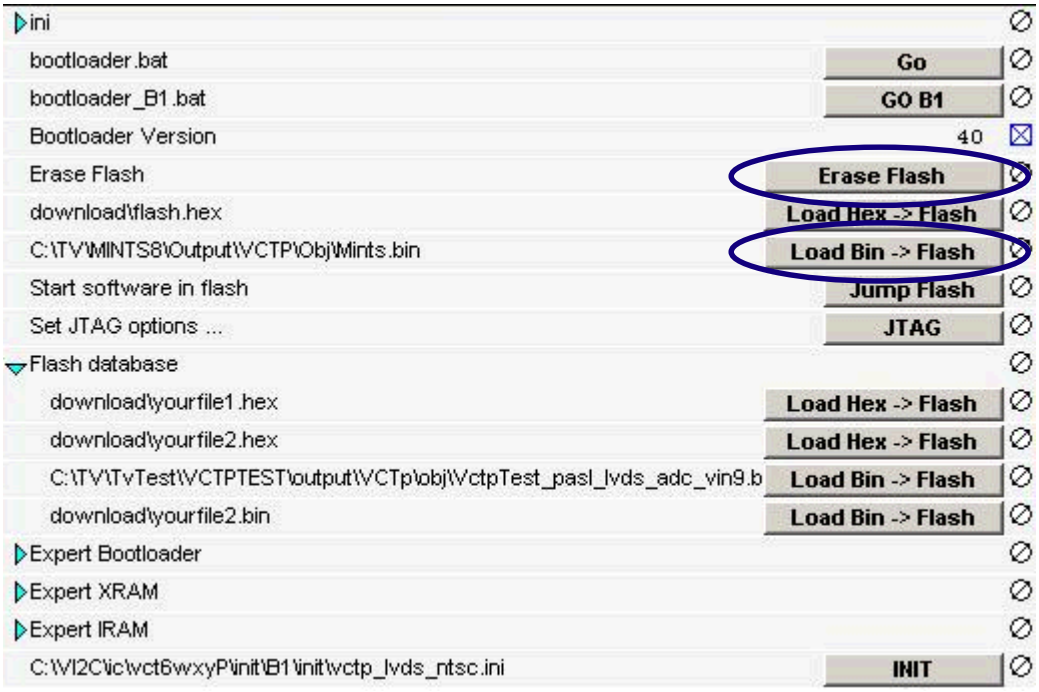
10.Remove the check of “Bootloader Version”, and check it again.

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.

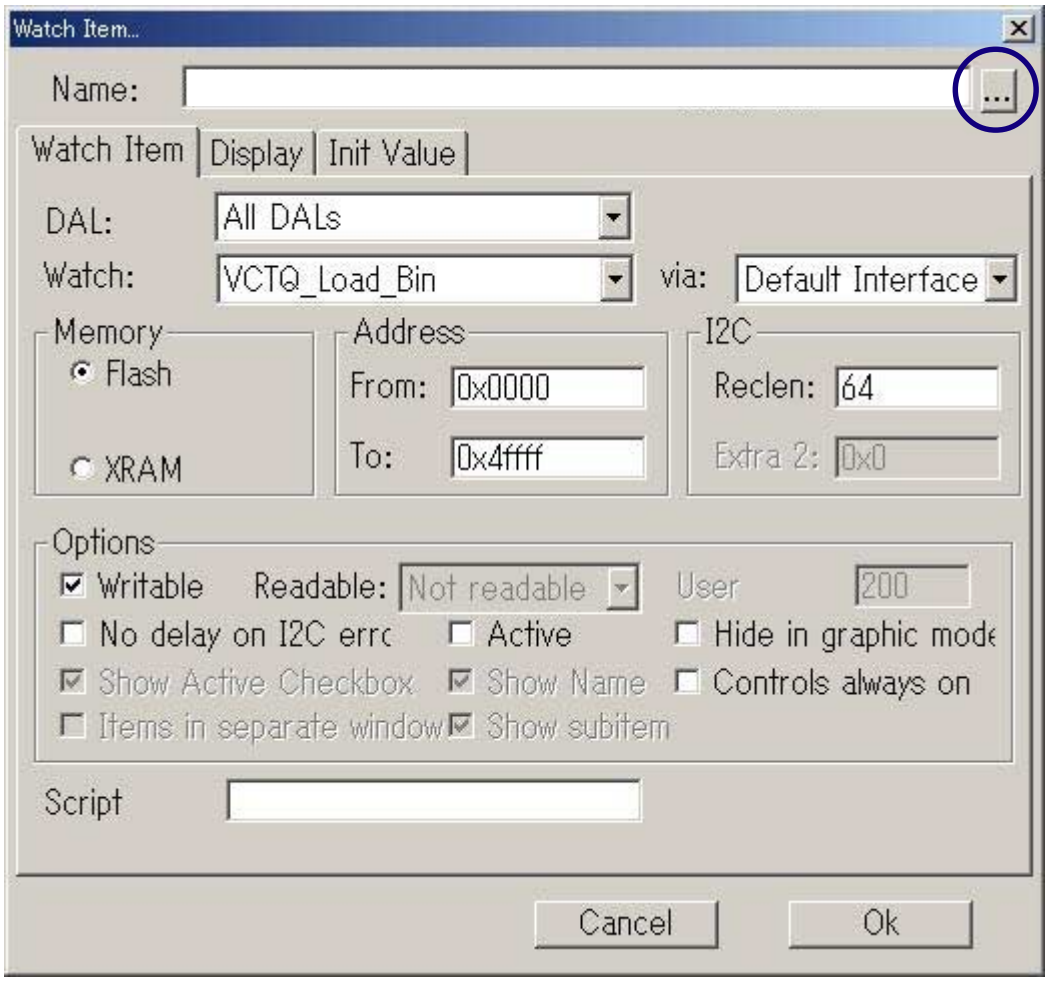


UPDATE FOR VCTP SOFTWARE

11. Press the “Erase Flash”.
    Then, press the “Load Bin -> Flash” twice.

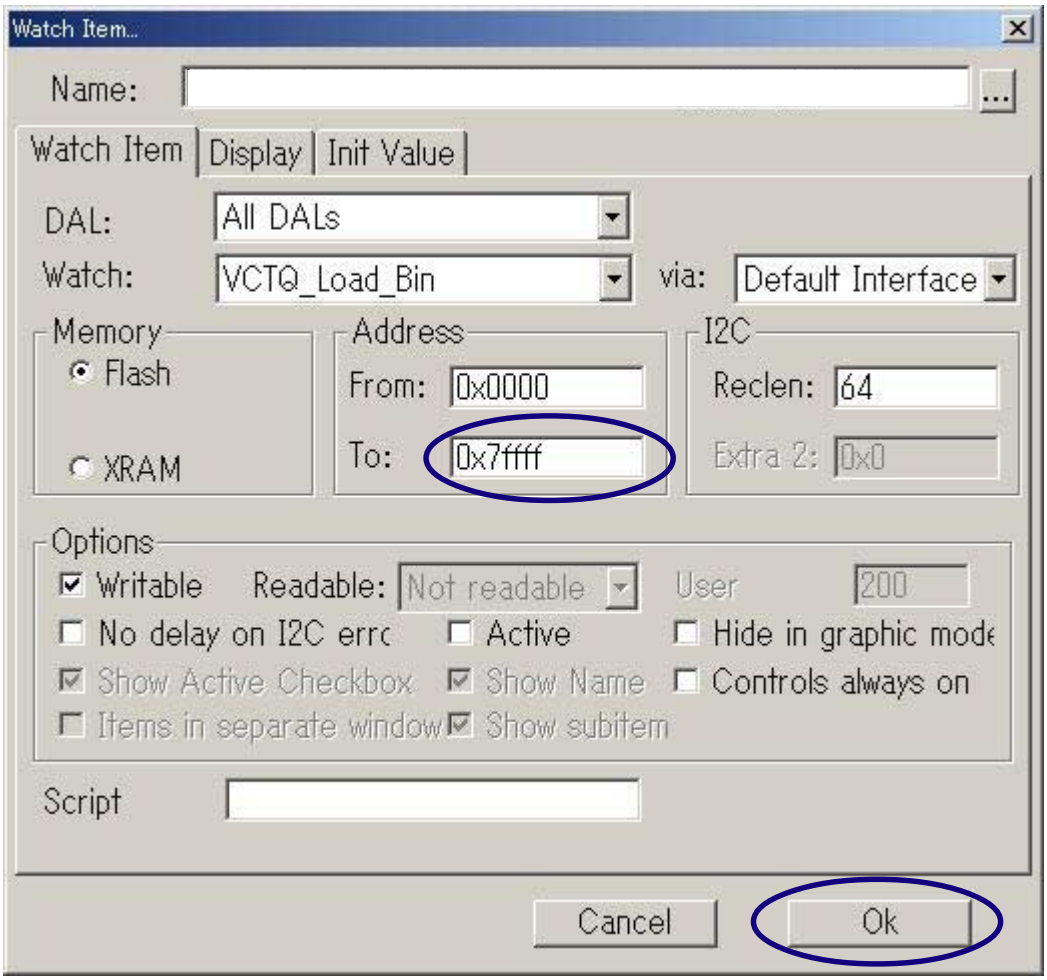


12. Press the [···], and select the writing Firmware.

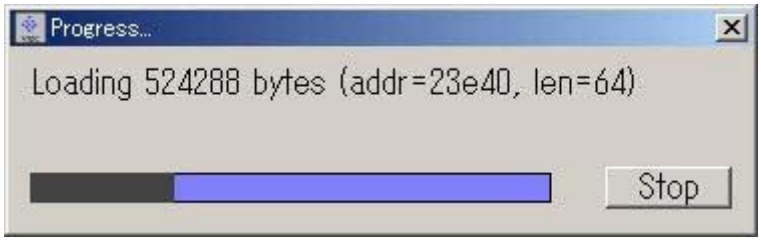


UPDATE FOR VCTP SOFTWARE

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.

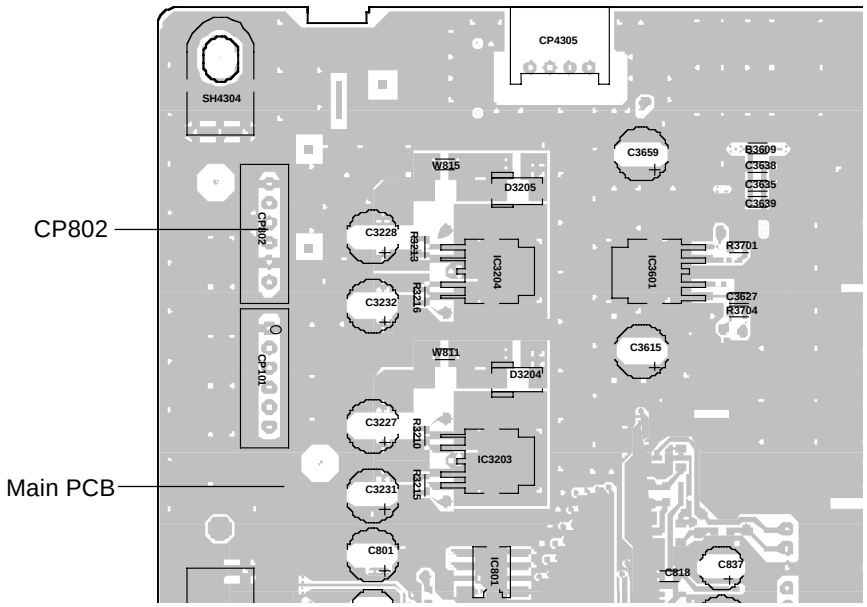
18. Confirm that displayed version agreement with writing.

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.

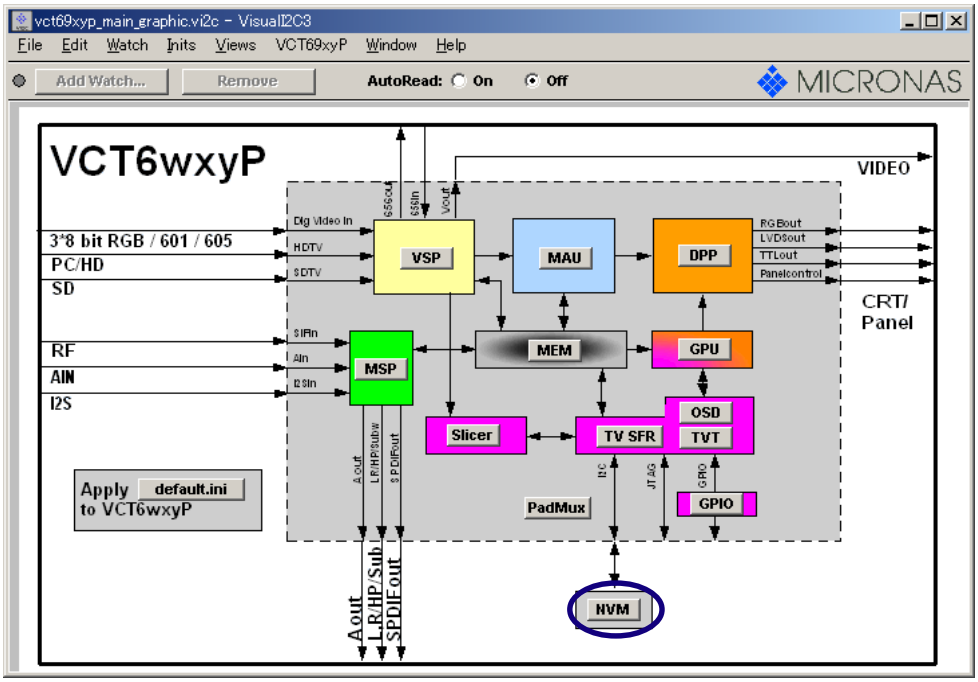
2. Using the MICON PROGRAM JIG KIT 25-4 (JG203), connect the PC Terminal and Pin 1-4 of CP802 on the Main PCB (JG203(Red line) =1 pin of CP802).



3. Set the EU LCD MICON VER UP ROM DISC (JG176) to PC.

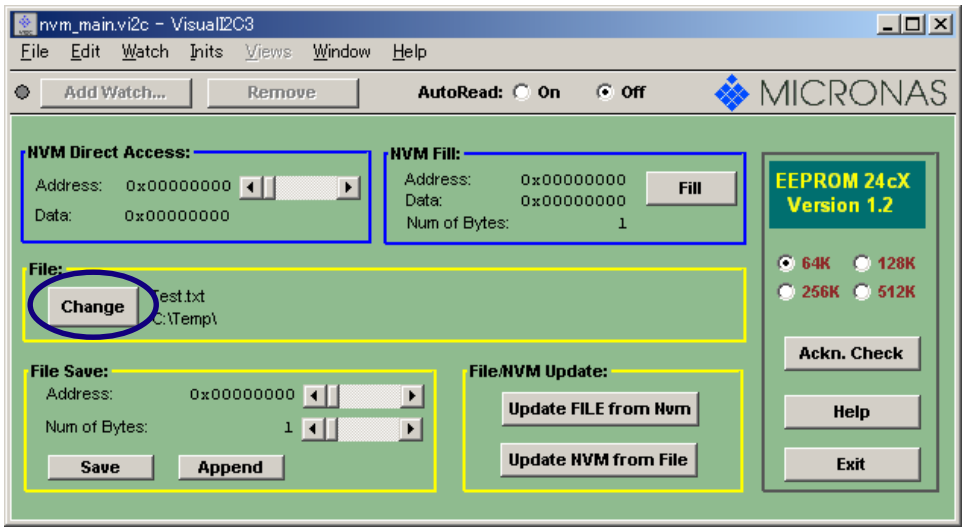
4. Start the "VCTP" (Writing Tools).

5. Press the "NVM".

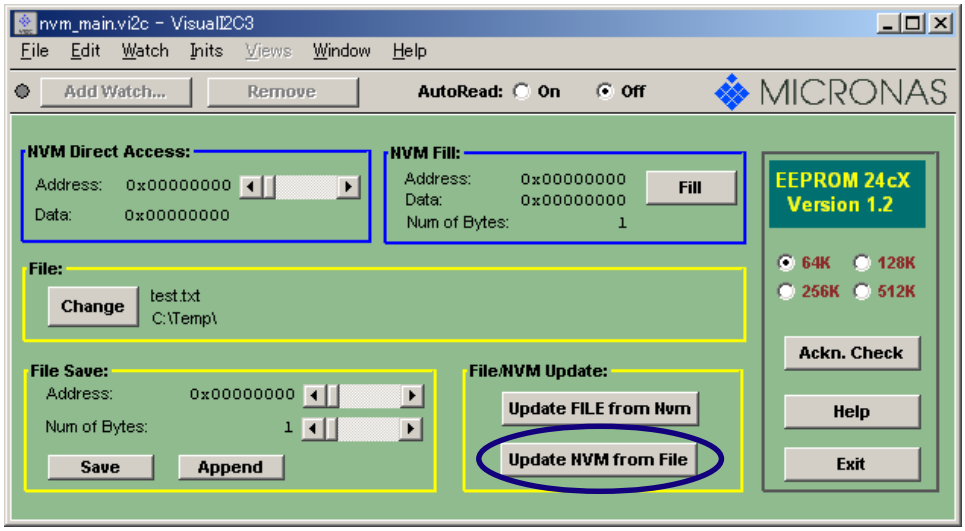


UPDATE FOR EEPROM DATA

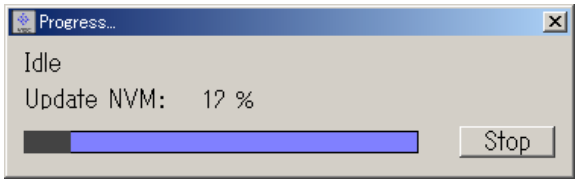
6. Press the "Change", and select the writing EEPROM data file (TEXT file).



7. Press the "Update NVM from File".



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



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

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

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

12. 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. Patterm 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**.

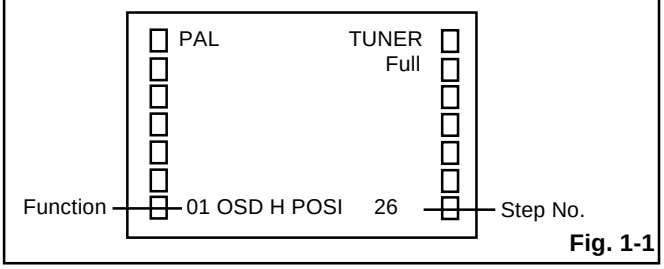


Fig. 1-1

3. Use the Channel 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.
6. Receive the DIGITAL broadcasting.
7. To display the adjustment screen for DTV mode, press the DTV/TV 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 EXT mode.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of **Fig. 1-2** and press the channel button **(05)** on the remote control to select “G DRIVE (M)”.
6. Press the UP/DOWN button on the remote control to select the “G CUTOFF (M)”, “B DRIVE (M)”, “B CUTOFF (M)”, “G DRIVE (H)”, “G CUTOFF (H)”, “B DRIVE (H)”, “B CUTOFF (H)”, “G DRIVE (L)”, “G CUTOFF (L)”, “B DRIVE (L)” or “B CUTOFF (L)”.
7. Adjust the RIGHT/LEFT button on the remote control to whiten the G CUTOFF (M), B DRIVE (M), B CUTOFF (M), G DRIVE (H), G CUTOFF (H), B DRIVE (H), B CUTOFF (H), G DRIVE (L), G CUTOFF (L), B DRIVE (L) and B CUTOFF (L) at each step tone sections equally.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

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/RIGTH button on the remote control until the contrast step No. becomes "50"
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/RIGTH button on the remote control until the contrast step No. becomes "42".
10. Check if the picture is normal.
11. Receive the color bar pattern. (VIDEO2 Input)
12. Using the remote control, set the brightness and contrast to normal position.
13. Press the ⏎ button on the remote control to set to the EXT2 mode.
14. Press the LEFT/RIGTH button on the remote control until the contrast step No. becomes "42".
15. Receive the color bar pattern. (VIDEO3 Input)
16. Using the remote control, set the brightness and contrast to normal position.
17. Press the ⏎ button on the remote control to set to the EXT3 mode.
18. Press the LEFT/RIGTH button on the remote control until the contrast step No. becomes "42".
19. Receive the color bar pattern. (AV RGB Input)
20. Using the remote control, set the brightness and contrast to normal position.
21. Press the ⏎ button on the remote control to set to the Component mode.
22. Press the LEFT/RIGTH button on the remote control until the contrast step No. becomes "43".
23. Receive the color bar pattern. (S-VIDEO Input)
24. Using the remote control, set the brightness and contrast to normal position.
25. Press the ⏎ button on the remote control to set to the HDMI mode.
26. Press the LEFT/RIGTH button on the remote control until the contrast step No. becomes "39".
27. Check if the picture is normal.

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
			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	1280x768	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.	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	7	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(M)	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(M)	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(M)	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(M)	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(M)	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(H)	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(H)	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(H)	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(H)	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(H)	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(H)	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(L)	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(L)	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(L)	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(L)	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(L)	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(L)	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 50Hz 4:3	642	642	642	642	-	-	-	-	608	284	-	-	-	-	-	-	-	76	5	-	-	-	-	-	-	-	578
	H POSI 50Hz 4:3 OTHER	640	640	640	642	-	-	-	-	608	284	307	256	-	-	-	-	-	76	5	138	138	-	-	-	-	-	578
	H POSI 60Hz 4:3	584	584	584	582	560	266	-	-	-	-	-	-	52	5	5	-	-	-	-	-	-	-	-	-	-	-	554
	H POSI CENTER (PC)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	191	279	258	344	-
	H POSI 60Hz 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/Cinema OTHER	25	25	25	23	-	-	-	-	25	50	22	19	-	-	-	-	-	13	37	23	23	-	-	-	-	-	25
	V POSI 50Hz FULL SCREEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	V POSI 50Hz Cinema	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	V POSI 60Hz FULL SCREEN/Cinema OTHER	19	19	19	17	19	41	21	18	-	-	-	-	8	27	27	21	18	-	-	-	-	-	-	-	-	-	-
	V POSI CENTER（PC）	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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	BACKLIGHT CENTER	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
28	BACKLIGHT MAX	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223
29	BACKLIGHT 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	#	#	#	#	8	8	8	8	8	8	8	8	15	15	15	15	15	15	15	15	15	15	15	15	15	15	2
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	#	#	#	#	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
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	#	#	#	#	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	36	36	36	36	36	28
39	COLOR MAX	#	#	#	#	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
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

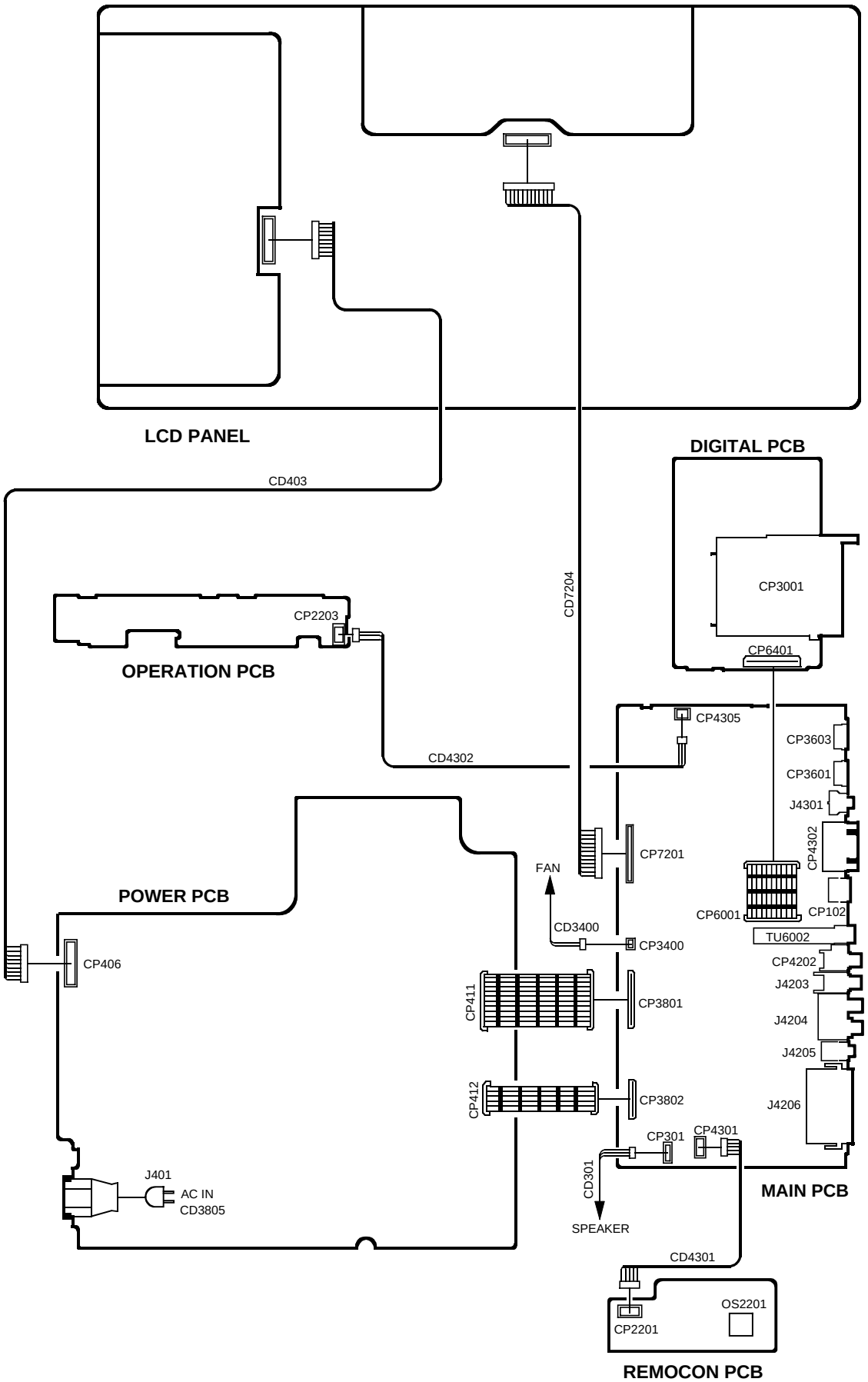
2-4: Confirmation of Fixed Value (Step No.)

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

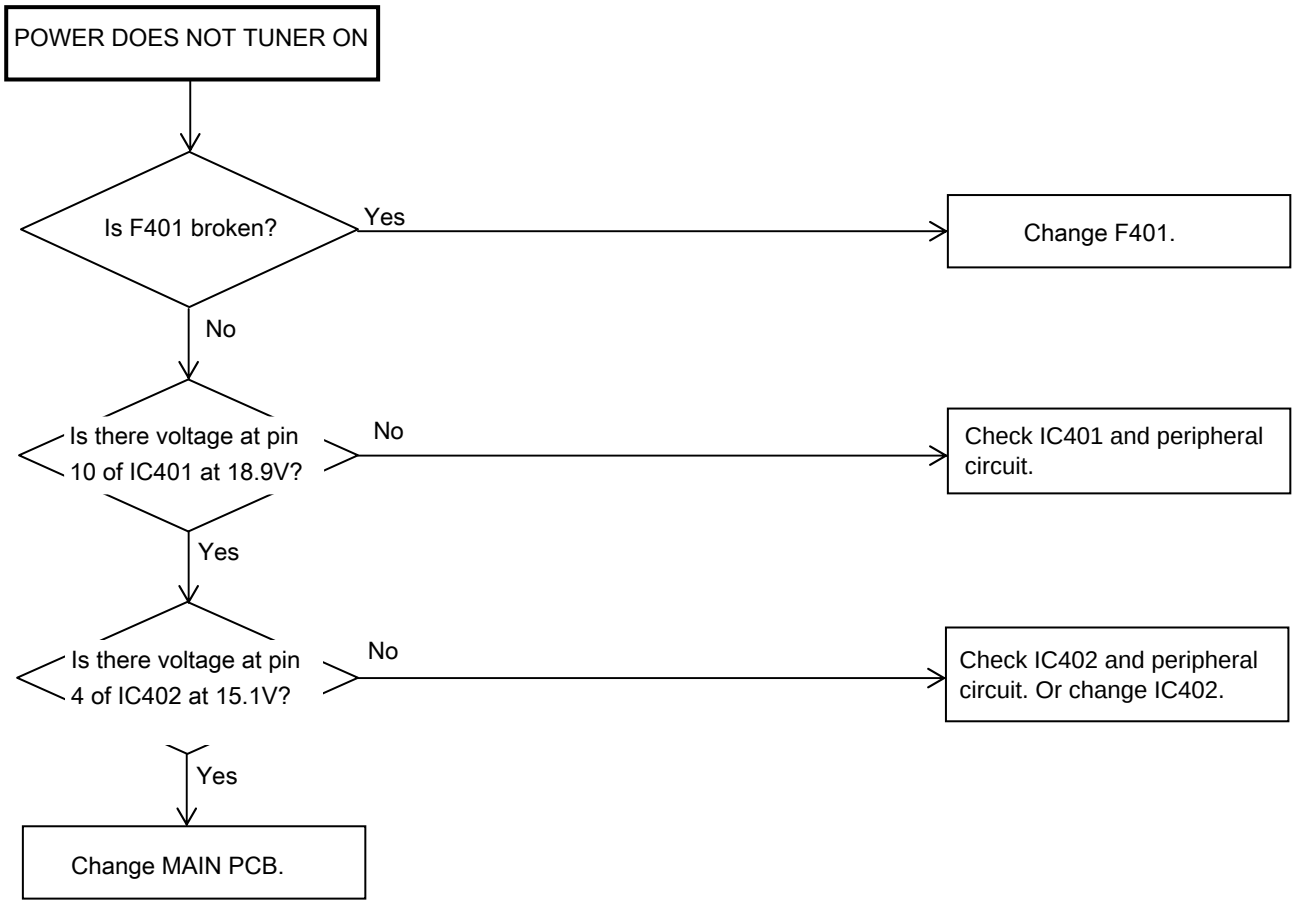
NO.	FUNCTION	TUNER			EXT1(SCART1), EXT2(SCART2)					EXT3(RCA)					EXT2(SCART2)					EXT3(RCA)					EXT1(SCART1)				
					CVBS					CVBS					S(Y/C)					S(Y/C)					RGB				
		576i			576i			480i		576i			480i		576i			480i		576i			480i		576i			480i	
		PAL50	PAL60	SECAM	PAL50	PAL60	SECAM	NTSC3.58	NTSC4.43	PAL50	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	15	15	15	15	15	15	15	15	15	15	18	15	15	15	15	15	15	15	15	15	18	15	15	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	3	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	B CUT OFF(M)	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 50	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	36	36	28	43	44	41	36	34	40	43	40	38	35	43	44	41	36	34	43	44	41	36	34	41	41	41	41	41
39	COLOR MAX	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
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

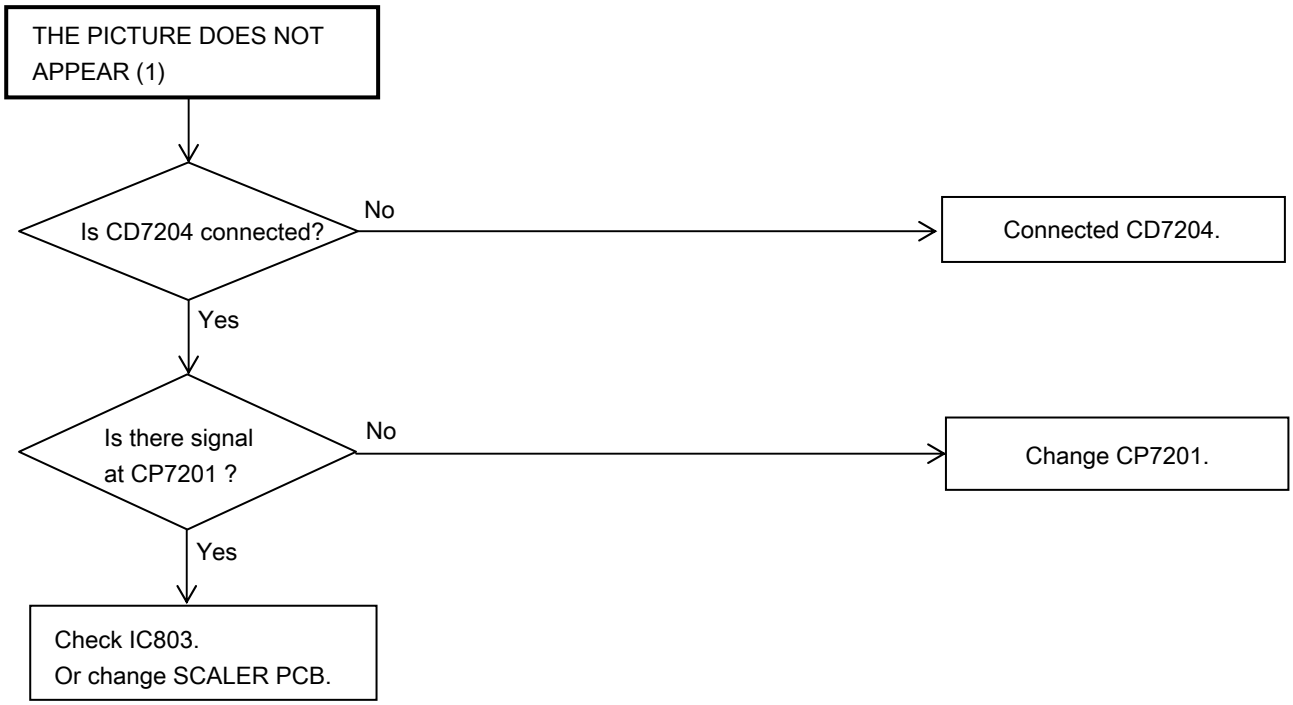
3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



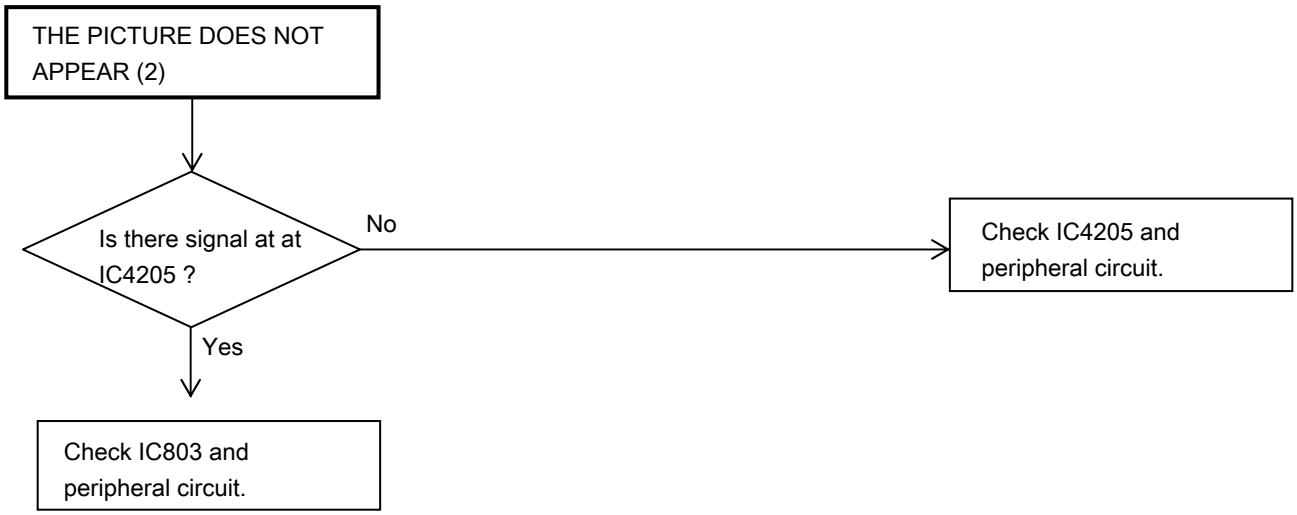
TROUBLESHOOTING GUIDE



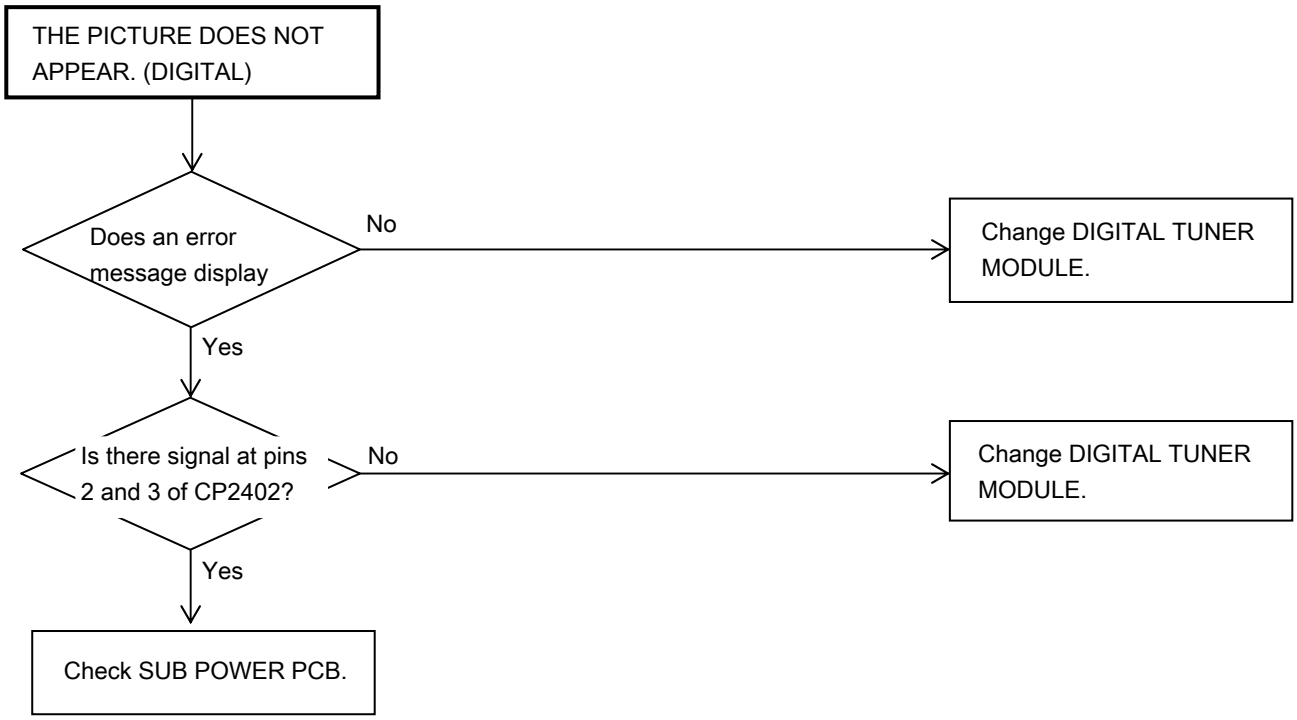
TROUBLESHOOTING GUIDE



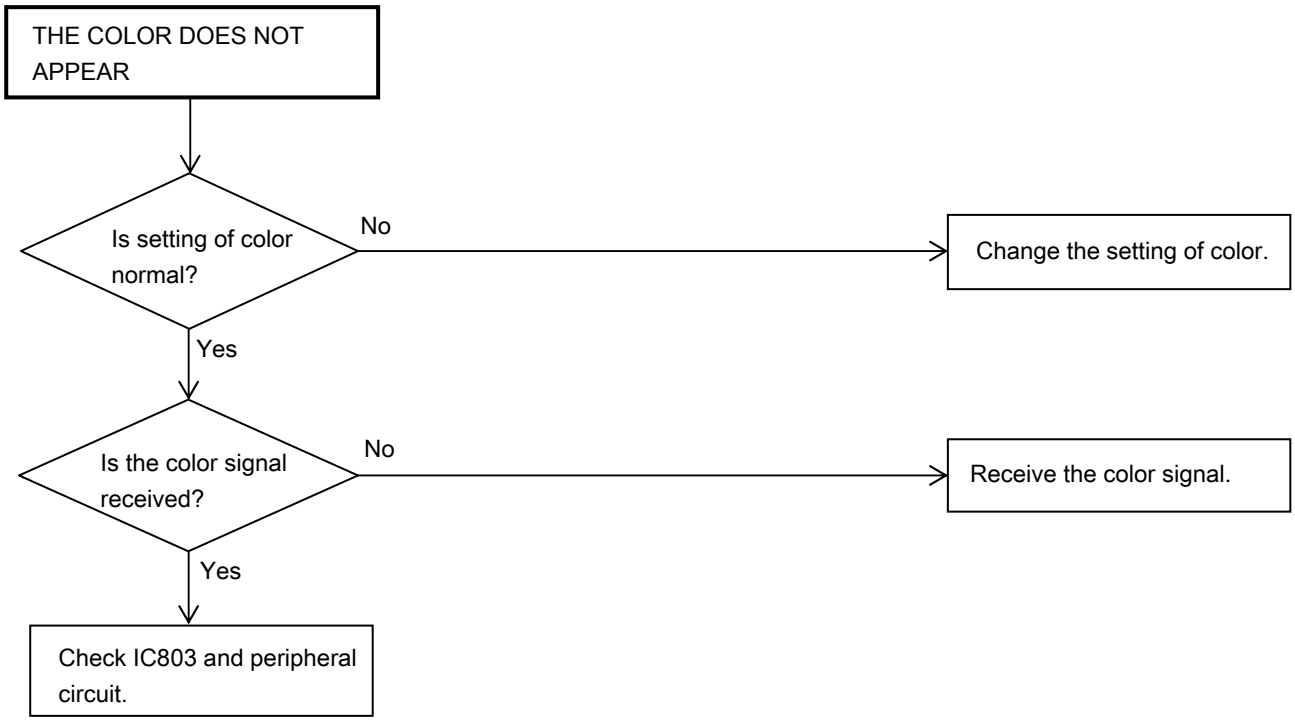
TROUBLESHOOTING GUIDE



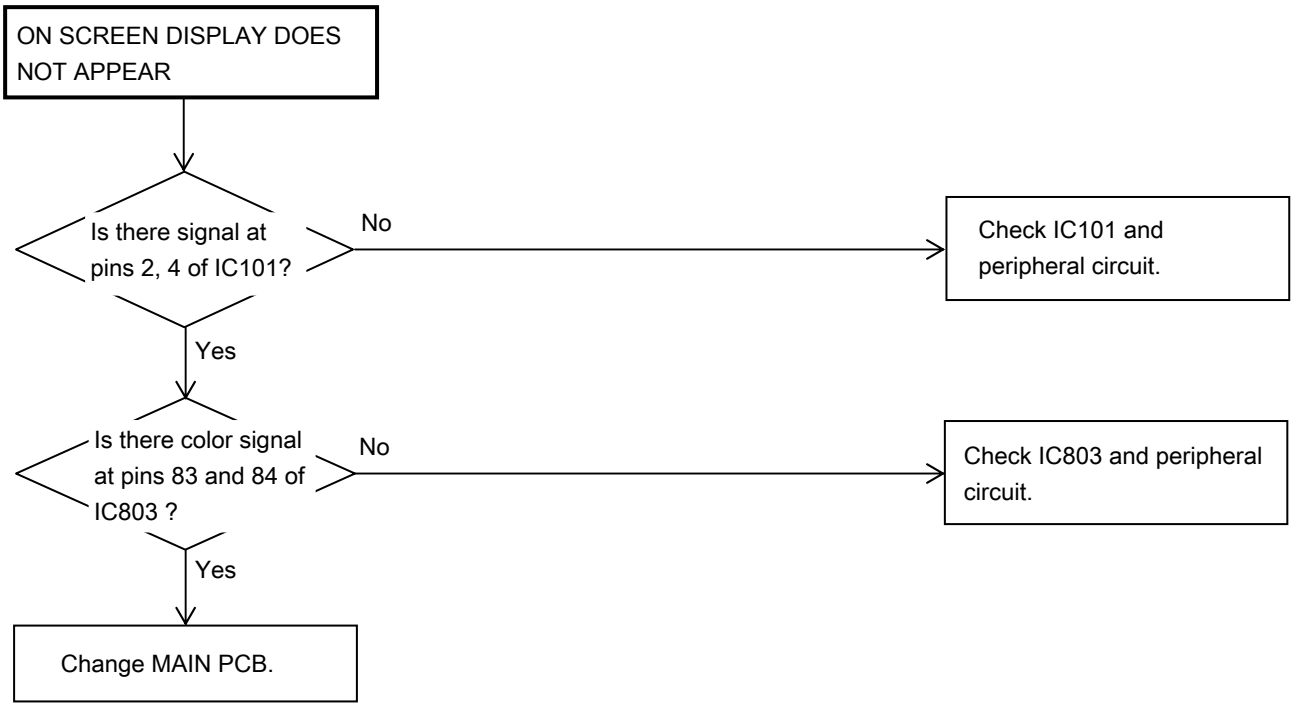
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE

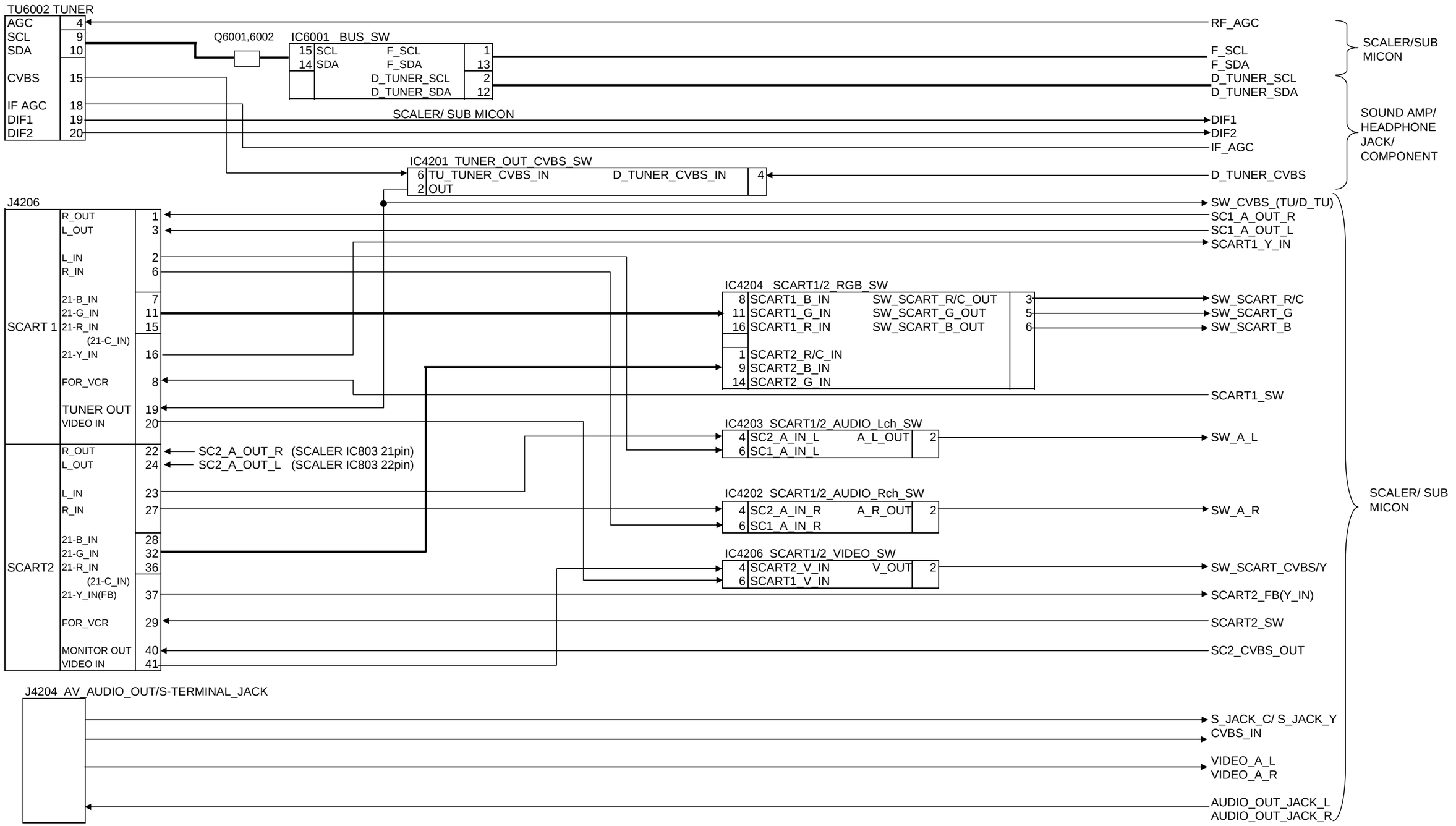


TROUBLSHOOTING GUIDDE

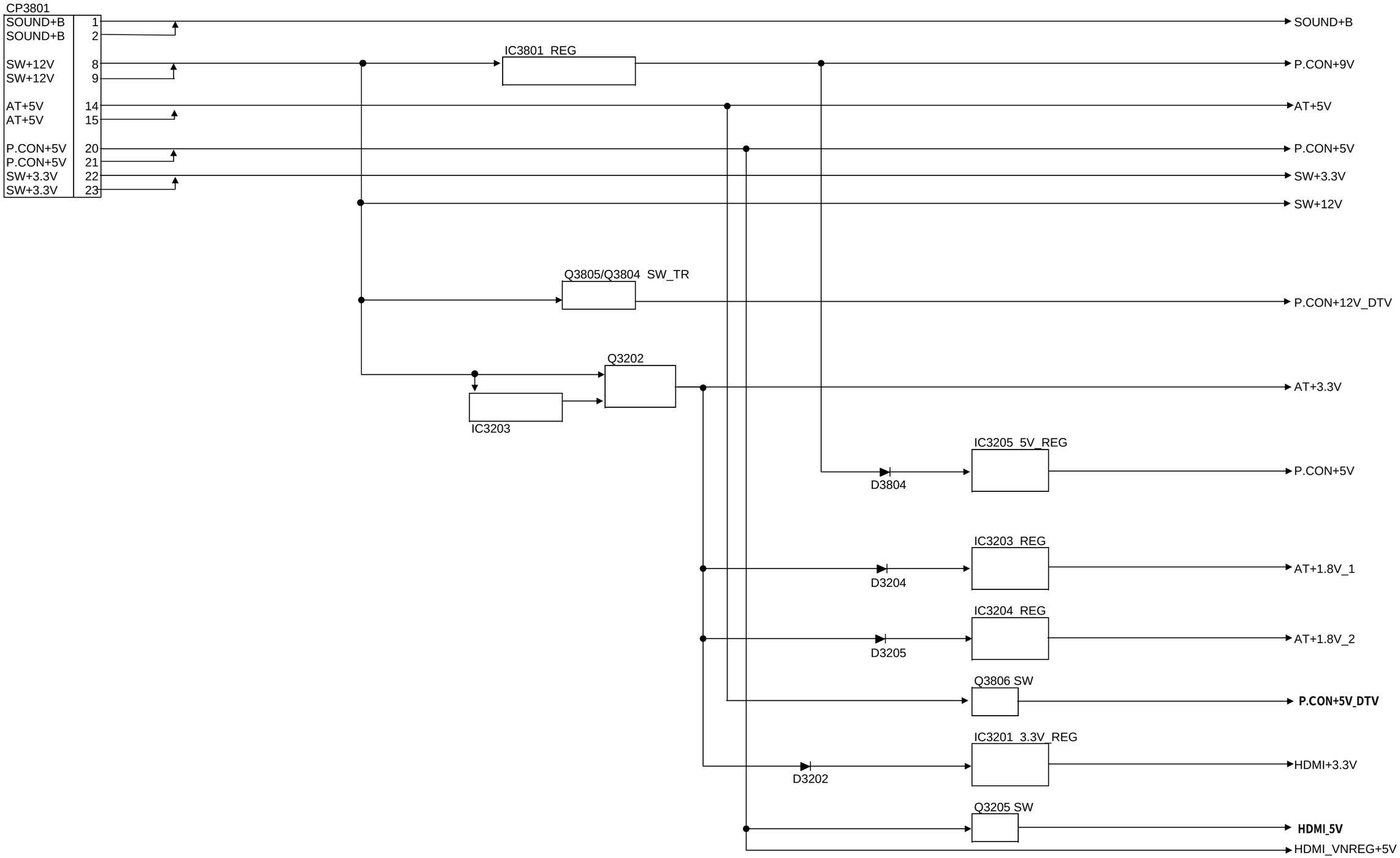



THE SCREEN HAS A VERTICAL LINE OR A HORIZONTAL LINE.
Is there a normal waveform at pins 184, 187 and 190 of IC803?
No
Change V2301.
Yes
Change IC803.

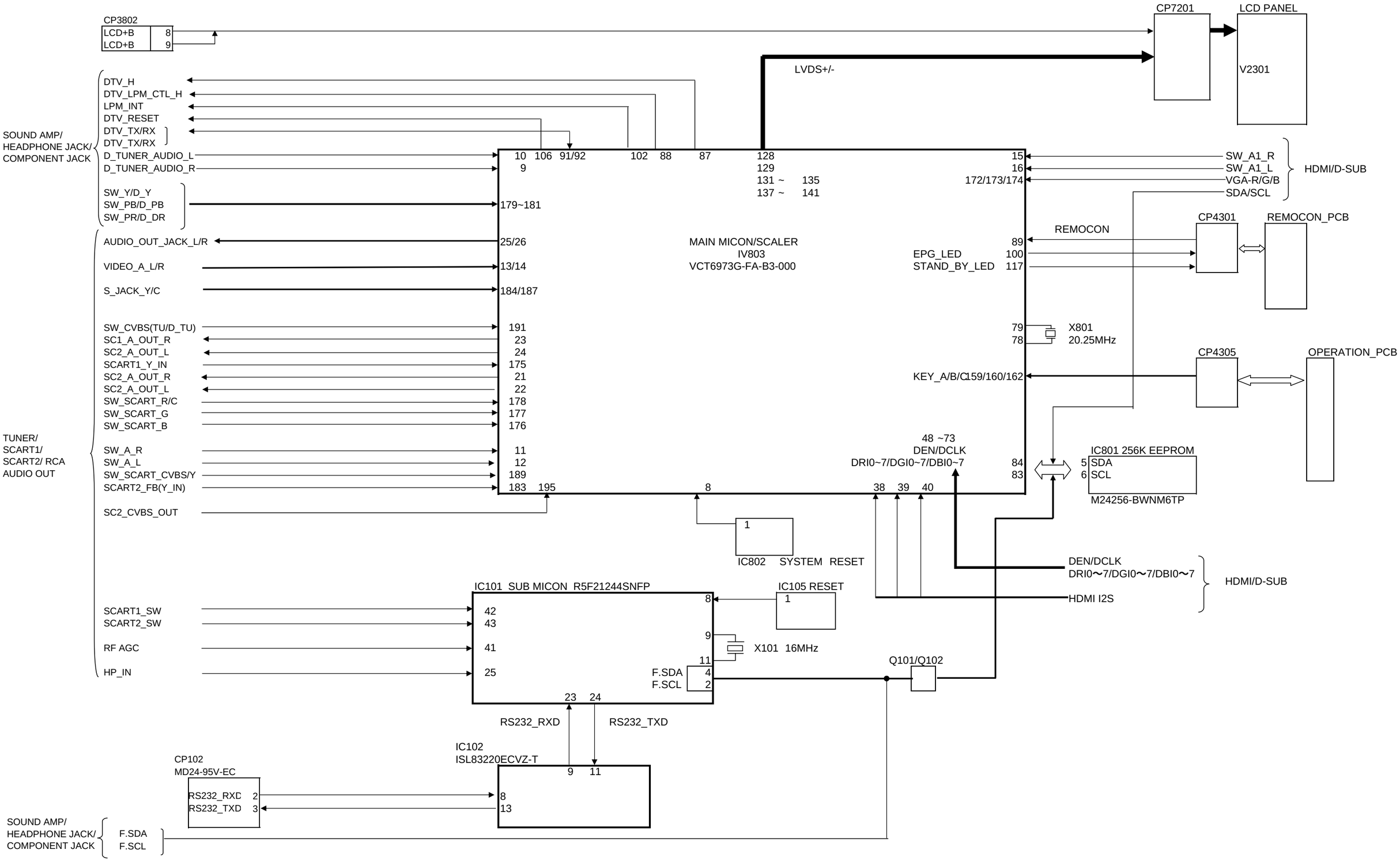
TUNER/SCART1/SCART2/RCA AUDIO OUT BLOCK DIAGRAM



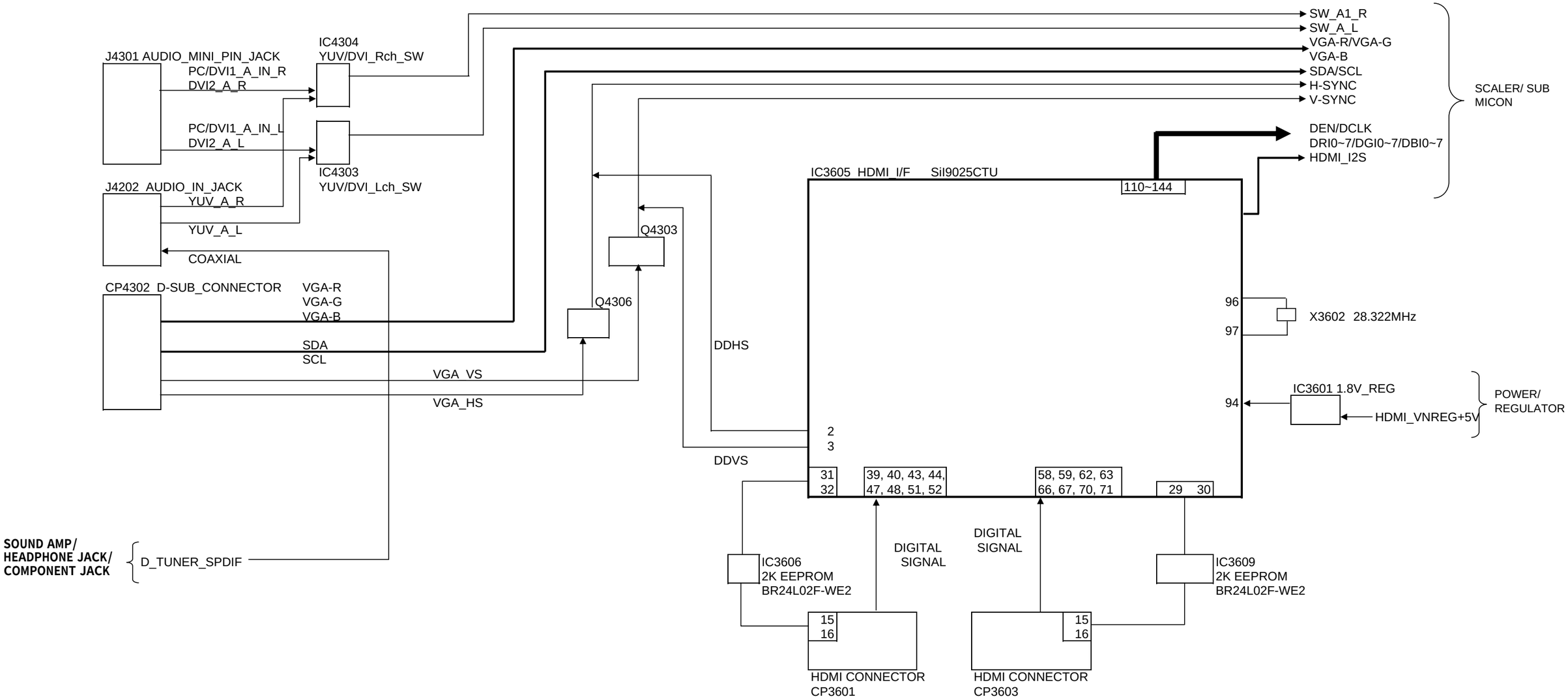
POWER/REGULATOR BLOCK DIAGRAM



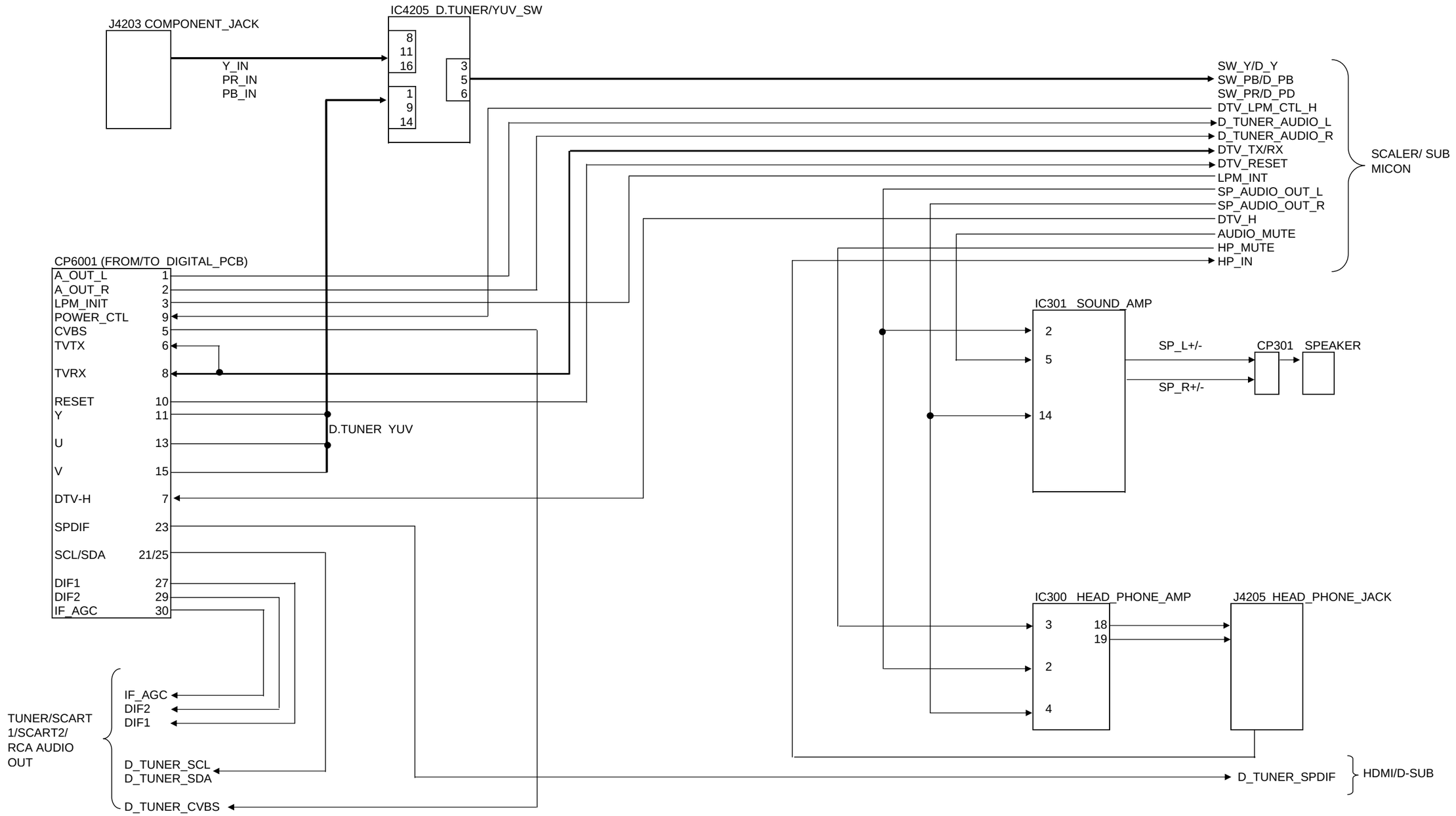
SCALER/SUB MICON BLOCK DIAGRAM



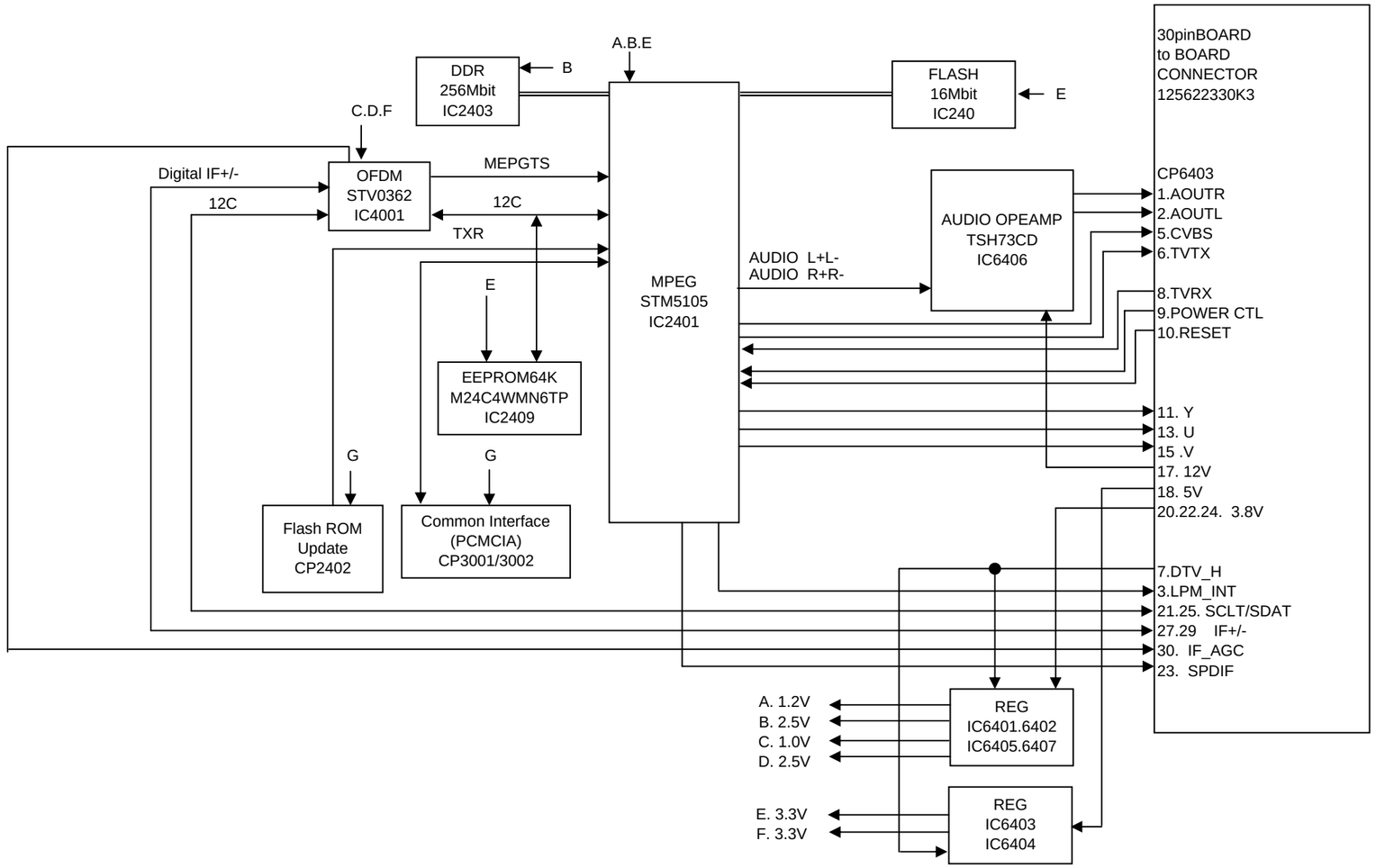
HDMI/D-SUB BLOCK DIAGRAM



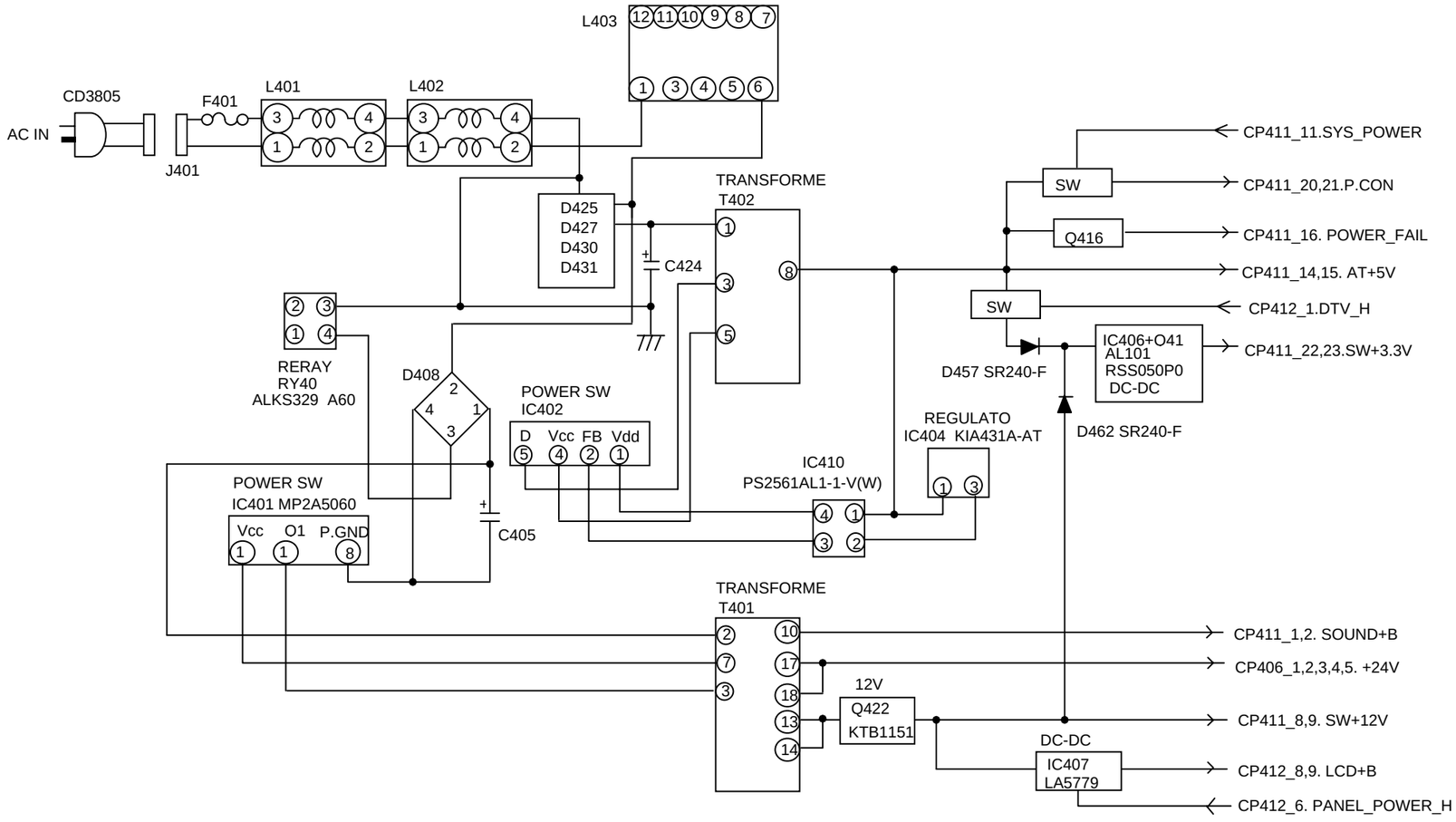
SOUND AMP/HEADPHONE JACK/COMPONENT JACK BLOCK DIAGRAM



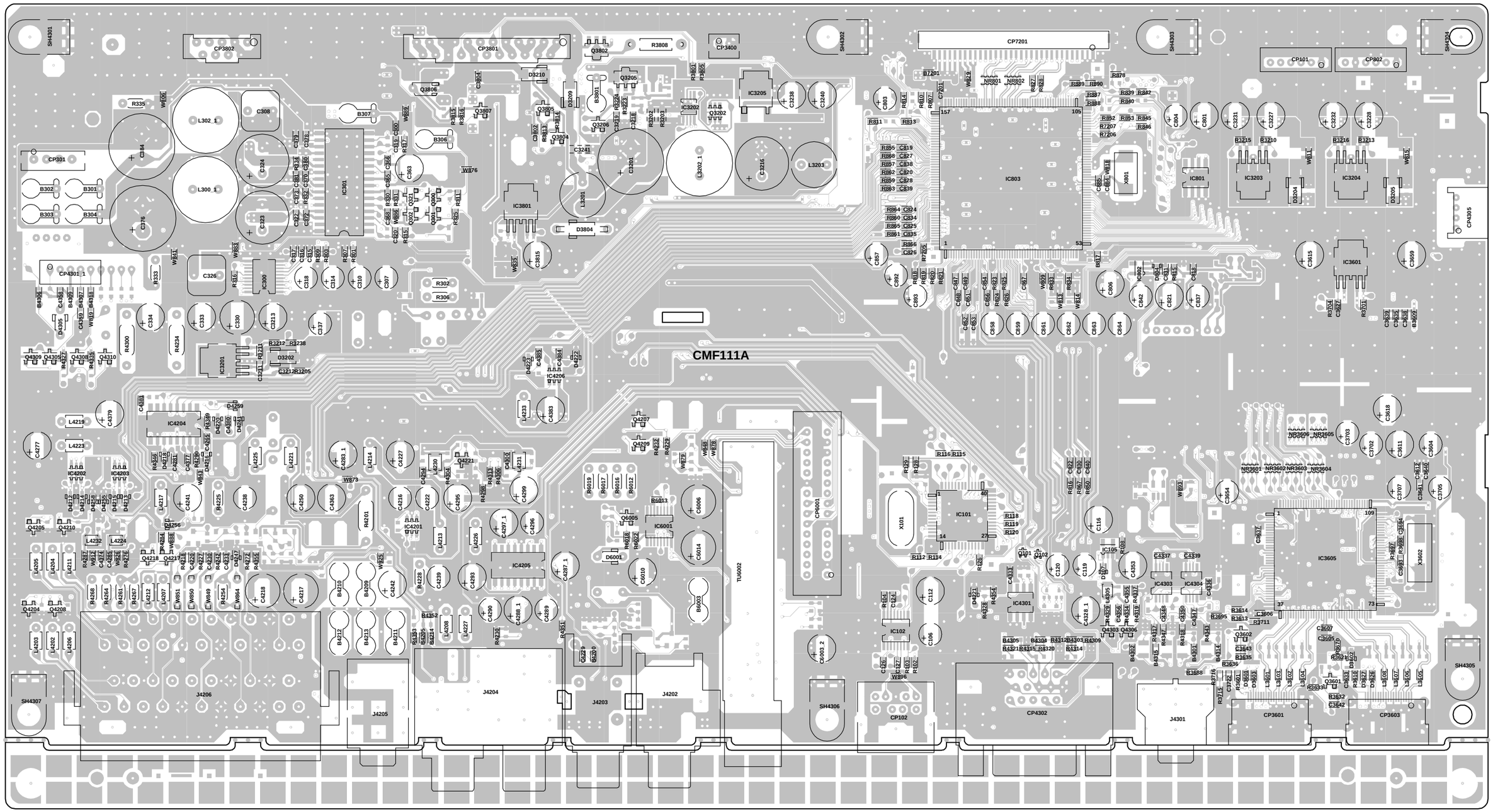
DIGITAL_BLOCK DIAGRAM



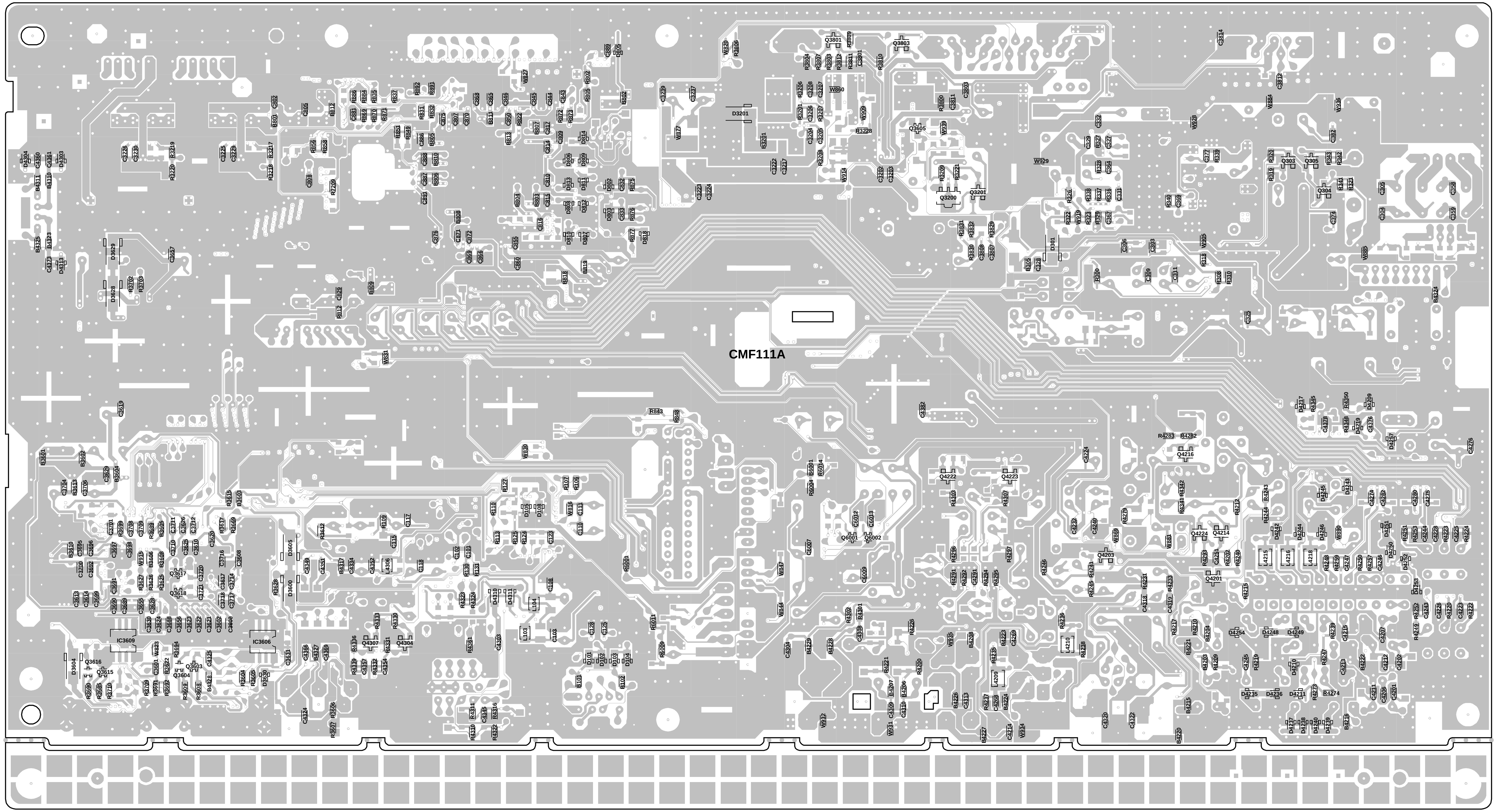
POWER(POWER PCB) BLOCK DIAGRAM



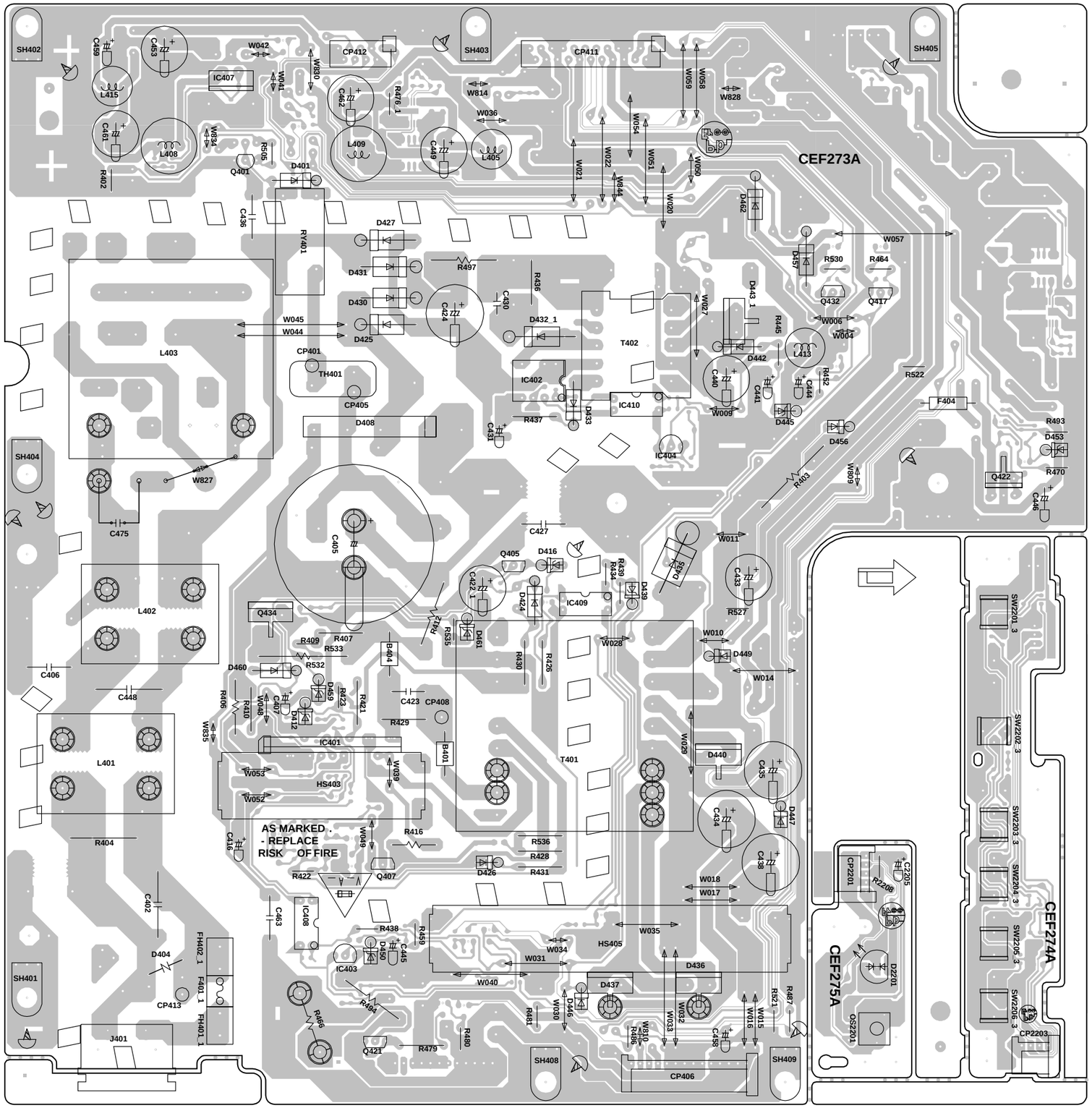
PRINTED CIRCUIT BOARDS
MAIN (TOP SIDE)



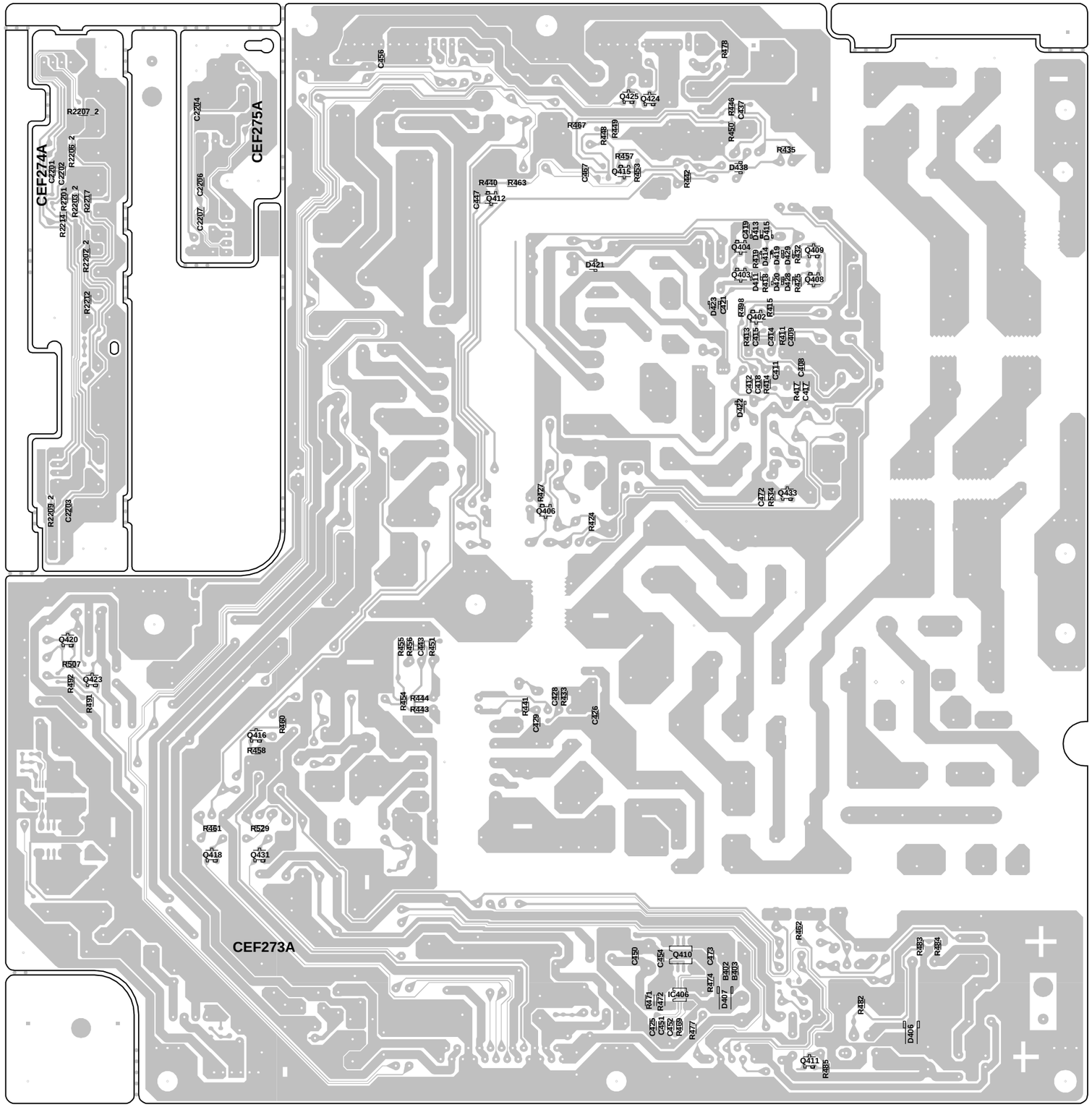
PRINTED CIRCUIT BOARDS
MAIN (BOTTOM SIDE)



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

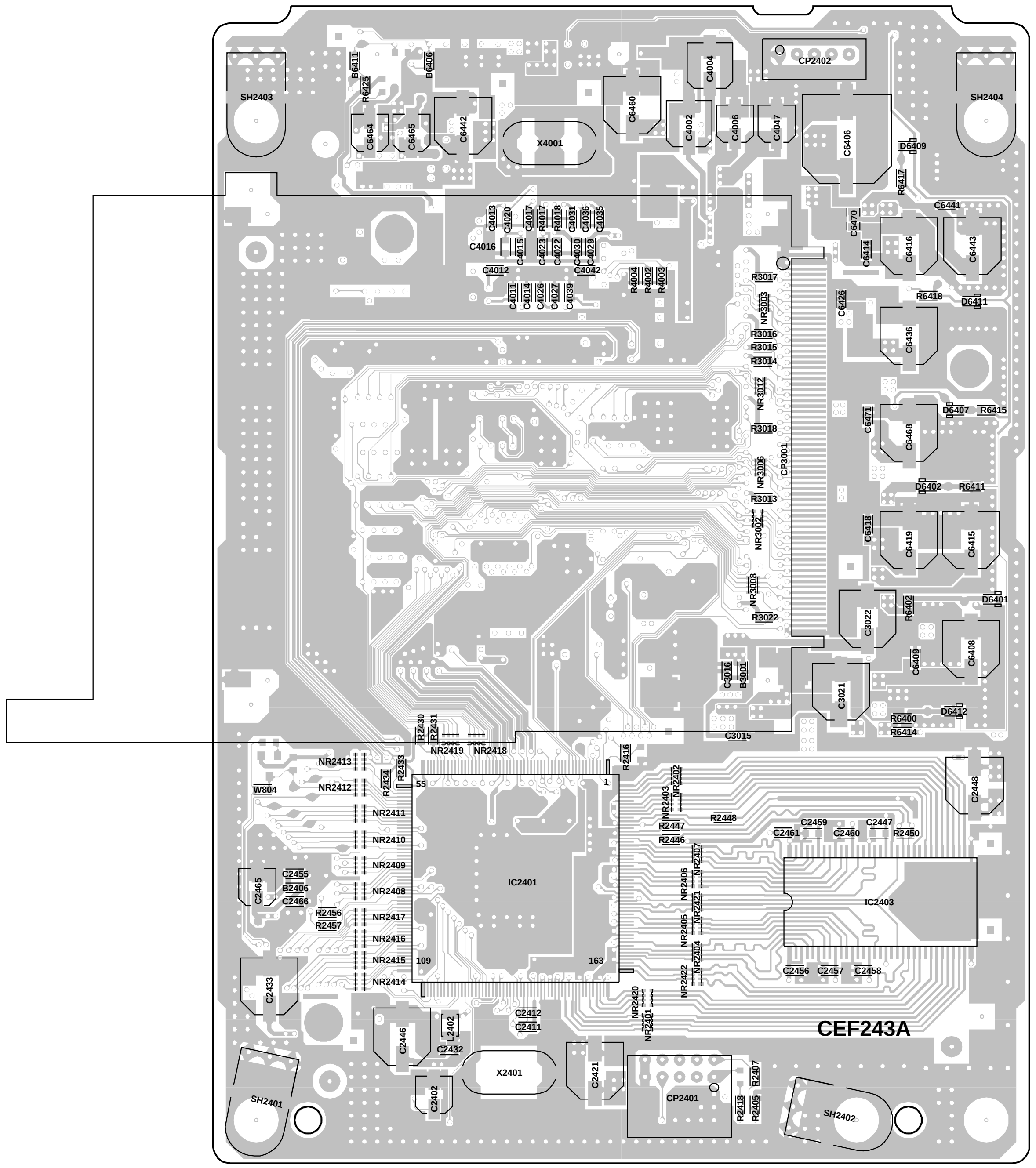


PRINTED CIRCUIT BOARDS
POWER/OPERATION/REMOCON (CHIP MOUNTED PARTS)
SOLDER SIDE

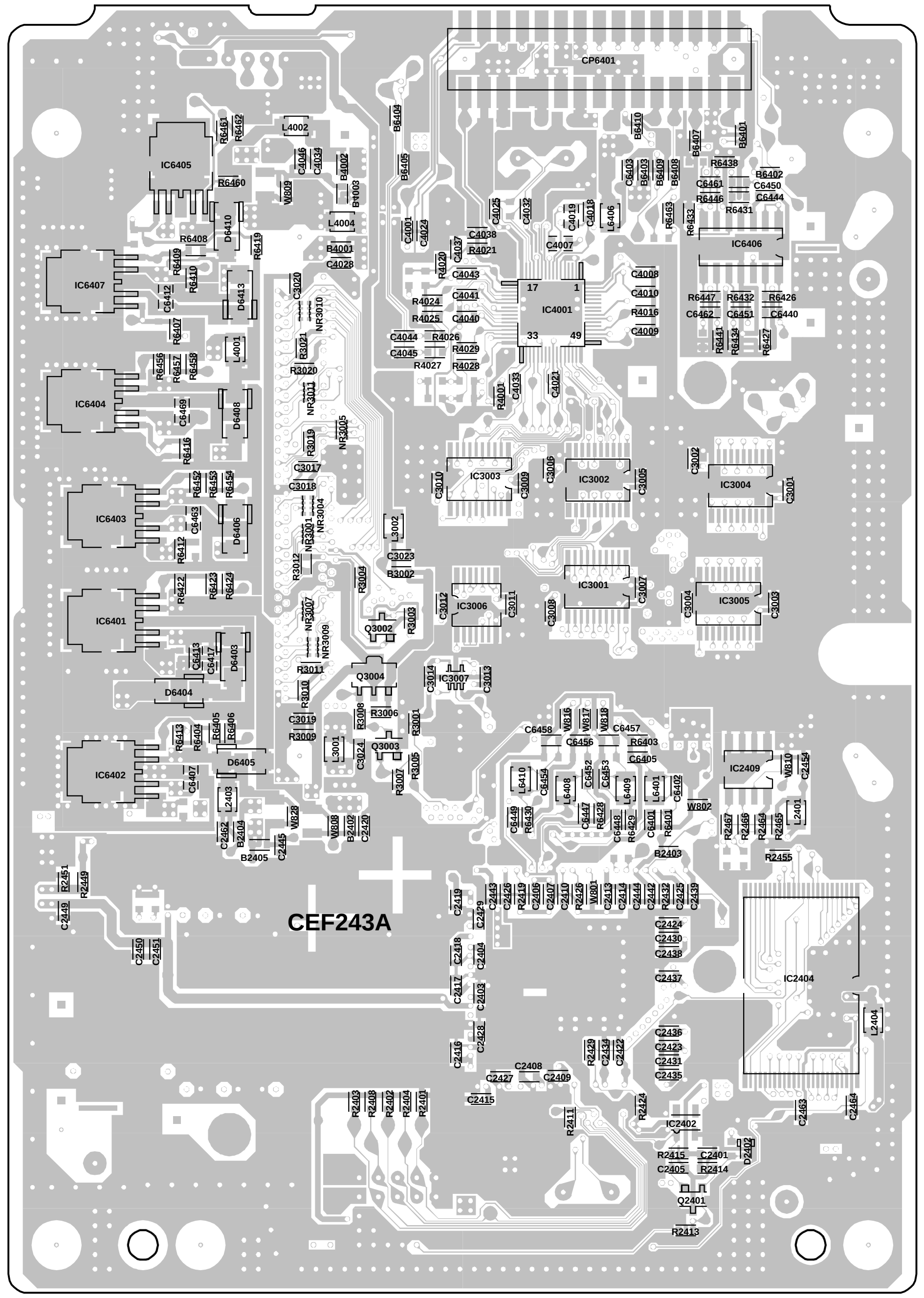


PRINTED CIRCUIT BOARDS

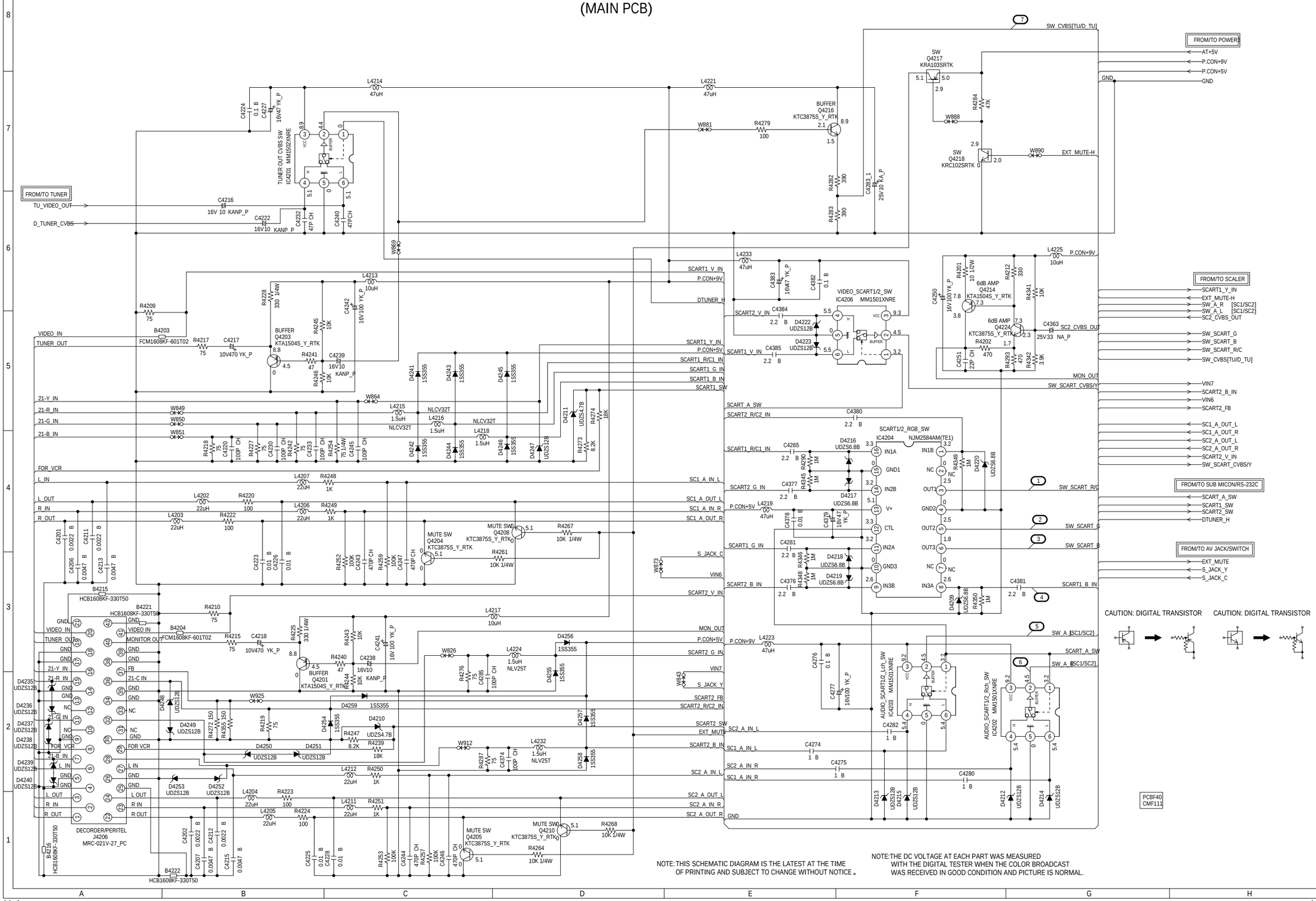
DIGITAL (TOP SIDE)



DIGITAL (BOTTOM SIDE)



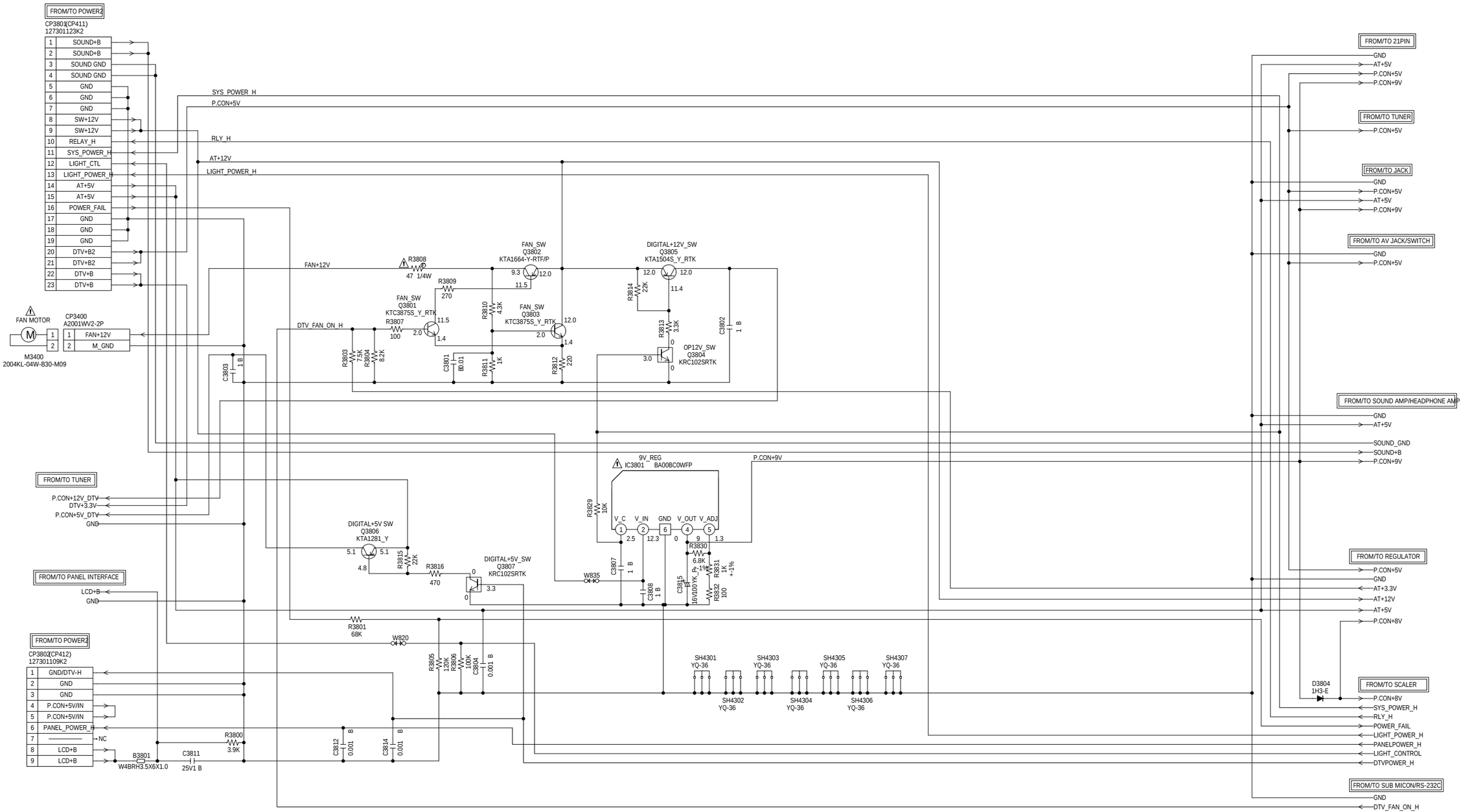
21PIN SCHEMATIC DIAGRAM
(MAIN PCB)



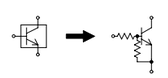
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

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.

POWER3 SCHEMATIC DIAGRAM
(MAIN PCB)



CAUTION: DIGITAL TRANSISTOR



PCBF40
CMF111

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

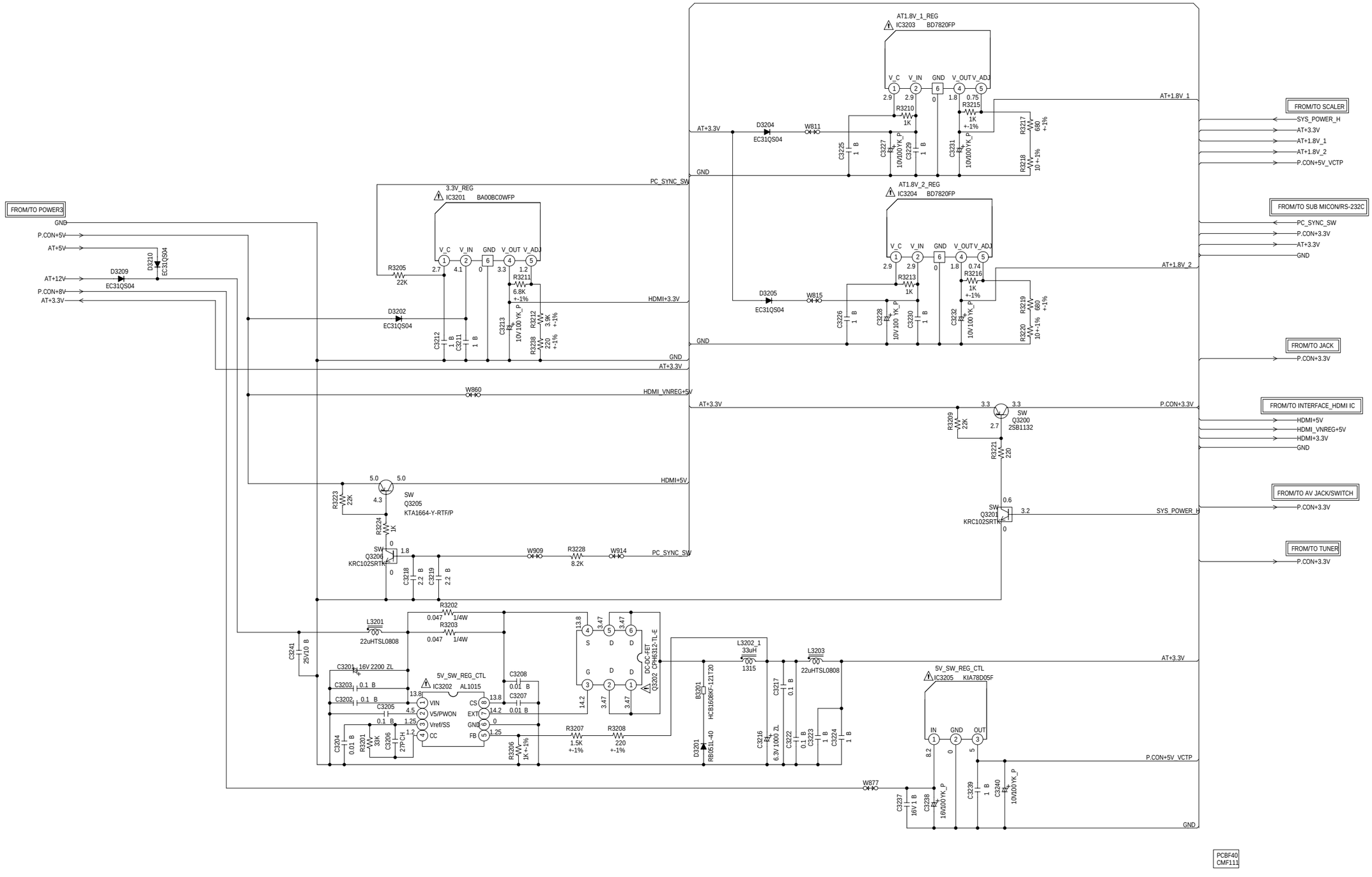
NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

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

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

REGULATOR SCHEMATIC DIAGRAM

(MAIN PCB)



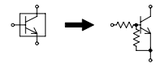
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

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.

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

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

CAUTION: DIGITAL TRANSISTOR



AV JACK/SWITCH SCHEMATIC DIAGRAM
(MAIN PCB)

COMPONENT_A_IN
J4202
AV2-57A03-01
W932
B4229
EBMS160808A102_RDC45
B4228
EBMS160808A102_RDC45
R4302
10
R4301
10
YUV_A_L
YUV_A_R
W931
B4200
FCM1608CF-600T06
B4207
FCM1608CF-600T06
B4206
FCM1608CF-600T06
COMPONENT_IN
J4203
RCA-349-00D-01
C4309 100P CH
C4310 100P CH
C4229 100P CH
R4200 75
R4221 75
R4225 75
C4308 0.001 B
C4304 0.001 B
Y_IN
PB_IN
PR_IN
8
9
10
L4230
22uH
NLFC3225
C4294 0.1 B
C4295 16V 100YK_P
R4304 1K
R4298 100
BUFFER
Q4221
KTA1504S_Y_RTK
R4313 1K
R4307 100
BUFFER
Q4223
KTA1504S_Y_RTK
R4306 1K
R4303 100
BUFFER
Q4222
KTA1504S_Y_RTK
FROM/TO JACK
YUV_A_L
YUV_A_R
FROM/TO 21PIN
EXT_MUTE
S_JACK_Y
S_JACK_C
FROM/TO SUB MICON/RS-232C
DTUNER_H
HP_IN
FROM/TO SCALER
CVBS_IN
VIDEO_A_L
VIDEO_A_R
SW_Y/D_Y
SW_PB/D_PB
SW_PR/D_PR
AUDIO_JACK_OUT_L
AUDIO_JACK_OUT_R
S_DET
FROM/TO TUNER
D_TUNER_V
D_TUNER_U
D_TUNER_Y
FROM/TO REGULATOR
P.CON+3.3
FROM/TO POWER3
P.CON+5V
GND
FROM/TO SOUND AMP/HEADPHONE AMP
HP_A_R
HP_A_L
B4205
FCM1608CF-600T06
B4214
FCM1608CF-600T06
S_JACK_C
S_JACK_Y
S_DET
11
12
R4352 75
R4353 75
R4351 1K
W934
AV/AUDIO OUT/S-TERMINAL
J4204
RCA/DIN-501A-00B-03
C
Y
CVBS_IN
VIDEO_A_L
VIDEO_A_R
13
14
15
B4223
HCB1608KF-330T50
B4224
HCB1608KF-330T50
B4227
HCB1608KF-330T50
C4269 0.001 B
C4268 0.001 B
W935
B4226
HCB1608KF-330T50
B4208
FCM1608CF-600T06
L4227
22uH
C4313
0.0022 B
L4208
22uH
C4214
0.0022 B
B4220
HCB1608KF-330T50
L4210
22uH NLFC3225
L4209
22uH
NLFC3225
R4236 680
R4235 680
AUDIO_JACK_OUT_L
AUDIO_JACK_OUT_R
MUTE
Q4209
KTC3875S_Y_RTK
R4232 10K
EXT_MUTE
MUTE
Q4207
KTC3875S_Y_RTK
R4229 10K
R4230 75
R4238 100K
R4237 100K
HEADPHONE JACK
J4205
MSJ-035-08D_PC(O87)
HP_R
HP_L
HP_SW
P.CON+3.3
NC
NC
NC
B4212
W4BRH3.5X6X1.0X2
R4300 15 1/2W
B4211
W4BRH3.5X6X1.0X2
R4234 15 1/2W
B4210
W4BRH3.5X6X1.0X2
B4209
W4BRH3.5X6X1.0X2
R4233 12K
R4231 12K
C4318 0.001 B
C4319 0.001 B
C4320 0.01 B
C4322 0.01 B
B4213
W4BRH3.5X6X1.0X2
16
17
DTUNER/YUV SW
IC4205
NJM2584AM(TE1)
C4287_1 25V10 KA_P
C4289 25V10 KA_P
C4288_1 25V10 KA_P
C4290 25V10 KA_P
C4296 25V10 KA_P
C4297_1 25V10 KA_P
R4291 1M
R4292 1M
R4294 1M
R4295 1M
R4296 1M
R4297 1M
IN1A
GND1
IN2B
V+
CTL
IN2A
GND3
IN3B
IN1B
NC
OUT1
GND2
OUT2
OUT3
NC
IN3A
C4291 0.01 B
C4293 16V 47
L4226
47uH
C4299 16V 100 YK_P
L4231
22uH
NLFC3225
C4300 0.1 B
ACCESSORY
TM101
ETR0088-010240
CD3810_1
P205-1324-4
BT001
R6P(AR)XICI
BT002
R6P(AR)XICI

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

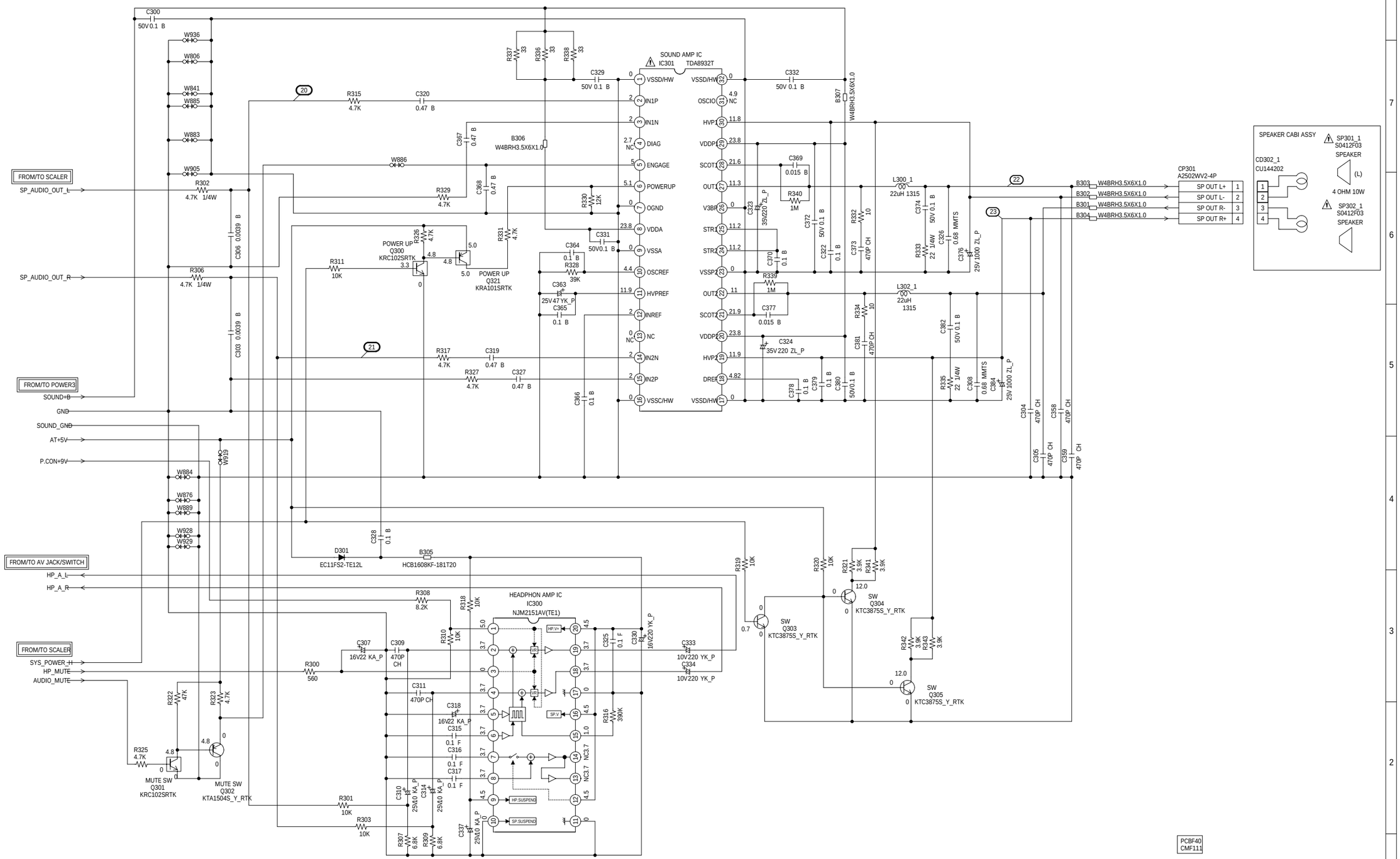
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

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

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

PCBF40
CMF111

SOUND AMP/HEADPHONE AMP SCHEMATIC DIAGRAM
(MAIN PCB)



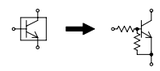
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

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.

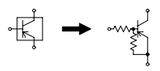
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

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

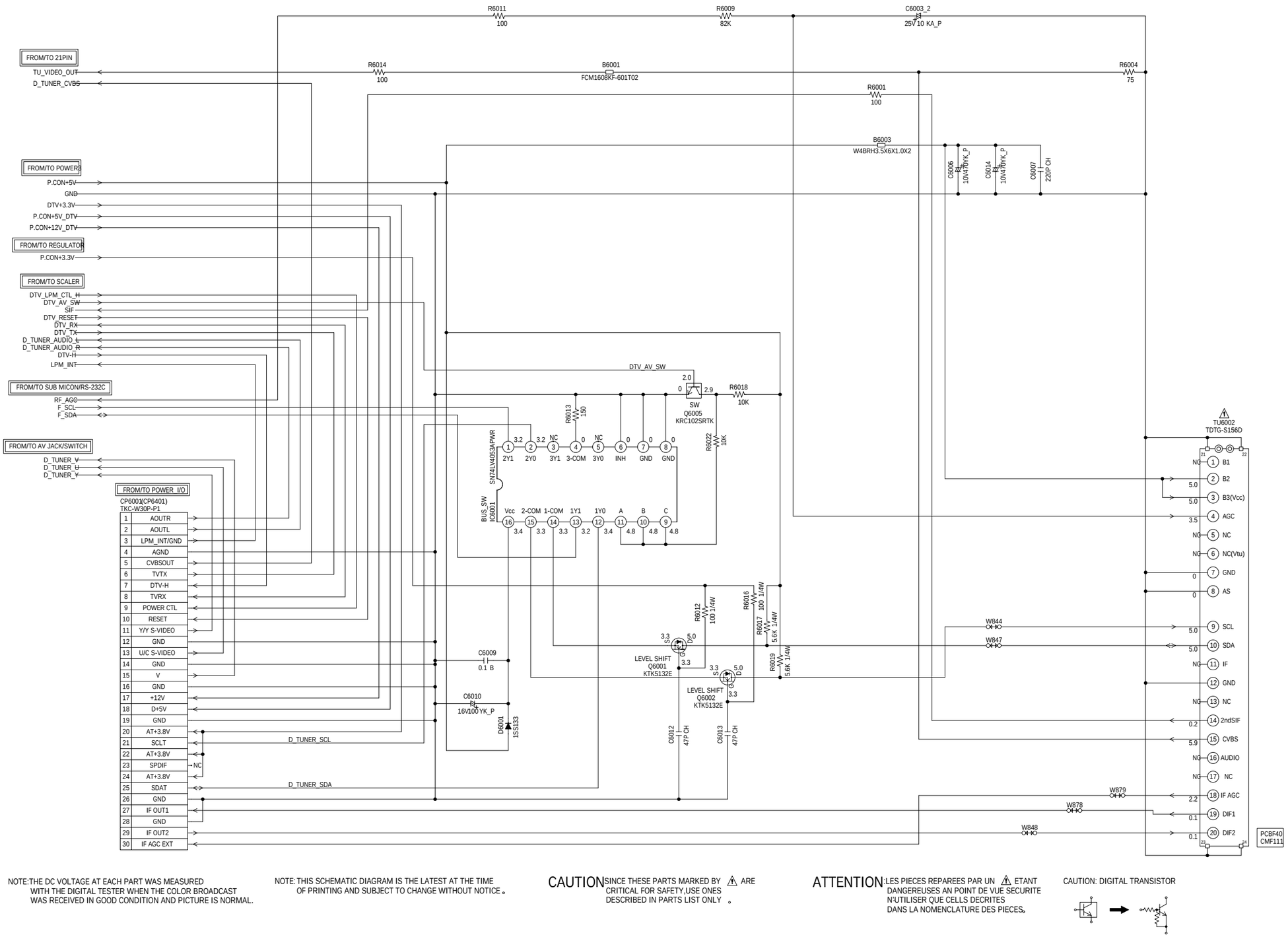
CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR



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.

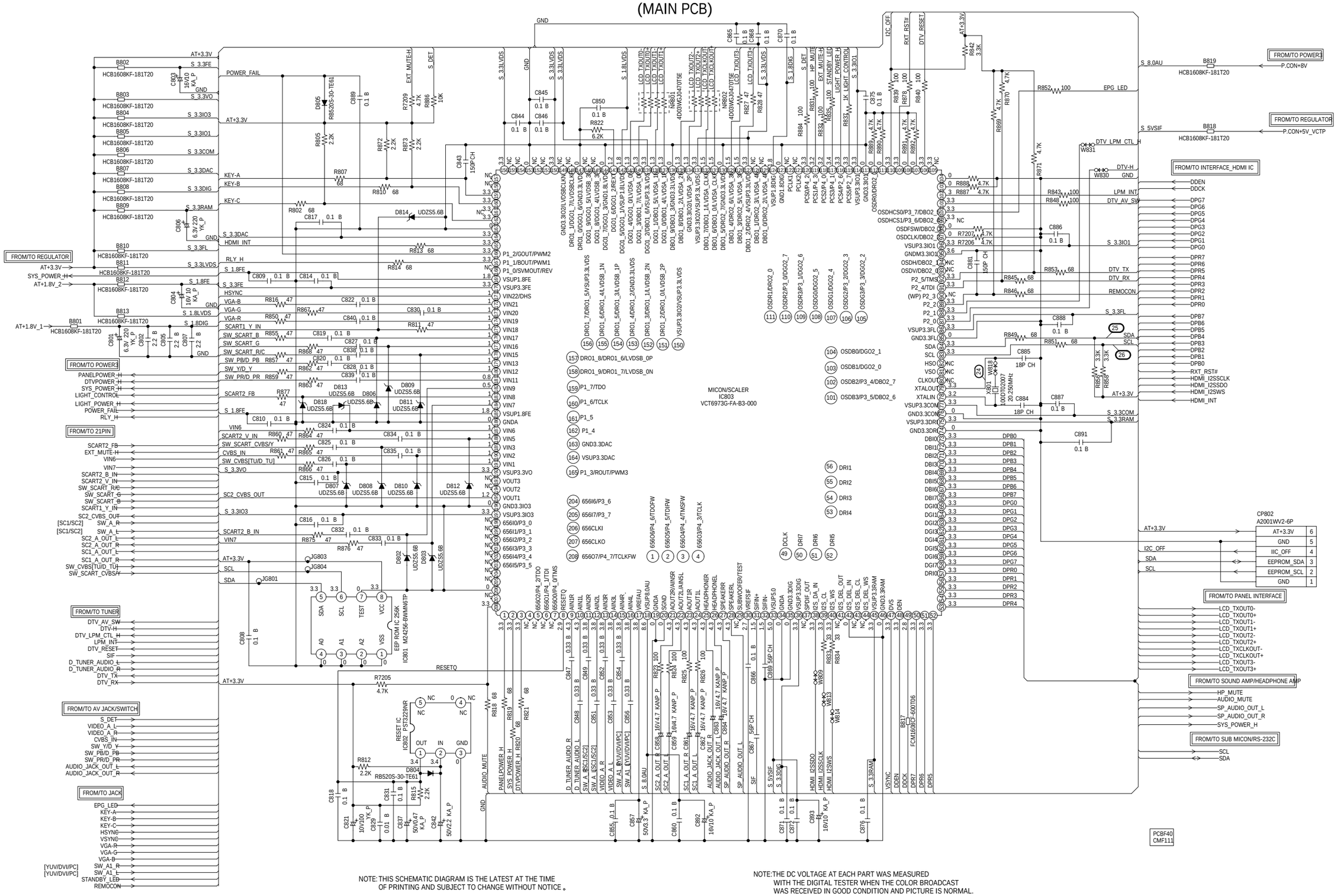
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

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

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

CAUTION: DIGITAL TRANSISTOR

SCALER SCHEMATIC DIAGRAM
(MAIN PCB)

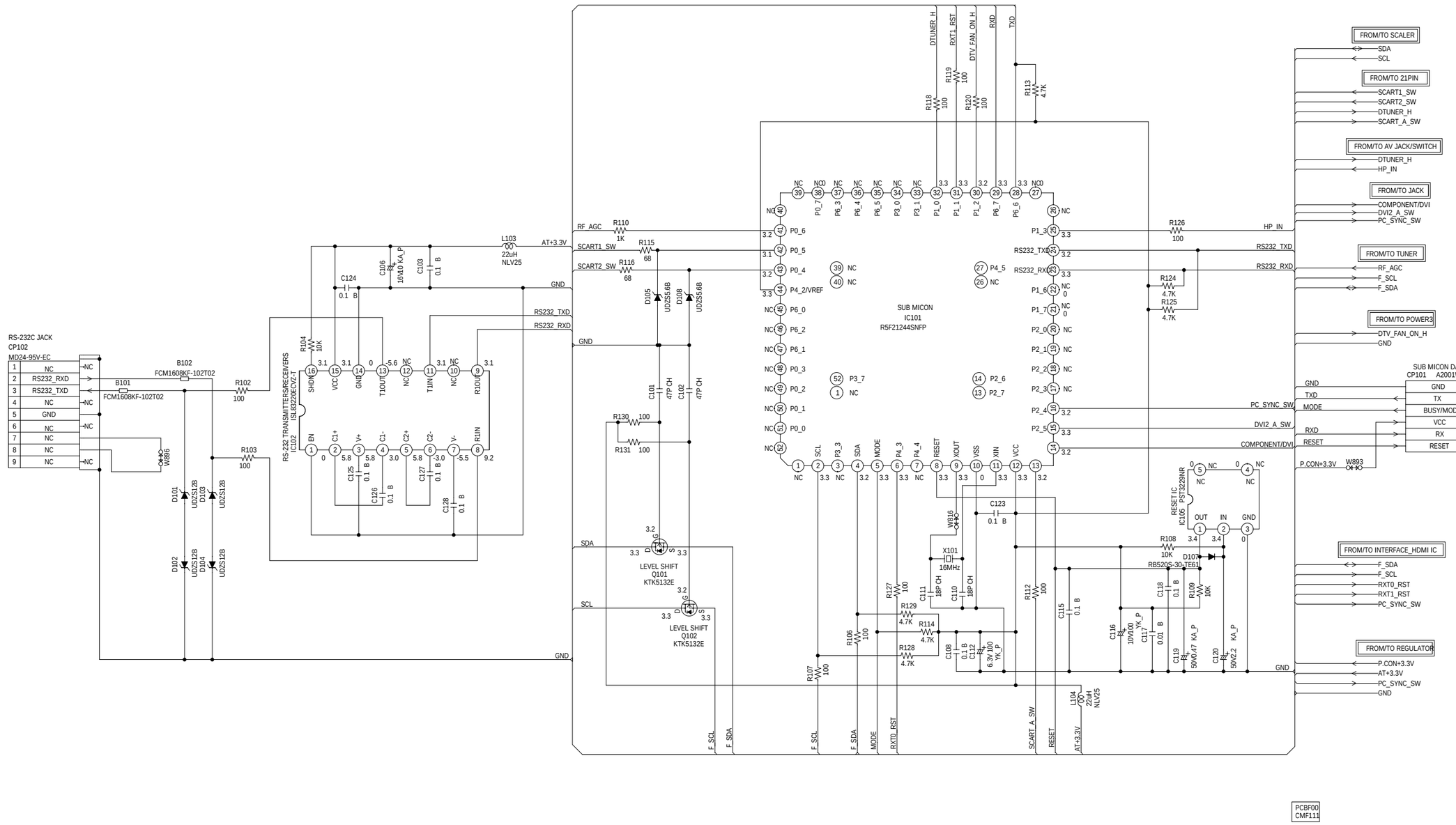


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SUB MICON/RS-232C SCHEMATIC DIAGRAM

(MAIN PCB)



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JACK SCHEMATIC DIAGRAM
(MAIN PCB)

AUDIO MINI PIN JACK J4301 MSJ-035-39D_B_PC_LF(O87)

HDMI 1

HDMI 2

D-SUB CP4302 D229FD015G107BY

1	VGA-R
2	VGA-G
3	VGA-B
4	NC
5	DGND
6	AGND
7	AGND
8	AGND
9	DSUB_5V
10	DGND
11	NC
12	DDCD
13	VGAHS
14	VGAVS
15	DDCC

YUV/DVI/PC Rch SW IC4304 NJM2534V

YUV/DVI/PC Lch SW IC4303 NJM2534V

BAIAS

BUFFER

EEP ROM IC 2K 24LCS22AT-I/SN IC4301

CAUTION: DIGITAL TRANSISTOR

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FROM/TO SCALER

FROM/TO INTERFACE_HDMI IC

FROM/TO OPERATION/REMOCON

CP4301_1 (CP2201) A2001WV2-5P

POWER ON LED	5
STANDBY LED	4
AT+5V	3
GND	2
REMOCON IN	1

REMOCON PCB CD4301 CU256201

FROM OPERATION/REMOCON (CP2203) CP4305 A2001WR2-4P

GND	1
KEY B	2
KEY A	3
KEY C	4

OPERATION PCB CD4302 CU244003

FROM/TO POWER3

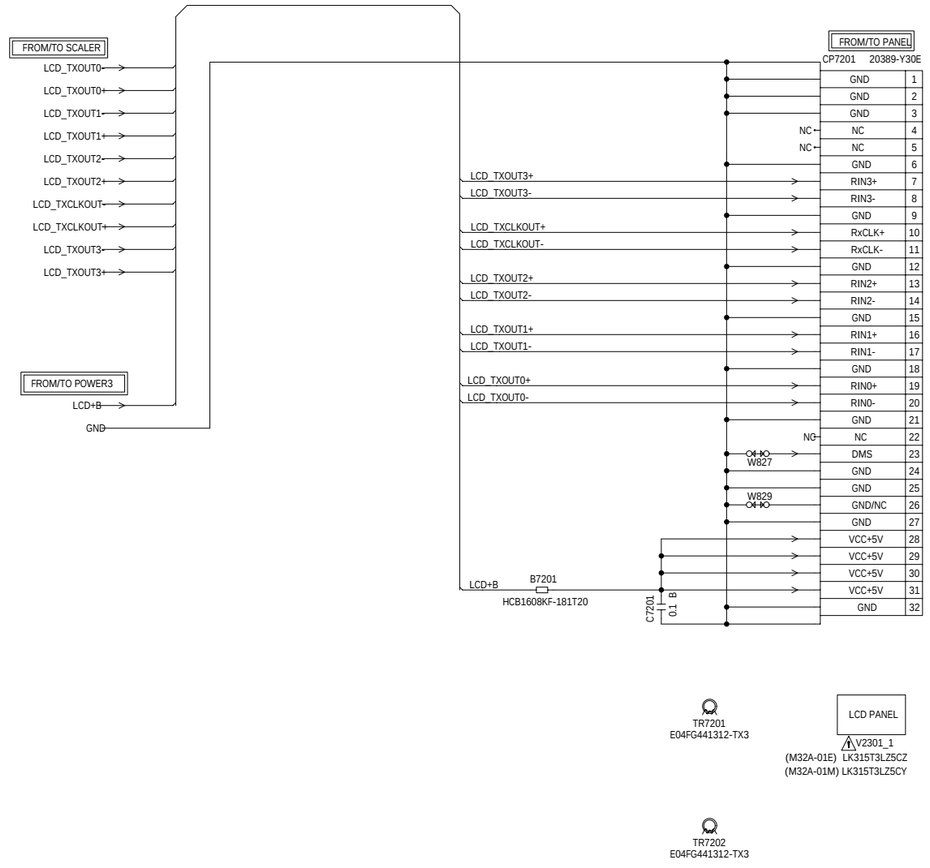
FROM/TO AV JACK/SWITCH

FROM/TO REGULATOR

FROM/TO SUB MICON/RS-232C

PCBF40 CMF111

PANEL INTERFACE DIAGRAM
(MAIN PCB)



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

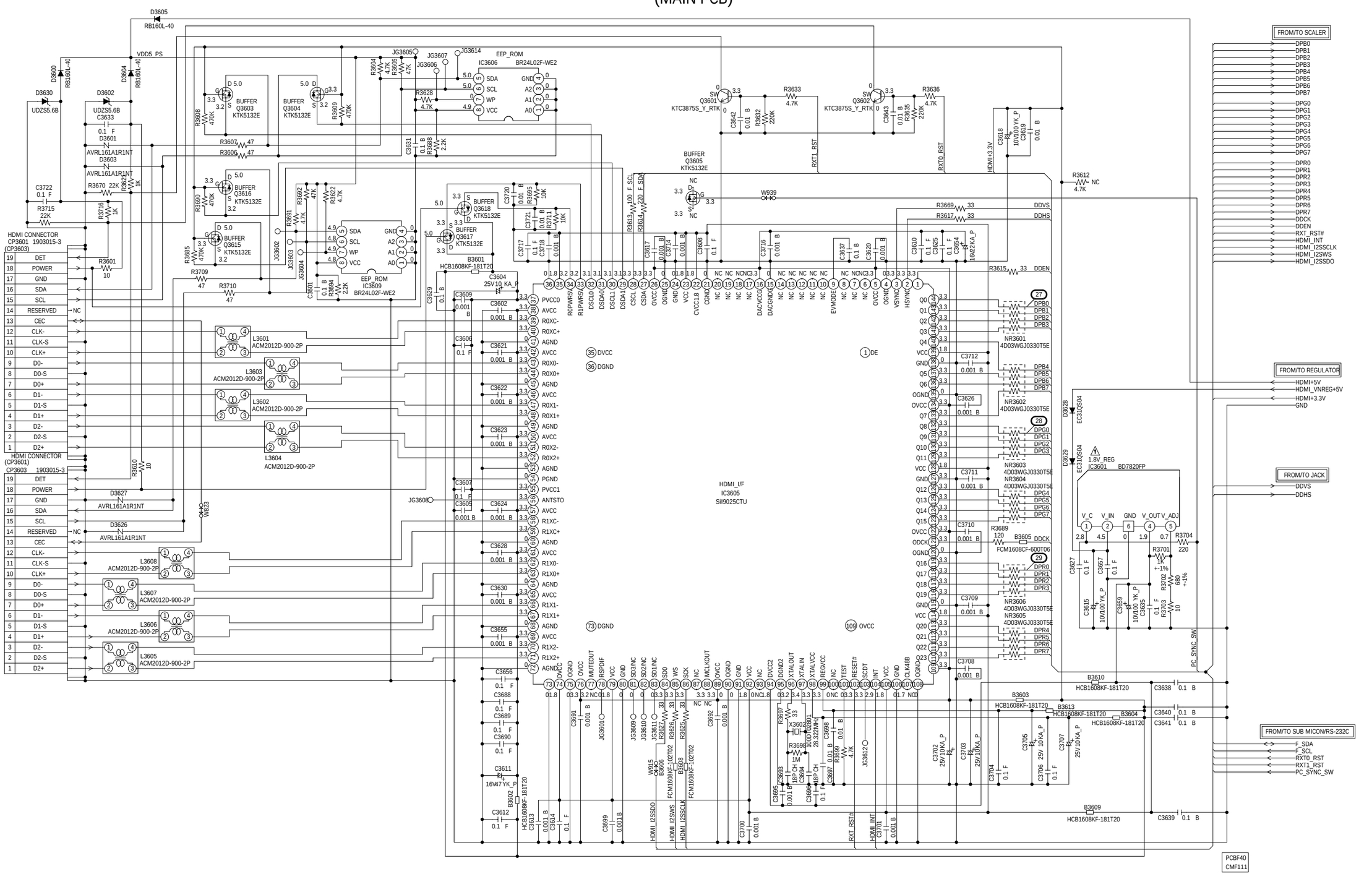
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CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY 。

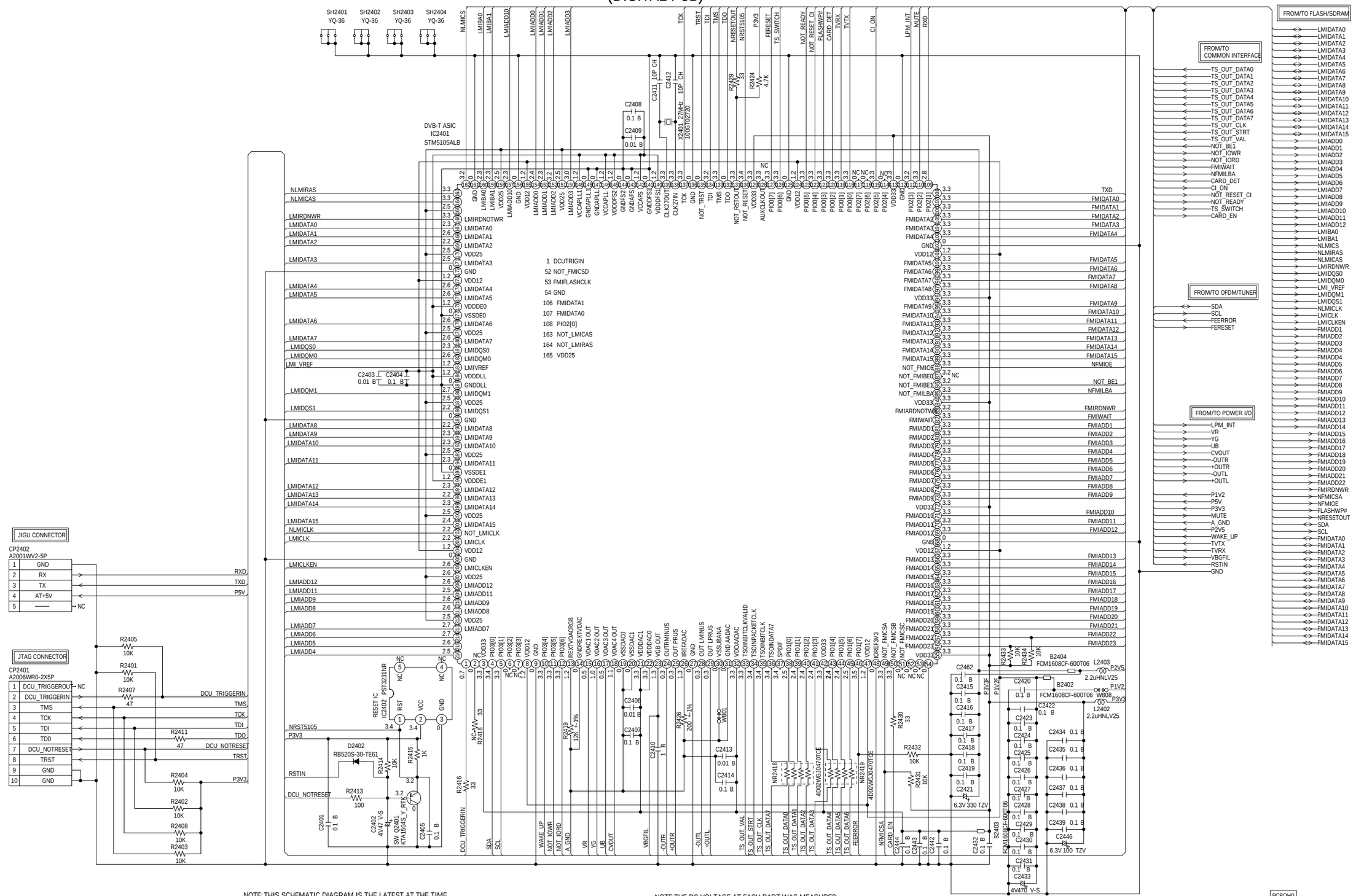
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

INTERFACE_HDMI IC SCHEMATIC DIAGRAM

(MAIN PCB)



ASIC SCHEMATIC DIAGRAM
(DIGITAL PCB)

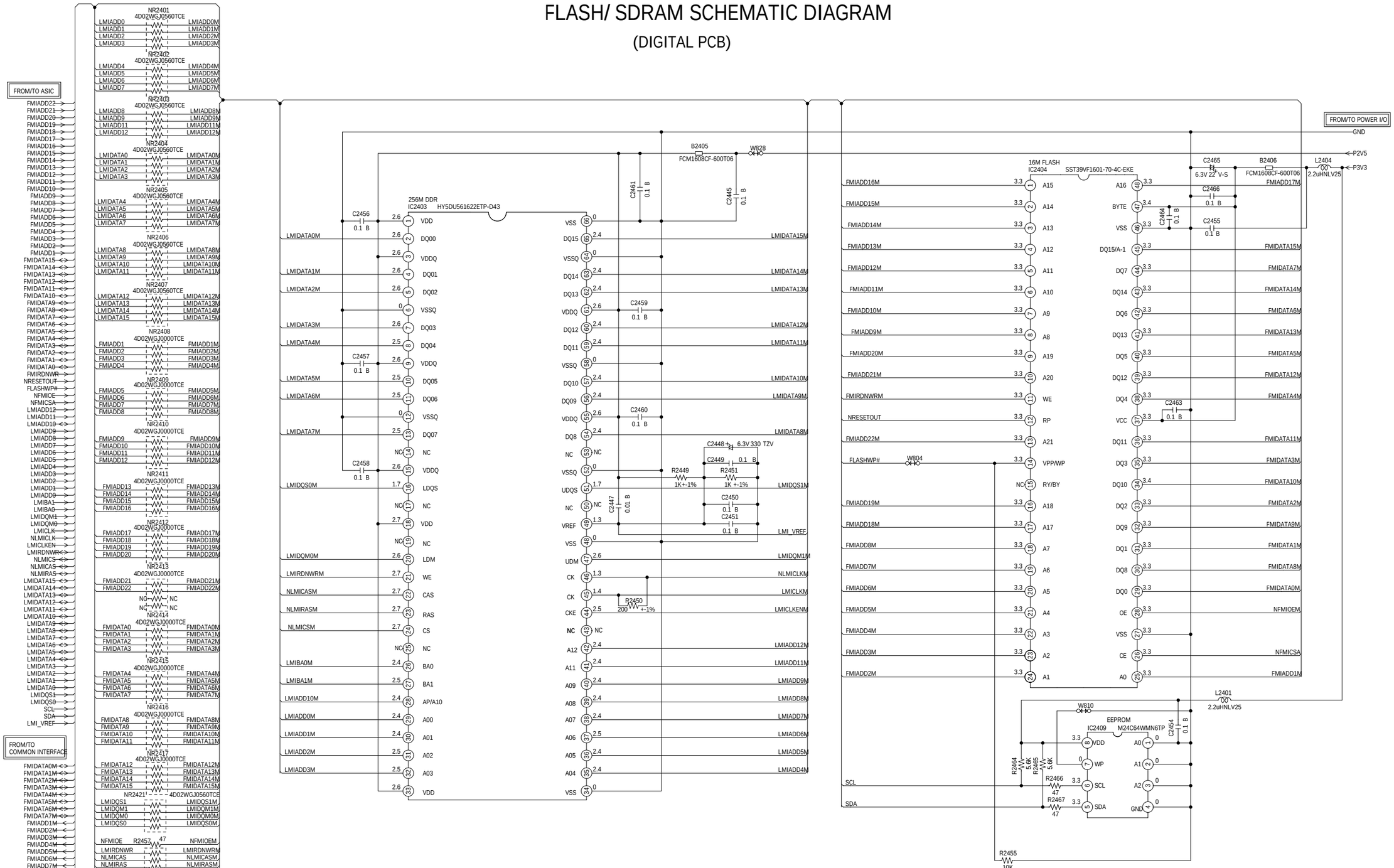


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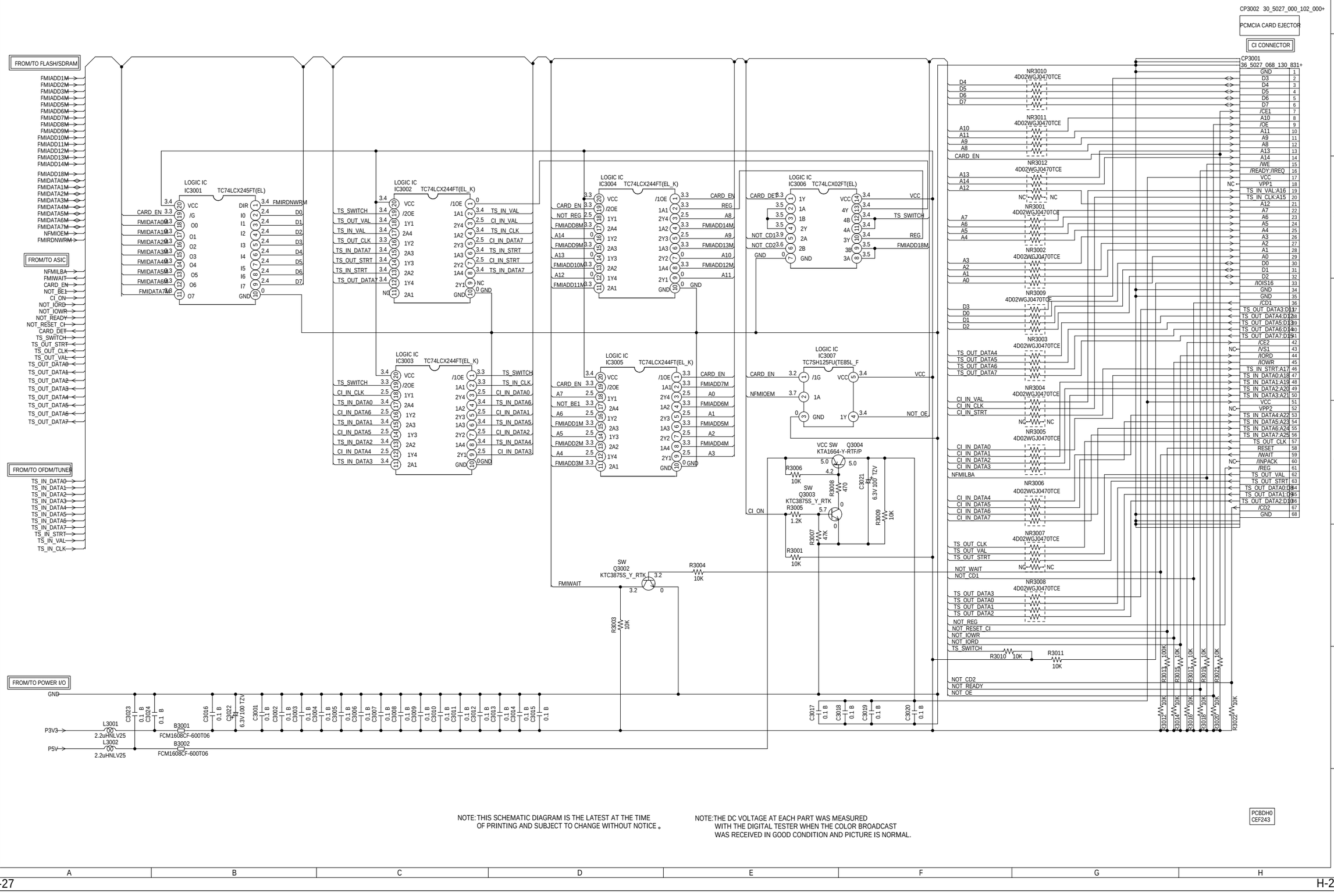
FLASH/ SDRAM SCHEMATIC DIAGRAM

(DIGITAL PCB)



COMMON INTERFACE SCHEMATIC DIAGRAM

(DIGITAL PCB)

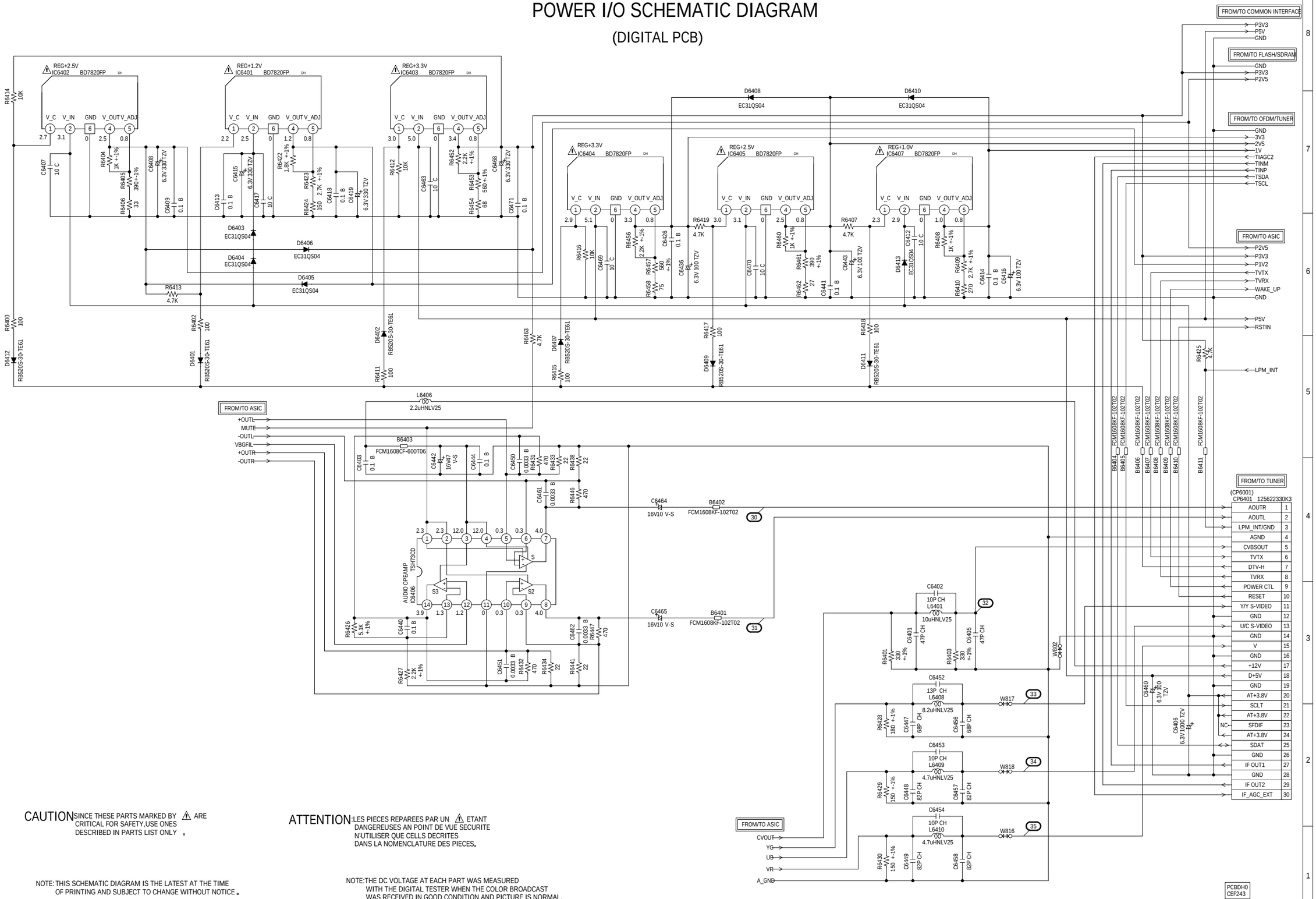


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POWER I/O SCHEMATIC DIAGRAM

(DIGITAL PCB)



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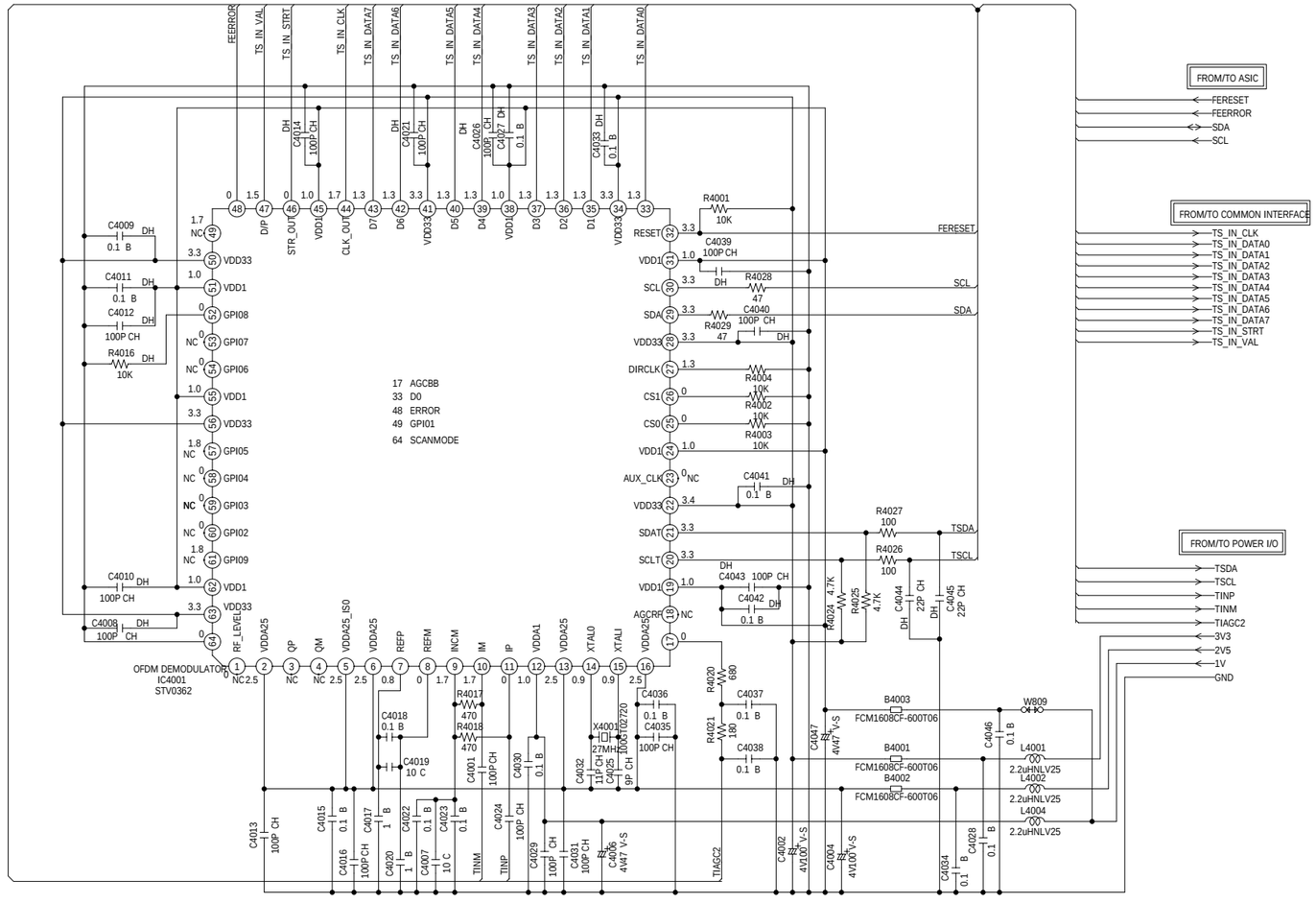
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OFDM/TUNER SCHEMATIC DIAGRAM

(DIGITAL PCB)

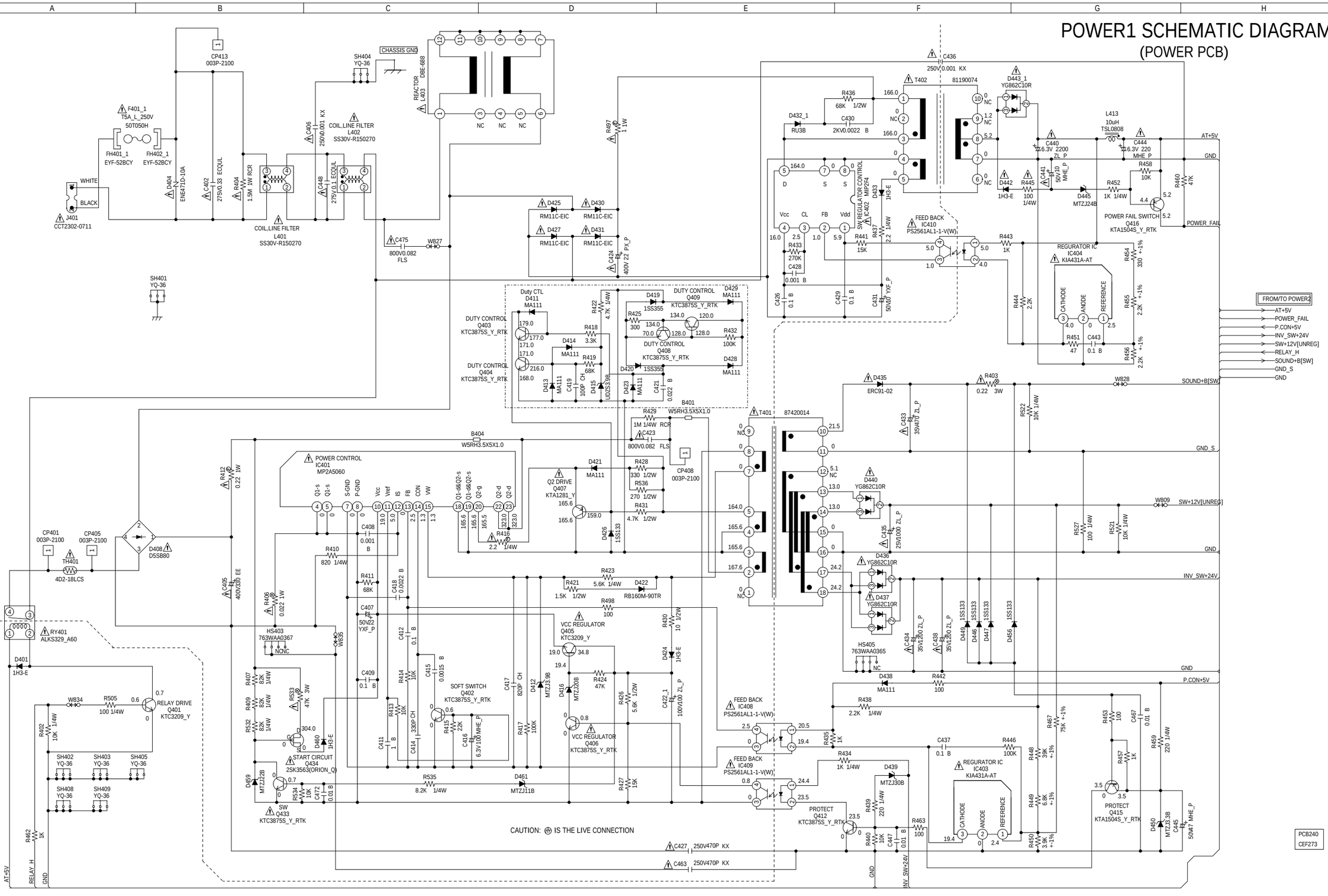


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PCBDH0
CEF243

POWER1 SCHEMATIC DIAGRAM
(POWER PCB)



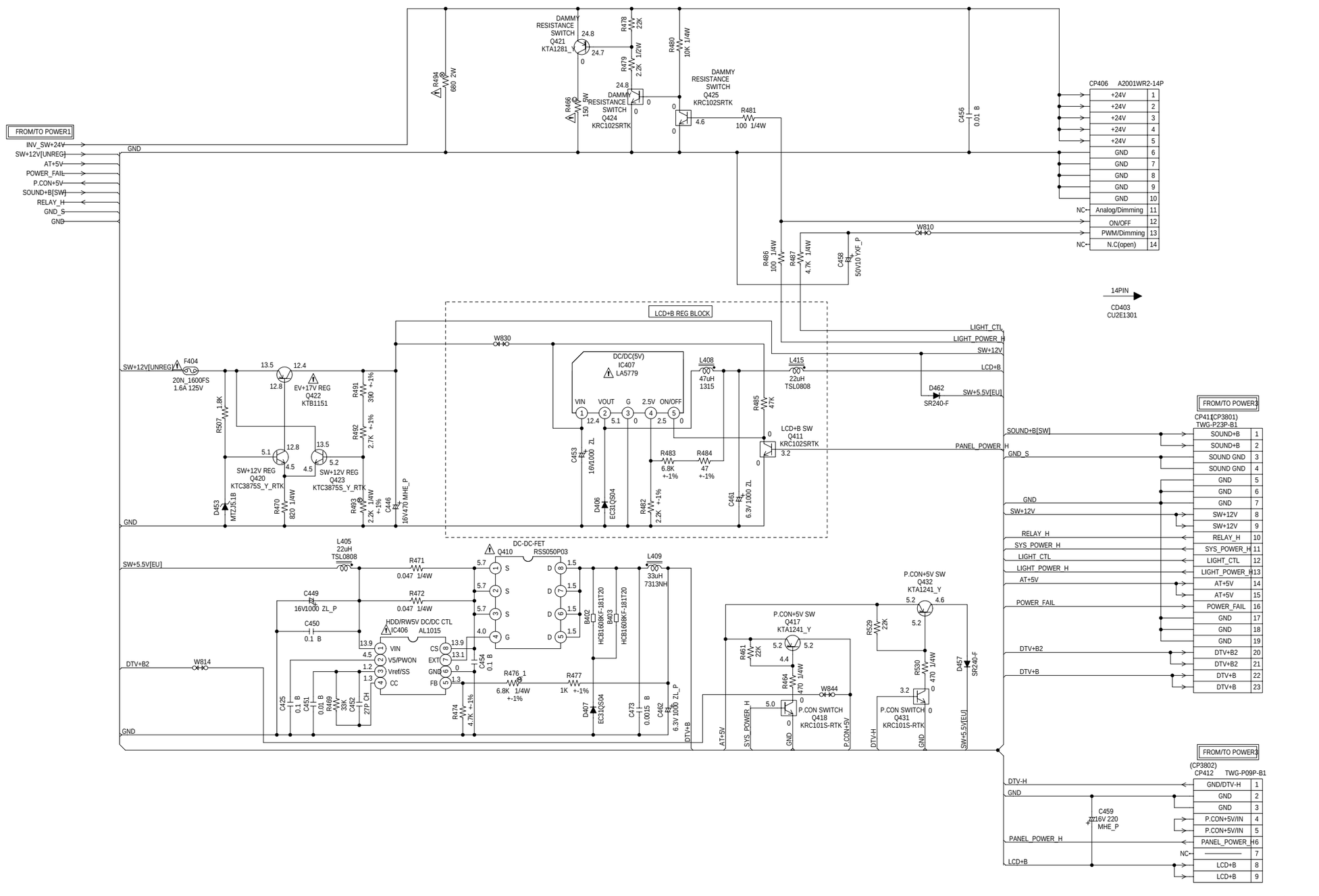
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POWER2 SCHEMATIC DIAGRAM
(POWER PCB)



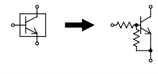
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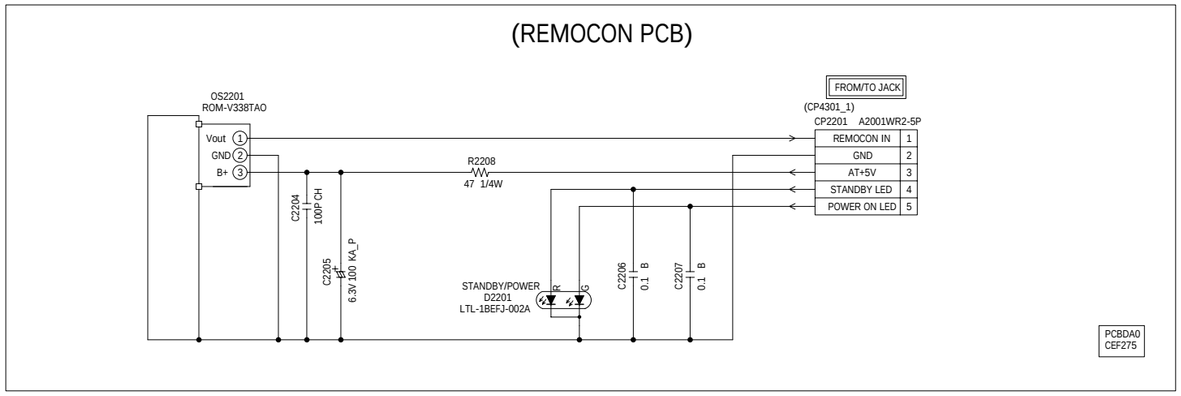
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CAUTION: DIGITAL TRANSISTOR

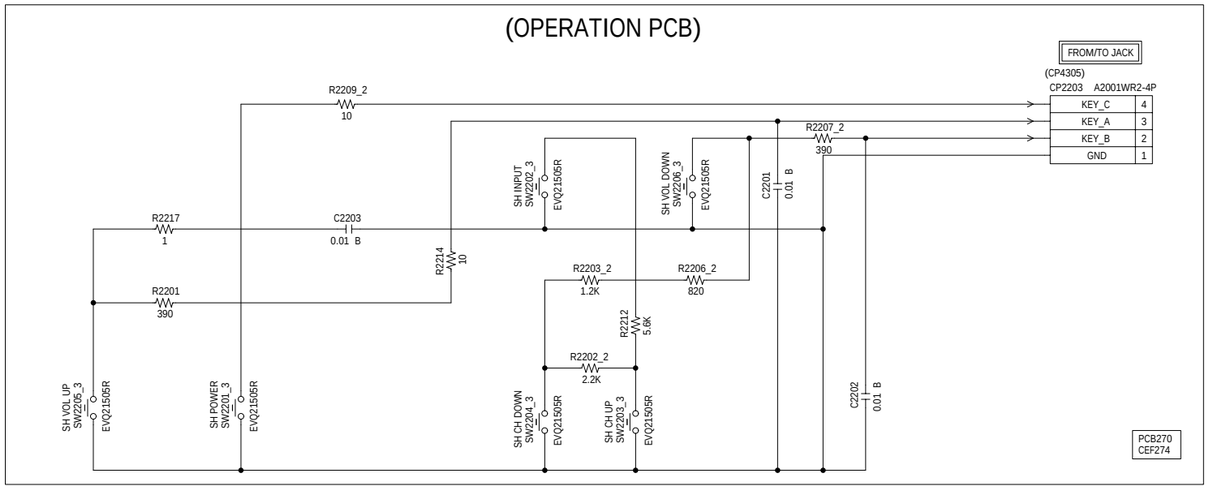


OPERATION/REMOCON SCHEMATIC DIAGRAM

(REMOCON PCB)



(OPERATION PCB)



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INTERCONNECTION DIAGRAM

OPERATION PCB
PCB270
CEF274

CP2203 — CD4302 — CP4305

GND	1	1	GND
KEY B	2	2	KEY B
KEY A	3	3	KEY A
KEY C	4	4	KEY C

REMOCON PCB
PCBDA0
CEF275

OS2201 (Vout, GND, B+)

CP2201 — CD4301 — CP4301_1

REMOCON IN	1	1	REMOCON IN
GND	2	2	GND
AT+5V	3	3	AT+5V
STANDBY LED	4	4	STANDBY LED
POWER ON LED	5	5	POWER ON LED

TM101
COMMAND TRANSMITTER

SP301_1 SPEAKER
SP302_1 SPEAKER
CD302_1

CP301

1	SP OUT L+
2	SP OUT L-
3	SP OUT R-
4	SP OUT R+

POWER PCB
PCB240
CEF273

CP411 — CP3801

SOUND+B	1	1	SOUND+B
SOUND+B	2	2	SOUND+B
SOUND GND	3	3	SOUND GND
SOUND GND	4	4	SOUND GND
GND	5	5	GND
GND	6	6	GND
GND	7	7	GND
SW+12V	8	8	SW+12V
SW+12V	9	9	SW+12V
RELAY_H	10	10	RELAY_H
SYS_POWER_H	11	11	SYS_POWER_H
LIGHT_CTL	12	12	LIGHT_CTL
LIGHT_POWER_H	13	13	LIGHT_POWER_H
AT+5V	14	14	AT+5V
AT+5V	15	15	AT+5V
POWER_FAIL	16	16	POWER_FAIL
GND	17	17	GND
GND	18	18	GND
GND	19	19	GND
DTV+B2	20	20	DTV+B2
DTV+B2	21	21	DTV+B2
DTV+B	22	22	DTV+B
DTV+B	23	23	DTV+B

CP406

1	+24V
2	+24V
3	+24V
4	+24V
5	+24V
6	GND
7	GND
8	GND
9	GND
10	GND
11	Analog/Dimming
12	ON/OFF
13	PWM/Dimming
14	N.C(open)

CD403

J401

CP412 — CP3802

GND/DTV-H	1	1	GND/DTV-H
GND	2	2	GND
GND	3	3	GND
P.CON+5V/IN	4	4	P.CON+5V/IN
P.CON+5V/IN	5	5	P.CON+5V/IN
PANEL_POWER_H	6	6	PANEL_POWER_H
———	7	7	———
LCD+B	8	8	LCD+B
LCD+B	9	9	LCD+B

COMPONENT_A_IN J4202

COMPONENT_IN J4203

AV/AUDIO OUT/S-TERMINAL J4204

HEADPHONE JACK J4205

AUDIO MINI PIN JACK J4301

DECORDER/PERITEL J4206

TU6002

1	B1
2	B2
3	B3(Vcc)
4	AGC
5	NC
6	NC(Vtu)
7	GND
8	AS
9	SCL
10	SDA
11	IF
12	GND
13	NC
14	2ndSIF
15	CVBS
16	AUDIO
17	NC
18	IF AGC
19	DIF1
20	DIF2

MAIN PCB
PCBF40
CMF111

CP802

AT+3.3V	6
GND	5
IIC_OFF	4
EEPROM_SDA	3
EEPROM_SCL	2
GND	1

SUB MICON DATA
CP101

GND	1
TX	2
BUSY/MODE	3
VCC	4
RX	5
RESET	6

RS-232C JACK
CP102

NC	1
RS232_RXD	2
RS232_TXD	3
NC	4
GND	5
NC	6
NC	7
NC	8
NC	9

CP6001 — CP6401

AOUTR	1	AOUTR	1
AOUTL	2	AOUTL	2
LPM_INT/GND	3	LPM_INT/GND	3
AGND	4	AGND	4
CVBSOUT	5	CVBSOUT	5
TVTX	6	TVTX	6
DTV-H	7	DTV-H	7
TVRX	8	TVRX	8
POWER CTL	9	POWER CTL	9
RESET	10	RESET	10
Y/Y S-VIDEO	11	Y/Y S-VIDEO	11
GND	12	GND	12
U/C S-VIDEO	13	U/C S-VIDEO	13
GND	14	GND	14
V	15	V	15
GND	16	GND	16
+12V	17	+12V	17
D+5V	18	D+5V	18
GND	19	GND	19
AT+3.8V	20	AT+3.8V	20
SCLT	21	SCLT	21
AT+3.8V	22	AT+3.8V	22
SPDIF	23	SFDIF	23
AT+3.8V	24	AT+3.8V	24
SDAT	25	SDAT	25
GND	26	GND	26
IF OUT1	27	IF OUT1	27
GND	28	GND	28
IF OUT2	29	IF OUT2	29
IF AGC EXT	30	IF_AGC_EXT	30

CP3400

FAN+12V	1
M_GND	2

M3400

JTAG CONNECTOR
CP2401

1	DCU_TRIGGEROUT
2	DCU_TRIGGERIN
3	TMS
4	TCK
5	TDI
6	TDO
7	DCU_NOTRESET
8	TRST
9	GND
10	GND

JIGU CONNECTOR
CP2402

5	———
4	AT+5V
3	TX
2	RX
1	GND

CI CONNECTOR — CP3001

GND	1	68	GND
D3	2	67	/CD2
D4	3	66	TS_OUT_DATA2:D10
D5	4	65	TS_OUT_DATA1:D9
D6	5	64	TS_OUT_DATA0:D8
D7	6	63	TS_OUT_STRT
/CE1	7	62	TS_OUT_VAL
A10	8	61	/REG
/OE	9	60	/INPACK
A11	10	59	/WAIT
A9	11	58	RESET
A8	12	57	TS_OUT_CLK
A13	13	56	TS_IN_DATA7:A25
A14	14	55	TS_IN_DATA6:A24
/WE	15	54	TS_IN_DATA5:A23
/READY/IREQ	16	53	TS_IN_DATA4:A22
VCC	17	52	VPP2
VPP1	18	51	VCC
TS_IN_VAL:A16	19	50	TS_IN_DATA3:A21
TS_IN_CLK:A15	20	49	TS_IN_DATA2:A20
A12	21	48	TS_IN_DATA1:A19
A7	22	47	TS_IN_DATA0:A18
A6	23	46	TS_IN_STRT:A17
A5	24	45	/IOWR
A4	25	44	/IORD
A3	26	43	/VS1
A2	27	42	/CE2
A1	28	41	TS_OUT_DATA7:D15
A0	29	40	TS_OUT_DATA6:D14
D0	30	39	TS_OUT_DATA5:D13
D1	31	38	TS_OUT_DATA4:D12
D2	32	37	TS_OUT_DATA3:D11
/IOIS16	33	36	/CD1
GND	34	35	GND
GND	35	34	GND
/CD1	36	33	/IOIS16
TS_OUT_DATA3:D11	37	32	D2
TS_OUT_DATA4:D12	38	31	D1
TS_OUT_DATA5:D13	39	30	D0
TS_OUT_DATA6:D14	40	29	A0
TS_OUT_DATA7:D15	41	28	A1
/CE2	42	27	A2
/VS1	43	26	A3
/IORD	44	25	A4
/IOWR	45	24	A5
TS_IN_STRT:A17	46	23	A6
TS_IN_DATA0:A18	47	22	A7
TS_IN_DATA1:A19	48	21	A12
TS_IN_DATA2:A20	49	20	TS_IN_CLK:A15
TS_IN_DATA3:A21	50	19	TS_IN_VAL:A16
VCC	51	18	VPP1
VPP2	52	17	VCC
TS_IN_DATA4:A22	53	16	/READY/IREQ
TS_IN_DATA5:A23	54	15	/WE
TS_IN_DATA6:A24	55	14	A14
TS_IN_DATA7:A25	56	13	A13
TS_OUT_CLK	57	12	A8
RESET	58	11	A9
/WAIT	59	10	A11
/INPACK	60	9	/OE
/REG	61	8	A10
TS_OUT_VAL	62	7	/CE1
TS_OUT_STRT	63	6	D7
TS_OUT_DATA0:D8	64	5	D6
TS_OUT_DATA1:D9	65	4	D5
TS_OUT_DATA2:D10	66	3	D4
/CD2	67	2	D3
GND	68	1	GND

DIGITAL PCB
PCBDH0
CEF243

CP7201

GND	1	32	GND
GND	2	31	VCC+5V
GND	3	30	VCC+5V
NC	4	29	VCC+5V
NC	5	28	VCC+5V
GND	6	27	GND
RIN3+	7	26	GND/NC
RIN3-	8	25	GND
GND	9	24	GND
RxCLK +	10	23	DMS
RxCLK -	11	22	NC
GND	12	21	GND
RIN2+	13	20	RIN0-
RIN2-	14	19	RIN0+
GND	15	18	GND
RIN1+	16	17	RIN1-

TO LCD PANEL
CD7204_1

LCD PANEL
V2301_1

D-SUB
CP4302

VGA-R	VGA-G	VGA-B	NC	DGND	AGND	AGND	AGND	DSUB_5V	DGND	NC	DDCD	VGA+S	VGA/S	DDCC
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

HDMI CONNECTOR
CP3601

D2+	D2-S	D2-	D1+	D1-S	D1-	D0+	D0-S	D0-	CLK+	CLK-S	CLK-	CEC	RESERVED	SCL	SDA	GND	POWER	DET
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

HDMI CONNECTOR
CP3603

D2+	D2-S	D2-	D1+	D1-S	D1-	D0+	D0-S	D0-	CLK+	CLK-S	CLK-	CEC	RESERVED	SCL	SDA	GND	POWER	DET
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

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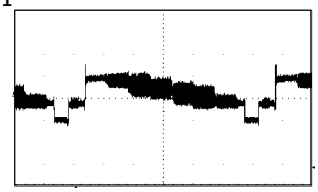
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WAVEFORMS

21PIN

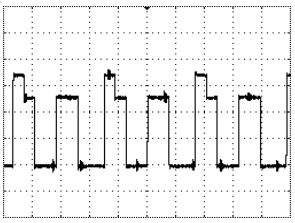
1

10µs
0.5V



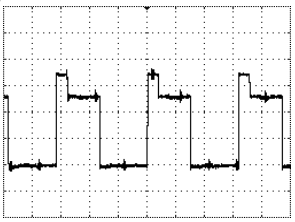
2

20µs
200mV



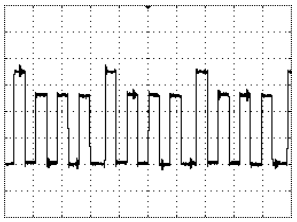
3

20µs
200mV



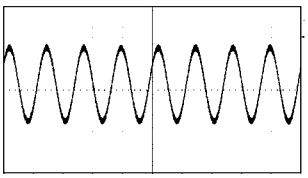
4

20µs
200mV



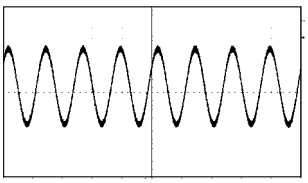
5

2ms
500mV



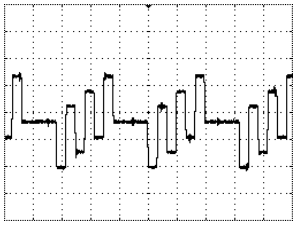
6

2ms
500mV



7

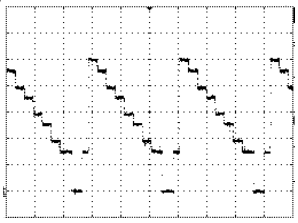
20µs
200mV



AV JACK/SWITCH

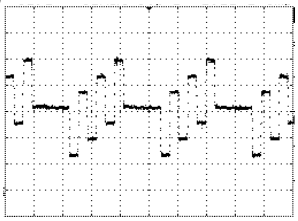
8

10µs
200mV



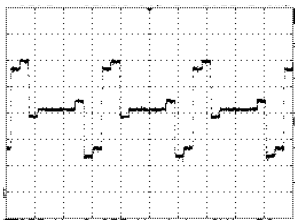
9

10µs
200mV



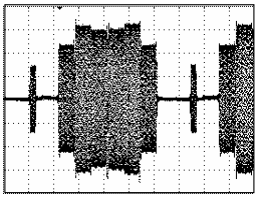
10

10µs
200mV



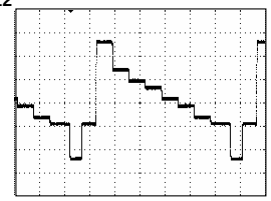
11

10µs
100mV



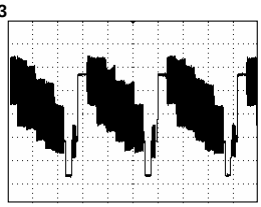
12

10µs
200mV



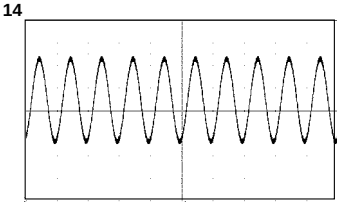
13

20µs
200mV



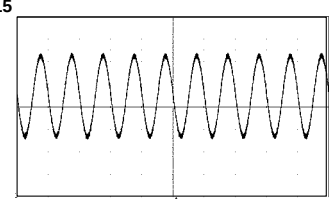
14

1.0ms
1.0V



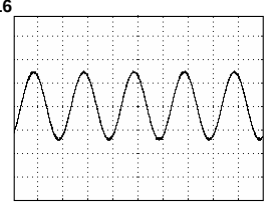
15

1.0ms
1.0V



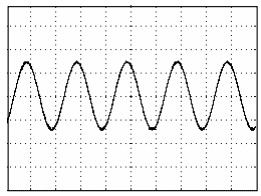
16

500µs
2V



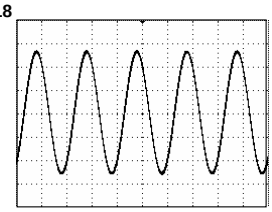
17

500µs
2V



18

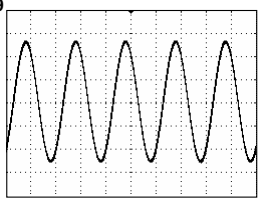
500µs
1V



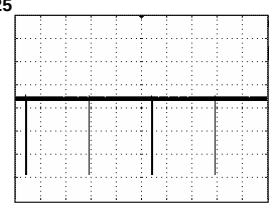
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

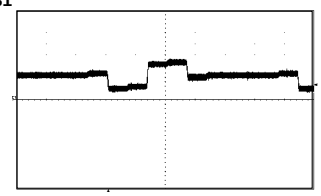
19
500µs
1V



25
200ms
1V

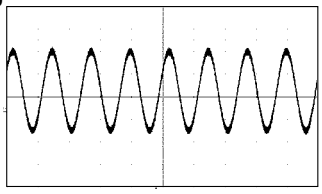


31
2.0ms
100mV

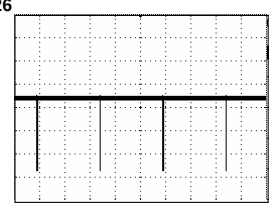


SOUND AMP/HEADPHONE AMP

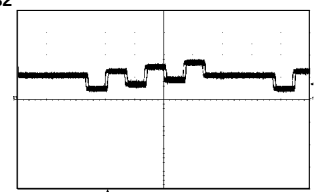
20
2.0ms
500mV



26
200ms
1V

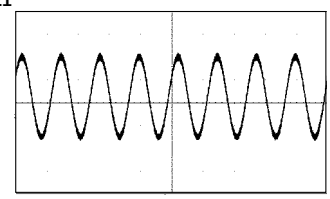


32
10µs
50mV

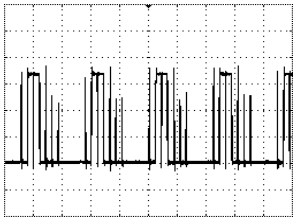


INTERFACE_HDMI IC

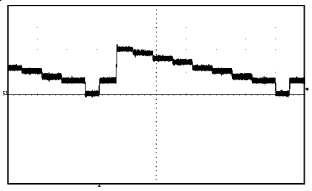
21
2.0ms
500mV



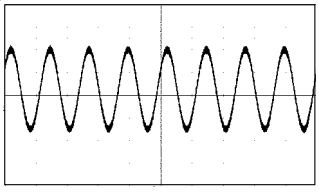
27
10µs
1.0V



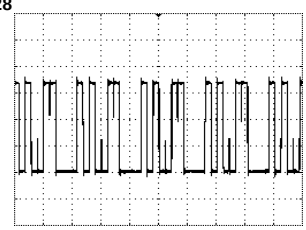
33
10µs
50mV



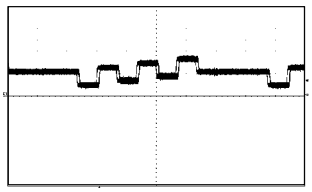
22
2.0ms
500mV



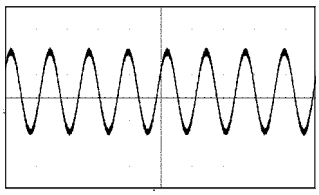
28
10µs
1.0V



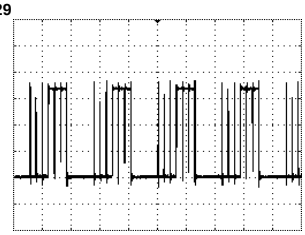
34
10µs
50mV



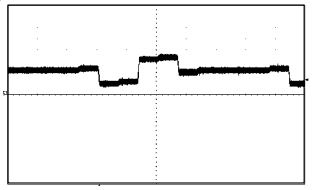
23
2.0ms
500mV



29
10µs
1.0V

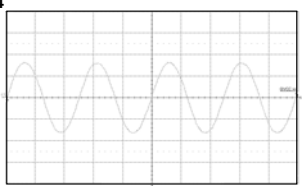


35
10µs
50mV

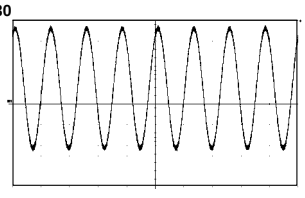


SCALER/MICON

24
10ns
0.5V

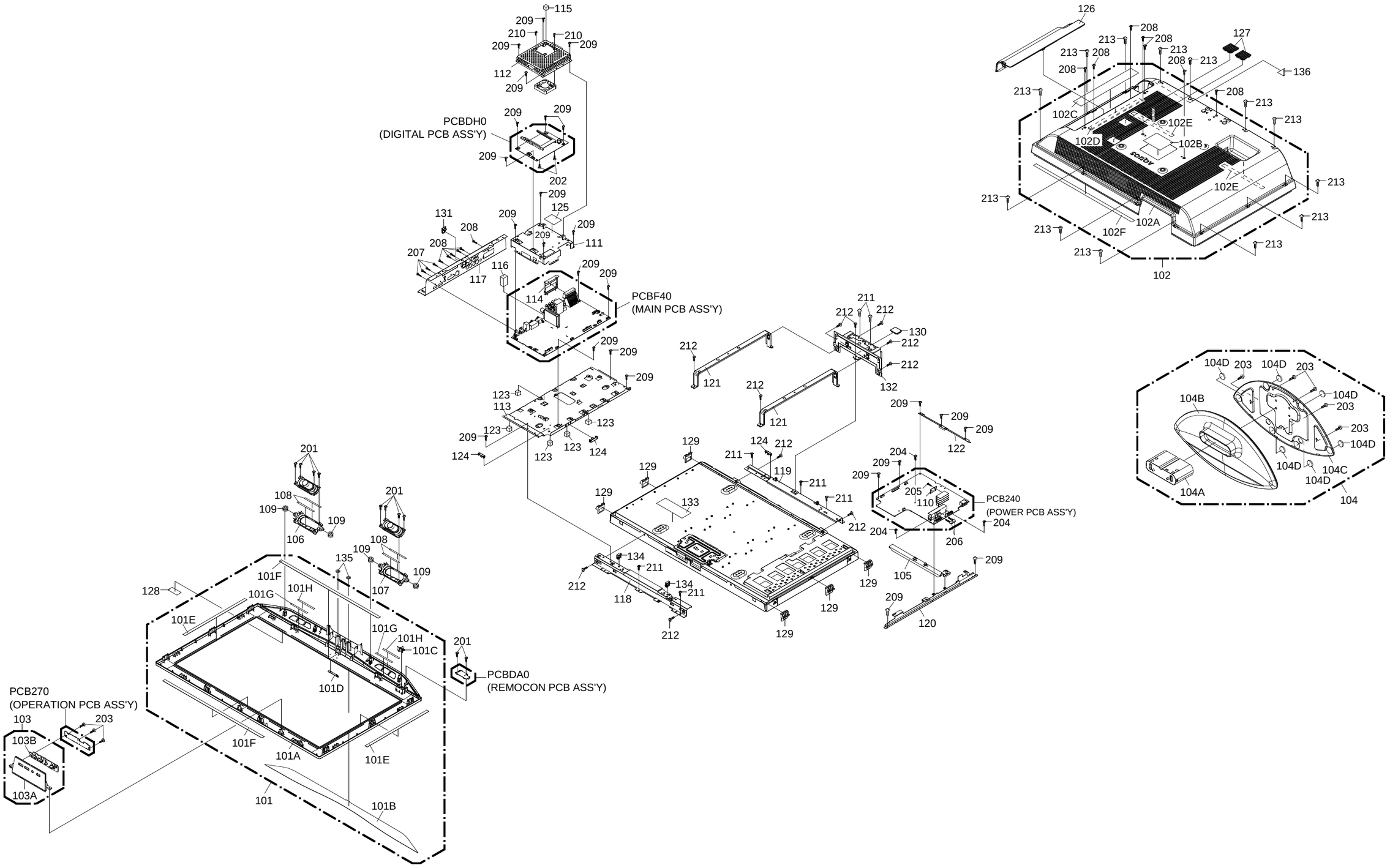


30
2.0ms
50mV

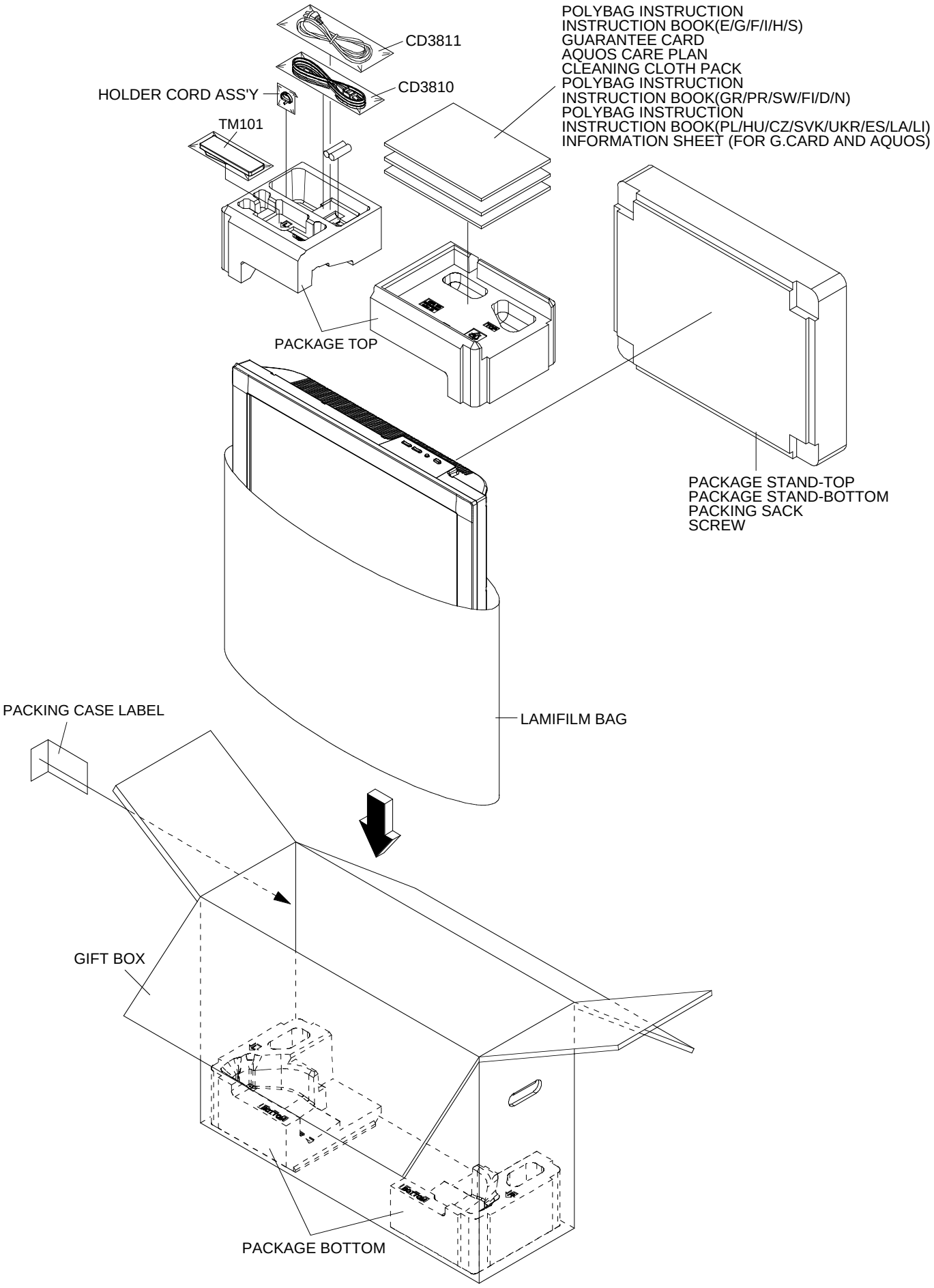


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

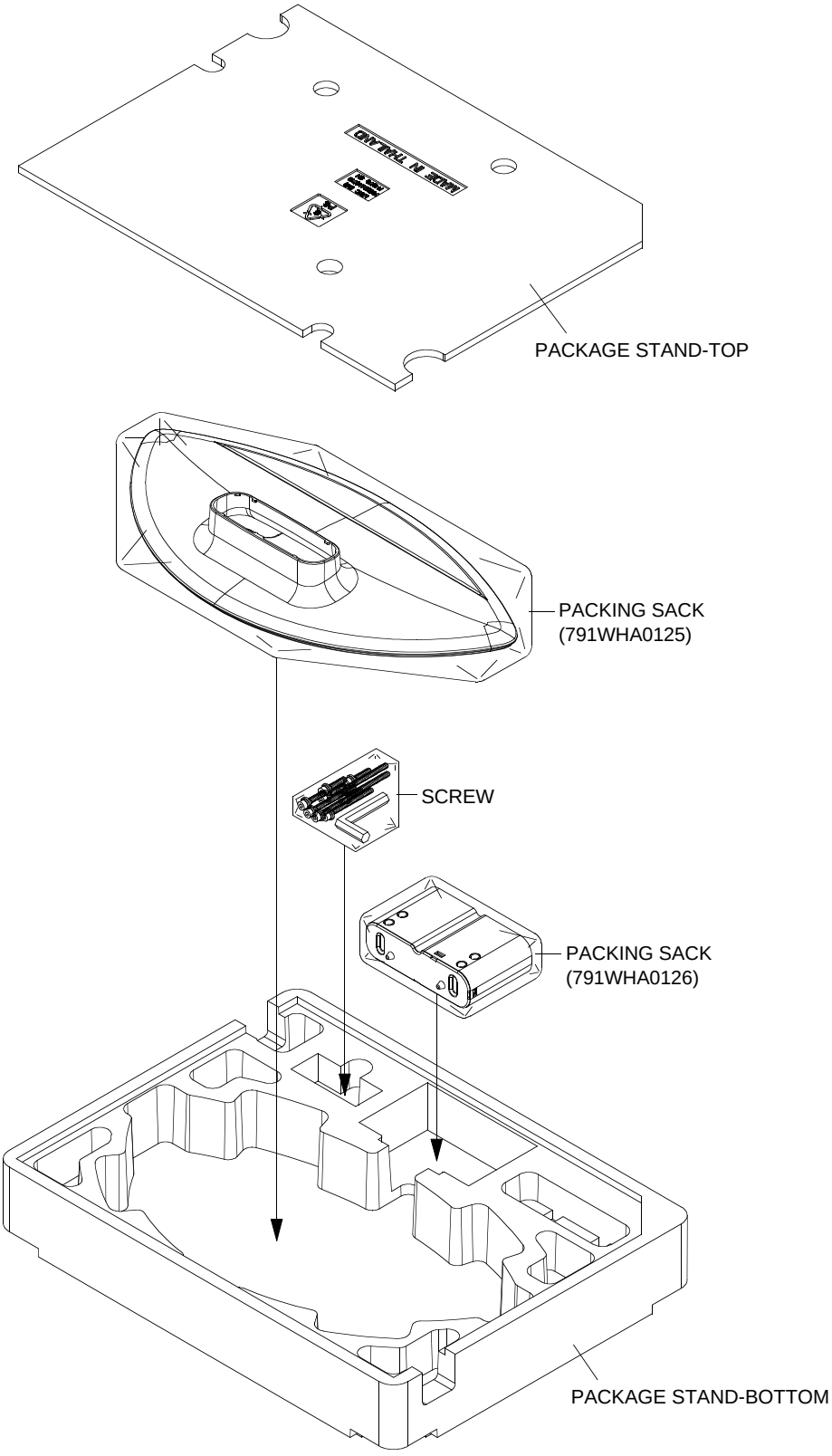
MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW
(PACKING DIAGRAM)



MECHANICAL EXPLODED VIEW
(PACKING DIAGRAM)



MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
101	9JD7A7010298A	FRONT CABI ASS'Y	
101A	9JD701WPJ1495	CABINET FRONT	
101B	9JD702WNB0002	SHEET SPEAKER	
101C	9JD713WPA0415	GLASS LED	
101D	9JD7235270040	BADGE BRAND	
101E	9JD800WQ0A092	FELT SHEET	
101F	9JD800WQ00102	FELT SHEET	9x730xT0.5
101G	9JD800WQ00127	FELT SHEET	
101H	9JD800WQ00132	FELT SHEET	
102	9JD7A7020132A	BACK CABI ASS'Y	
102A	9JD702WPA1295	CABINET BACK	
102B	9JD7225270046	SHEET RATING	
102C	9JD7230008382	SHEET JACK	
102D	9JD800WFA0124	CUSHION	90x14xT1
102E	9JD800WQ0A108	FELT SHEET	
102F	9JD800WQ00114	FELT SHEET	
103	9JD7A7110024A	PLATE BUTTON ASS'Y	
103A	9JD711WPD0732	PLATE BUTTON	
103B	9JD735WPB0371	BUTTON FRAME	
104	9JD7A7040042A	STAND ASS'Y	
104A	9JD7A7640006A	FRAME STAND ASS'Y	
104B	9JD704WPA0078	STAND	
104C	9JD761WSA0465	ANGLE STAND	
104D	9JD800WFA0120	CUSHION LEG	
105	9JD7A7050006A	HOLDER PCB ASS'Y	
106	9JD761WPA0473	HOLDER SPEAKER-L	
107	9JD761WPA0474	HOLDER SPEAKER-R	
108	9JD800WQ00127	FELT SHEET	
109	9JD800WR00084	DAMPER SPEAKER	
110	9JD761WSA0459	SHIELD IC	
111	9JD752WSA0653	SHIELD SCALER	
112	9JD752WSA0677	SHIELD DIGITAL	
113	9JD761WSA0504	ANGLE PCB-2	
114	9JD761WSA0432	SHIELD 21PIN	
115	9JD8965TS1010	CUSHION	65TS10-10(10x10x25)
116	9JD8965TS2010	CUSHION	W8/H20/L10
117	9JD761WSB0060	PLATE JACK	
118	9JD761WSA0467	ANGLE LCD TOP	
119	9JD761WSA0468	ANGLE LCD BOTTOM	
120	9JD761WSA0469	ANGLE PCB-1	
121	9JD761WSA0472	ANGLE MAIN	
122	9JD761WSA0538	ANGLE PCB-3	
123	9JD8965TS1210	CUSHION	W10/H12/L10
124	9JD899RFC21V0	HOLDER CORD	
125	9JD7250000607	SHEET PE	
126	9JD702WPA1296	COVER BACK	
127	9JD706WPA0029	COVER CONNECTOR	
128	9JD7230008367	POP LABEL	
129	9JD761WPA0476	HOLDER PANEL	
130	9JD761WPA0477	COVER HINGE	
131	9JD761WPA0489	COVER TUNER	
132	9JD761WSA0466	ANGLE HINGE	
133	9JD800WQ00134	FELT SHEET	40x60xT0.5
134	9JD899RLWC2SV	HOLDER WIRE	
135	9JD800WB0A007	FIBER WASHER	
136	9JD800JFA0048	CUSHION	

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		CODE
201	9JD8110630A0U	SCREW TAP TITE(P) BRAZIER	3x10	
202	9JD8102220A0U	SCREW,BIND	M2x10	
203	9JD811063080U	SCREW TAP TITE(P) BRAZIER	3x8	
204	9JD8171130A0U	SCREW TAP TITE(B) WASHER12	3x10	
205	9JD810763080U	SCREW TAP TITE(S) BRAZIER	3x8	
206	9JD8109I30A0U	SCREW TAP TITE(B) WH7	3x10	
207	9JD810213080S	SCREW PAN	M3x8	
208	9JD810923080S	SCREW TAP TITE(B) BIND	3x8	
209	9JD810923080U	SCREW TAP TITE(B) BIND	3x8	
210	9JD811022680U	SCREW TAP TITE(P) BIND	2.6x8	
211	9JD8117540A0U	SCREW TAPPING(B0) TRUSS	4x10	
212	9JD810A14080U	SCREW WASHER(A)	M4x8	
213	9JD8110230B5S	SCREW TAP TITE(P) BIND	3x25	
214	9JD8110K3080U	SCREW TAP TITE(P) LAMI HEAD	3x8	
---	9JD7235270054	PACKING CASE LABEL		
---	9JD791WHA0125	PACKING SACK		
---	9JD791WHA0126	PACKING SACK		
---	9JD791WHAA018	LAMIFILM BAG		
---	9JD792PHA0009	PACKAGE TOP		
---	9JD792PHA0010	PACKAGE BOTTOM		
---	9JD792WHA0716	PACKAGE STAND TOP		
---	9JD792WHA0717	PACKAGE STAND BOTTOM		
---	9JD793PCD0007	GIFT BOX		
---	9JD7A7360001A	HOLDER CORD ASS'Y		
---	9JD89001122A2	SCREW		
---	9JD890CCOR002	CLEANING CLOTH PACK		
---	9JD J32A0101A	INSTRUCTION BOOK(E/G/F/I/H/S)		
---	9JD J32A0102A	GUARANTEE CARD		
---	9JD J32A0110A	INSTRUCTION BOOK(GR/PR/SW/FI/D/N)		
---	9JD J32A0111A	INST BOOK(PL/HU/CZ/SVK/UKR/ES/LA/LI)		
---	9JD J32A0119A	AQUOS CARE PLAN		
---	9JD J32A0129A	INFORMATION SHEET(FOR G.CARD AND AQUOS)		
---	9JD JA4PD100	POLYBAG,INSTRUCTION		
---	9JD JA4PD400	POLYBAG,INSTRUCTION		

ELECTRIC REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		CODE
		REMOCON PCB ASS'Y		
		*** PCB ***		
PCBDA0	9JDA32A01EDA0L	REMOCON PCB ASS'Y	CEF275A	
		*** DIODES ***		
D2201	9JD0021E9Q010	LED	LTL-1BEFJ-002A	
		*** CONNECTORS ***		
CD4301	9JD06CU256201	CORD CONNECTOR	CU256201	
CP2201	9JD069S250639	CONNECTOR PCB SIDE	A2001WR2-5P	
		*** OTHERS ***		
OS2201	9JD077A033001	REMOTE RECEIVER	ROM-V338TAO	
		DIGITAL PCB ASS'Y		
		*** PCB ***		
PCBDH0	9JDA32A01EDH0L	DIGITAL PCB ASS'Y	CEF243A	
		*** DIODES ***		
D2402	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	ER RB520S-30-TE61	
D6401	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	ER RB520S-30-TE61	
D6402	9JDDD7R20S300	DIODE SCHOTTKY BARRIER	ER RB520S-30-TE61	
D6403	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D6404	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D6405	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D6406	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
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 ***		
IC2401	9JDI5PK051050	IC	STM5105ALB	
IC2402	9JDI9UF032310	IC	PST3231NR	
IC2403	9JDICLJ022ET5	IC	HY5DU561622ETP-D43	
IC2404	9JDS32A01EF01	MEMORY DATA	SST39VF1601-70-4C-EKE	
IC2409	9JDI5PJ0064W0	IC	M24C64WMN6TP	
IC3001	9JDI55F045FT0	IC	TC74LCX245FT(EL)	
IC3002	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)	
IC3003	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)	
IC3004	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)	
IC3005	9JDI55J0X2440	IC	TC74LCX244FT(EL,K)	
IC3006	9JDI55J0CX020	IC	TC74LCX02FT(EL)	
IC3007	9JDI55F0125F0	IC	TC7SH125FU(TE85L,F	
IC4001	9JDI5PK003620	IC	STV0362	
⚠ 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	

ELECTRIC REPLACEMENT PARTS LIST

*** TRANSISTORS ***

Q2401	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q3002	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3003	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3004	9JDTAAA01664Y	TRANSISTOR SILICON	KTA1664-Y-RTF/P

*** COILS ***

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
B3001	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B3002	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B4001	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B4002	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B4003	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B6401	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6402	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6403	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06
B6404	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6405	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6406	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6407	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6408	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6409	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6410	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02
B6411	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02

L2401	9JD0216SD2R2J	COIL	2.2 UH
L2402	9JD0216SD2R2J	COIL	2.2 UH
L2403	9JD0216SD2R2J	COIL	2.2 UH
L2404	9JD0216SD2R2J	COIL	2.2 UH
L3001	9JD0216SD2R2J	COIL	2.2 UH
L3002	9JD0216SD2R2J	COIL	2.2 UH
L4001	9JD0216SD2R2J	COIL	2.2 UH
L4002	9JD0216SD2R2J	COIL	2.2 UH
L4004	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 ***

CP3002	9JD063M800002	HOLDER,IC	30_5027_000_102_000+

*** CONNECTORS ***

CP2401	9JD069S250679	CONNECTOR PCB SIDE	A2006WR0-2X5P
CP2402	9JD069S250629	CONNECTOR PCB SIDE	A2001WV2-5P
CP3001	9JD069EN68020	CONNECTOR PCB SIDE	36_5027_068_130_831+
CP6401	9JD06972UT018	CONNECTOR PCB SIDE	125622330K3

*** CRYSTAL & CERAMIC OSCILLATORS ***

X2401	9JD100GT02720	CRYSTAL	B27000C005
X4001	9JD100GT02720	CRYSTAL	B27000C005

*** NETWORKS ***

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

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NR2412	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE	
NR2413	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE	
NR2414	9JD110P4000M5	R,NETWORK	4D02WGJ0000TCE	
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	
NR3001	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3002	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3003	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3004	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3005	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3006	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3007	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3008	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3009	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3010	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3011	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
NR3012	9JD110P4470M5	R,NETWORK	4D02WGJ0470TCE	
		*** OTHERS ***		
SH2401	9JD126D000044	TERMINAL PIN	YQ-36	or
	9JD126R000038	TERMINAL PIN	TP00370-21	
SH2402	9JD126D000044	TERMINAL PIN	YQ-36	or
	9JD126R000038	TERMINAL PIN	TP00370-21	
SH2403	9JD126D000044	TERMINAL PIN	YQ-36	or
	9JD126R000038	TERMINAL PIN	TP00370-21	
SH2404	9JD126D000044	TERMINAL PIN	YQ-36	or
	9JD126R000038	TERMINAL PIN	TP00370-21	
		MAIN PCB ASS'Y		
		*** PCB ***		
PCBF40	9JDA32A01EF40L	MAIN PCB ASS'Y	CMF111A	
		*** RESISTORS ***		
⚠ R3808	9JDR65584470J	R,FUSE	47 OHM 1/4W	
		*** CAPACITORS ***		
C376	9JDE7EYF3102M	CE	1000 UF 25V	or
	9JDE61FF3102D	CE	1000 UF 25V	
C384	9JDE7EYF3102M	CE	1000 UF 25V	or
	9JDE61FF3102D	CE	1000 UF 25V	
C3201	9JDE7EYF2222M	CE	2200 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	
D301	9JDD28R11FS20	DIODE	EC11FS2-TE12L	
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	
D806	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D807	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D808	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D809	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D810	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	

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D814	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D818	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D3201	9JDDD7RB051L0	DIODE SCHOTTKY	RB051L-40_TE25	
D3202	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3204	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3205	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3209	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3210	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3600	9JDDD7R60L400	DIODE SCHOTTKY	RB160L-40-TE25	
D3601	9JDD77R1A1R10	DIODE VARISTA	AVRL161A1R1NT	
D3602	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D3603	9JDD77R1A1R10	DIODE VARISTA	AVRL161A1R1NT	
D3604	9JDDD7R60L400	DIODE SCHOTTKY	RB160L-40-TE25	
D3605	9JDDD7R60L400	DIODE SCHOTTKY	RB160L-40-TE25	
D3626	9JDD77R1A1R10	DIODE VARISTA	AVRL161A1R1NT	
D3627	9JDD77R1A1R10	DIODE VARISTA	AVRL161A1R1NT	
D3628	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3629	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
D3630	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D3804	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E	
D4209	9JDDE7RB6R82B	DIODE ZENER	UDZS6.8B TE-17	
D4210	9JDDE7RB4R72B	DIODE ZENER	UDZS4.7B TE-17	
D4211	9JDDE7RB4R72B	DIODE ZENER	UDZS4.7B TE-17	
D4212	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4213	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4214	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4215	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4216	9JDDE7RB6R82B	DIODE ZENER	UDZS6.8B TE-17	
D4217	9JDDE7RB6R82B	DIODE ZENER	UDZS6.8B TE-17	
D4218	9JDDE7RB6R82B	DIODE ZENER	UDZS6.8B TE-17	
D4219	9JDDE7RB6R82B	DIODE ZENER	UDZS6.8B TE-17	
D4220	9JDDE7RB6R82B	DIODE ZENER	UDZS6.8B TE-17	
D4221	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4222	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4223	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4235	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4236	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4237	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4238	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4239	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4240	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4241	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4242	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4243	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4244	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4245	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4246	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4247	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4248	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4249	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4250	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4251	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4252	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4253	9JDDE7RB1202B	DIODE ZENER	UDZS12B TE-177	
D4254	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4255	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4256	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4257	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4258	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4259	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D4303	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D4304	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D4305	9JDD1VT001330	DIODE,SILICON	1SS133T-77	
D4310	9JDDD7R60M400	DIODE SCHOTTKY BARRIER	RB160M-40-TR	
D4311	9JDDD7R60M400	DIODE SCHOTTKY BARRIER	RB160M-40-TR	
D4313	9JDDE7RB5R62B	DIODE ZENER	UDZS5.6B TE-17	
D6001	9JDD1VT001330	DIODE,SILICON	1SS133T-77	

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*** ICS ***

	IC101	9JDS32A01EM01	MEMORY DATA	R5F21244SNFP
	IC102	9JDICMF032200	IC	ISL83220ECVZ-T
	IC105	9JDI9UF032290	IC	PST3229NR
	IC300	9JDI0QJP21510	IC	NJM2151AV(TE1)
⚠	IC301	9JDI0KJP89320	IC	TDA8932T
	IC801	9JDS32A01EE03	MEMORY DATA	M24256-BWMN6TP
	IC802	9JDI9UF032290	IC	PST3229NR
	IC803	9JDS32A01EM02	MEMORY DATA	VCT6973G-FA-B3-000
⚠	IC3201	9JDI07F0C0WF0	IC	BA00BC0WFP-E2
⚠	IC3202	9JDI1LF010150	IC	AL1015
⚠	IC3203	9JDI07F078200	IC	BD7820FP-E2
⚠	IC3204	9JDI07F078200	IC	BD7820FP-E2
⚠	IC3205	9JDI1KF98D050	IC	KIA78D05F
⚠	IC3601	9JDI07F078200	IC	BD7820FP-E2
	IC3605	9JDIG1F090250	IC	SII9025CTU
	IC3606	9JDS32A01EE01	MEMORY DATA	BR24L02F-WE2
	IC3609	9JDS32A01EE02	MEMORY DATA	BR24L02F-WE2
⚠	IC3801	9JDI07F0C0WF0	IC	BA00BC0WFP-E2
	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	9JDS32A01EE04	MEMORY DATA	24LCS22AT-I/SN
	IC4303	9JDI0QF02534V	IC	NJM2534V(TE2)
	IC4304	9JDI0QF02534V	IC	NJM2534V(TE2)
	IC6001	9JDI0CJ040530	IC	SN74LV4053APWR

*** TRANSISTORS ***

	Q101	9JDT2AA5132E0	FET	KTK5132E-RTK/P
	Q102	9JDT2AA5132E0	FET	KTK5132E-RTK/P
	Q300	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
	Q301	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
	Q302	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
	Q303	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
	Q304	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
	Q305	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
	Q321	9JDTPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
	Q3200	9JDT77J011320	TRANSISTOR SILICON	2SB1132T100(Q,R)
	Q3201	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
⚠	Q3202	9JDTS3M000044	COMPOUND TRANSISTOR	CPH6312-TL-E
	Q3205	9JDTAAA01664Y	TRANSISTOR SILICON	KTA1664-Y-RTF/P
	Q3206	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
	Q3601	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
	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
	Q3615	9JDT2AA5132E0	FET	KTK5132E-RTK/P
	Q3616	9JDT2AA5132E0	FET	KTK5132E-RTK/P
	Q3617	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	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
	Q3805	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
	Q3806	9JDTAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
	Q3807	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
	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

ELECTRIC REPLACEMENT PARTS LIST

Q4218	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK	
Q4221	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK	
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	KRA102SRTK	
Q4306	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4307	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK	
Q4308	9JDTPAAB05001	COMPOUND TRANSISTOR	KRA102SRTK	
Q4309	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK	
Q4310	9JDTNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK	
Q6001	9JDT2AA5132E0	FET	KTK5132E-RTK/P	
Q6002	9JDT2AA5132E0	FET	KTK5132E-RTK/P	
Q6005	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK	
		*** COILS ***		
B101	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02	
B102	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02	
B301	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
B302	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
B303	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
B304	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
B305	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B306	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
B307	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
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	
B3201	9JD024HC51216	CORE,BEADS	HCB1608KF-121T20	
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	
B3606	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02	
B3608	9JD024HC51023	CORE,BEADS	FCM1608KF-102T02	
B3609	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B3610	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B3613	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B3801	9JD024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	
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	
B4209	9JD024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2	
B4210	9JD024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2	
B4211	9JD024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2	
B4212	9JD024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2	
B4213	9JD024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2	
B4214	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4215	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	or
	9JD024AC5330J	CORE,BEADS	BLM18PG330SN1D	
B4216	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	or
	9JD024AC5330J	CORE,BEADS	BLM18PG330SN1D	
B4220	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	or
	9JD024AC5330J	CORE,BEADS	BLM18PG330SN1D	

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B4221	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	or
	9JD024AC5330J	CORE,BEADS	BLM18PG330SN1D	
B4222	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	or
	9JD024AC5330J	CORE,BEADS	BLM18PG330SN1D	
B4223	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	
B4224	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	
B4226	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	
B4227	9JD024HC53306	CORE,BEADS	HCB1608KF-330T50	
B4228	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
B4229	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
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	
B4309	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4310	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4311	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4314	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
B4315	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
B4317	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4318	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4323	9JD024HC56005	CORE,BEADS	FCM1608CF-600T06	
B4324	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4325	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
B4327	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
B4328	9JD024NC51021	CORE,BEADS	EBMS160808A102_RDC45	
B6001	9JD024HC56013	CORE,BEADS	FCM1608KF-601T02	
B6003	9JD024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2	
B7201	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20	
L103	9JD0216SD220J	COIL	22 UH	
L104	9JD0216SD220J	COIL	22 UH	
L300	9JD021U0L220M	COIL	22 UH	or
	9JD02130G220M	COIL	22 UH	
L302	9JD021U0L220M	COIL	22 UH	or
	9JD02130G220M	COIL	22 UH	
L3201	9JD02167E220K	COIL	22 UH	
L3202	9JD021U0L330M	COIL	33 UH	or
	9JD02130G330M	COIL	33 UH	
L3203	9JD02167E220K	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	
L3605	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L3606	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L3607	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L3608	9JD02D6000068	COIL CHOKE	ACM2012D-900-2P-T00	
L4202	9JD021LA6220J	COIL	22 UH	
L4203	9JD021LA6220J	COIL	22 UH	
L4204	9JD021LA6220J	COIL	22 UH	
L4205	9JD021LA6220J	COIL	22 UH	
L4206	9JD021LA6220J	COIL	22 UH	
L4207	9JD021LA6220J	COIL	22 UH	
L4208	9JD021LA6220J	COIL	22 UH	
L4209	9JD0216MA220K	COIL	22 UH	
L4210	9JD0216MA220K	COIL	22 UH	
L4211	9JD021LA6220J	COIL	22 UH	
L4212	9JD021LA6220J	COIL	22 UH	
L4213	9JD021LA6100J	COIL	10 UH	
L4214	9JD021LA6470J	COIL	47 UH	
L4215	9JD0216S81R5M	COIL	1.5 UH	
L4216	9JD0216S81R5M	COIL	1.5 UH	
L4217	9JD021LA6100J	COIL	10 UH	
L4218	9JD0216S81R5M	COIL	1.5 UH	
L4219	9JD021LA6470J	COIL	47 UH	
L4221	9JD021LA6470J	COIL	47 UH	
L4223	9JD021LA6470J	COIL	47 UH	
L4224	9JD0216S91R5M	COIL	1.5 UH	
L4225	9JD021LA6100J	COIL	10 UH	
L4226	9JD021LA6470J	COIL	47 UH	
L4227	9JD021LA6220J	COIL	22 UH	

ELECTRIC REPLACEMENT PARTS LIST

L4230	9JD0216MA220K	COIL	22 UH
L4231	9JD0216MA220K	COIL	22 UH
L4232	9JD0216S91R5M	COIL	1.5 UH
L4233	9JD021LA6470J	COIL	47 UH
L4305	9JD0216SD220J	COIL	22 UH
L4306	9JD0216SD220J	COIL	22 UH
		*** JACKS ***	
CP102	9JD063W100053	JACK	MD24-95V-EC
J4202	9JD060K431033	RCA JACK	AV2-57A03-01
J4203	9JD060R411054	RCA JACK	RCA-349-00D-01
J4204	9JD063Y000089	JACK PLATE	RCA/DIN-501A-00B-03
J4205	9JD060J131021	HEADPHONE JACK	MSJ-035-08D_PC(O87)
J4206	9JD063D000077	SOCKET,21PIN	MRC-021V-27_PC
J4301	9JD060J151001	HEADPHONE JACK	MS J-035-39D_B_PC_LF(O87)
		*** CONNECTORS ***	
CP101	9JD069S260629	CONNECTOR PCB SIDE	A2001WV2-6P
CP301	9JD069S140419	CONNECTOR PCB SIDE	A2502WV2-4P
CP802	9JD069S260629	CONNECTOR PCB SIDE	A2001WV2-6P
CP3400	9JD069S220629	CONNECTOR PCB SIDE	A2001WV2-2P
CP3601	9JD0694YJ3018	CONNECTOR PCB SIDE	1903015-3
CP3603	9JD0694YJ3018	CONNECTOR PCB SIDE	1903015-3
CP3801	9JD06977NM020	CONNECTOR PCB SIDE	127301123K2
CP3802	9JD069779M020	CONNECTOR PCB SIDE	127301109K2
CP4301	9JD069S250629	CONNECTOR PCB SIDE	A2001WV2-5P
CP4305	9JD069S240639	CONNECTOR PCB SIDE	A2001WR2-4P
CP6001	9JD06972UM018	CONNECTOR PCB SIDE	TKC-W30P-P1
		*** CRYSTAL & CERAMIC OSCILLATORS ***	
X101	9JD100GT01615	CRYSTAL	B16000E007
X801	9JD100DT02007	CRYSTAL	DSX840GA
X3602	9JD100DT02801	CRYSTAL	SMD-49
		*** NETWORKS ***	
NR801	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR802	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR3601	9JD110P4330M4	R,NETWORK	4D03WGJ0330T5E
NR3602	9JD110P4330M4	R,NETWORK	4D03WGJ0330T5E
NR3603	9JD110P4330M4	R,NETWORK	4D03WGJ0330T5E
NR3604	9JD110P4330M4	R,NETWORK	4D03WGJ0330T5E
NR3605	9JD110P4330M4	R,NETWORK	4D03WGJ0330T5E
NR3606	9JD110P4330M4	R,NETWORK	4D03WGJ0330T5E
		*** OTHERS ***	
CP4302	9JD06G2S21501	CONNECTOR PCB SIDE	D229FD015G107BY
CP7201	9JD06G3VWT01A	CONNECTOR PCB SIDE	20389-Y30E
SH4301	9JD126D000044	TERMINAL PIN	YQ-36
SH4302	9JD126D000044	TERMINAL PIN	YQ-36
SH4303	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	9JDA32A01E240L	POWER PCB ASS'Y	CEF273A
		*** RESISTORS ***	
⚠ R403	9JDR3X28BR22J	R,METAL OXIDE	0.22 OHM 3W
⚠ R404	9JDRC31X1155J	RC	1.5M OHM 1W
⚠ R406	9JDR3K681S22J	R,METAL OXIDE	0.022 OHM 1W
⚠ R412	9JDR63881R22J	R,FUSE	0.22 OHM 1W
⚠ R416	9JDR655842R2J	R,FUSE	2.2 OHM 1/4W

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⚠ R466	9JDR5X2AD151J	R,CEMENT	150 OHM 5W	
⚠ R494	9JDR3K78A681J	R,METAL OXIDE	680 OHM 2W	
⚠ R497	9JDR65581010J	R,FUSE	OHM 1W	or
	9JDR63881010J	R,FUSE	1 OHM 1W	
⚠ R533	9JDR3X28B473J	R,METAL OXIDE	47K OHM 3W	
		*** CAPACITORS ***		
⚠ C402	9JDP2122B334M	CMP	0.33 UF 275V ECQUL	
⚠ C405	9JDE71LHH331D	CE	330 UF 400V	or
	9JDE77CHH331M	CE	330 UF 400V	
⚠ C406	9JDCD39E0M13M	CC	0.001 UF 250V	
C422	9JDE7EY78101D	CE	100 UF 100V	
⚠ C423	9JDP4NAE6823H	CMPP	0.082 UF 800V	
⚠ C424	9JDE8E6FH220M	CE	22 UF 400V	
⚠ C427	9JDCD39B0MQ2K	CC	470 PF 250V	
⚠ C433	9JDE7EYF4471M	CE	470 UF 35V	
⚠ C434	9JDE7EYF4122M	CE	1200 UF 35V	
⚠ C435	9JDE7EYF3102M	CE	1000 UF 25V	
⚠ C436	9JDCD39E0M13M	CC	0.001 UF 250V	
⚠ C438	9JDE7EYF4122M	CE	1200 UF 35V	
⚠ C440	9JDE7EYF0222M	CE	2200 UF 6.3V	
⚠ C441	9JDE7ESU5100M	CE	10 UF 50V	
⚠ C444	9JDE7ESU0221M	CE	220 UF 6.3V	
⚠ C448	9JDP2122B104M	CMP	0.1 UF 275V ECQUL	
C449	9JDE7EYF2102M	CE	1000 UF 16V	
C453	9JDE7EYF2102M	CE	1000 UF 16V	
⚠ C463	9JDCD39B0MQ2K	CC	470 PF 250V	
⚠ C475	9JDP4NAE6823H	CMPP	0.082 UF 800V	
		*** DIODES ***		
D401	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E	
⚠ D404	9JDD6C047110A	DIODE VARISTA	ENE471D-10A	
D406	9JDD28R1QS040	DIODE	EC31QS04-TE12L	
D407	9JDD28R1QS040	DIODE	EC31QS04-TE12L	or
	9JDD4CRSK34A0	DIODE SCHOTTKY	SK34A	
⚠ D408	9JDD2Z05SB800	DIODE,BRIDGE	D5SB80	
D411	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D412	9JDD97U03R91B	DIODE,ZENER	MTZJ3.9B T-77	
D413	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D414	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D415	9JDDE7RB3R92B	DIODE ZENER	UDZS3.9B TE-17	
D416	9JDD97U02001B	DIODE,ZENER	MTZJ20B T-77	
D419	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D420	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D421	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D422	9JDDD7R60M900	DIODE SCHOTTKY BARRIER	RB160M-90TR	
D423	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D424	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E	
⚠ D425	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC	
D426	9JDD1VT001330	DIODE,SILICON	1SS133T-77	
⚠ D427	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC	
D428	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D429	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
⚠ D430	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC	
⚠ D431	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC	
D432	9JDD2BE0RU3B0	DIODE SILICON	RU3B LF-A5	
D433	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E	
⚠ D435	9JDD2CFC91020	DIODE SILICON	ERC91-02J11SC	
⚠ D436	9JDD2CA2C10R0	DIODE SCHOTTKY BARRIER	YG862C10R	
⚠ D437	9JDD2CA2C10R0	DIODE SCHOTTKY BARRIER	YG862C10R	
D438	9JDDGERMA1110	DIODE SILICON	MA111-(TX)	or
	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17	
D439	9JDD97U03001B	DIODE,ZENER	MTZJ30B T-77	
⚠ D440	9JDD2CA2C10R0	DIODE SCHOTTKY BARRIER	YG862C10R	
⚠ D442	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E	
⚠ D443	9JDD2CA2C10R0	DIODE SCHOTTKY BARRIER	YG862C10R	

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D445	9JDD97U02401B	DIODE,ZENER	MTZJ24B T-77
D446	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D447	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D449	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D450	9JDD97U03R31B	DIODE,ZENER	MTZJ3.3B T-77
D453	9JDD97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D456	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D457	9JDD2LXSR2400	DIODE SCHOTTKY	SR240-F
D459	9JDD97U02201B	DIODE ZENER	MTZJ22B T-77
D460	9JDD4AT01H3E0	DIODE RECTIFIER	1H3-E
D461	9JDD97U01101B	DIODE,ZENER	MTZJ11B T-77
D462	9JDD2LXSR2400	DIODE SCHOTTKY	SR240-F
		*** ICS ***	
⚠ IC401	9JDI2GT050600	IC	MP2A5060
⚠ IC402	9JDI5SD0P2F40	IC	MIP2F4
⚠ IC403	9JDI1KJ9A431A	IC	KIA431A-AT
⚠ IC404	9JDI1KJ9A431A	IC	KIA431A-AT
⚠ IC406	9JDI1LF010150	IC	AL1015
⚠ IC407	9JDI03T057790	IC	LA5779-E
⚠ IC408	9JD000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
⚠ IC409	9JD000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
⚠ IC410	9JD000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
		*** TRANSISTORS ***	
Q401	9JDTCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
Q402	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q403	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q404	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
⚠ Q405	9JDTCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
⚠ Q406	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
⚠ Q407	9JDTAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q408	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q409	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
⚠ Q410	9JDTJ7M50P030	FET	RSS050P03_TB
Q411	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q412	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q415	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q416	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q417	9JDTAAT01241Y	TRANSISTOR SILICON	KTA1241_Y-AT
Q418	9JDTNAAA05001	COMPOUND TRANSISTOR	KRC101S-RTK
Q420	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q421	9JDTAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
⚠ Q422	9JDTBA0011510	TRANSISTOR SILICON	KTB1151
Q423	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q424	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q425	9JDTNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
Q431	9JDTNAAA05001	COMPOUND TRANSISTOR	KRC101S-RTK
Q432	9JDTAAT01241Y	TRANSISTOR SILICON	KTA1241_Y-AT
⚠ Q433	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
⚠ Q434	9JDT25F035630	FET	2SK3563(ORION_Q)
		*** COILS ***	
B401	9JD024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B402	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B403	9JD024HC51816	CORE,BEADS	HCB1608KF-181T20
B404	9JD024HT03553	CORE,BEADS	W5RH3.5X5X1.0
⚠ L401	9JD029X000135	COIL,LINE FILTER	SS30V-R150270
⚠ L402	9JD029X000135	COIL,LINE FILTER	SS30V-R150270
⚠ L403	9JD02F1000001	COIL CHOKE	DBE-688
L405	9JD02167E220K	COIL	22 UH
L408	9JD021U0L470M	COIL	47 UH
L409	9JD02130G330M	COIL	33 UH
L413	9JD02167E100K	COIL	10 UH
L415	9JD02167E220K	COIL	22 UH
		*** TRANSFORMERS ***	
⚠ T401	9JD0487420014	TRANSFORMER,SWITCHING	87420014
⚠ T402	9JD0481190074	TRANSFORMER,SWITCHING	81190074

ELECTRIC REPLACEMENT PARTS LIST

		*** JACKS ***	
⚠ J401	9JD064Q2A0001	JACK,AC	CCT2302-0711
		*** CONNECTORS ***	
CD403	9JD06CU2E1301	CORD CONNECTOR	CU2E1301
CP401	9JD069D01001A	CONNECTOR PCB SIDE	003P-2100
CP405	9JD069D01001A	CONNECTOR PCB SIDE	003P-2100
CP406	9JD069S2E0639	CONNECTOR PCB SIDE	A2001WR2-14P
CP408	9JD069D01001A	CONNECTOR PCB SIDE	003P-2100
CP411	9JD06977N001B	CONNECTOR PCB SIDE	TWG-P23P-B1
CP412	9JD069779001B	CONNECTOR PCB SIDE	TWG-P09P-B1
CP413	9JD069D01001A	CONNECTOR PCB SIDE	003P-2100
		*** FUSES ***	
⚠ F401	9JD080NT05004	FUSE	50T050H
⚠ F404	9JD0835C01603	MICRO FUSE	20N_1600FS
FH401	9JD06710T0009	HOLDER,FUSE	EYF-52BCY
FH402	9JD06710T0009	HOLDER,FUSE	EYF-52BCY
		*** RELAYS ***	
⚠ RY401	9JD0560V50119	RELAY	ALKS329 A60
		*** THERMISTOR ***	
⚠ TH401	9JDDSQ0VE4R0L	THERMISTOR	4D2-18LCS
		*** OTHERS ***	
EL2401	9JD124116281A	EYE LET	XRY16X28BD
EL2402	9JD124120301A	EYE LET	XRY20X30BD
SH401	9JD126D000044	TERMINAL PIN	YQ-36
SH402	9JD126D000044	TERMINAL PIN	YQ-36
SH403	9JD126D000044	TERMINAL PIN	YQ-36
SH404	9JD126D000044	TERMINAL PIN	YQ-36
SH405	9JD126D000044	TERMINAL PIN	YQ-36
SH408	9JD126D000044	TERMINAL PIN	YQ-36
SH409	9JD126D000044	TERMINAL PIN	YQ-36
		OPERATION PCB ASS'Y	
		*** PCB ***	
PCB270	9JDA32A01E270L	OPERATION PCB ASS'Y	CEF274A
		*** 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
		*** CONNECTORS ***	
CD4302	9JD06CU244003	CORD CONNECTOR	CU244003
CP2203	9JD069S240639	CONNECTOR PCB SIDE	A2001WR2-4P
		AND OTHERS	
		*** COILS ***	
TR7201	9JD02AS6513C1	CORE FERRITE	E04FG441312-TX3
TR7202	9JD02AS6513C1	CORE FERRITE	E04FG441312-TX3
		*** CONNECTORS ***	
CD302	9JD06CU144202	CORD CONNECTOR	CU144202
CD7204	9JD06CHRU2206	CORD CONNECTOR	CHRU2206

ELECTRIC REPLACEMENT PARTS LIST

		*** TUNER ***	
⚠ TU6002	9JD0164Y03002	DIGITAL TUNER	TDTG-S156D
		*** AC CORD ***	
⚠ CD3810	9JD120Q155804	CORD AC	P205-1324-4
⚠ CD3811	9JD120D145801	CORD SET AC	4K6G-431-00K
		*** OTHERS ***	
BT001	9JD141L003010	BATTERY,MANGAN	R6P(AR)XICI
BT002	9JD141L003010	BATTERY,MANGAN	R6P(AR)XICI
⚠ M3400	9JD1519Y55L01	FAN MOTOR	2004KL-04W-B30-M09
⚠ SP301	9JD070Y056003	SPEAKER	S0412F03
⚠ SP302	9JD070Y056003	SPEAKER	S0412F03
TM101	9JD076B0MU030	TRANSMITTER	ETR0088-010240
V2301	9JD09E4132019	LCD	LK315T3LZ5CZ

RESISTOR

RC.....	CARBON RESISTOR

CAPACITORS

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

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