website:http://biz.LGservice.com
e-mail:http://www.LGEservice.com/techsup.html

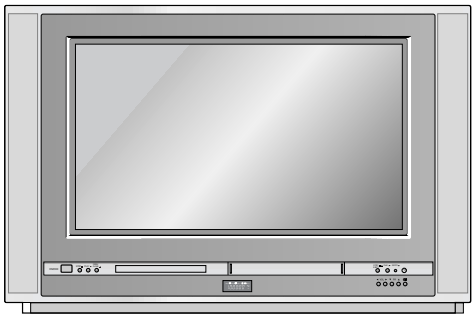
Triple Combi TV
SERVICE MANUAL

CHASSIS : MV-033A

MODEL : Multiplex 72

CAUTION

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



SERVICE MANUAL

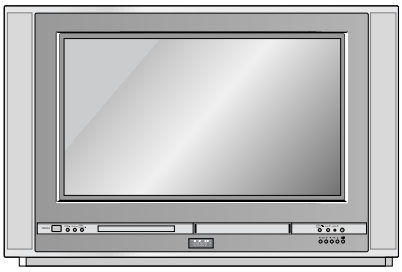
MODEL : Multiplex 72

LG Electronics inc.

LG

SECTION 1 SUMMARY

Triple Combi TV SERVICE MANUAL



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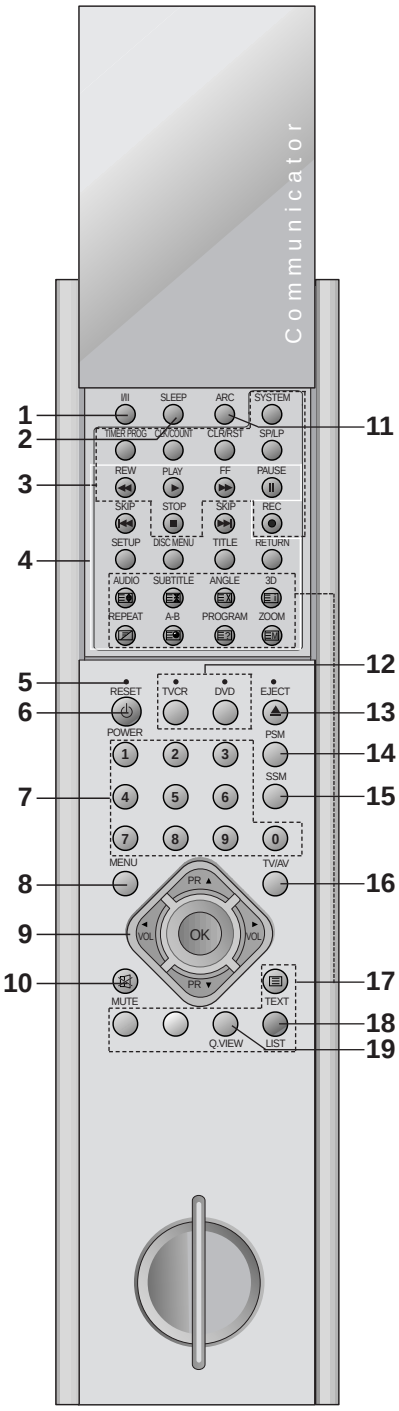
CHASSIS : MV-033A

MODEL : Multiplex 72

DESCRIPTION OF CONTROLS



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

Communicator

Before you use it, please select TV, VCR or DVD function by pressing the TVCR or DVD buttons.

1. **I/II**
   selects the language during dual language broadcast.
   selects the sound output (option).

2. **SLEEP**
   sets the sleep timer.

3. **VCR BUTTONS**
   controls a LG video cassette recorder.
   For further details, see the 'VCR Operation' section.

4. **DVD BUTTONS**
   controls a LG DVD player.
   For further details, see the 'DVD Operation' section.

5. **RESET**
   When Communicator does not work, reset the Communicator by pressing the reset point with sharp one.

6. **POWER**
   switches the set on from standby or off to standby.

7. **NUMBER BUTTONS**
   switches the set on from standby or directly select a number.

8. **MENU**
   selects a menu.

9. **▲ / ▼ (Programme Up/Down)**
   selects a programme or a menu item.
   switches the set on from standby.
   ◄ / ► (Volume Down/Up)
   adjusts the volume.
   adjusts menu settings.
   OK
   accepts your selection or displays the current mode.

10. **MUTE**
    switches the sound on or off.

11. **ARC (Aspect Ratio Control)**
    changes the picture format.

12. **TVCR / DVD**
    selects to control a LG video cassette recorder or DVD player.

13. **EJECT**
    Open or close the disc tray.
    ejects the tape.

14. **PSM (Picture Status Memory)**
    recalls your preferred picture setting.

15. **SSM (Sound Status Memory)**
    recalls your preferred sound setting.

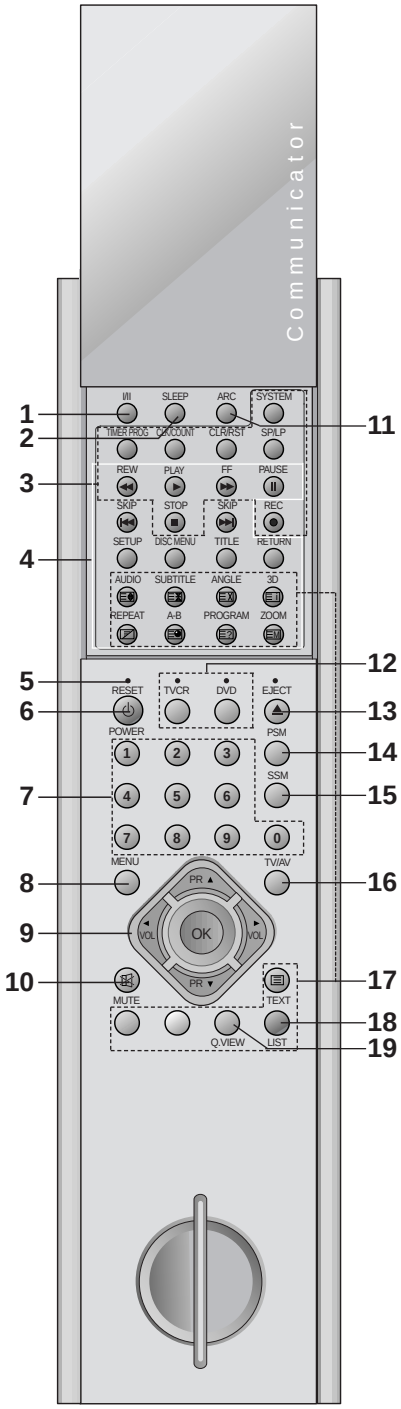
16. TV/AV
selects the remote operating mode.
clears the menu from the screen.
switches the set on from standby.

17. TELETEXT BUTTONS (option)
These buttons are used for teletext.
For further details, see the 'Teletext' section.

18. LIST
displays the programme table.

19. Q.VIEW
returns to the previously viewed programme.
selects a favourite programme.

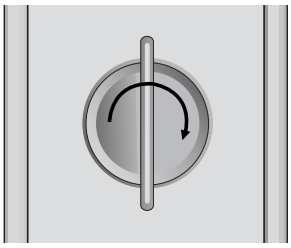
COLOURED BUTTONS : These buttons are used for teletext (only TELETEXT models) or programme edit.



Internal generator charge

The communicator can be charged with the internal electric generator. To charge the communicator do the followings;

1. In first use,
   20 rotation of the handle in the arrow direction as picture below -> waiting for one minute -> 20 rotation again -> waiting for one minute again -> 20 rotation again -> beginning to use
2. In usual use
   20 or 25 rotation -> resuming to use

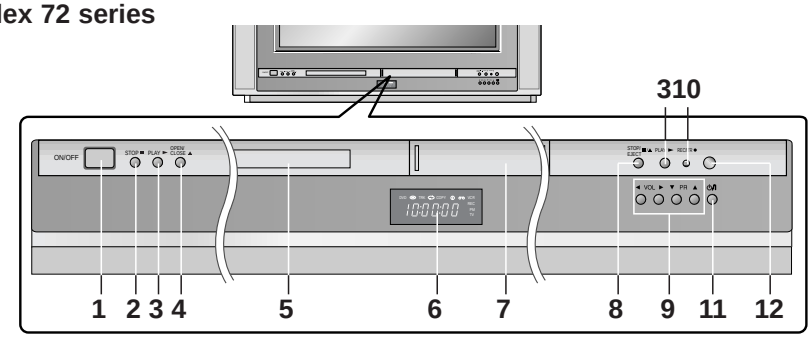


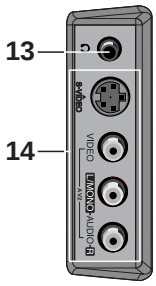
Note : *Do not rotate the handle too rapidly for the protection of the communicator.*

Front panel

Shown is a simplified representation of front or side panel.
Here shown may be somewhat different from your set.

Multiplex 72 series





Side panel

1. **MAIN POWER (ON/OFF)**
   switches the set on or off.
2. **STOP**
   Stops playback for DVD player.
3. **PLAY**
   Starts playback for DVD player.
4. **OPEN/CLOSE**
   Opens or closes the disc tray.
5. **DISC TRAY**
   Places a disc on the disc tray.
6. **LED (Light Emitting Diode) DISPLAY**
7. **CASSETTE COMPARTMENT**
   Inserts a video cassette tape here.
8. **STOP/EJECT**
   stops the tape during playback or recording or ejects the tape.
9. **▲ / ▼ (Programme Up/Down)**
   selects a programme or a menu item.
   switches the set on from standby.
   ◄ / ► (Volume Down/Up)
   adjusts the volume.
   adjusts menu settings.
10. **REC/ITR**
    starts a manual recording or instant timer recording.
11. **POWER (⏻ / I)**
    switches the set on from standby or off to standby.
12. **COMMUNICATOR SENSOR**
    Note : *Only use the supplied Communicator. (When you use others, they'll be not able to function.)*
13. **HEADPHONE SOCKET (option)**
    Connect the headphone plug to this socket.
14. **AUDIO/VIDEO IN SOCKETS (AV2)**
    Connect the audio/video out sockets of external equipment to these sockets.
    S-VIDEO/AUDIO IN SOCKETS (S-Video) (option)
    Connect the video out socket of an VCR to the **S-VIDEO** socket.
    Connect the audio out sockets of the VCR to the audio sockets as in **AV2**.
15. **STANDBY / REC/ITR / TIMER REC INDICATOR**

ADJUSTMENT INSTRUCTIONS

1. APPLICATION RANGE

These adjustment instructions is applied to MV-033A chassis.

2. Notes

2.1. Because this is a cold chassis, it is not necessary to use an isolation transformer.
But operate it using a transformer between the power supply line and chassis input to prevent electric shock and to protect the test instrument.

2.2. All adjustment must be done in correct sequence.
However, for the better productivity, it can be changed in pre-permitted range.

2.3. Environment conditions : If not specified, it must be done in following conditions.

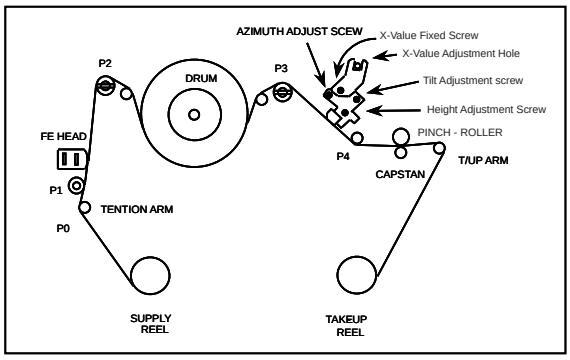
1) Temperature : 25˚C ± 5 ˚C
2) Humidity : 65 % ± 10 %

2.4. Power supply of a SET which is adjusted is AC110-240V, 50/60Hz.(EU model : AC230V,50HZ)

2.5. If not specified, the receiver must be operated for more than 20 minutes prior to the adjustment.

2.6. Signal
Receive the standard color signal. (65dB ± 1dB uV)
LG standard signal means the digital pattern PAL-B/G 05CH.

3. DECK Line Adjustment.(VCR DECK Part)



<Fig1> Adjustment Position

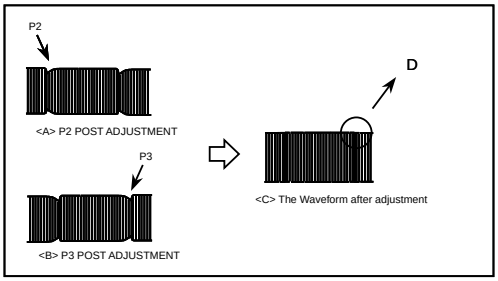
3.1. P2/P3 Pre-Adjustment

3.1.1. Necessary Instrument

1) PAL SP Normal TAPE
2) OSCILLOSCOPE
3) 10:1 PROBE : 2 PIECES
4) SPECIAL NUT DRIVER (for P2/P3 Control)

3.1.2. Adjustment

1) Play the PAL standard Tape(SP).
2) Connect to J261(H/SW) the OSCILLOSCOPE(CH-1) on the MAIN1 PCB.
3) Connect to J219(RF) the OSCILLOSCOPE(CH-2) on the MAIN1 PCB.
4) With observing the RF envelope waveform, adjust P2, P3 until it becomes the waveform C.
5) Check the envelope waveform is in the maximum size by pressing the TRK UP(+).



<Fig2> P2/ P3 Adjustment Waveform

3.2. CTL/AUDIO LEVEL ADJUSTMENT

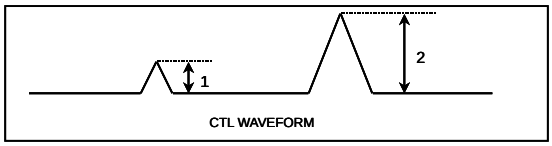
3.2.1. NECESSARY INSTRUMENT

1. CTL TAPE
2. PAL SP Standard TAPE(for Audio level adjustment)
3. OSCILLOSCOPE
4. 10:1 PROBE : 2 PIECES
5. RMS METER(for Audio level adjustment)

3.2.2. CTL ADJUSTMENT

THIS ADJUSTMENT MUST BE DONE WHEN THE UNCONTROLLED DECK IS WAREHOUSED.

1) Connect the OSCILLOSCOPE to J101(CTL)
2) After playing the CTL control tape, make sure the CTL waveform range is From 1.5 :1 to 2.5 : 1.
If it is out of range , adjust CTL waveform to the following procedures.
¤ If is over 2.5 :1, lower the head height.
After turning the height adjust screw counter-clockwise to adjust its level from 1.5 : 1 to 2 : 1. Check the tape location at P4. Readjust the TILT.(2:1)
¤Ł If is under 1.5:1, heighten the head height.
After turning the height, adjust the screw clockwise to adjust its level from 2 : 1 to 2.5 : 1. Check the tape location of P4. Readjust the TILT.(2:1)
3) Play the standard tape and adjust the azimuth screw right and left by using the oscilloscope and level-meter to maximize the audio sound.
Adjust the azimuth screw & the height adjust screw at the same time because they have mutual relationship. (Check CTL again after the adjustment)
*A/C head adjustment order
Height adjust screw->check the TILT->azimuth screw-> check CTL



<Fig3>

3.2.3 AUDIO LEVEL Checking and adjustment

1) Connect "+" terminal of RMS meter(Auto level meter) to C392 on the main PCB Audio out and "-" terminal to GND.
2) Check that if audio level of RMS meter satisfies with the spec, If audio sound is weak, adjust the A/C head azimuth screw.
3) Audio level spec
   1K :0.5 ± 0.1Vrms
   6K :1KHz ± 1.5dB

3.3. X-DISTANT/P2,P3 ADJUSTMENT

3.3.1. NECESSARY INSTRUMENT

1) SP PAL TAPE
2) OSCILLOSCOPE
3) 10:1 PROBE : 2 PIECES
4).SPECIAL DRIVER FOR ADJUSTMENT(P2,P3,X-DISTANT(NUT),AUDIO(NUT))
5) RMS METER(AUDIO LEVEL METER)

3.3.2. ADJUSTMENT PREPARATION

1).Connect oscilloscope(CH-1) to J261(H/SW) on main PCB. (Use for trigger of CH-2)
2) Connect oscilloscope(CH-2) to J261(RF) on main PCB. (Use waveform of CH-2)
3) Play by inserting SP PAL TAPE. (2HD:normal tape)
4) After the picture is appeared, make initial condition by pressing the tracking adjustment up(+) button of the remote controller.

3.3.3. X-DISTANCE ADJUSTMENT

1) Turn the X-distant adjust groove of the deck right and left to maximize the scope waveform.
2) Check that if waveform satisfies with the linearity by pressing TRK Up(+) and Down(-) button.
3) Tighten the X-distant adjust screw.

3.3.4. P2/P3(RF LINEARITY) CHECK & ADJUSTMENT

1) Adjust p2 & p3 so that the the RF envelope waveform of the oscilloscope becomes C in figure 2.
2) Check if the envelope waveform becomes maximum by pressing TRK Up(+),Down(-) button one step.

3.4. PG ADJUSTMENT

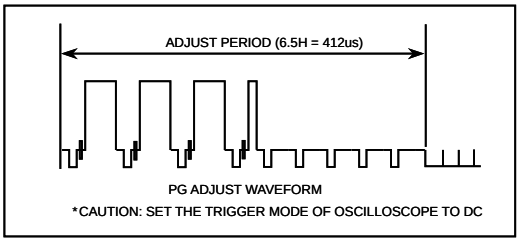
Adjust it after finishing controlling the Deck.

3.4.1.NECESSARY INSTRUMENT

1) SP PAL TAPE
2) OSCILLOSCOPE
3) 10 : 1 PROBE : 2 PIECES

3.4.2. ADJUSTMENT

1) Insert and play the SP PAL TAPE.
2) Connect the oscilloscope(CH-1) to H/SW(J261) on the main PCB and trigger in setting the VOL/DIV to 1V range.
3) Connect the oscilloscope(CH-2) to video out(C571) on the main PCB and set the VOL/DIV to 500mV range.
4) Set the TIME/DIV of oscilloscope to 50us range.
5) If press P-CHECK of SVC Remote control "A-PG>>>" is appeared in the display, and PG adjustment signal become 412uS ± 100uSec.



<Fig4>

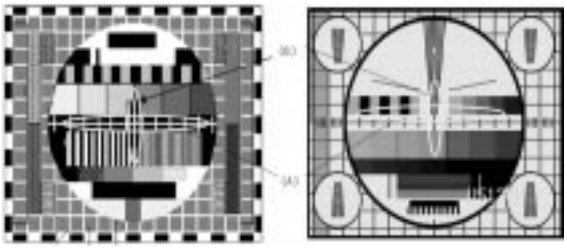
4. ASSEMBLY LINE ADJUSTMENT

4.1. DVCO adjustment

1) This is for adjustment of VCT3834, crystal oscillator frequency after receiving a company Digital pattern. (PAL : EU05CH, NTSC : 13CH)
2) When entering adjustment mode by pressing IN-START button, DVCO adjustment is operating automatically. (T/X doesn't operating occasionally during DVCO adjustment,)

4.2. FOCUS ADJUSTMENT

1). Receive the LG standard pattern(digital pattern, Fig5).



<Fig 5>

2). Set the picture condition on 'STANDARD' mode.
3)Adjust the focus volume of FBT for the best focus of horizontal line A, vertical line B.

4.3. Purity & Convergence adjustment

4.3.1. PURITY adjustment

1) Preparation
   ¤ Receive the RED Raster Pattern for purity adjustment. (P-50CH or N-11CH)
   ¤Ł Demagnetize the CPT and Cabinet with a degaussing coil.
2) Adjustment
   ¤ Pre-adjust the static convergence(STC) with 4 and 6-pole magnet.
   ¤Ł Push the DY(deflection Yoke)all the way to the CPT panel.
   ¤Ø Turn the purity magnet(2-pole magnet) so that the 'green' portion of left side and the 'blue' portion of right side have same portion.
   ¤Œ Pull the DY slowly and fix it when the whole screen become red.

4.3.2. Convergence adjustment

1) Preparation
   ¤ Receive the cross Hatch pattern for convergence adjustment.(P-07CH or N-09CH)
   ¤Ł Let the contrast at the adequate luminance level.

2) Adjustment

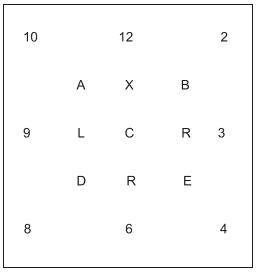
¤ Converge the RED vertical line and BLUE vertical line the same line by changing the angle between the 2 tab of the 4pole magnet.

¤Ł Converge the RED horizontal line and BLUE horizontal line in the same line by turning the table of the 4 pole magnet. This time, go not change the angle between the 2 tabs.

¤Ø Converge the R, G, B vertical line in the same line by changing the angle between the 2 tabs of the 6 pole magnet.

¤Œ Converge the R, G, B horizontal line in the same line by turning the 2 tabs of the 6 pole magnet. This time, do not change the angle between the 2 tabs.

CONVERGENCE SPEC.				TEST POSITION
POSITION		29	21	
C	*	-	-	
L,R,X,Y	*	0.8	0.8	
A,B,D,E	*	0.8	0.8	
3,6,9,12	*	1.0	1.0	
2,4,8,10	*	1.4	1.4	
* : R/B,R/G,B/G <UNIT: mm>				



<Table 1> Convergence Spec. & Test Position

4.4. Screen Voltage adjustment

1) Receive the PAL or SECAM(NTSC) signal into RF mode regardless of channel.
2) If you press the ADJ button in LINE SVC mode(IN-START button), the LINE SVC mode changes to screen adjustment mode.
3) Turn the Screen Volume of FBT to changes luminance of White signal center as shown below.
4) Press the EXIT button to exit SVC mode.

CPT & INCH	Luminance(Manual Adj.)	Luminance(Auto Adj.)	Description
29"FLAT	9 ± 1 FL	27 Cd	KZ Model
21"FLAT	12 ± 1 FL	42 Cd	KZ Model
29"FLAT	9 ± 1 FL	27 Cd	KF Model
21"FLAT	12 ± 1 FL	42 Cd	KF Model

<Table 2> Screen Voltage Adjust Spec.

4.5 White Balance adjustment

4.5.1 Necessary Instrument

1) Auto White Balance Meter
2) Color Analyzer (CA-100)
3) Factory Remote control

* Prior to this adjustment, the Screen Voltage Adjustment must be finished.

4.5.2 Adjustment

1) Make the picture luminance 35Ft-L by changing the "CONTRAST" and "BRIGHTNESS".
2) Enter the white balance adjust mode with a factory remote control.
3) Adjust HIGH Light status of WDR R, WDR B.
4) Make the picture luminance 4.5Ft-L by changing the 'contrast' and 'brightness'.
5) Adjust LOW Light status of CUT R CUT B at CUT B.
6) Repeat 1) ~ 5) until both low and high light have same color temperature.

	EU	Non-EU
X	288	268
Y	295	273
Temp.	9000	13000

<Table 3> white Balance Adjust Spec.

* Note : When adjusting White balance automatically, connect the adjustment JIG in SVC mode. (When pressing IN-START, MUTE button on remote control for adjustment orderly, it changes to SVC mode and screen displays SVC.)

* WHITE BALANCE INITIAL VALUE
  CR,CG,CB => 80
  WR,WG,WB => 800

4.6. Deflection data adjustment

4.6.1. Preparation

1) At adjustment mode (IN-START button on remote control of adjustment), changed to LINE SVC 2 mode to adjust the deflection.
2) Press Channel UP/DOWN button for desirous function adjustment.
3) Press Volume UP/DOWN button to adjust the data.
4) Tune the TV set to receive a Digital pattern.(PAL : EU05CH, NTSC:13CH)

4.6.2. Deflection setting data adjustment

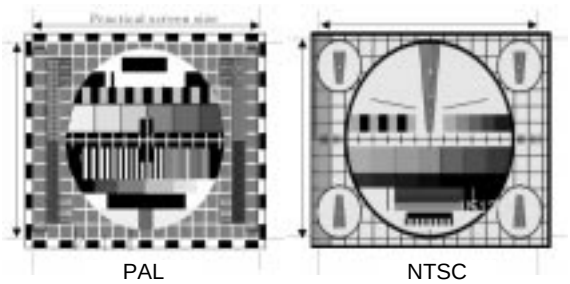
* Note : First, adjust deflection at N50Hz, W50Hz, Z50Hz of PAL signal.
  Then adjust deflection at N60Hz, W60Hz, Z60Hz of NTSC signal.
  In case of NTSC only model, adjust deflection at N60Hz, W60Hz, Z60Hz of NTSC signal

¤ When adjusting a deflection, adjust N50Hz of PAL signal first and adjust a deflection at W50Hz, Z50Hz,N50Hz, W60Hz, Z60Hz of PAL signal.

¤Ł Adust a deflection as shown below
PAL 4:3 -> PAL 16:9 -> PAL ZOOM -> NTSC 16:9 -> NTSC ZOOM

¤Ø After finishing deflection adjustment, press the ENTER button to enter or exit in SVC mode.

1) VA (Vertical Amplitude)
   Adjust so that the circle of a digital circle pattern may be located within the effective screen of the CPT.
2) VL (Vertical Linearity)
   Adjust so that the boundary line between upper and lower half is in accord with geometric horizontal center of the CPT
3) SC (Vertical S-Correction)
   Adjust so that all distance between each horizontal lines are to be the same.
4) VS (Vertical Shift)
   Adjust so that the horizontal center line of a digital circle pattern is in accord with geometric center of the CPT.
5) 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.
6) EW (East-West Width)
   Adjust so that a digital circle pattern looks like exact.



<Fig.6>

7) ET (East-West Trapezium)
Adjust to make the length of top horizontal line same with it of the bottom horizontal line.
8) 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.
9) ES (East-West Symmetric)
Adjust until the upper and lower corner of the screen symmetric.
10) EC (East-West Corner)
After completing the EP adjustment, adjust so that the corner vertical line to be straight.
11) BOW
Adjust the left and right crooked line on upper and lower side.
12) ANGLE
Adjust the vertical slope.

<Table 4> Initial deflection data & conversion data for each mode (Line SVC-2) (50Hz is initial data and the other data are compensated conversion.)

OPTION	CONTENTS	RANGE	N50Hz	
			21”	29”
VA	Vertical Amplitude	0050~00CF	00A1	160
VL	Vertical - Linearity	0025~00BF	00FB	0
SC	S - Correction	0000~009F	00D0	-32
VS	Vertical Shift	0600~0900	0738	-224
HS	Horizontal Shift	0000~003F	0017	39
EW	East - West Width	0400~0EFF	0B04	464
ET	East - West Trapezium	0700~08FF	07F8	20
EP	East - West Parabola	06E0~0840	07B0	66
ES	East - West Symmetric	06A0~0AFF	0840	0
EC	East - West corner	0790~08E0	0825	48
BOW	Bow Correction(Quadratic)	-256~255	0000	0
ANGLE	Angle Correction(Linear)	-256~255	0000	0

5. SVC Dat & PSM,SSM Setting Data

Picture Setting Data (LINE SVC-3) : No need of adjustment

<Table 5>

OPTION	CONTENTS	RANGE	21” FLAT	29” FLAT
DVCO	Digital VCO	-2048~2047	00A1	160
BCLTH	BCL TRERHOLD	0~2047	00FB	0
BCLTM	BCL TIME	0~15	00D0	-32
BCLGN	BCL GAIN	0~15	0738	-224
SVG1	SVM GAIN	0~1FFH	0017	39
SVDEL	SVM DELAY	0~6	0B04	464
SVD1	SVM DELAY1	0~6	07F8	20
LDLY1	L DELAY		07B0	66
DSCC	Discharge Sample Count		0840	0
DSCV	Vertical Discharge Value		0825	48
HBSO	BLACK CURRENT	0~511	0000	0
VBSO	WHITE CURRENT	0~511	0000	0

<Table 6> Picture Mode Initial Setting Value

Mode	DYNAMIC	STANDARD	MILD	GAME
CONTRAST	100	90	60	50
BRIGHT	60	50	60	60
COLOR	60	50	40	40
SHARPNESS	50	40	30	30

● Shipment Condition

In the last assembly line before packing, below setting are should be made (Using IN-STOP KEY)

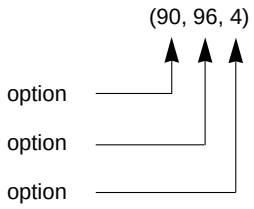
<TAble 7>

No.	CONTENTS	CONDITION	REMARK
1	POWER	OFF	
2	TV / AV INPUT	TV	
3	MEMORY CHANNEL	Refer CH. Memory spec. sheet	
4	SOUND	30 STEPS	
5	MUTE	OFF	
6	DBS	OFF	
7	PSM	DYNAMIC	
8	SSM	FLAT	
9	CHILD LOCK	OFF	
10	AUTO SLEEP	OFF	
11	AVL	OFF	
12	BALANCE	0	
13	BLUE BACK	OFF	
14	TILT	0	29” Option

6. Option Adjustment

6.1. Preparation for Adjustment

1) This decides function in accordance with model.
   Press the SVC TX adjustment button (IN-START button) at SVC model, then adjust the option at OPTION 1, 2, 3 mode.
2) Mark the option adjustment data like (90, 96, 4) in B.O.M.



● Mark of BOM

LEVEL	PART NO.	SPECIFICATION	DESCRIPTION	JOP EXP.
1	3141VMNN40A	MAIN, MV033A	CHASSIS ASSY	(90,96,4)

The OPTION 1 data is 90, the OPTION 2 data is 96, the OPTION 3 data is 4 in this model.

6.2. Adjustment

6.2.1. Adjustment Method

1) Input data directly by the buttons corresponded with OPTION 1 ??(0~255), OPTION 2 ??(0~255), OPTION 1 ??(0~255).
2) Select each OPTION function by the CH/DOWN button and then set up each OPTION by th VOL UP/DOWN button.

6.2.2 OPTION-1 Function

OPTION	CODE	FUNCTION	REMARK
SCART	0	PHONE JACK	
	1	SCART JACK	
TOP (TELETEXT)	0	W/O TOP (FLOP BASIC)	
	1	WITH TOP (Only applied some EU nation with TOP)	
ACMS	0	WITHOUT ACMS FUNCTION	
	1	WITH ACMS FUNCTION	
CH+AU	0	ALL NATION	
	1	CHINA & AUSTRALIA ONLY	
DEG	0	WITHOUT DEGAUSSING	21”
	1	WITH DEGAUSSING	Option
TILT	0	W/O TILT(NORMAL MODEL, EXCEPT AUSTRALIA)	
	1	WITH TILT (FLAT AUSTRALIA NORMAL MODEL)	
SYS	0	B/G, I DK, L/L’	
	1	B/G, I, DK	
	2	M	
	3	PAL-N/M M	

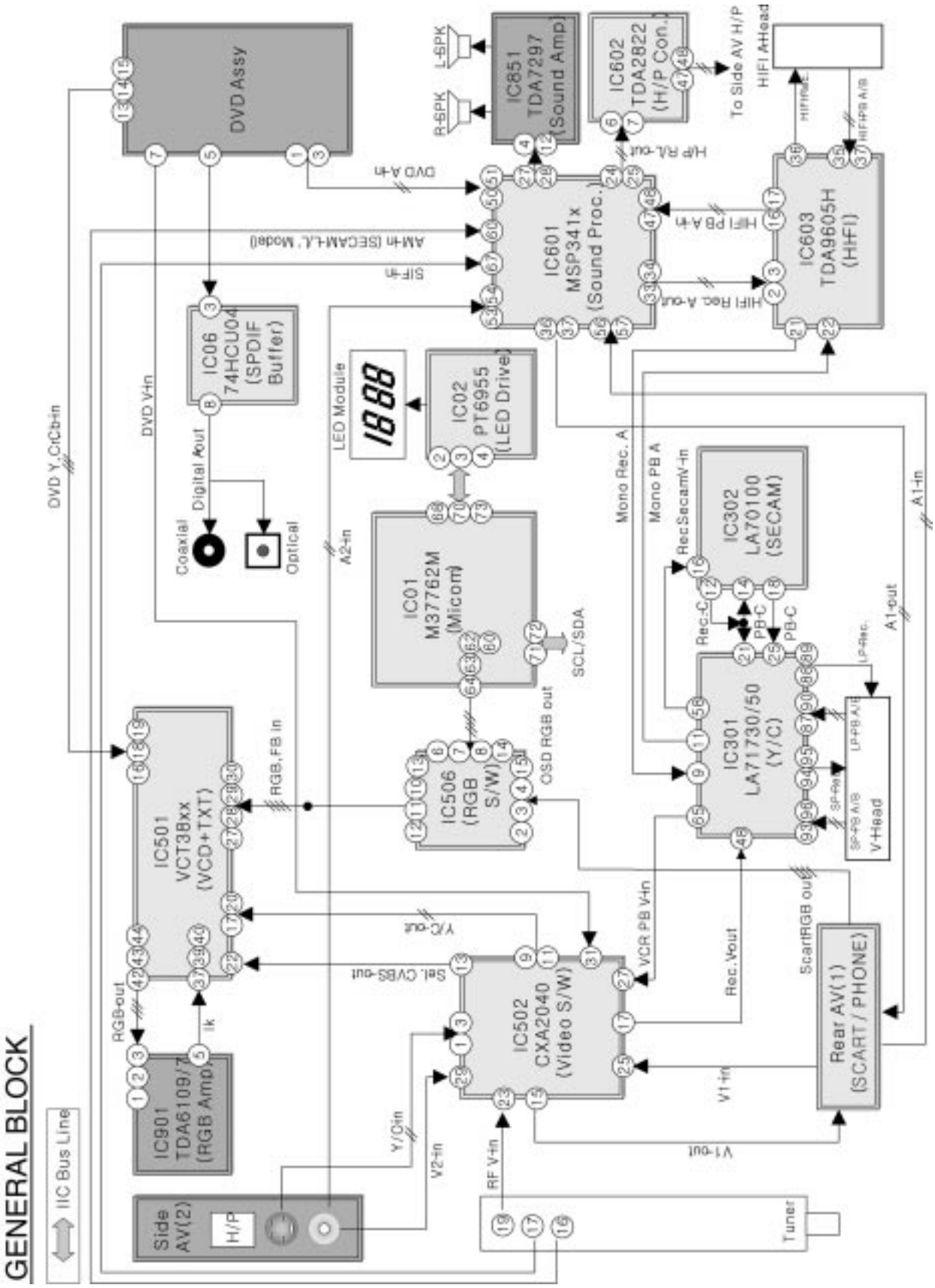
6.2.3. OPTION-2 Function

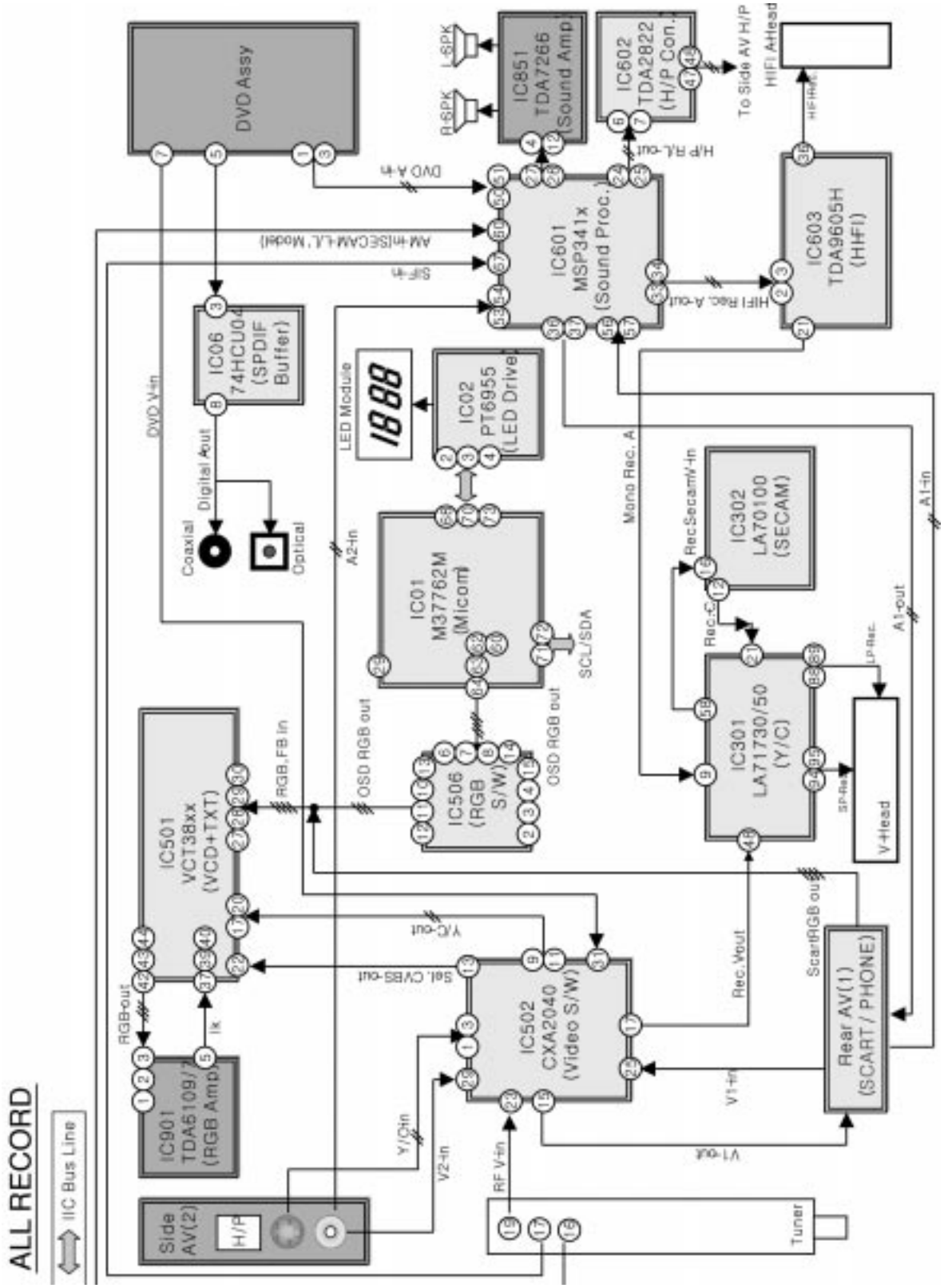
OPTION	CODE	FUNCTION	REMARK
TSS (Turbo search)	0	WITHOUT TURBO SEARCH	
	1	WITH TURBO SEARCH	
DUAL (Dual Save)	0	NO SAVE DUAL/SOUND CONDITION	EU
	1	SAVE DUAL/SOUND CONDITION	NON EU
V-CUR (Vol.)	0	NORMAL VOLUME	
	1	CURVE	NON EU
HOTEL	0	WITHOUT HOTEL OPTION	
	1	WITH HOTEL OPTION	
M-VOL	1~100	MAX	with HOTEL
MONO	0	FORCED MONO NO SETTING	
	1	FORCED MONO SETTING	

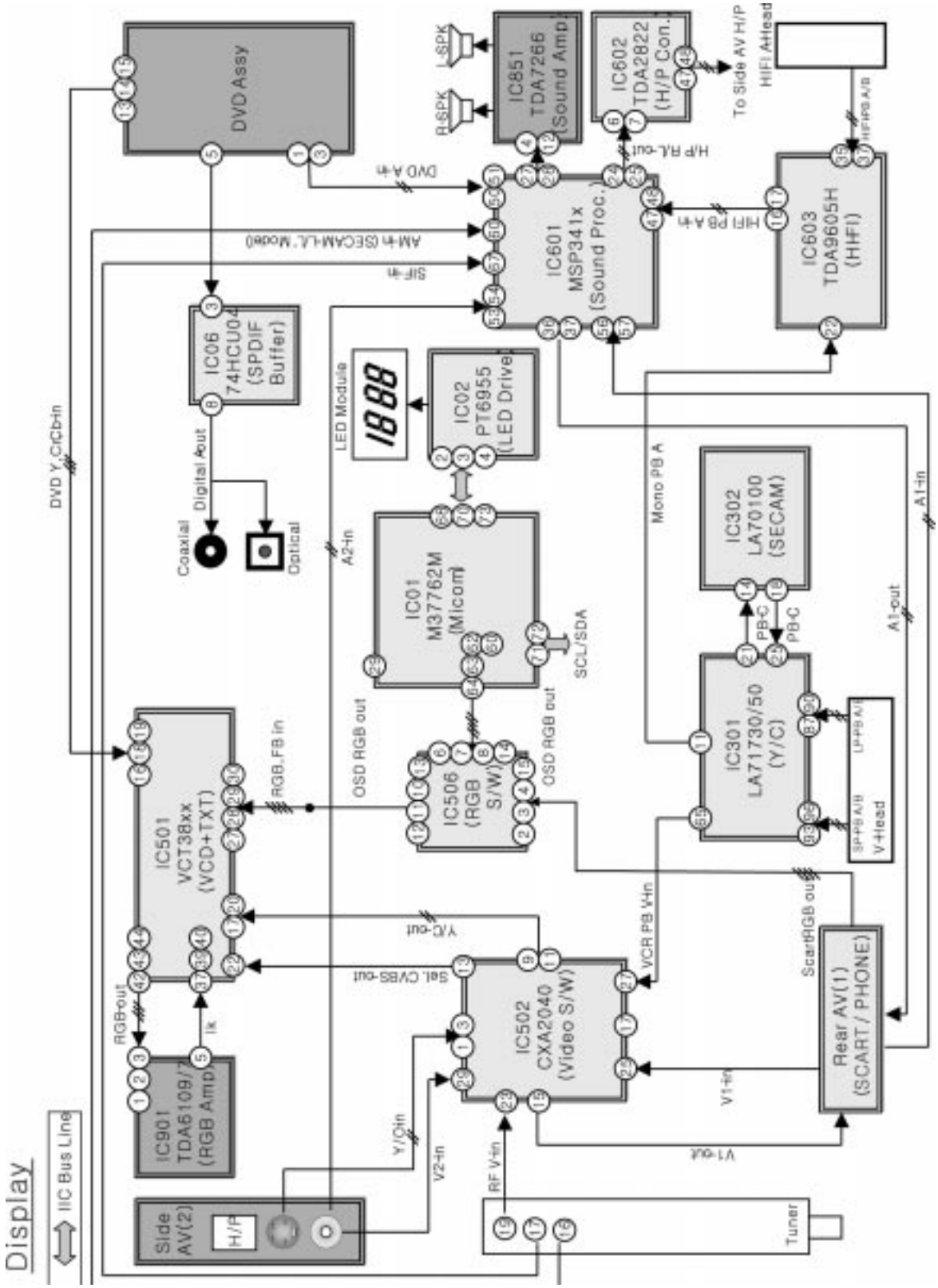
6.2.4. OPTION-3 Function

OPTION	CODE	FUNCTION	REMARK
OSD LANG	0	ENGLISH Only	EU
	1	ENGLISH, GERMANY, FRENCH, ITALIAN,SPANISH, RUSSIAN	VERSION
	0	ENGLISH Only	ARAB
	1	ENGLISH, FRENCH, ARABIC, URDU	VERSION
TXT LANG	0	WEST EU (Eng / Fre / Swedish / Czech / German / Spanish / Italian)	
	1	EAST EU (Polish/ Fre/ Swedish/ Czech/ Slovenian/ Ita/ Rumanian)	EU VERSION
	2	TURKEY (Eng/ Fre/ Swedish/ Turkish/ German/ Spanish/ Italian)	
	3	CYILLIC3 (Eng/ Russian/ Estonian/ Czech/ Ger/ Ukrainian/ Lettish)	
	4	GREEK3(Eng/ Fre/ Swedish/ Turkish/ Ger/ Spanish/ Italian/ Greek)	
	5	RESERVED	
	0	WEST EU (Eng/ Fre/ Swedish/ Czech/ German/ Spanish/ italian)	
	1	EAST EU (Polish/ Fre/ Swedish/ Czech/ Slovakian/ Italian/ Rumania)	ARAB VERSION
	2	TURKEY (Eng/ Fre/ Swedish/ Turkish/ German/ Spanish/ Italian)	
	3	CYILLIC3 (Eng/ Russian/ Estonian/ Czech/ German/ Ukrainian/ Lettish)	
	4	ARAB/ ENGLISH (Eng/ Fre/ Turkish/ Arab)	
	5	RESERVED	

BLOCK DIAGRAM

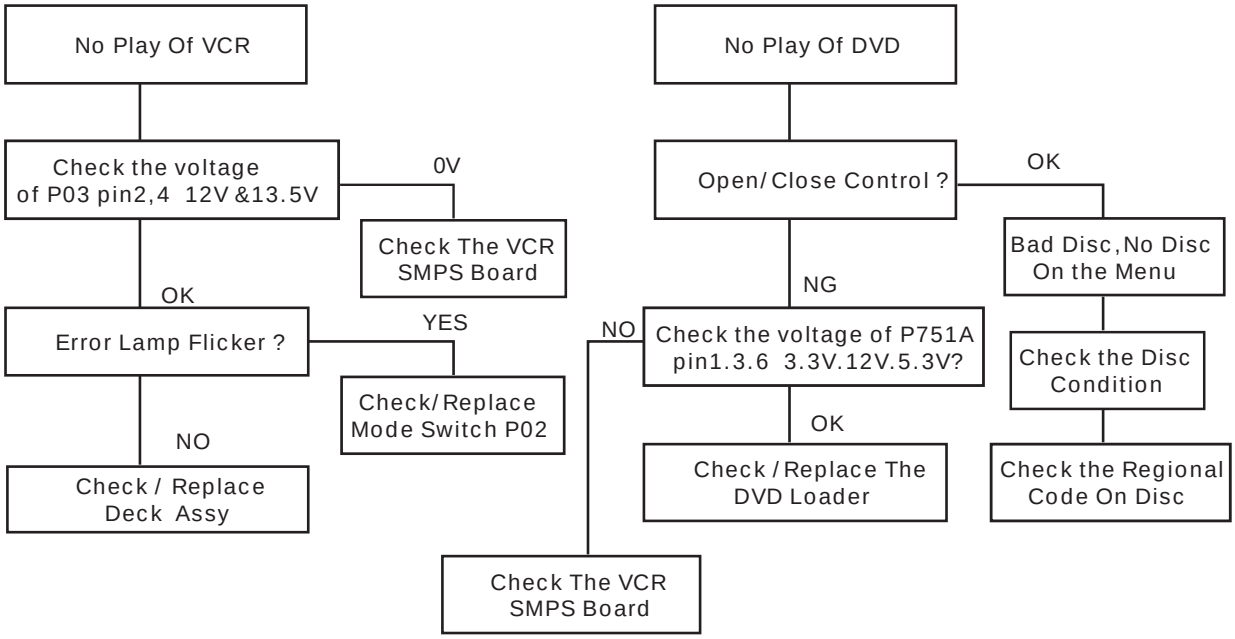



ALL RECORD
IIC Bus Line
DVD Assy
IC851
TDA7266
(Sound Amp.)
IC602
TDA2822
(H/P Con.)
To Side AV H/P
HiFi Attead
L-SPK
R-SPK
H/P R/L-out
DVD A-in
IC601
MSP341x
(Sound Proc.)
IC603
TDA9605H
(HiFi)
HiFi Rec. A-out
AM-in(SECAM-L,L',Mode)
SIF-in
IC06
74HCU04
(SPDIF
Buffer)
DVD V-in
Digital Aout
Coaxial
Optical
LED Module
IC02
PT6955
(LED Drive)
A2-in
IC01
M37762M
(Micom)
SCL/SDA
OSD RGB out
IC506
(RGB
S/W)
Mono Rec. A
Rec.Secam/V-in
IC302
LA70100
(SECAM)
Rec.C
A1-in
A1-out
IC301
LA71730/50
(Y/C)
LP Rec.
SP-Rec.
V-Head
IC501
VCT38xx
(VCD+TXT)
RGB,FB in
Y/C-out
Sel. CVBS-out
RGB-out
Ik
IC901
TDA6109/7
(RGB Amp)
IC502
CXA2040
(Video S/W)
Rec.Vout
ScartRGB out
Rear AV(1)
(SCART / PHONE)
V1-in
V1-out
Y/Chin
V2-in
RF V-in
Side
AV(2)
H/P
Tuner

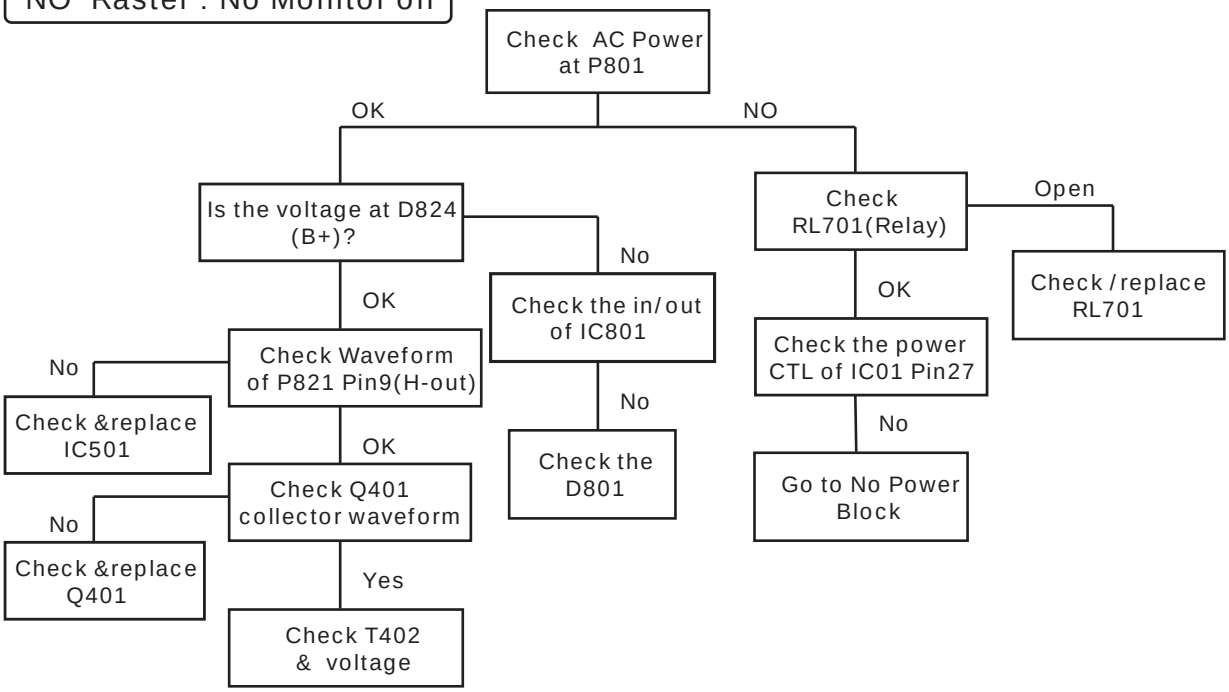

Display
IIC Bus Line
DVD Assy
IC851
TDA7266
(Sound Amp.)
L-SPK
R-SPK
IC602
TDA2822
(H/P Con.)
To Side AV H/P
HIFI Attead
IC601
MSP341x
(Sound Proc.)
IC603
TDA9605H
(HIFI)
IC06
74HCU04
(SPDIF
Buffer)
Digital Aout
Coaxial
Optical
LED Module
IC02
PT6955
(LED Drive)
IC01
M37762M
(Micom)
SCL/SDA
IC302
LA70100
(SECAM)
IC301
LA71730/50
(Y/C)
IC506
(RGB
S/W)
OSD RGB out
IC501
VCT38xx
(VCD+TXT)
RGB-out
IC901
TDA6109/7
(RGB Amp)
IC502
CXA2040
(Video S/W)
Rear AV(1)
(SCART / PHONE)
Side
AV(2)
H/P
Tuner
DVD Y,Cr,Cb-in
DVD A-in
AM-in (SECAM-L,L' Model)
SIF-in
H/P R/L-out
HIFI PB A-in
Mono PB A
A2-in
A1-in
A1-out
RGB,FB in
Y/C-out
Sel. CVBS-out
VCR PB V-in
ScartRGB out
V1-in
V1-out
Y/Cin
V2-in
RF V-in

TROUBLE SHOOTING

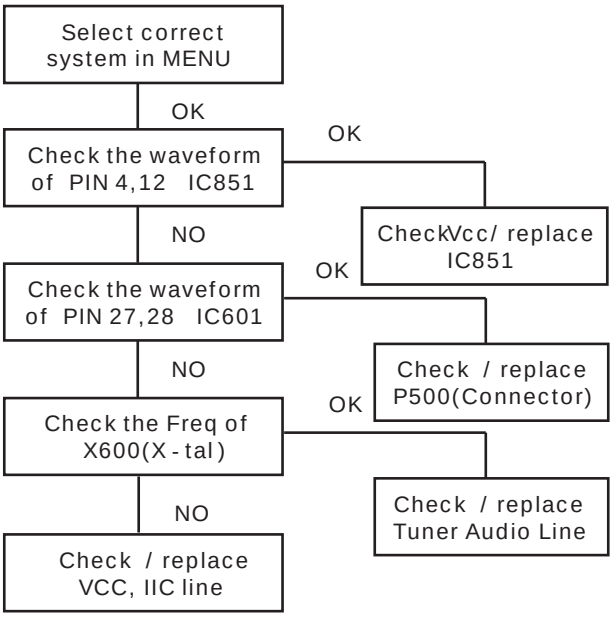
NO Play Of VCR, DVD



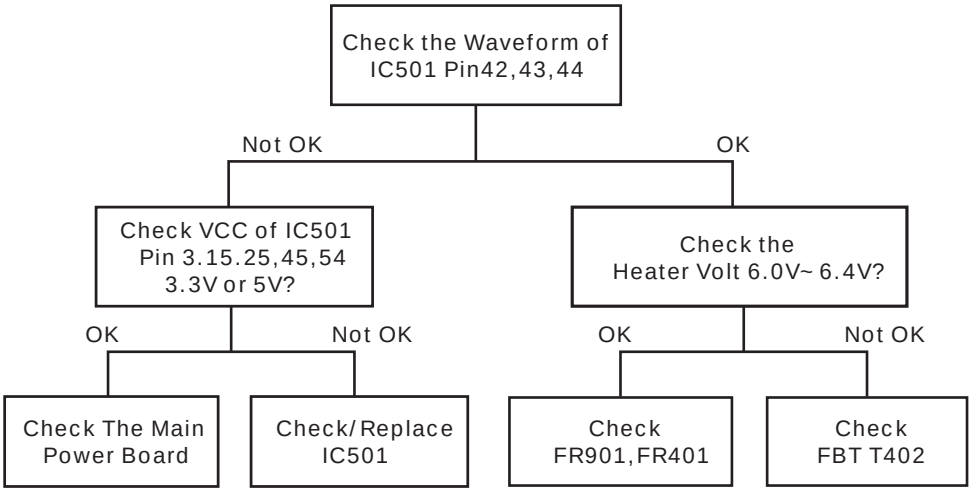
NO Raster : No Monitor on



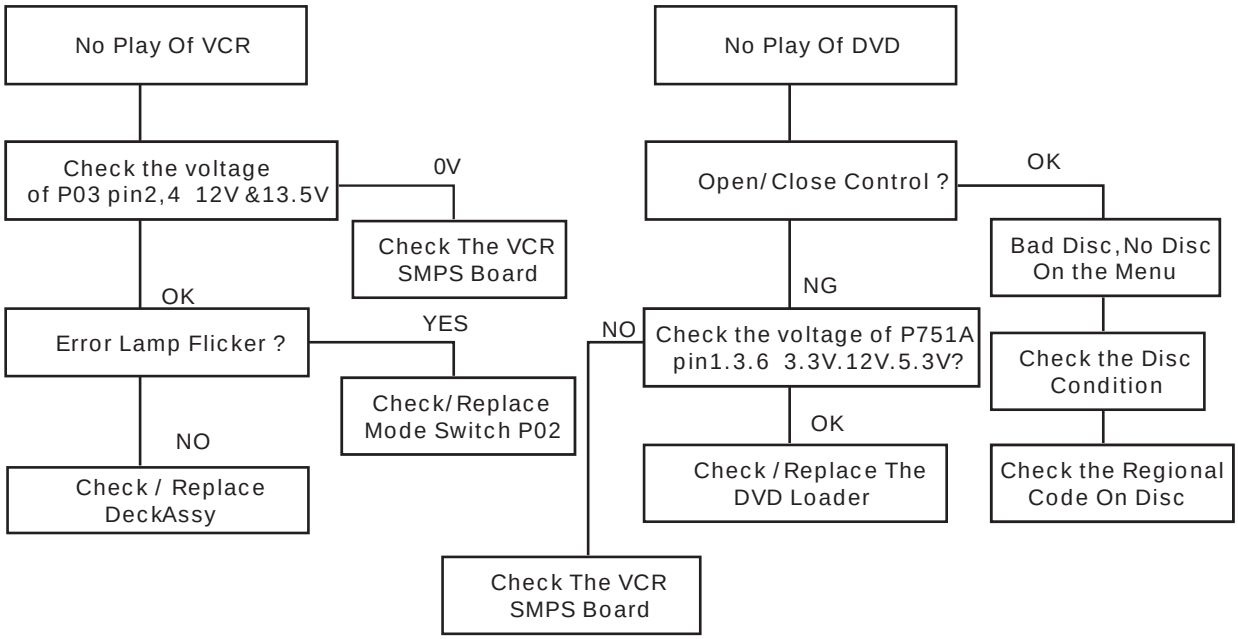
NO Sound / Picture OK

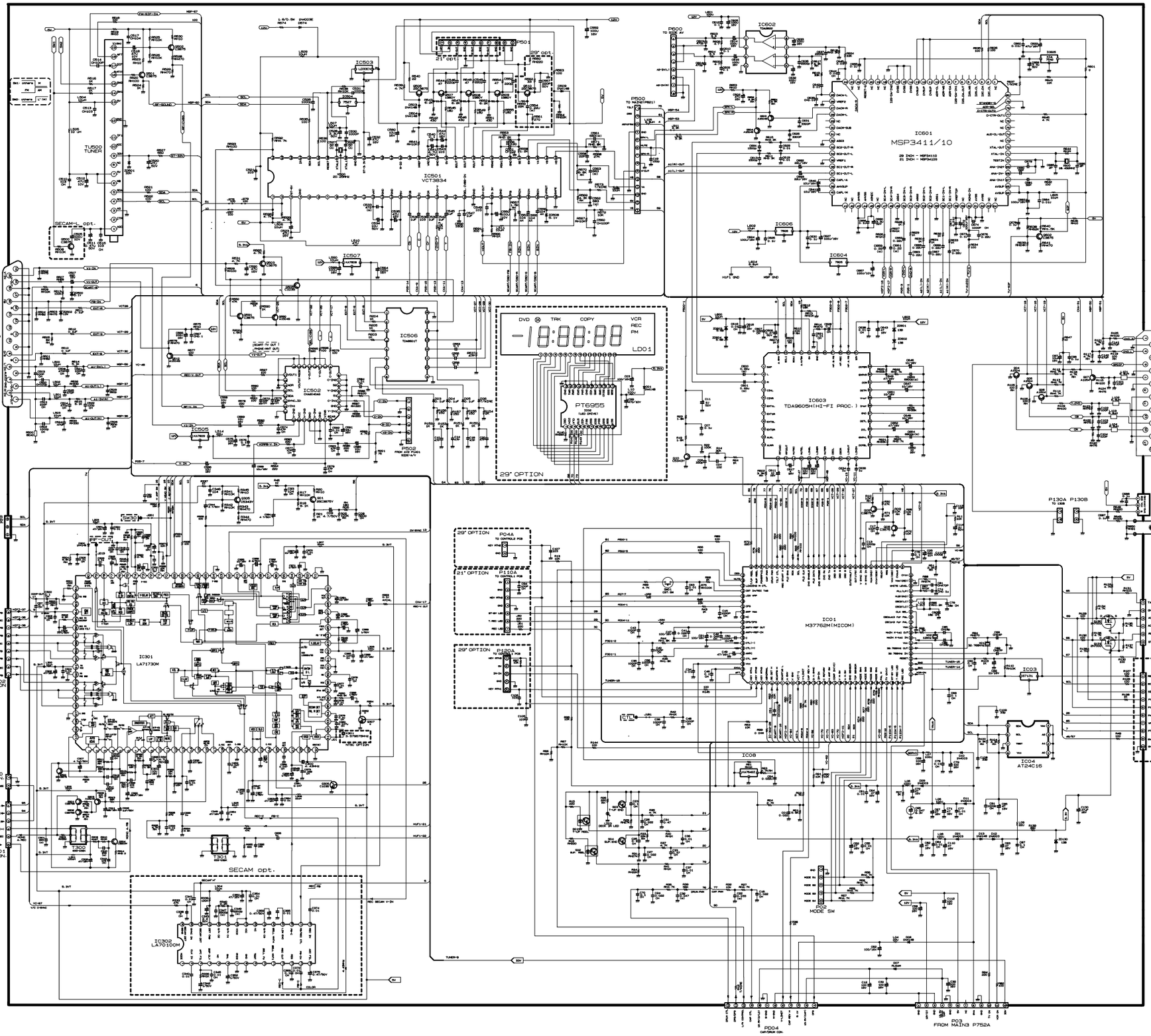


NO Picture / SOUND OK



NO Play Of VCR, DVD





NOTICE

Since this is basic circuit diagram, the value of components and some partial connection are subject to be changed for improvement without notice.

The components marked ⚠ conform to VDE or IEC guide-lines and are essential for safe operation of the TV receiver. While those marked ⚠ are required for correct operation. Use specified parts only when replacing.

Value of resistor, Capacitor and Inductor.

1. Resistance is shown in Ohm K(kilo)=1,000 M(mega)=1,000,000
2. Unless otherwise noted in schematic all capacitor values are expressed in uF and pF.
3. Unless otherwise noted in schematic. all inductor values are expressed in uH and H (henry)

INCH OPTION			
NO.	SYMBOL NO.	PART NO.	
1	IC01	-	
2	R140	-	
3	R141	-	
4	R142	-	
5	R149	MSP3410D(29CM9401)	
6	IC601	-	
7	IC001		
8	LD01	-	
9			

SOUND OPTION			
NO.	LOC. NO.		
1			
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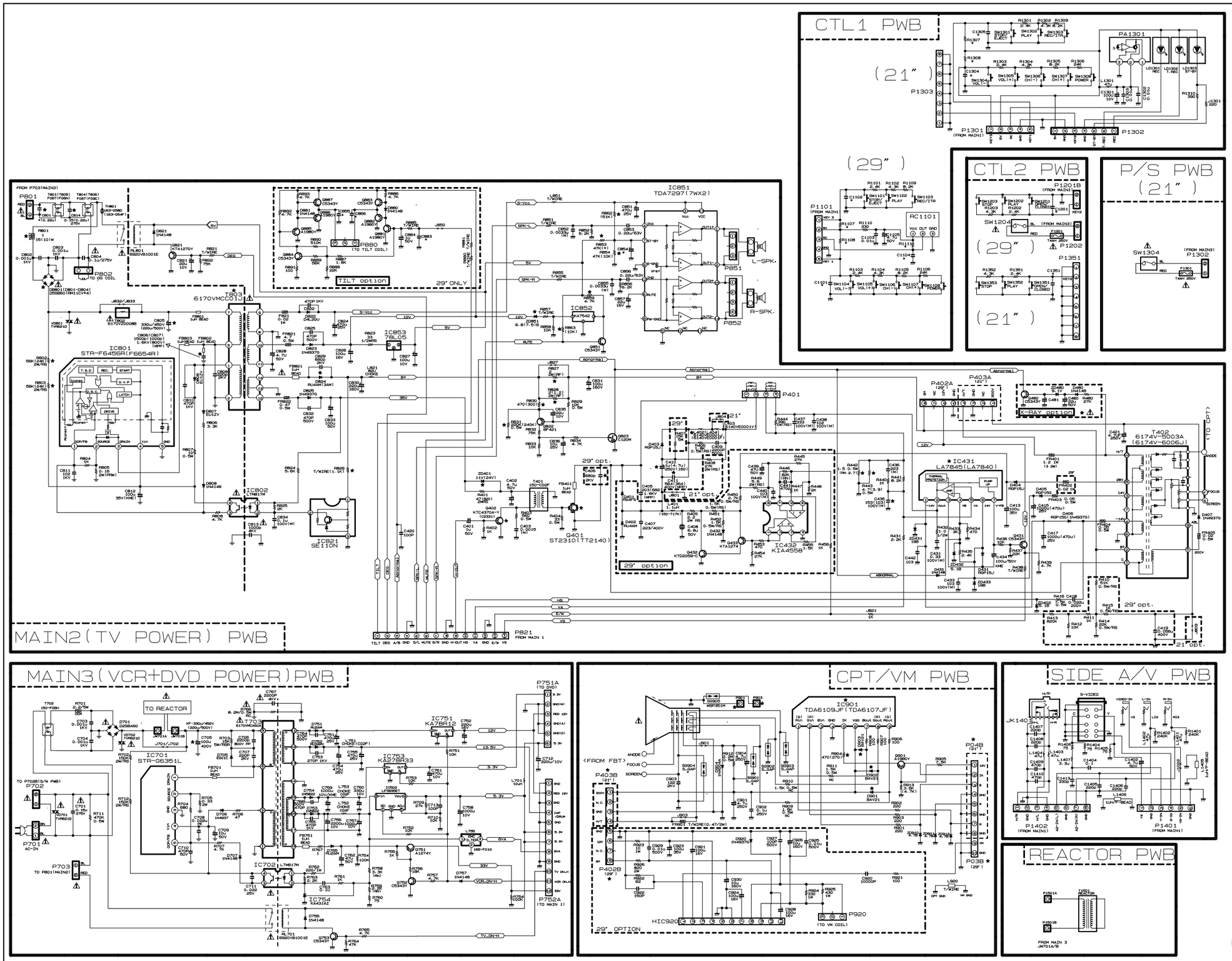
2004.2.26



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3. Unless otherwise noted in schematic. all inductor values are expressed in uH and H.

INCH OPTION			
NO.	LOC. NO.	21"(K2-21FC708X)	
1	C408	MPP 1600V 0.0068uF	(181-014F)
2	C410	4.7uF 160V STD	(0CE470DP618)
3	C411	0.36uF 400V MPP	(181-013G)
4	C415	470uF 25V STD	(0CE477DH618)
5	C417	470uF 25V STD	(0CE477DH618)
6	C435	0.01uF 100V	(0CG103JN509)
7	CB07	1000uF 6V	(0CF102J047A)
8	CB01	RH15CV SANKEN	(0CD110009CB)
9	CB02	RH15CV SANKEN	(0CD110009CB)
10	CB03	RH15CV SANKEN	(0CD110009CB)
11	CB04	RH15CV SANKEN	(0CD110009CB)
12	CB04	RU36MV	(0CD300006AC)
13	CB801	-	
14	FB401	3 OHM 2W	(0RF030J0K07)
15	FB801	0.47 OHM 2W	(0RF030J0R07)
16	IC431	LA7840	(015A784020A)
17	IC801	STRF-6654	(013H065541X)
18	IC901	TDA6107JF	(013H061070B)
19	L403	60uH 0.6PHY	(6140VE0001V)
20	L404	130uH 0.45PHY	(6140VB0001F)
21	Q401	TT2140 SANYO	(017B8A1002A)
22	Q402	KSC2331-Y	(017R231096A)
23	R401	820 OHM 2W	(0RE820J0507)
24	R442	2.7 OHM 1/2W	(0RH027J0H09)
25	R443	3.9 OHM 1/2W	(0RH039J0H09)
26	R801	RWR 15W 1.0 OHM	(180-022F)
27	RB02	24K OHM 2W	(0RE240J0R07)
28	RB03	24K OHM 2W	(0RE240J0R07)
29	RB05	1.1K OHM 1/6W	(0RD110J0F09)
30	RB07	-	
31	RB08	1.0 OHM 2W	(0RF010J0K07)
32	RB30	300 OHM 1/6W	(0RD300F0G09)
33	RB31	240K OHM 1/2W	(0RE240J0H09)
34	RB54	10K OHM 1/6W	(0RD100F0G09)
35	RB62	10K OHM 1/6W	(0RD100F0G09)
36	RB63	51K OHM 1/6W	(0RD510F0G09)
37	RB04	270 OHM 1/6W	(0RD270F0G09)
38	RB13	4.7K OHM 1/6W	(0RD472F0G09)
39	T402	FBT	(6174V6006J)
40	TB01	-	
41	TB04	-	
42	TB05	SGE2424 7NH	(150-FD091)
43	TB06	SGE2828 18-20NH	(150-FD0C)
44	THB01	THERMISTOR PTC	(163-054F)
45	ZD401	ZENER MTZJ24B	(0DZ240009C0)
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