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COLOR TV SERVICE MANUAL

CHASSIS : MC-05HB

MODEL : 29FX6AM

CAUTION

BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



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SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by \triangle in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

General Guidance

An **Isolation Transformer** should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Due to high vacuum and large surface area of picture tube, extreme care should be used in **handling the Picture Tube**. Do not lift the Picture tube by its Neck.

X-RAY Radiation

Warning:

The source of X-RAY RADIATION in this TV receiver is the High Voltage Section and the Picture Tube. For continued X-RAY RADIATION protection, the replacement tube must be the same type tube as specified in the Replacement Parts List.

To determine the presence of high voltage, use an accurate high impedance HV meter.

Adjust brightness, color, contrast controls to minimum.

Measure the high voltage.

The meter reading should indicate

23.5 \pm 1.5KV: 14-19 inch, 26 \pm 1.5KV: 19-21 inch,

29.0 \pm 1.5KV: 25-29 inch, 30.0 \pm 1.5KV: 32 inch

If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.

Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1M Ω and 5.2M Ω .

When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check.

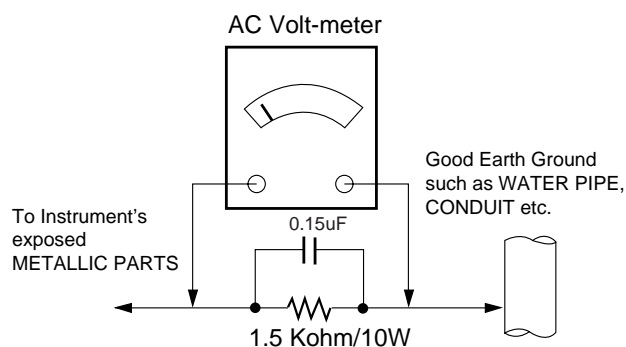
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit

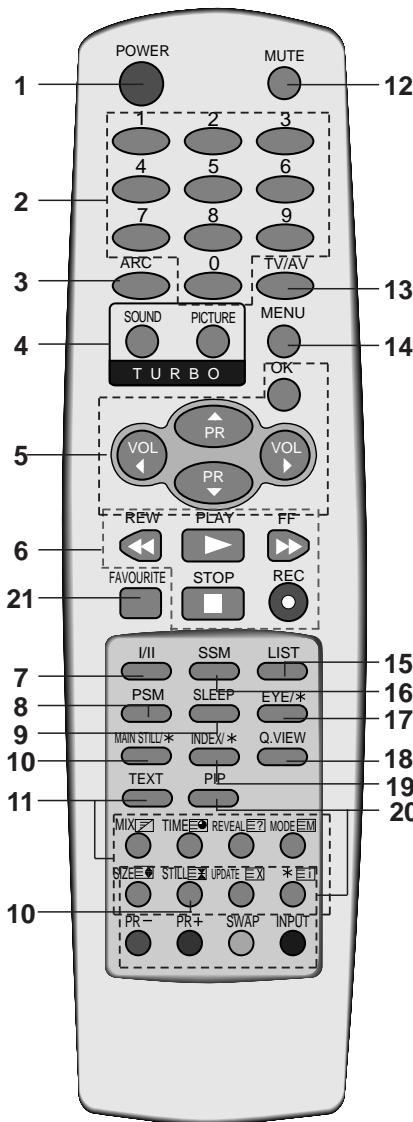


CONTROL DESCRIPTIONS

All the functions can be controlled with the remote control handset. Some functions can also be adjusted with the buttons on the front panel of the set.

Remote control handset

Before you use the remote control handset, please install the batteries. See the next page.



(With TELETEXT)
(With PIP)

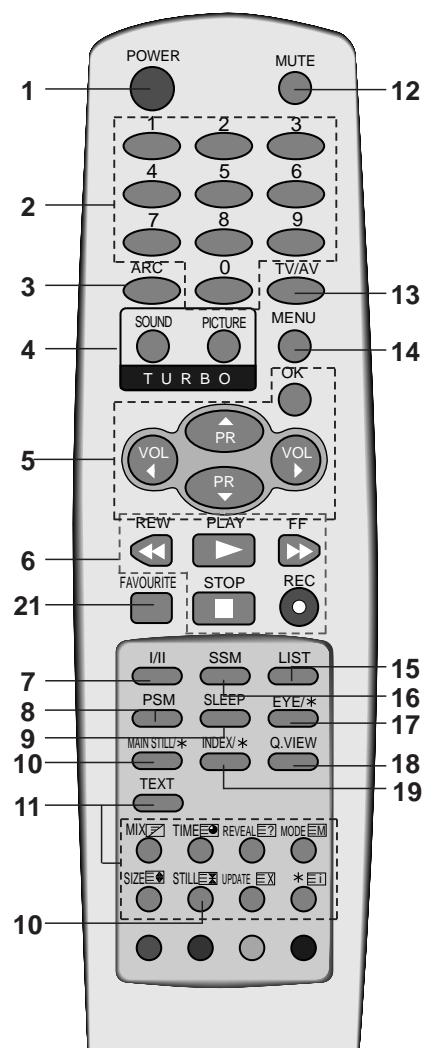
- 1. POWER**
switches the set on from standby or off to standby.
- 2. NUMBER BUTTONS**
switches the set on from standby or directly select a number.
- 3. ARC (Aspect Ratio Control)**
changes the picture format.
- 4. TURBO PICTURE BUTTON / SOUND BUTTON (option)**
selects Turbo picture/sound.
- 5. ▲ / ▼ (Programme Up/Down)**
selects a programme or a menu item.
switches the set on from standby.
◀ / ▶ (Volume Up/Down)
adjusts the volume.
OK
accepts your selection or displays the current mode.
- 6. VCR BUTTONS (option)**
control a LG video cassette recorder.
- 7. I/II**
selects the language during dual language broadcast.
selects the sound output (option).
- 8. PSM (Picture Status Memory)**
recalls your preferred picture setting.
- 9. SLEEP**
sets the sleep timer.
- 10. MAIN STILL/* (or STILL)**
freezes motion of the picture.
- 11. TELETEXT BUTTONS (option)**
These buttons are used for teletext.
For further details, see the 'Teletext' section.
- 12. MUTE**
switches the sound on or off.
- 13. TV/AV**
selects TV or AV mode.
switches the set on from standby.

- 14. MENU**
selects a menu.
- 15. LIST**
displays the programme table.
- 16. SSM (Sound Status Memory)**
recalls your preferred sound setting.
- 17. EYE/* (option)**
switches the eye function on or off.
- 18. Q.VIEW**
returns to the previously viewed programme.
- 19. INDEX/* (option)**
switches FRONT DISPLAY on or off.
- 20. PIP BUTTONS (option)**
PIP
switches the sub picture on or off.
PR +/-
selects a programme for the sub picture.
SWAP
alternates between main and sub picture.
INPUT
selects the input mode for the sub picture.
SIZE
adjusts the sub picture size.
STILL
freezes motion of the sub picture.
POSITION
relocates the sub picture in clockwise direction.

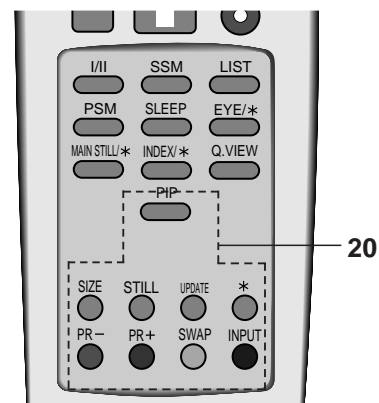
- 21. FAVOURITE**
selects a favourite programme.

*** : No function**

COLOURED BUTTONS : These buttons are used for teletext (only TELETEXT models) or programme edit.

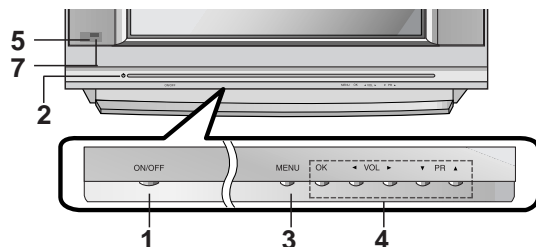


(With TELETEXT / Without PIP)

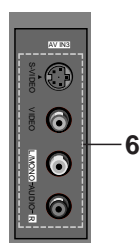


(Without TELETEXT / With PIP)

Front panel



Side panel



1. **MAIN POWER (ON/OFF)**
switches the set on or off.
2. **POWER/STANDBY INDICATOR**
illuminates brightly when the set is in standby mode.
dims when the set is switched on.
3. **MENU**
selects a menu.
4. **OK**
accepts your selection or displays the current mode.
◀ / ▶ (Volume Down/Up)
adjusts the volume.
adjusts menu settings.
▲ / ▼ (Programme Up/Down)
selects a programme or a menu item.
switches the set on from standby.
5. **REMOTE CONTROL SENSOR**
6. **AUDIO/VIDEO IN SOCKETS (AV IN3)**
Connect the audio/video out sockets of external equipment to these sockets.
S-VIDEO/AUDIO IN SOCKETS (S-AV)
Connect the video out socket of an S-VIDEO VCR to the **S-VIDEO** socket.
Connect the audio out sockets of the S-VIDEO VCR to the audio sockets as in **AV IN3**.
7. **EYE (option)**
adjusts picture according to the surrounding conditions.
8. **HEADPHONE SOCKET (option)**
Connect the headphone plug to this socket.

SPECIFICATIONS

Note : Specification and others are subject to change without notice for improvement.

■ Scope

This specification can be applied to all the television related to MC-05HB Chassis.

■ Test and Inspection Method

- 1) performance : Follow the Standard of LG TV test
- 2) Standards of Etc. requirement
 - Safety: IEC60065
 - EMC: EN55020,EN55013

■ Test Condition

- 1) Temperature : $25 \pm 5^{\circ}\text{C}$ (CST : $40 \pm 5^{\circ}\text{C}$)
- 2) Relative Humidity : $65 \pm 10\%$
- 3) Power voltage : 110-220V~, 50/60Hz
- 4) Follow each drawing or spec for spec and performance of parts,based upon P/N of B.O.M
- 5) Warm up TV set for more than 20min. before the measurement.

■ General Specifications

No.	Item	Specification	Remark
1	Receiving system	PAL,SECAM BG	
		PAL/SECAM DK	
		PAL I	
		SECAM-L/L'	EU
		NTSC M	Non EU
2	AV receiving system	NTSC M/PB	
		PAL BG, DK, I	
		SECAM BG, DK	
3	Component receiving system	480i/ 480P	
		576i/ 576P	
		1080i 50Hz/60Hz	
		720P 50Hz/60Hz	
4	Available Channel	1) VHF : E2 ~ E12 UHF : E21 ~ E69 CATV : S1 ~ S20 HYPER : S21 ~ S41	
		2) L/L'	EU
		3) NTSC-M VHF : 2 ~ 13CH UHF : 14 ~ 69CH CATV : 01 ~ 125CH	Non EU 200 PR. (W/O TXT)
5	Input Voltage	110-240V~, 50/60Hz(Wide Range) 220V~ or 230V~, 50/60Hz(Narrow)	EU : Narrow Non EU : Narrow, Wide
6	Market	EU, Non EU	
7	Screen Size	4:3 Flat 29", Wide Flat 32"	
8	Tuning System	FVS 100/200 Program	Option
9	Operating Environment	1) Temp : 0 ~ 40 deg 2) Humidity: below 85%	
10	Storage Environment	1) Temp : -20 ~ 60 deg 2) Humidity: below 85%	

ADJUSTMENT INSTRUCTIONS

1. Application Object

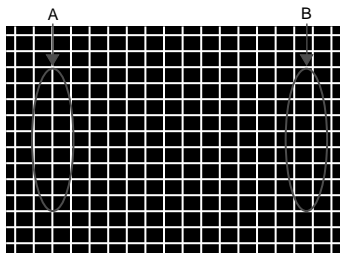
These instructions are applied to all of the color TV, MC-05HB chassis.

2. Notes

- (1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test instrument.
- (2) Adjustment must be done in the correct order. But the adjustment can be changed by consideration of mass production.
- (3) The adjustment must be performed in the circumstance of $25 \pm 5^\circ\text{C}$ of temperature and $65 \pm 10\%$ of relative humidity if there is no specific designation.
- (4) The input AC voltage of the receiver must keep rating voltage in adjusting.
- (5) The receiver must be operated for about 15 minutes prior to the adjustment.

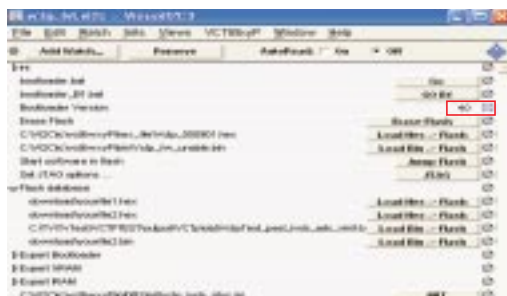
3. Soft ware download

- 1) Connect JIG to P004 of Digital Board.
- 2) Connect SCL line of JIG Switch to Ground.
- 3) Turn on JIG and supply 6V to Digital Board. Terminate the SCL of clause 2) by using Switch.
- 4) After termination of SCL line, wait for 3 second.
- 5) Execute 'vct69xyp_main_graphic.vi2c' program.

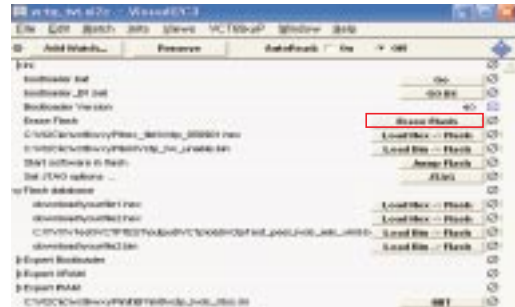


6) Click the TVT button.

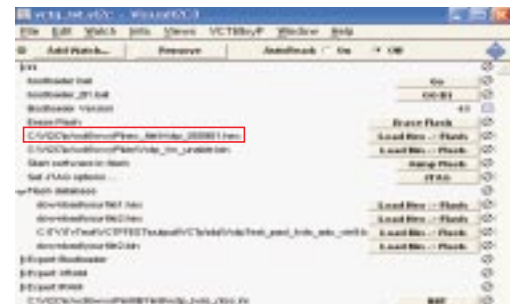
7) Double click right check box of 'Boot loader Version' line, and then check to change to 40 from 0.



8) After checking '40', Click the 'Erase Flash' button.



9) Double click 'Edit Window'.



10) Click the file select button of Name to select file.



11) Select necessary file.



12) Download the file with 'OK' button.



13) Check download process(about 30~40 sec.).



4. DVCO Adjustment

- 1) This adjustment applies to the frame assembly unit adjustment.
- 2) This adjustment is to adjust the crystal oscillator frequency of VCTP IC and is done after receiving the EU05CH(digital pattern) signal.
- 3) If you press the ADJ button to enter the SCREEN mode, DVCO adjustment is automatically done.
(T/X may not operate properly during DVCO adjustment.)

5. Temporary screen voltage adjustment

- 1) This adjustment applies to the frame assembly unit adjustment.
- 2) Enter Screen Mode with ADJ button. Turn the screen volume to disappear horizontal line.

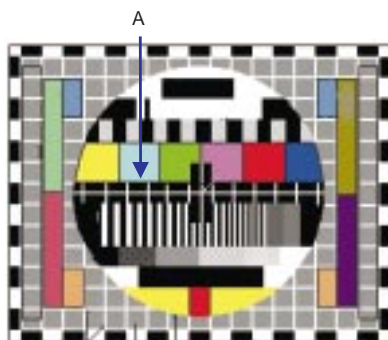
6. Focus Adjustment

6-1. Preliminary steps

Receive the PAL-B/G 07ch(Cross hatch pattern, <Fig 1>) and Set the picture mode to "STANDARD".

6-2. Adjustment

- 1) Adjust the lower Focus volume of FBT for the best focus of vertical line A.
- 2) Adjust the upper Focus volume of FBT for the best focus of area A.
- 3) Repeat above step 1) and 2) for the best overall focus.

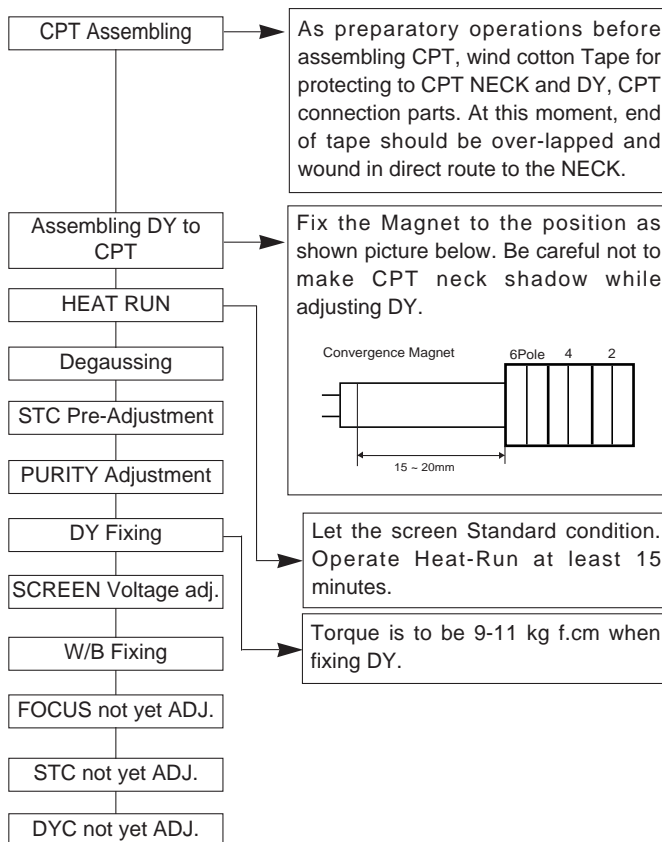


<Fig. 1>

7. Purity & Convergence adjustment

This adjustment should be operated when using the CPT(without ITC) from CPT manufacturing place.

This adjustment must be done in the order of the following flowchart.



7-1. Purity adjustment

- (1) It makes CPT or CABINET enough to demagnetization.
- (2) Receive the signal of red raster.
- (3) Loosen fixed screw of DY and closely to CPT funnel part.
- (4) Check the center of screen that PURITY MAGNET of CPT by crossing adjustment. At this time, 4 & 6 pole magnet is located to magnet of nothing.
- (5) Move the DY to make equal red on whole screen and it does not to make the DY by fixed screw after check a simple color of Red/Green/Blue and white raster whether or not it is a pollution of color.
(At this time, take care raster of screen and DY must fixing in the condition which maintains a horizontality.)
- (6) Check the TV set by move direction.

7-2. Convergence adjustment

These adjustments can be the best condition of focus after finished purity adjustment.

- (1) Receive the signal of cross hatch that BACK RASTER is black.
- (2) Adjust brightness and luminosity till dot appear 9 ~12.
- (3) Open angle of the two tab of 4 pole MAGNET by isogonic angle and accord with vertical line of red and blue color in the middle of screen.
- (4) Maintain as angle of (3) and rotate the tab to accord with vertical line of Red and Blue color in the middle of screen.

- (5) Open angle of the two tab of 6 pole magnet by isogonic angle and accord with vertical line of Red/Blue and Green.
- (6) Maintain as angle of (5) and rotate the tab to accord with horizontal line. In case of twisted horizontal line, repeat adjustment of (3) ~ (5) remembering the movement of Red/Green/Blue color.
- (7) Move the DY to best condition of convergence and attach the CPT to a rubber-chock for fixing DY.

8. Screen voltage Adjustment

8-1. Preliminary steps

- 1) Turn the power supply of the TV set on.
- 2) The set must be operated for about 15 minutes prior to the adjustment.

8-2. Adjustment

- 1) Adjust in the condition of no RF signal or after receiving the PAL-B/G 05ch(Digital pattern)
- 2) Enter to 'Screen Mode' by pressing ADJ button on remote control and Make horizontal line.
Turn the Screen Volume not to see one horizontal line and turn oppositely until it starts to display.

9. White balance Adjustment

This adjustment should be performed after screen voltage adjustment.

For manual adjustment, refer to the following procedure

9-1. Test equipment

- 1) Automatic White Balance Meter(Low/High Light Pattern)
- Automatic adjustment
- 2) White Balance Meter(CRT Color Analyzer, CA-100) : 1 set
- 3) Remote control for adjustment

9-2. Preliminary steps

- 1) Tune the TV set to receive an 100% white pattern.
- 2) This adjustment should be performed after screen voltage adjustment.

9-3. Adjustment

- 1) White Balance should be adjusted with White balance meter and the remote controller.
- 2) Press the ADJ button to enter the adjustment mode, search for RGB W-B mode with CH▲, ▼, and select with VOL button.
- 3) Select the adjustment item with CH ▲, ▼ button.
- 4) Adjust the data with Press VOL ◀, ▶ button.
- 5) Adjustment procedure
 - a. Adjust the "CONTRAST" and "BRIGHT" so the bright level to be 35 Ft_L.
 - b. Adjust "Y" value of High Light with RD(R-Drive) and adjust "X" value with BD(B-Drive) and make color coordinates of High Light which is specified in "clause f".
 - c. Adjust the "CONTRAST" and "BRIGHT" so the bright level to be 4.5 Ft_L.
 - d. Adjust "Y" value of Low Light with RC(R-Cutoff) and adjust "X" value with BC(B-Cutoff) and make color coordinates of Low Light which is specified in "clause f".
 - e. Repeat a~d until the High/ Low color coordinates satisfies the table of "clause f"

- f. Check the adjusted color coordinates with white balance meter.

Color Temperature	X coordinate	Y coordinate	
13500K	266± 8	273 ± 8	Non EU
9000K	288 ± 8	295 ± 8	EU

	MENU	29"	Remark
RGB W-B	RD(0~1FF)	0180	For High Light adjustment
	GD(0~1FF)	0190	
	BD(0~1FF)	01A0	
	RC(0~1FF)	00D0	For Low Light adjustment
	GC(0~1FF)	00FF	
	BC(0~1FF)	00E0	

IIC DATA SETTING

Model IIC

OFFSET DATA

		(B AMP)	(B CUT)	(G AMP)	(G CUT)	SUB BRIGHT	DATA SAVE	
IIC WRITE	SUB ADD	1	2	0	3		ADDR	DATA
	START BIT	8	C	7	B			
	STOP BIT	7	7	7	7			
		2	2	2	2			
		0	0	0	0			
EEPROM	SUB ADD	39	3D	38	3C			

SLAVE ADDRESS(WRITE)				SUB BRIGHT CONTOR DATA				SPEED	
IC	86	EEPROM	A0	CA 100	4	PATTEN	40	2	

10. Deflection Data Adjustment

- Manual adjustment can be done by the following procedure.

10-1. Preliminary steps

- 1) Set the Deflection data with the remote controller.
- 2) Enter the Adjustment mode by pressing the ADJ button.
- 3) Select the "DEFLECT" to adjust Deflection Data.
- 4) Press the CH ▲, ▼ button to select adjustment items.
- 5) Press the VOL ◀, ▶ button to adjust the data.
- 6) The TV set receives PAL-B/G Digital pattern(EU05ch).

NOTE : Initial adjustment is done based on PAL 100Hz.

If production line doesn't the production line of LG TV, receive available deflection adjustment pattern.

- 7) MC05HA Chassis is based 3Mode adjustment
- 8) sequency : Pal 100Hz -> 1080i/50Hz -> NTSC

* MC05HB chassis is based output of 1080i/50Hz.
* For adjusting 1080i/50Hz output after adjusting 100Hz, press the Mode button of remote controller after entering to DEFLECTION of SVC Mode.

10-2. Adjustment

VL (Vertical Linearity)

Adjust the top & bottom size of inner circle to be equal.

VA (Vertical Amplitude)

Adjust upper and lower part of circle from the effective screen of the CPT. to be distance of 6~7mm.

SC (Vertical S Correction)

Adjust the lattice width of the Top/Center/Bottom to be the same.

As being decided by DY value of the using CPT, set as default of the using CPT.

VS (Vertical Shift)

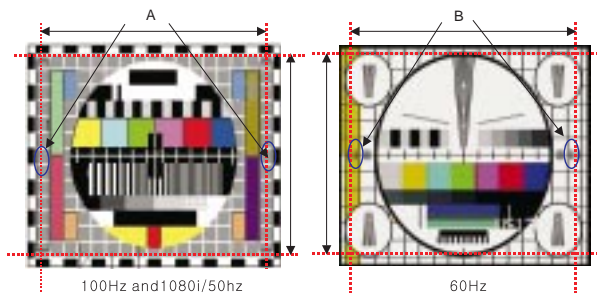
Adjust so that the horizontal center line of a digital circle pattern is in accord with geometric horizontal center of the CPT.

HS (Horizontal Shift)

Adjust so that the vertical center line of a digital circle pattern is in accord with geometric vertical center of the CPT.

EW (East-West Horizontal Width)

Adjust outer line of the left/ right outer lattice to be united with effective boundary surface of CPT.



<fig. 2>

* Receive Cross-hatch to adjust horizontal Pin-Cushion.

BOW

In line adjustment, not to change default value is basic.

ANG

In angle adjustment, adjust until inclination of center vertical line should be vertical precisely.

EP (East-West Parabola)

Adjust so that middle portion of the outermost left and right vertical line looks like parallel with vertical lines of the CPT.

CRNU(Upper Corner Correction)

Adjust so that corner vertical line of upper-left and upper-right to be straight line after finishing EP adjustment.

CRNL(Lower Corner Correction)

Adjust so that corner vertical line of lower-left and lower-right to be straight line after finishing EP adjustment.

CRNU6

After finished CRNU adjustment, adjust vertical line of left-top, right-top of screen to the best straight line.

CRNL6

After finished CRNL adjustment, adjust vertical line of left-top, right-top of screen to the best straight line.

* After adjusting as above, finish the Pin Cushion adjustment by re-adjustment of EW, EP, ANGLE, BOW, CRNU, CRNL, CRNU6, CRNL6.

* After adjusting, move to "Store This Mode". And then change to "Store All Mode" with VOL ◀, ▶ and save by using press "OK" key.

11. Deflection setting initial data

ITEM	Range	RF PAL		RF NTSC
		100Hz	1080i/50	1080i/50
VL	0 ~ FFFF	FFFC	FFF3	FFDD
VS	0 ~ FFFF	FFF8	0000	0003
VA	0 ~ FFFF	001E	0014	FFF6
SC	0 ~ FFFF	009E	009E	007C
HS	0 ~ FFFF	005D	005E	005C
EW	0 ~ FFFF	0044	0041	006C
ET	0 ~ FFFF	FFFB	FFDE	FFC0
EP	0 ~ FFFF	FFE0	FEE2	FEB2
CRNU	0 ~ FFFF	0004	0004	FFF6
CRNL	0 ~ FFFF	000B	0025	002A
BOW	0 ~ FFFF	000B	0007	0007
ANGLE	0 ~ FFFF	000A	0009	0009
CRNU6	0 ~ FFFF	0056	003A	0056
CRNL6	0 ~ FFFF	003F	0030	0042

* Check adjustment condition at 1080i/50Hz, NTSC60Hz after finishing adjustment in PAL100Hz, adjust defection adjustment at each Mode again.

* Sequence

: PAL 100Hz(RF) -> NTSC 60Hz(RF) ->
1080i/50Hz(COMPONENT)

12. How to inspect condition of a transmission and reception in wireless sound model(option)

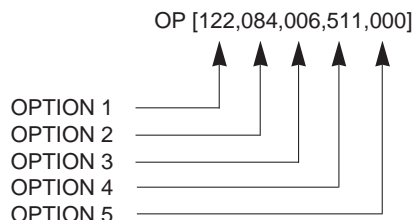
- Wireless sound model's efficiency inspections is executed to a finished in a final inspection phase.
- Wireless sound is a function which receives voice-signal by an exclusive remote control and Earphone, transmits a FM through transmitter of inner part in MICOM BOARD to TV sound(MONITOR OUTPUT)

- 1) Execute in channel generating voice-signal
- 2) Select a transmitted frequency in MENU OSD.
- 3) A received frequency in an exclusive remote control or received FM Radio is tuned by 87.7MHz which is same as frequency in OSD.
- 4) Check out whether a signal generating to MAIN SPEAKER generates in earphone or receiver or not.
- 5) There is no alternation and setting of adjusted DATA in the process of inspecting FM TX.

13. OPTION setting

13-1. Preliminary steps

- 1) This option adjustment decides function in accordance with model. Press the SVC TX adjustment button(CH up/down button) at SVC mode, then adjust the option at OPTION1, 2, 3, 4, 5 mode.
- 2) Mark the option adjustment data like [111,111,111,111,111] in BOM.



* Mark of BOM

LEVEL	PART NO.	SPECIFICATION	DESCRIPTION
1.	31419MNxxxA	MAIN CHASSIS ASSY	OPT[122,084,006,511,000]

In this model, the OPTION1 data is 112, OPTION2 data is 084, the OPTION3 data is 006, the OPTION 4 data is 511, OPTION 5 data is 000.

13-2. Adjustment Method

- 1) Input OPTION value with number button on remote control at each OPTION adjustment mode.
- 2) At each OPTION Mode, Select adjustment item by the CH ▲, ▼ button and then set up each OPTION by the ◀, ▶ button.

<Table 1> OPTION 1

Option	Code	Function	Remark
1	TEXT (2bit, Caption, 200PR)	3: WITH CAPTION(CANADA) 2: WITH CAPTION 1: W/TXT & 200 PROGRAM 0: W/O TXT & 200 PROGRAM	3: CANADA 2: OTHER NTSC AREA 1: Other country 0: china only
2	VCTP	0: BASIC 1: ECO	0: VCTP Basic Version 1: VCTP ECO Version * Fixed by MICOM VERSION
3	TOP	1: TOP + FLOF TEXT 0: FLOF TEXT	1: Dutch/ Swiss/ Austria/ Sweden/ Norway/Finland/ Poland/ Italy/ Spain/ Benelux3 0: Others
4	ACMS	1: WITH CHANNEL NAME DISPLAY 0: WITHOUT CHANNEL NAME DISPLAY	1: ALL COUNTRIES EXCEPT AUSTRALIA 0: AUSTRALIA ONLY
5	CH+AU	1: CHINA+AUSTRALIA CHANNEL TABLE 0: OTHER COUNTRIES CHANNEL TABLE	1: CHINA + AUSTRALIA 0: OTHERS
6	BOOST	1: WITH BOOSTER 0: WITHOUT BOOSTER	1: ALL 0:
7	PIP	1: WITH PIP 0: WITHOUT PIP	1: WITH PIP MODEL 0: WITHOUT PIP MODEL

<Table 2> OPTION 2

Option	Code	Function	Remark
1	SYS	0: BG/I/DK/L 1: BG/I/DK/M 2: 3-SYSTEM 3: RESERVED	0: EU MODEL 1: Non-EU MODEL 2: NO USE 3: NO USE
2	FMTRM	1: WIDE BAND XWAVE 0: NO XWAVE	1: WITH XWAVE MODEL 0: WITHOUT XWAVE MODEL
3	A2 ST	1: NICAM CHECK & FM STEREO/DUAL - operate 0: NICAM CHECK & FM STEREO/DUAL - not operate	1: OTHERS 0: TUNISIA
4	HDEV	1: HIGH DEVIATION MODULATION 0: RF NORMAL SOUND MODULATION	1: China/ Saudi/ India/ Indonesia/ Lebanon/ Pakistan/ Iran 0: OTHERS
5	VOL	1: RUSHED SOUND CURVE(ASIA, MIDDLE EAST) 0: STANDARD SOUND CURVE(EU, RUSSIA)	1: Non-EU 0: EU
6	WOOF	1: WITH WOOFER SPEAKER 0: WITHOUT WOOFER SPEAKER	TOOL OPTION
7	HPHON	1: WITH HEAD PHONE 0: WITHOUT HEAD PHONE	1: NO USE(READY) 0: ALL

<Table 3> OPTION 3

Option	Code	Function	Remark
1	SCART	3: READY 2: 2 SCART(SC ID enable + SC_RGB(soft mix)+sav2) 1: 1 SCART(SC ID enable + SC_RGB(soft mix)) 0: WITHOUT SCART JACK(ALL PHONE JACK)	3: no use 2: 2 scart 1: 1 scart + 1 phone 0: ALL PHONE JACK
2	WIDE	1: 16:9 TV 0: 4:3 TV	1: Wide Model 0: 4:3 model
3	NCOMP (number of component)	1: COMPONENT 1/2 0: COMPONENT 1	1: no use 0: ALL
4	3DCOM	1: WITH 3D-COMB FILTER 0: WITHOUT 3D-COMB FILTER(WITH 4H-FILTER)	1: Basic VCTP(PIP model) 0: Eco VCTP(W/O PIP)
5	BLUBK	1: WITH BLUE BACK 0: WITHOUT BLUE BACK	1: ALL 0: no use
6	XD	1: WITH XD 0: WITHOUT XD	1: With XD ON/OFF Function 0:
7	TILT-NOTE	1: can't control TILT by REMOCON 0: can control TILT by REMOCON	1: EU model 0: Non-EU model

<Table 4> OPTION 4

No.	OPTION	Specification	REMARK
1	LANG	0: ENG ONLY 1: EU 5EA 2: EU ETC 3: GREECE 4: PARSI 5: ARAB URDU 6: E+HINDI 7: E+I+M+V 8: E+THAI 9: E+CHINA	English Only English/ German/ French/ Italian/ Spanish Polish/ Hungarian/ Czech/ Russian/ English/ Dutch/ Swedish/ Norwegian/ Danish/ Finnish/ Portuguese/ Rumanian English/ Greek English/ PARSI(Iran) English/ French/ Arabic(Egypt, Saudi)/ URDU(Pakistan) English+HINDI English+Indonesian+Malaysian/ Vietnamese English+THAI English+Chinese
2	TXT LAN	0: WEST EU 1: EAST EU1 2: TURKEY EU 3: EAST EU2 4: CYRILLIC1 5: CYRILLIC2 6: CYRILLIC3 7: TURK GRE1 8: TURK GRE2 9: TURK GRE3 10: ARAB FRA 11: ARAB ENG 12: ARAB HEB1 13: ARAB HEB2 14: PARS ENG 15: PARS FRA 16: PARS ALL	English/ French/ Swedish/ Czech/ German/ Spanish/ Italian Polish/ French/ Swedish/ Czech/ German/ Slovene/ Italian/ Rumanian English/ French/ Swedish/ Turkish/ German/ Spanish/ Italian English/ Hungarian/ Serbian/ Czech/ German/ Spain/ Italy/ Rumanian Polish/ Russian/ Estonian/ Lettish Polish/ Russian/ Swedish/ Czech/ Estonian/ Lettish English/ Russian/ Estonian/ Czech/ Ukrainian/ Lettish English/ French/ Swedish/ Turkish/ Portuguese/ German/ Spanish/ Italian/ Greek English/ Turkish/ German/ Greek English/ French/ Swedish/ Turkish / German/ Spanish/ Italian/ Greek French/ English/ Turkish/ Arabic English/ French/ Turkish/ Arabic Hebrew/ Arabic English/ French/ Arabic/ Hebrew English/ French/ Turkish/ Parsi French/ Turkish/ Parsi English/ French/ Parsi * Finland => suomi
3	MAX VOL	100	

<Table 5> OPTION5

Option	Code	Function	Remark
1	C/PTV	1: W/ CVG(PTV) 0: W/O CVG(CTV)	1: no use 0: ALL * Fixed by MICOM version
2	AUTOCVG	1: WITH AUTO CONVERGENCE 0: WITH 9 POINT CONVERGENCE	1: no use 0: ALL
3	32 INCH	1: 32 INCH 0: OTHERS	1: no use 0: ALL
4	HOTEL	1: WITH HOTEL FUNCTION 0: WITHOUT HOTEL FUNCTION	1: Limit MAX VOL Level, CH EDIT 0:
5	EYE	1: WITH DIGITAL EYE 0: WITHOUT DIGITAL EYE	1: no use(READY) 0: ALL
6	TBIDX	1: WITH TURBO THEATER INDEX 0: WITHOUT TURBO THEATER INDEX	1: FB90/FC40 index option 0: Other Tool all
7	DGIDX	1: WITH DIGITAL INDEX 0: WITHOUT DIGITAL INDEX	1: WITH INDEX MODEL 0: W/O INDEX MODEL
8	MOVE SPK	1: WITH MOVE SPEAKER 0: WITHOUT MOVE SPEAKER	1: 29FB90 0: Other tool

14. SERVICE MODE DATA

<Table 6> Basic data of DDP3316C

ITEM	PAL 100Hz	NTSC	1080i/50Hz
EHTTH	00FA	00FA	00FA
EHT-S	001F	001F	001F
EHTV1	FFD8	FFD8	FFD8
EHTV2	FFE2	FFF2	FFE2
EHTH1	FFD1	FFD1	FFD1
EHTH2	FFE0	FFE0	FFE0
EHT-F	0003	0003	0003
EHTP-1	FFE0	FFE0	FFF0
EHTP-2	0003	0003	0003

<Table 7> Basic data of DDP3316C - 2

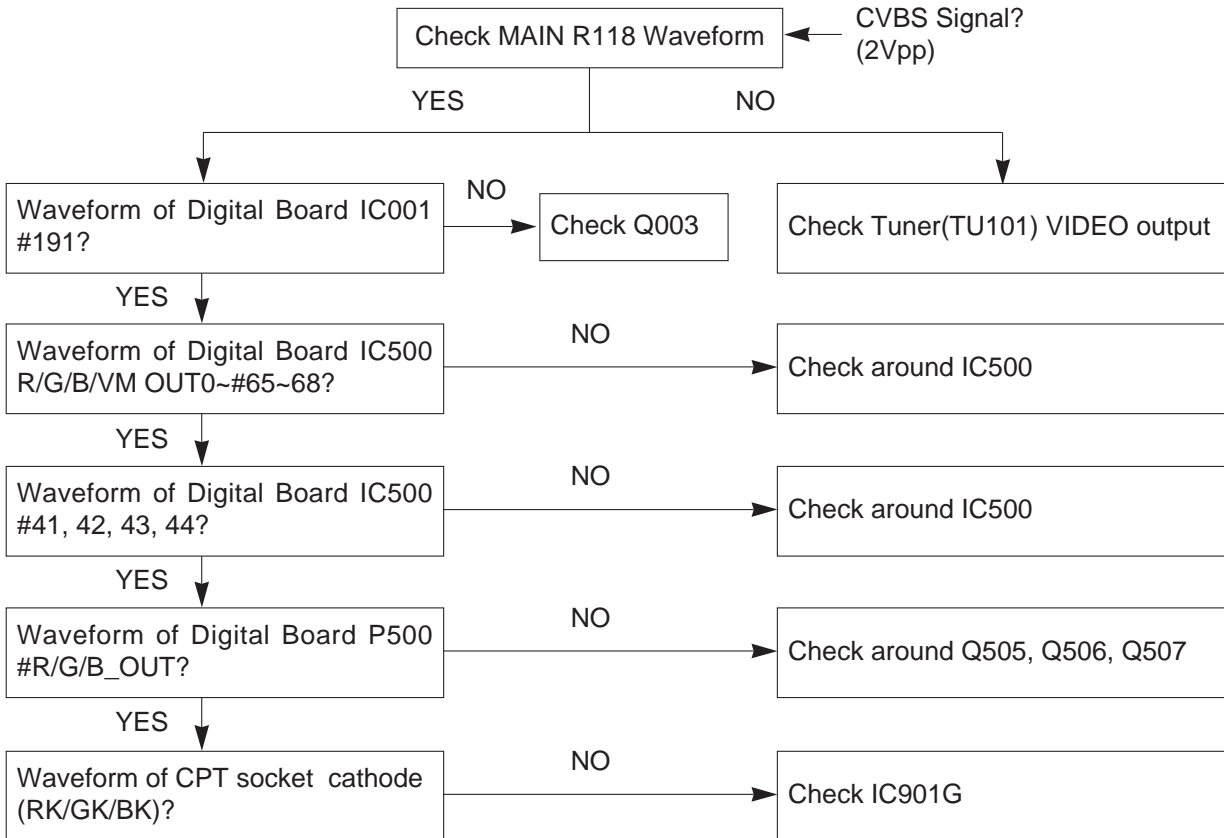
ITEM	PAL 100Hz	NTSC	1080i/50Hz
IBRM	0190	0190	0190
WDRM	00C8	00C8	00C8
GGAIN	0000	0000	0000
WGAIN	0000	0000	0000
MWDR	01F8	01F0	01F0
BCLTH	0270	0270	0270
BCLTC	0190	0190	0190
BCLGA	0090	0090	0090
BCTC	00F0	00F0	00F0
TML	0000	0000	0000
VBST	FFFC	FFF7	FFF7
VBSO	0019	0019	0019
HBST	047F	047E	0425
HBSO	0066	0061	005D

<Table 8> W/B DATA

MENU	ITEM	DATA
RGB W-B	R-DRIVE	0180
	G-DRIVE	0190
	B-DRIVE	01A0
	R-CUTOFF	00D0
	G-CUTOFF	00FF
	B-CUTOFF	00E0
	TNRCT C/A	0005
	AGC-LEV	00B0
	BRIGH-LEV	0

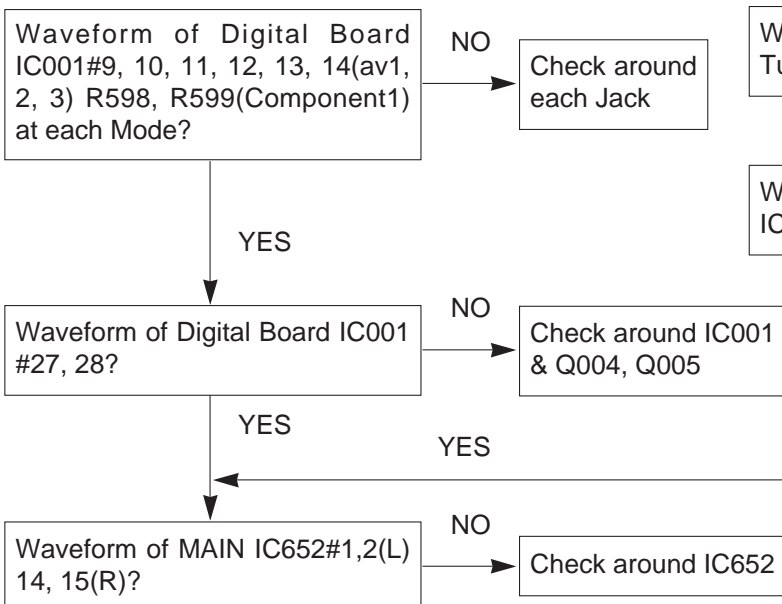
TROUBLE SHOOTING

1. No Picture (sound ok)

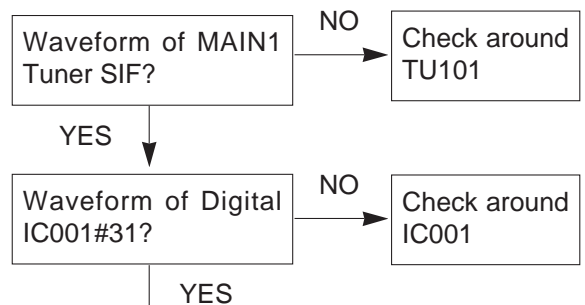


2. No Sound (picture ok)

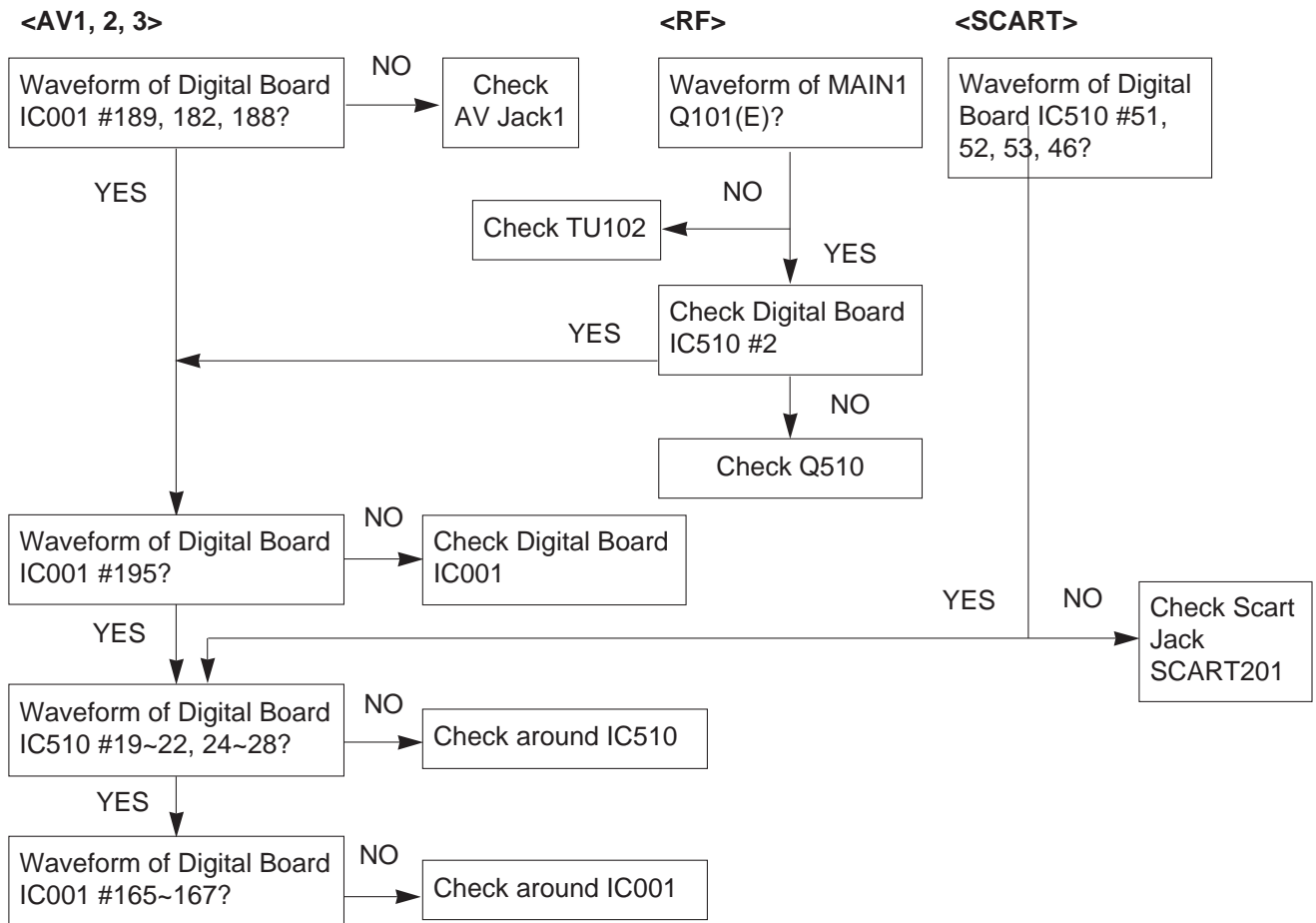
<AV1, 2, 3, Component 1 INPUT>



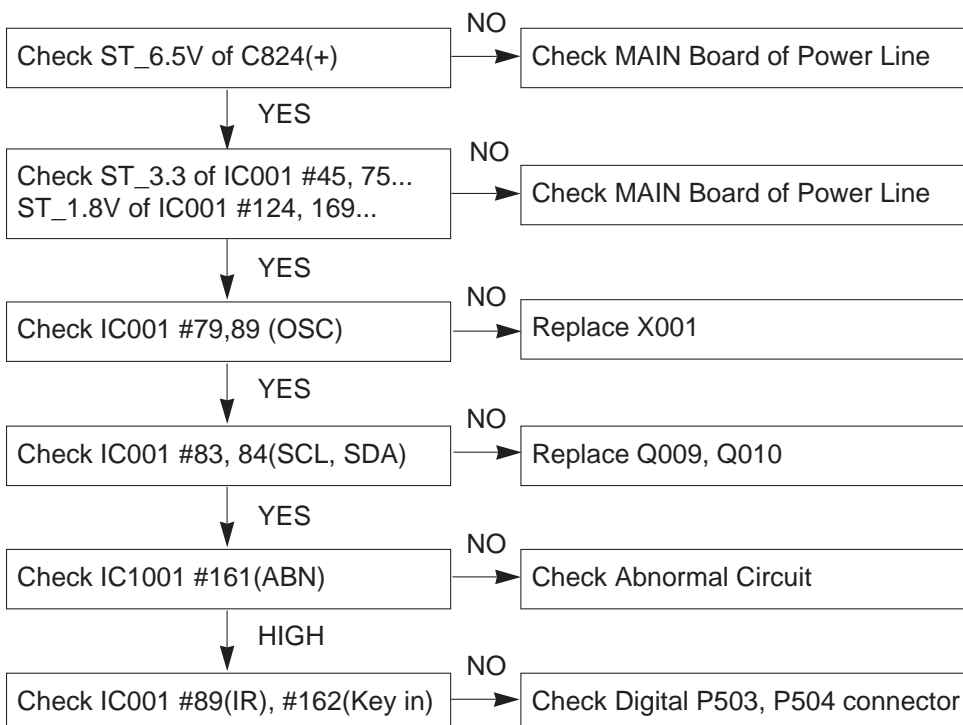
<RF>



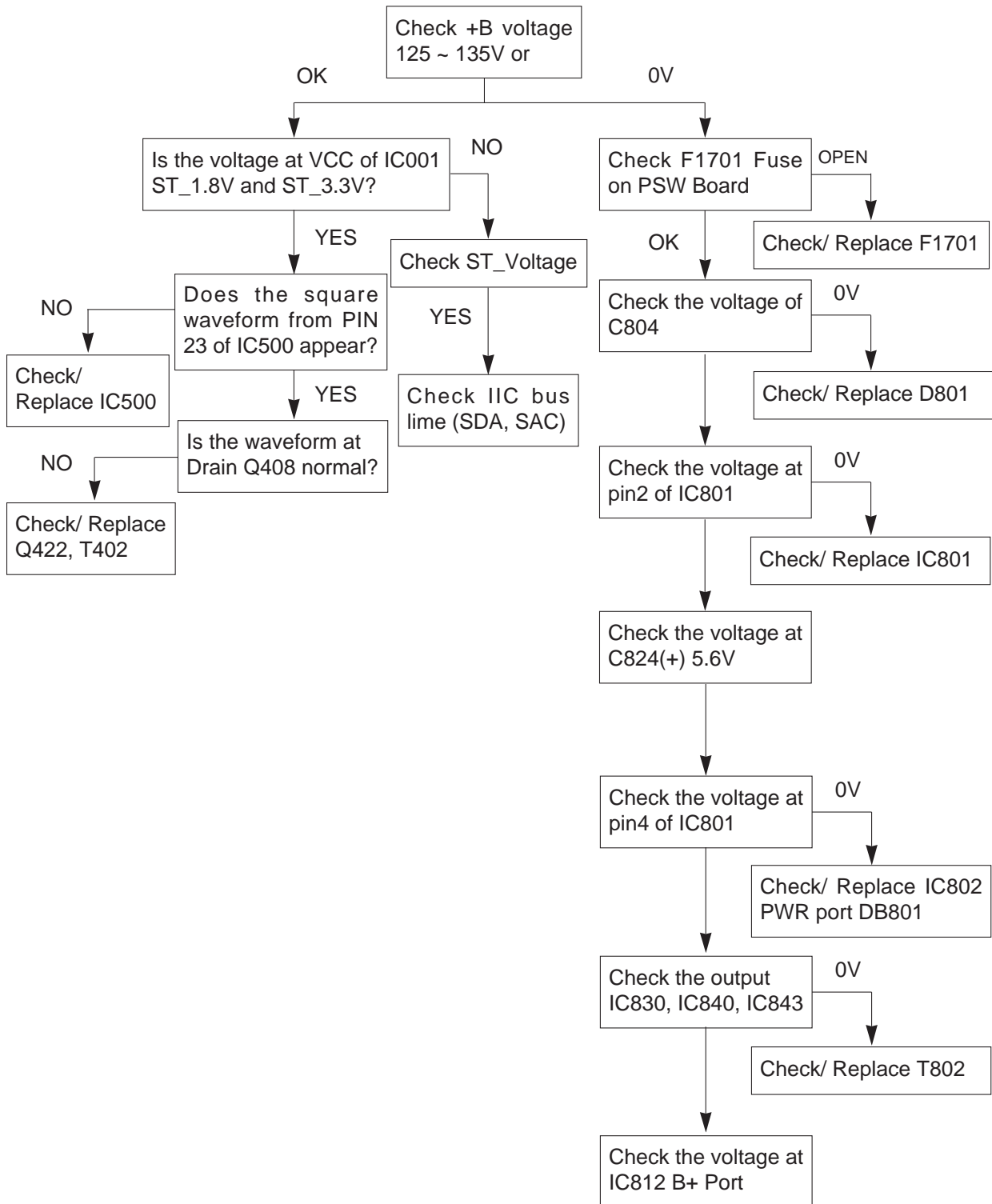
3. No PIP



4. No power

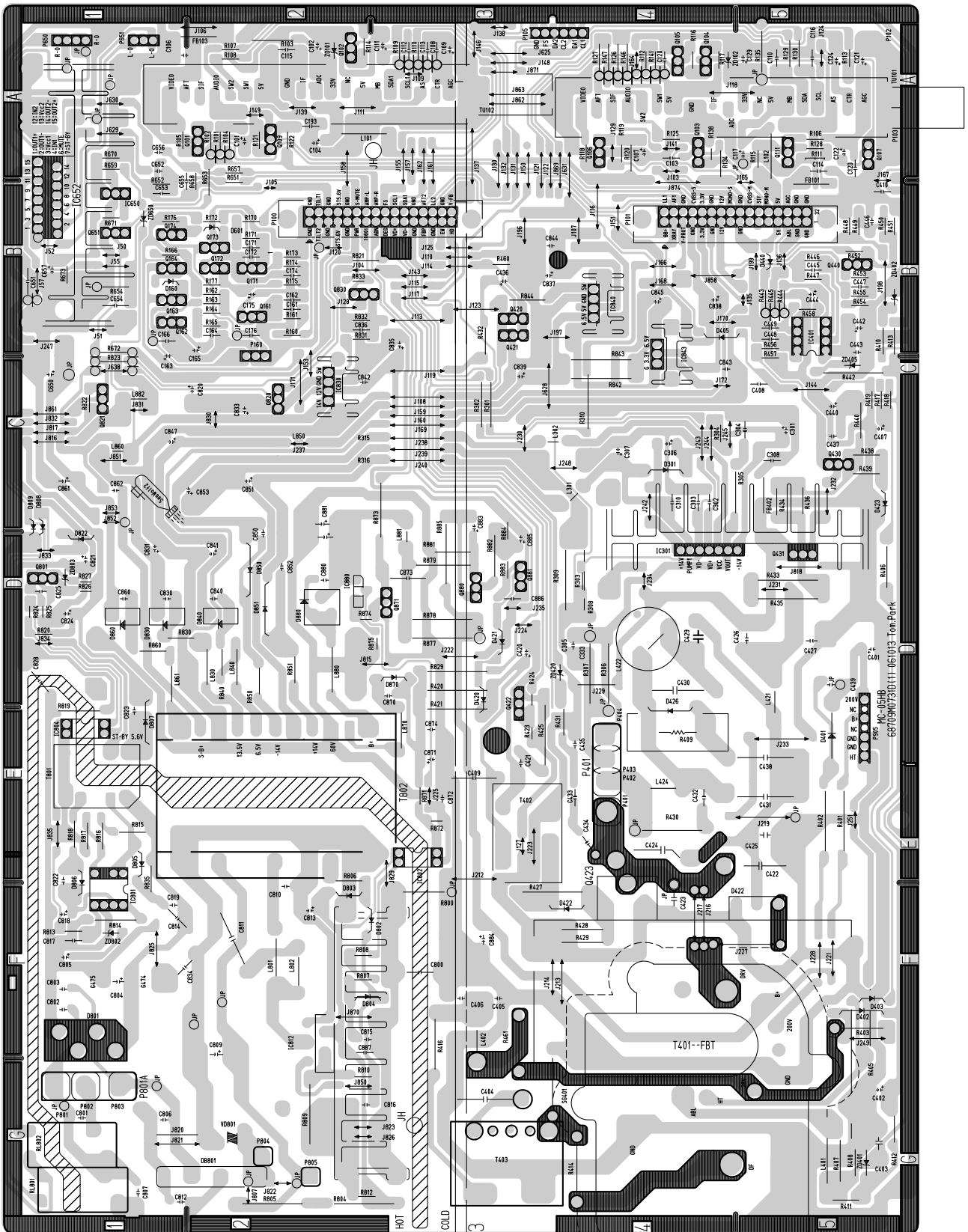


5. No raster

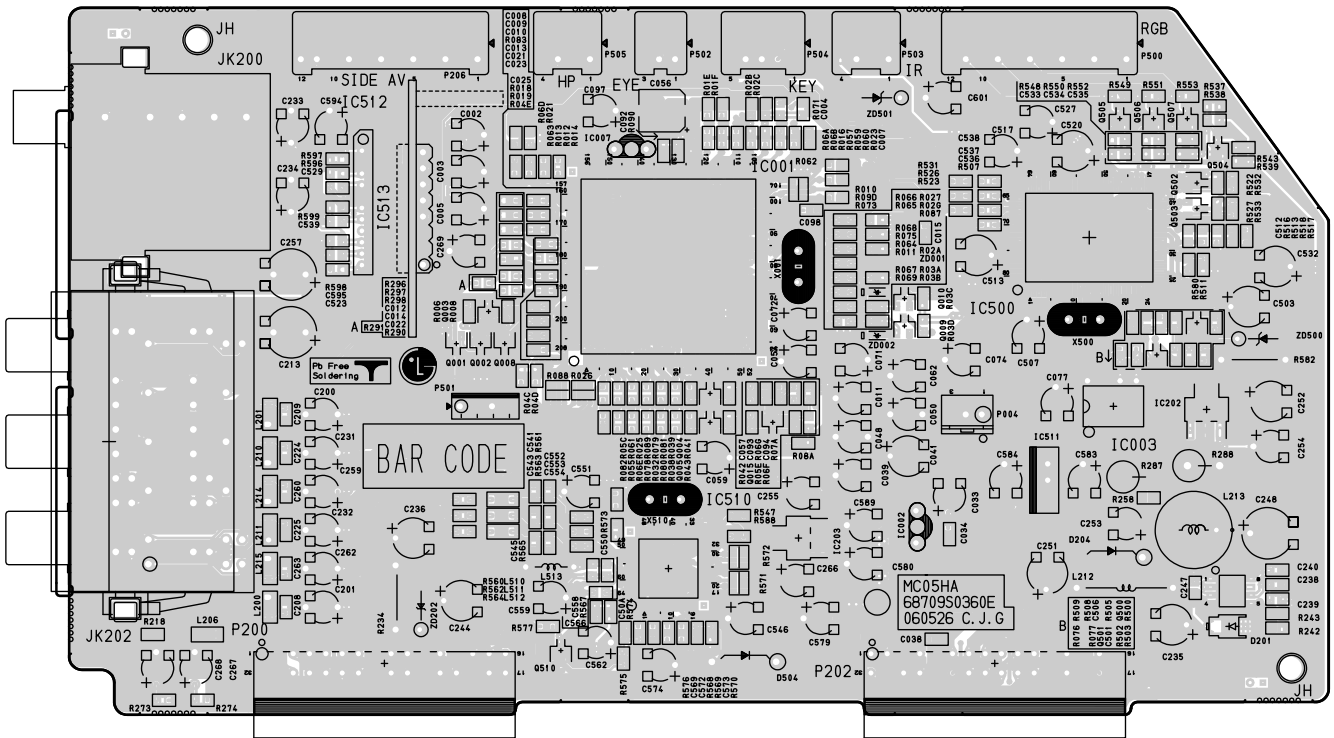


PRINTED CIRCUIT BOARD

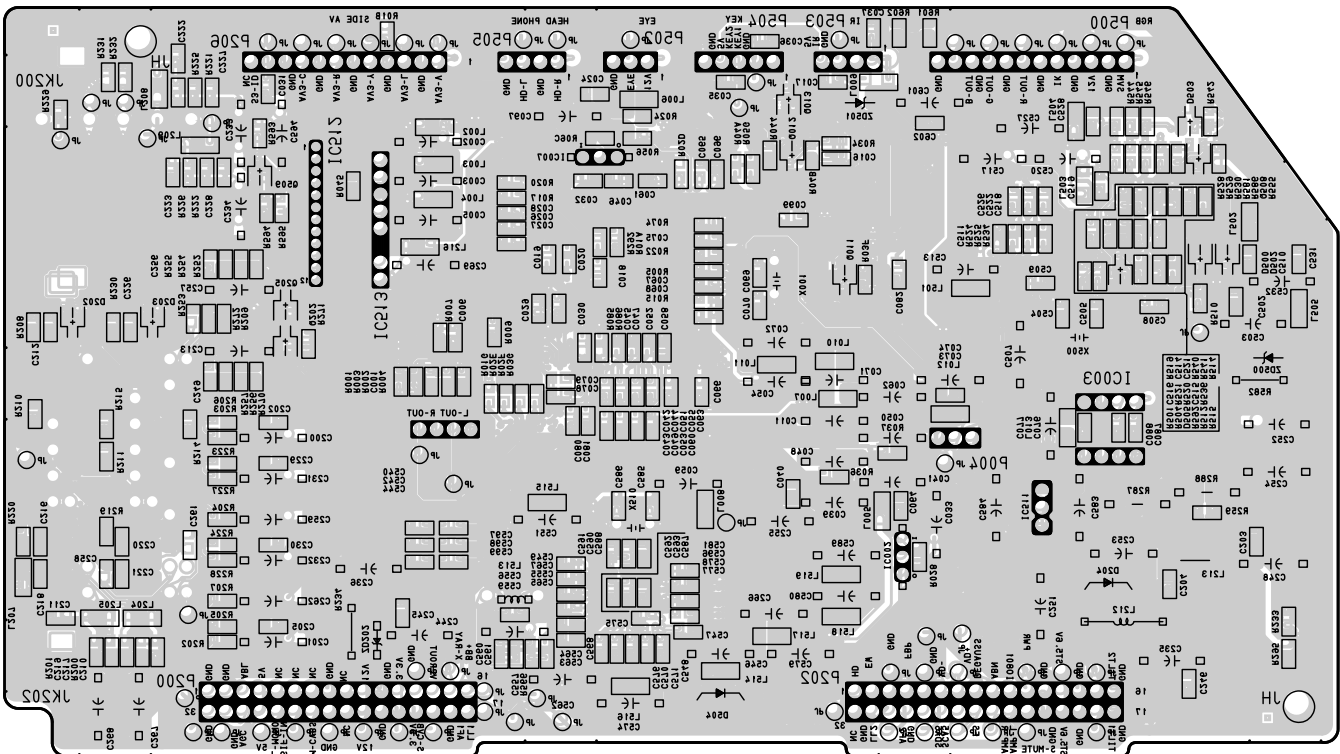
MAIN



DIGITAL(TOP)



DIGITAL(BOTTOM)



PP801

SWP801

PP801A

PP801B

RED

BLUE

G1109

G1110

VD1111

CM62C/CW71A 29FX6

68709S0011E(0)

080215 ZHANG.M

R1850

G1705

G1702

J1703

J1704

J1701

J1702

G1703

T1702

G1706

FP801A

FP801B

FP801

5A/250V AC(TUL/CSA)

T4AH / 250V AC

T4AL / 250V AC(KOREA)

PP802

AC INPUT

BL

PP802A

PP802B

PP803

G1704

G1707

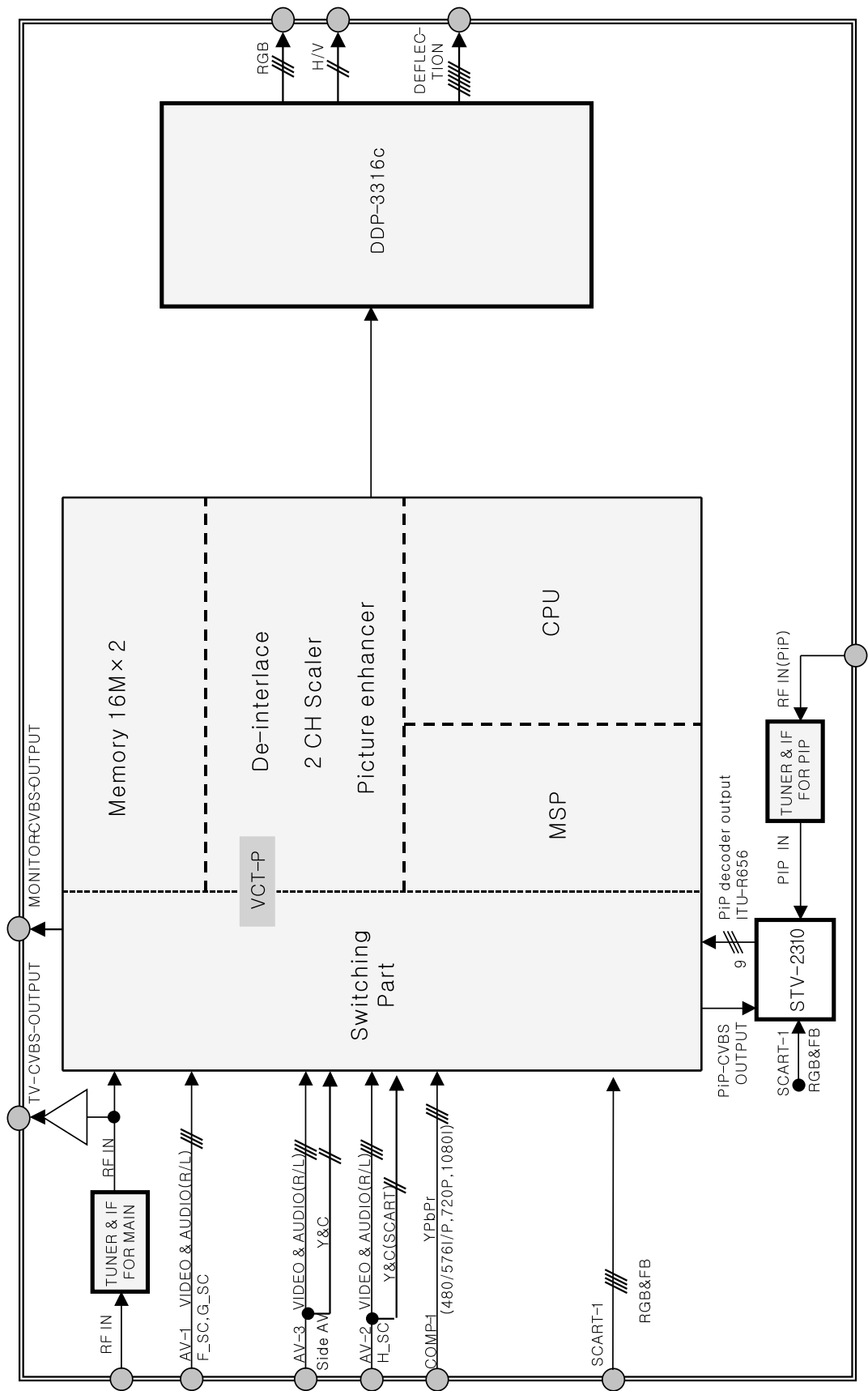
T1701

[illegible]

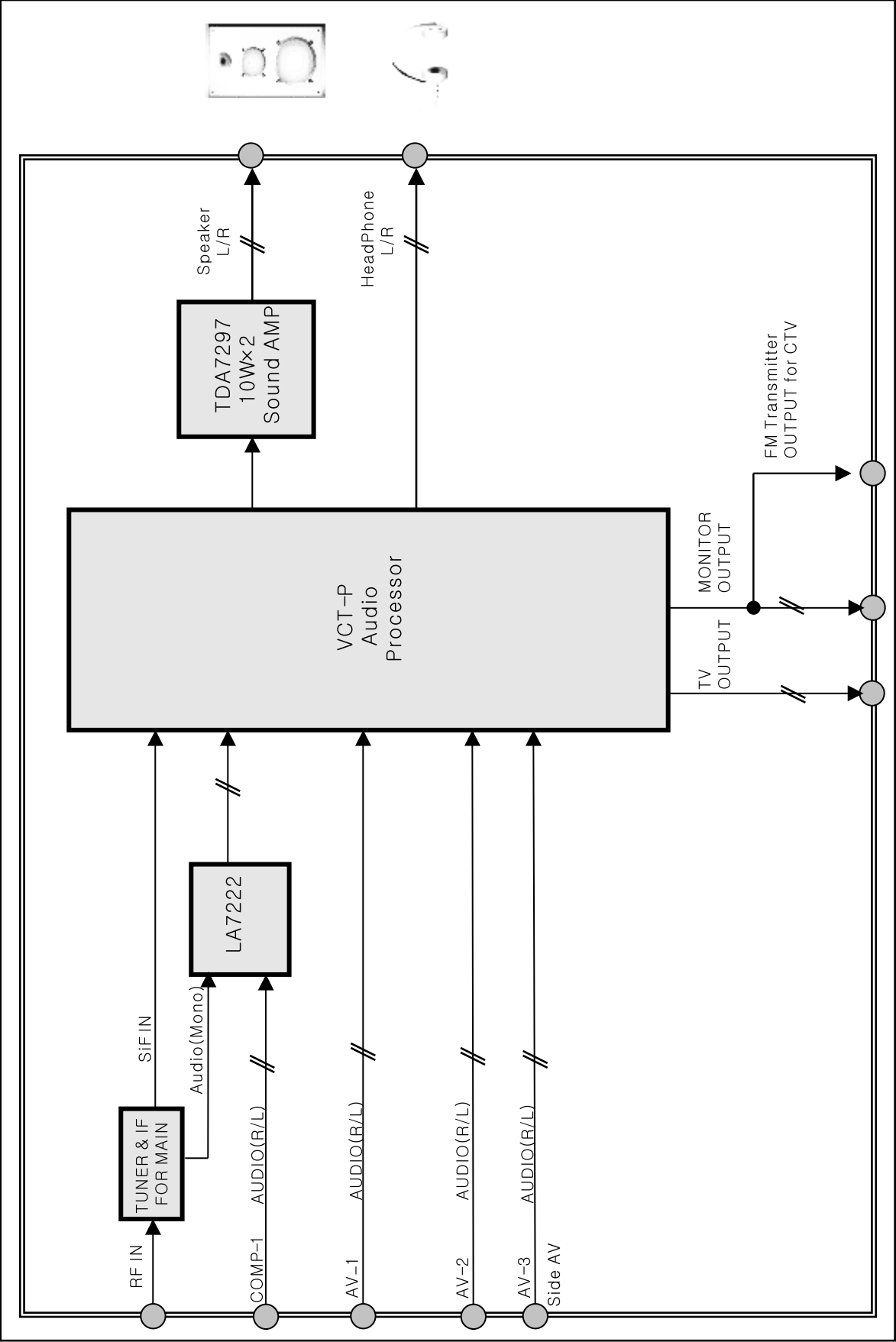
1. MAIN



2. VCT-P(Video)

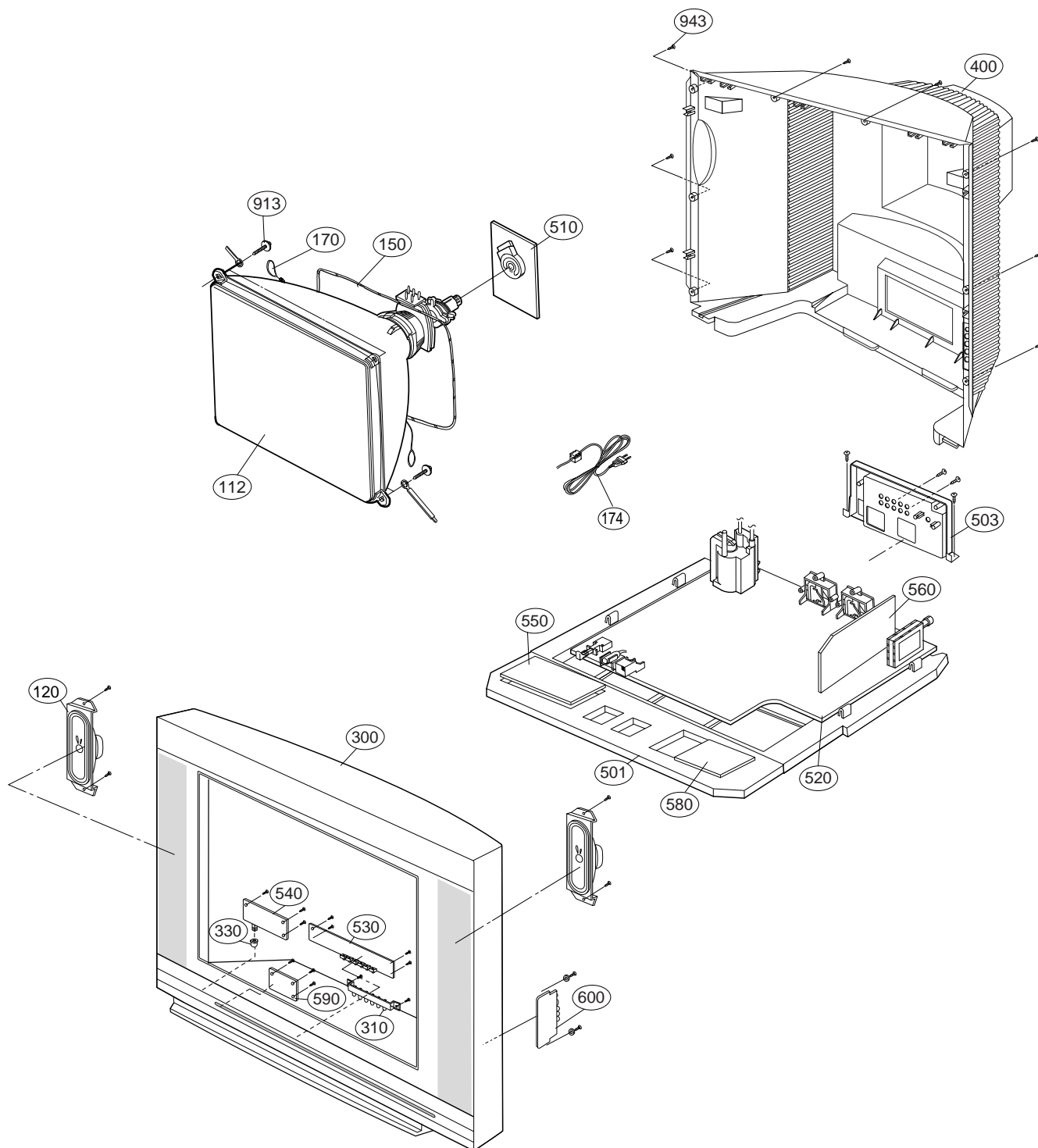


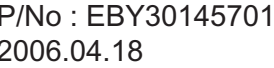
3. VCT-P(Audio)



MEMO

EXPLODED VIEW





SVC. SHEET : EBY30145701-S