LG

CANADA : http//biz.lgservice.com
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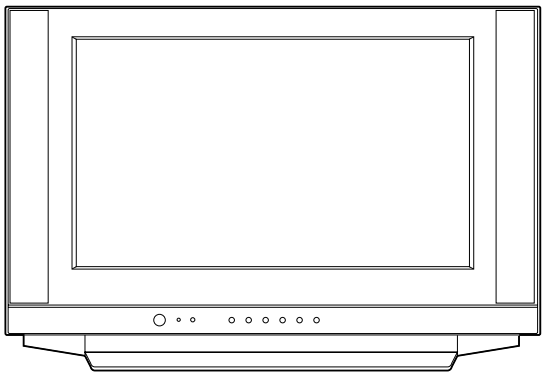
: http//lgservice.com/techsup.html

COLOR TV
SERVICE MANUAL

CHASSIS : AC-02SD

MODEL : 30FZ1DC
32FZ1DC-UB

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



SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ 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 it's components from being damaged by accidental shorts of the circuitary 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 it's 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 ±1.5KV: 14-19 inch, 26±1.5KV: 19-21 inch,
29.0±1.5KV: 25-29 inch, 30.0 ± 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.

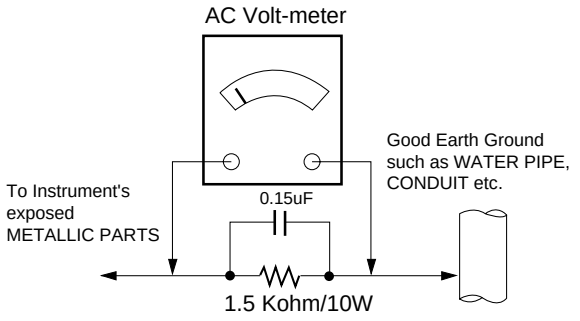
Before returning the receiver to the customer,

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 positioin, 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 1MΩ and 5.2MΩ.
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 esposed 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 sepcified, 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



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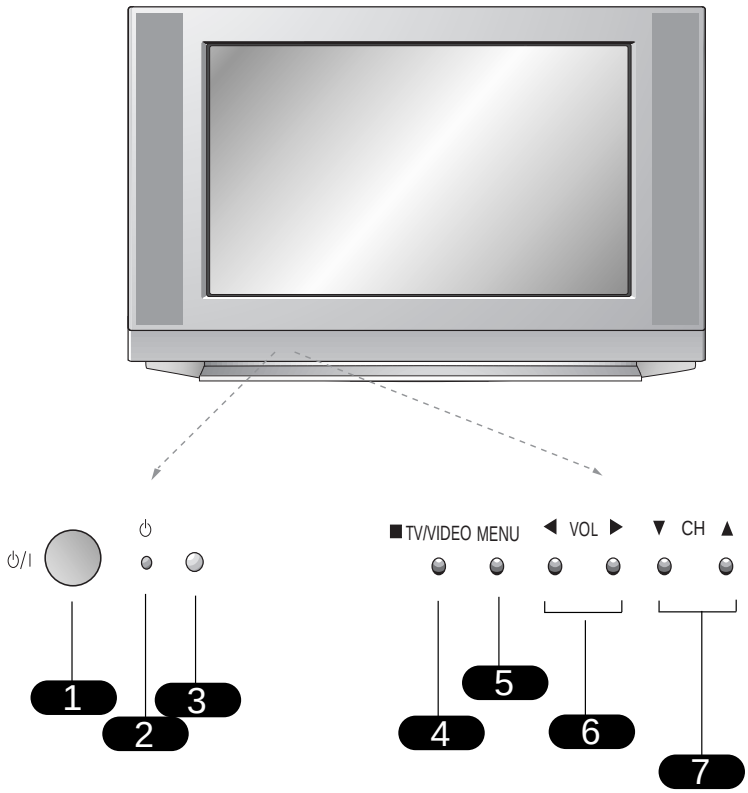
DESCRIPTION OF CONTROLS

Front Panel Controls

- Here shown may be somewhat different from your TV.



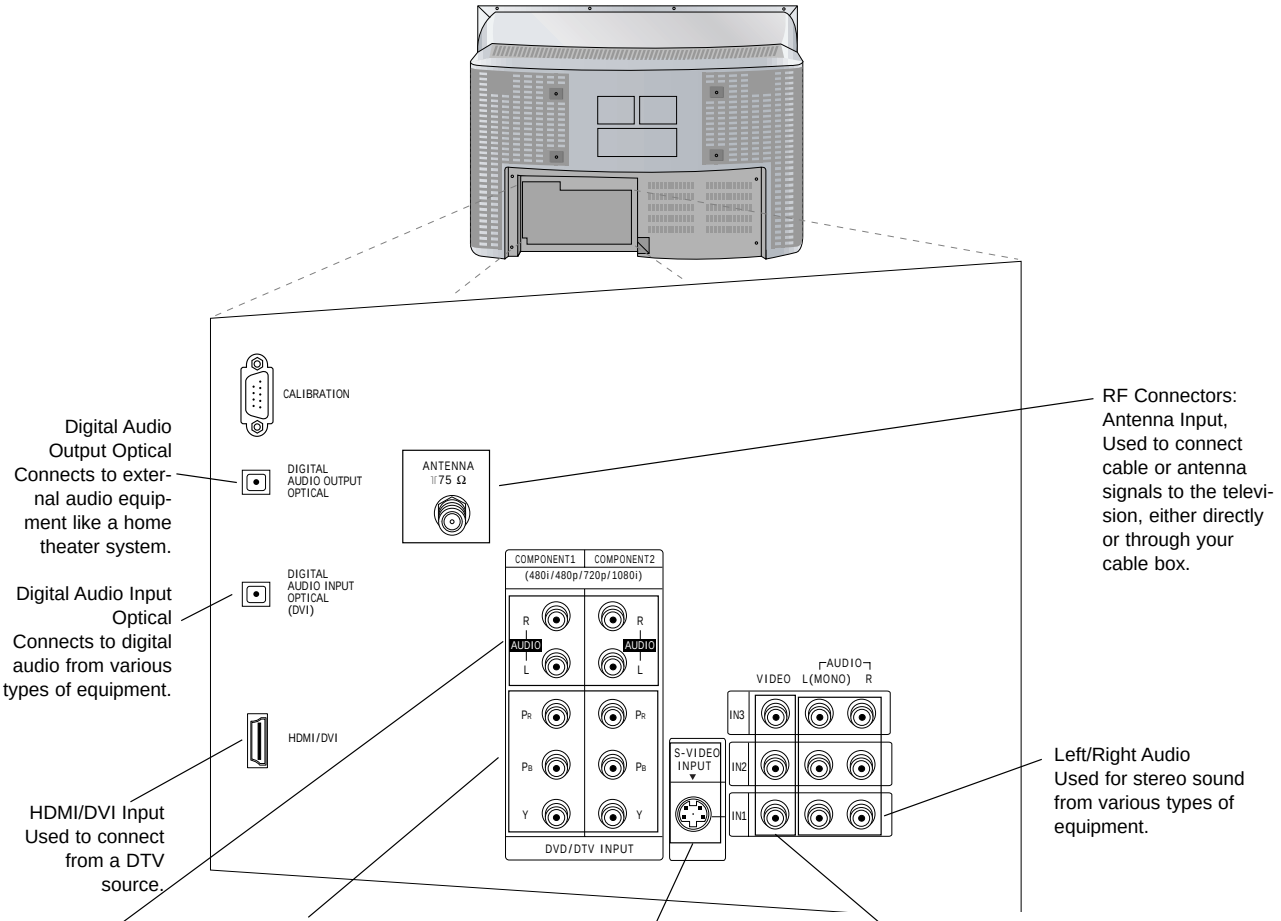
1	power
2	Standby indicator (Illuminates brightly when the TV is in standby mode. Dims when the TV is switched on.)
3	Remote control sensor
4	■ TV/VIDEO
5	menu
6	vol left/ right Volume(►) button increases the sound level and volume(◄) button decreases the sound level.
7	ch (Channel) up / down

These buttons work just as they do on your remote control.

DESCRIPTION OF CONTROLS

Rear Connections Panel

- Connecting external equipment to your TV.
- Here shown may be somewhat different from your TV.



Digital Audio Output Optical
Connects to external audio equipment like a home theater system.

Digital Audio Input Optical
Connects to digital audio from various types of equipment.

HDMI/DVI Input
Used to connect from a DTV source.

Component Left/Right Audio
Used for stereo sound from various types of equipment.

Y, P_B, P_R
DVD Component Video and HD Component Video
Some top-of-the-line DVD players use what is called “component video,” for extremely accurate picture reproduction. Refer to your DVD manual for further information.

S-Video In
A connection available with some high-end equipment that provides even better picture quality for Video 1, 2.

Video 1, 2 and 3 Inputs
Connects the video signals from various types of equipment.

Left/Right Audio
Used for stereo sound from various types of equipment.

RF Connectors:
Antenna Input,
Used to connect cable or antenna signals to the television, either directly or through your cable box.

Mini glossary

JACK	A connection on the back of a TV, VCR, or any other A/V device. This includes the RF jack and the Audio/Video jacks that are color-coded.
SIGNAL	Picture and sound traveling through cable, or over the air, to your television screen.

DESCRIPTION OF CONTROLS

Front Connections Panel

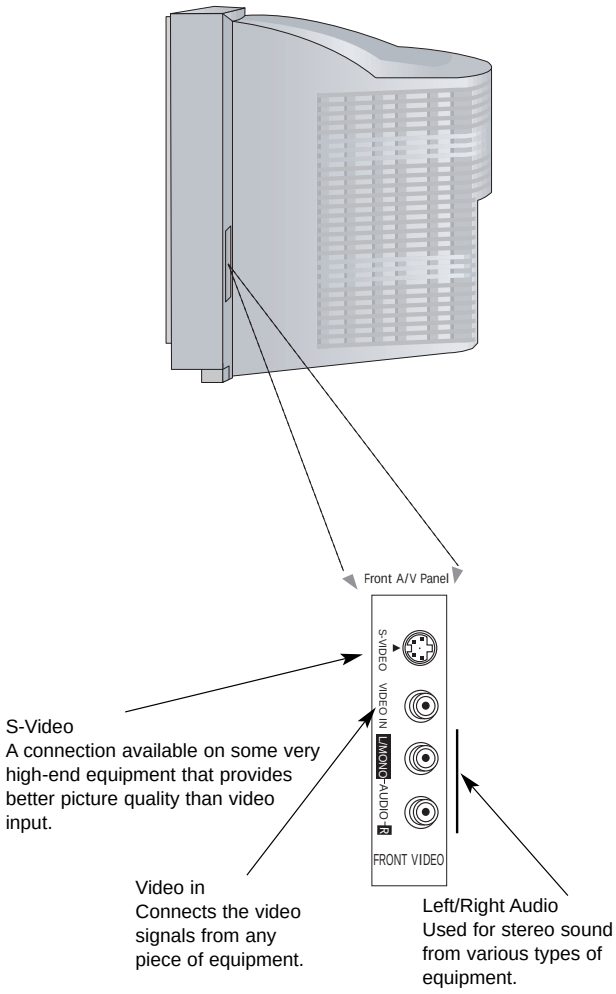
There are four jacks on the lower-right front front of your TV that make connecting Audio/Video devices like video games and camcorders very simple.

The jacks are like those found on the back jack connection panel. This means that most equipment that connects to those types of jacks on the rear jackpack, may be connected to the Front connection panel (Front Video).

To use the Front jacks as the signal source, select them using Main input menu as described on page 25. They will be named “Front Video” in the Main input menu.

When you select Front video or Front S-Video, the Front Audio inputs are automatically selected as well.

Do not connect to both Video and S-Video at the same time. Connect either Video or S-Video only.



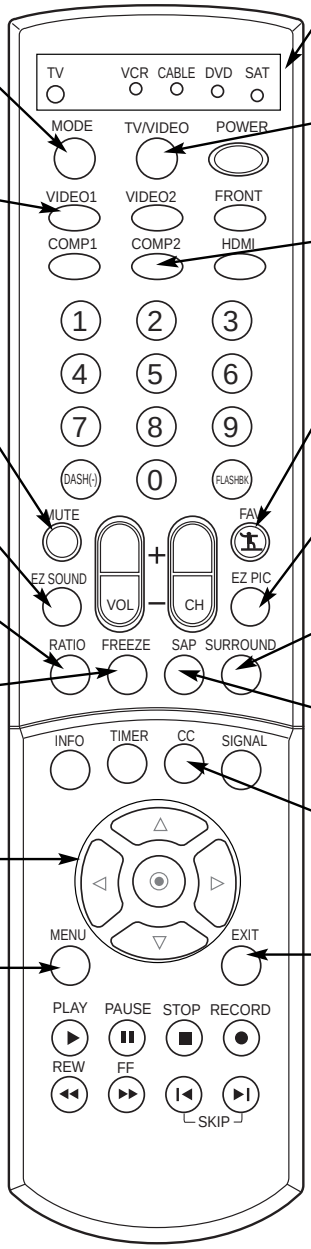
Mini glossary

A/V CABLES Audio/Video cables. Three cable connector—Right audio (red), Left audio (white), and Video (yellow). A/V cables are used for stereo playback of videocassettes and for higher quality picture and sound from other A/V devices.

A/V DEVICE Any device that produces video (picture) and/or audio (sound) (VCR, DVD, cable box, or television).

DESCRIPTION OF CONTROLS

Remote Control Functions in TV Mode



MODE
Selects the remote operating mode: TV, VCR, Cable, DVD or Satellite. Select other operating modes, for the remote to operate external devices.

VIDEO1
Selects the Video1 input source.

MUTE
Switches the Mute or the EZ mute. Mute: The sound is off. EZ mute: Turns the sound off, and displays the caption.

EZ SOUND
Selects the sound appropriate for the program's category.

RATIO
Changes the aspect ratio.

FREEZE
Captures and freezes the currently-viewed picture.

THUMBSTICK (UP/DOWN/LEFT/RIGHT/◎)
Allows you to navigate the on-screen menus and to adjust the system settings and preferences, by moving to an option with◂▴▾▸ and selecting the highlighted option with◎.

MENU
Brings up the main menu to the screen.

MODE INDICATOR LIGHTS
Show active remote mode every time any button is pressed.

TV/VIDEO
Selects: Antenna, Cable, Video1, Video2, Front video, Component 1-2 and HDMI/DVI input sources.

COMP2
Selects the Component 2 input source.

FAV
Use to scroll the FAV channel list.

EZ PIC
Adjusts the factory preset picture depending on the viewing environment.

SURROUND
Selects : Off, 3D EchoSound System and SRS TruSurround XT.

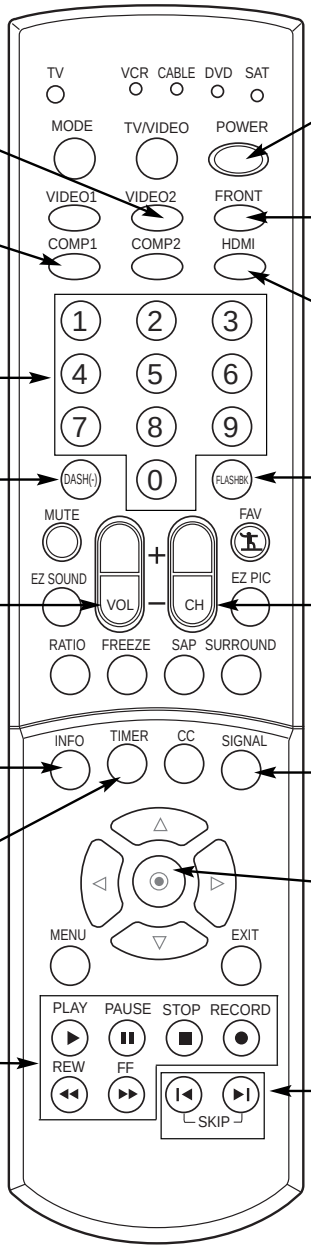
SAP
Selects MTS sound: Mono, Stereo, and SAP in analog mode. Change the audio language in DTV mode.

CC
Lets you select a closed caption mode for displaying captioning information when provided for DTV/Analog signal.

EXIT
Clears all on-screen displays and returns to TV viewing from any menu.

DESCRIPTION OF CONTROLS

Remote Control Functions in TV Mode



VIDEO2
Selects the Video2 input source.

COMP1
Selects the Component 1 input source.

NUMBER KEYPAD
For direct channel selection and programming functions.

DASH(-)
Is used to enter a program number for multiple program channels such as 2-1,2-2,etc.

VOLUME UP/DOWN
Increases/decreases the sound level.

INFO
When you watch the TV, displays information on top of the screen. Not available in Component 1-2 and HDMI/DVI.

TIMER
Lets you select the amount of time before your TV turns itself off automatically.

RECORD, PAUSE, REW, FFWD, PLAY, STOP
Control the functions on your VCR.

POWER
Turns your TV or any other programmed equipment on or off, depending on mode.

FRONT
Selects the front video input source.

HDMI
Selects the HDMI input source.

FLASHBK
Tunes to the previous channel viewed.

CHANNEL UP/DOWN
Scrolls through available channels present in EZ Scan memory.

SIGNAL
Displays the digital signal strength.

ENTER
When in the menu system and other on-screen displays, selects highlighted options.

SKIP LEFT/RIGHT
Playing CDs: Selects songs.
Playing DVDs: Selects movie chapters.

SPECIFICATIONS

Model	32FZ1DC-UB
Horizontal Size (inches) Height (inches) Thickness (inches) Weight (pounds)	35.86 23.66 21.73 132.3
Power requirement	AC 120V~ 60Hz
Television system	American TV Standard, NTSC, ATSC with STB
Television Channel	VHF: 2 - 13 UHF: 14 - 69 CATV: 1 - 135 CADTV: 1 - 135 DTV: 2 - 69
Power consumption (W)	220W
Antenna	75 ohm external terminal for VHF/UHF
Audio Output (W)	7W x 2
Supplied accessories	Remote control, batteries 2 size AA (Alkaline battery)
Screen Aspect Ratio	16 : 9
External input ports	Video/Audio input (3 set) S-Video input (2) Component input (2 set) Variable audio output (1 set) HDMI/DVI input (1) Digital audio optical input (DVI)(1) Digital audio optical output (1) Calibration port (1) Cable/Antenna port

Design and specifications are subject to change without prior notice.

ADJUSTMENT INSTRUCTIONS

1. Application Object

These instructions are applied to the AC-02SD chassis.

2. Notes

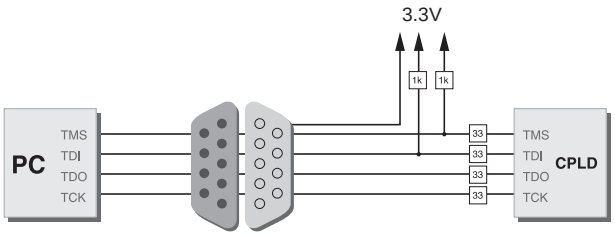
(1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of an isolation transformer will help protect test instruments.
(2) Adjustments must be done in the correct order.
(3) The input voltage of the receiver must remain at 120V±10% while adjusting.
(4) The receiver must be operated for about 20 minutes prior to the adjustment.

※ Never operate the set over 10 minutes with a still picture because a fluorescent material may get damage.

3. CPLD Download Work

3-1. Required Test Equipments & Preparation for Adjustment

(1) Connect the PC and memory JIG as shown in <Fig. 1>.
(2) Turn on JIG MAIN POWER SW.
(3) After turning on the PC and moniter, operate the device programming software.



<Fig. 1 > How to connect the MEMORY JIG and PC

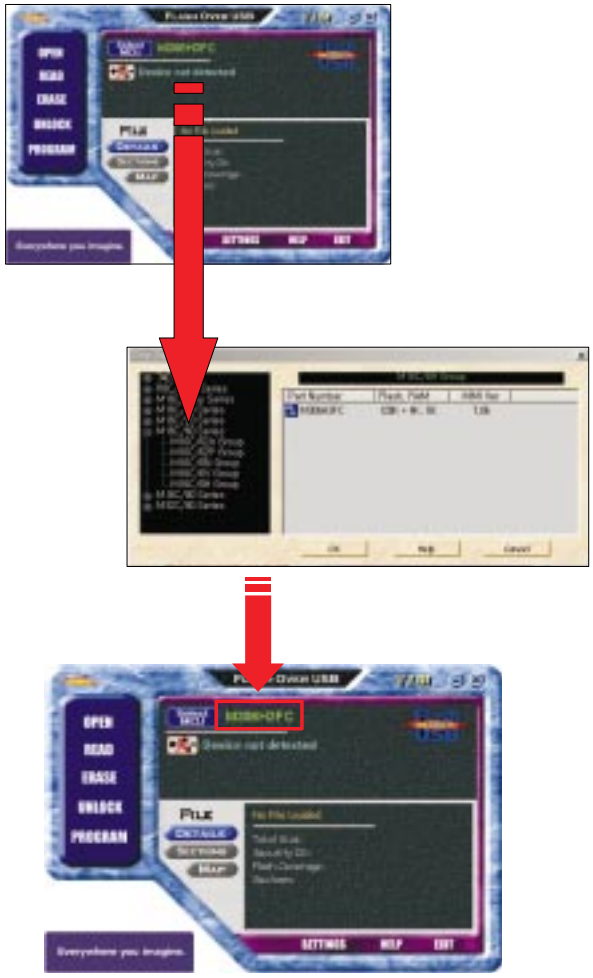
3-2. Adjustment Sequence

(1) Once the program is running, [OPTION MODE SELECTION] is displayed in the window.
Check the "Load configuration File(.cdf, .pdr)" in this window and click the finish button
(2) When the screen displays the open window, select the suitable file(*.cdf) according to model.
(3) IC figure is change to green by clicking it.
(4) Select program options.
(5) Check the [Erase before programming] and [Verify] menu as shown <Fig. 2> and press the OK button.
(6) At this time, the download starts. The download will finish in about 10 seconds.

<Fig . 2>

4. SUB MICOM Download

4-1. Select the MICOM Model



ADJUSTMENT INSTRUCTIONS

Select the MICOM Model.(M16C/6H Group --> M306H3FC)

※ After setting, you need not set, again.

4-2. JIG Connection

Connection to the Micom Port on the TV Board.
(Spot of the red line(an arrow)is connected to the port 1.)

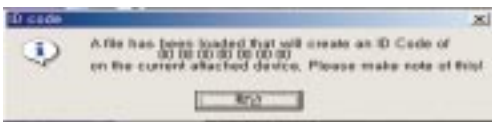
<MICOM JIG>

Connection
the Computer

4-3. Program Download

1. In performing the Download program, if it rightly connects to the board, it is appeared as upper red box.
And it is appeared as lower dialog box.

2. Click the OPEN to select the download program.
So appear the dialog box.



3. When the program is clicked, appear the window as below

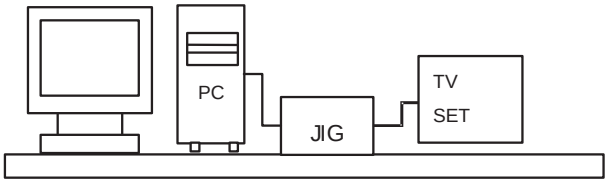
Program Click

5. EDID Data Input

5-1. Required Test Equipment

(1) PC, Jig for adjusting DDC. (256 bytes write)
(2) S/W for writing DDC(EDID data write & read)

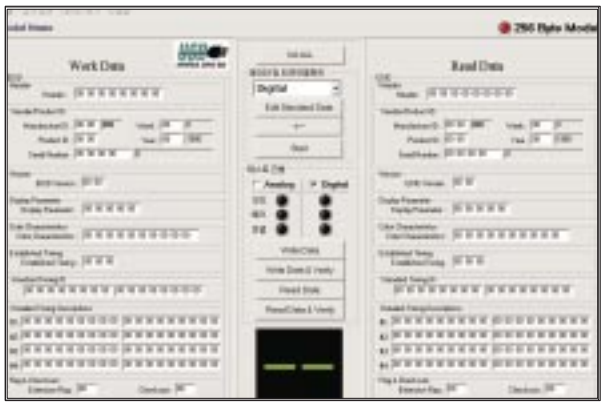
5-2. Setting of Device



5-3. Adjustment

(1) Set devices as above and turn on the PC and JIG.
(2) Open S/W for writing DDC (EDID data write & read).
(3) Enter the Model-->Open in the Menu and then select EDID DATA.
(4) Click the Digital and cancel the ANALOG.
Then connect to turn on the yellow light at the board & connection.
(5) Click the Write Data & Verify and then download the EDID DATA.

ADJUSTMENT INSTRUCTIONS

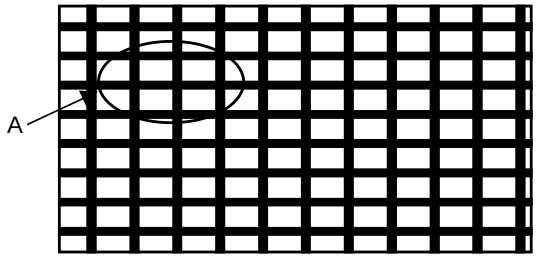


```
00000000h: 00 FF FF FF FF FF FF 00 1E 6D 01 00 01 01 01 01
00000010h: 00 0F 01 03 80 73 41 96 0A CF 74 A3 57 4C B0 23
00000020h: 09 48 4C 00 00 00 01 01 01 01 01 01 01 01 01 01
00000030h: 01 01 01 01 01 01 01 1D 80 18 71 1C 16 20 58 2C
00000040h: 25 00 C4 8E 21 00 00 9E 01 1D 00 72 51 D0 1E 20
00000050h: 6E 28 55 00 C4 8E 21 00 00 1E 00 00 00 FC 00 4C
00000060h: 47 20 54 56 0A 20 20 20 20 20 20 20 00 00 00 FD
00000070h: 00 3B 3C 1F 2D 08 00 0A 20 20 20 20 20 20 01 12
```

```
00000080h: 02 03 1B F1 45 85 04 03 02 01 26 09 07 07 15 04
00000090h: 50 83 01 00 00 65 03 0C 00 10 00 8C 0A D0 8A 20
000000a0h: E0 2D 10 10 3E 96 00 C4 8E 21 00 00 18 8C 0A D0
000000b0h: 8A 20 E0 2D 10 10 3E 96 00 13 8E 21 00 00 18 00
000000c0h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000000d0h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000000e0h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000000f0h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 E6
```

<CHECK SUM: 12E6>

6. Focus Adjustment



(1) Set Picture condition to “Normal”.

Normal
- CONTRAST : 100
- BRIGHT : 60
- TINT : 60
- COLOR : 0
- SHARPNESS : 60

(2) Set the Aspect ratio to Wide Mode.

(3) Receive a Cross Hatch Pattern, adjusting the FOCUS Knob on the flyback transformer for the best focus in the area designated “A” above.

※ Heat run over 15 minutes before adjustment.

7. CUT-OFF Adjustment (Screen Voltage Adjustment)

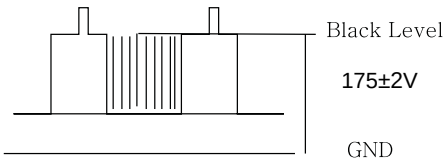
7-1. Test equipment

Oscilloscope, 100:1 Probe

7-2. Adjustment

(1) Select EZ Adjust 3. CUT-OFF, by pressing the ADJ key on the SVC Remote control.
When it enters to adjustment mode, the pattern from a signal generator is being selected, it becomes with Normal image 16:9 and the CUT-OFF DRIVE data setting 31.

(2) Connect the oscilloscope ground lead to GND on the CPT board and the probe to the GK pin connector of the CPT socket.
Using the SCREEN knob on the Flyback Transformer, adjust the black level voltage to 175±2V.



CUT-OFF Adjustment

(SCREEN voltage adjustment OSCILLOSCOPE, 100:1 PROBE, VOLTS/DIV : 0.5V/DIV SEC/DIV : 5us, The TRIGGER MODE it puts in the TV-H)

8. Deflection Adjustment

8-1. Preliminary Steps

Select EZ Adjust 1. Raster, Cent, H/V Size by using the ADJ key on the SVC Remote control.
In the adjustment mode a Digital Pattern signal signal is displayed.

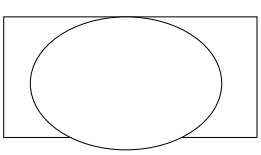
8-2. Raster V-Center(V.Center) Adjustment

Select 62. V-Postition in the adjustment mode and adjust it to position the vertical center line in vertical center of the CPT.

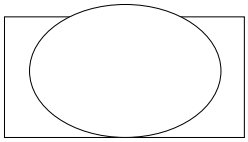
8-3. Vertical Deflection Size Adjustment

(Overscan : 10%)

(1) Select 59. V-SIZE in the adjustment mode.
(2) Adjust until the smaller inscribed circle coincides with the outer frame of screen.
(3) Select 95. LO-VLIN or 94. UP-VLIN and adjust until the larger inscribed circle coincides with the outer frame of screen.



LO-VLIN



UP-VLIN

8-4. Raster H-center(H.CENTER) Adjustment

Select 77. H Postion in the adjustment mode and adjust until left and right screen are symmetrically equal.

8-5. Horizontal Deflection Size Adjustment

(1) Reduce 66 H-Size to verify screen protection (overscan) on the right and left sides.
(2) Adjust the horizontal size, using a test pattern.

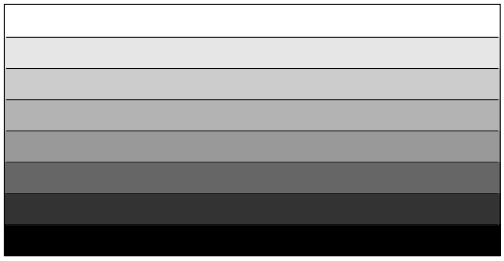
8-6. Horizontal Pincushion Adjustment

(1) Select EZ Adjust 2. Pin-Cushion by pressing the ADJ key on the SVC Remote control.
(2) Select PIN-PHASE, PIN-AMP, AFC-BOW, AFC-ANGLE, UP-CPIN, LO-CPIN in the adjustment mode and adjust until there is no Pincushion distortion or trapezoid distortion on the screen.

9. Component MST3586 Offset/Gain Adjustment

9-1. Test Equipment

(1) SVC Remote Control,
(2) MASTER Pattern Generator



<1080I Hoz30Bar Pattern>

9-2. Preliminary Steps

(1) Turn the power supply on.
(2) Enter the Component mode.
(3) Receive the “1080I” Format, “Hoz30Bar” Pattern of the Video Pattern Generator.
(4) Certainly, adjust the output signal in state of 700mVp-p±10mV.

9-3. ADC Offset Adjustment

(1) After receiving a signal press the ADJ Key on the SVC Remote Control repeatedly to acess the Adjustment mode.
(2) Adjustment will set the automatically by pressing the “9.MST3586-Set” of adjustment item.
(3) After finishing the adjustment, output the “MST3586-OK” OSD on the screen.

10. White Balance Adjustment

Perform the Screen Voltage Adjustment first.
Color Temp must be adjusted from Medium Mode.
(The image condition must be adjusted from Normal condition)
Manual adjustment is also possible by the following sequence.

(1) Receive White Pattern.
(2) Set screen size to wide mode
(3) Select EZ Adjust 2.White Balance by pressing ADJ Key on the SVC Remote control.

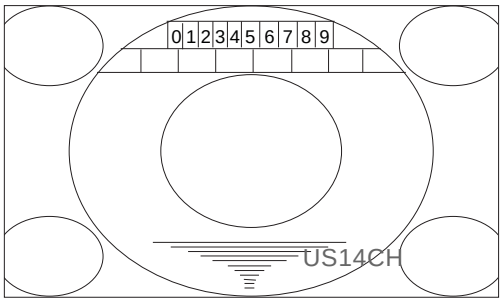
(4) Adjustment
1) Using the SVC Remote control, set the DCOL value of CXA2150 to the “0”.
2) Set an image with Normal image.
3) Adjust R-DRIVE and B-DRIVE data so the color coordinates in High light are the values in Table below. (Bright Level : 35Ft_L)
4) Adjust “CONTRAST” and “BRIGHT” so the bright level is 4.5±0.5F.L.
5) Adjust R-CUT and B-CUT data so the color coordinates in Low light are the values in Table below.
6) Repeat 2)~ 5) until the color coordinates in High and Low color satisfies the Table.
7) After finishing the adjustment, resect the DCOL value of CXA2150 to the “3”.
8) Check the adjusted color coordinates with the white balance meter.

High Light : x=287±3, y=293±3
Low Light : x=287±3, y=293±3
Color temperature : 9,000K±1000(-5MPCD)

※ The White Balance it executes from automatic adjustment hour Normal image condition.
Start adjustments from initial setting of R.DRIVE=31, G.DRIVE=31, B.DRIVE=31, R.CUT=31, G.CUT=31, B.CUT=31.

11. Sub Bright, TINT, COLOR Adjustment

11-1. Sub Bright Adjustment



(1) Select EZ Adjust 5. Sub Bright pressing ADJ key on the SVC Remote control.
(2) Adjust to the point where “2” is not visible.

11-2. Sub COLOR, TINT Adjustment

(1) Select EZ Adjust 6. Sub Tint, Color pressing ADJ key on the SVC Remote control.
(2) Select SUB COLOR and adjust the 1 and 1’ portion not to be classified.
(3) Select SUB TINT and adjust the 3 and 3’ portion not to be classified.

12. Service Mode Adjustment Data

(SVC Remote control 'ADJ' Key)

(1) Raster, Center, H/V_Size Data

NO	OSD	DATA
1	V-POSITION	31
2	V-SIZE	33
3	H-POSITION	24
4	H-SIZE	36
5	UP-VLIN	0
6	LO-VLIN	0
7	PIN-AMP	37
8	PIN-PHASE	46
9	UP-CPIN	37
10	LO-CPIN	34
11	AFC-BOW	30
12	AFC-ANGLE	29

(2) W/B Data

NO	OSD	DATA
1	R-DRIVE	31
2	G-DRIVE	31(Fix.)
3	B-DRIVE	31
4	R-CUTOFF	31
5	G-CUTOFF	31(Fix.)
6	B-CUTOFF	31

(3) SUB-BRIGHT: 20

(4) SUB-TINT/COLOR

SUB-TINT: 13
SUB-COLOR: 7

13. Service Mode Adjustment Data

(SVC Remote control 'IN-START' Key)

(1) CXA2150

NO	ITEM	Initial Data	NO	ITEM	Initial Data	NO	ITEM	Initial Data
1	PIC_ON	1	46	CD_OFF	0	91	JMP_SW	0
2	R_ON	1	47	SHP_CD	0	92	V_SCROLL	28
3	G_ON	1	48	SHP_F1	0	93	VFREQ	1
4	B_ON	1	49	PRE_OVER	0	94	UP_VLIN	0
5	DCOL	0	50	VM_COR	3	95	LO_VLIN	0
6	WB_SW	0	51	VM_F0	2	96	V_COMP	5
7	GAMMA_L	1	52	VM_LMT	3	97	H_COMP	10
8	PICTURE	63	53	VM_DLY	3	98	VSAW0_DCL	0
9	BLK_BTM	0	54	AKBTIM	12	99	VSAW1_DC	0
10	HUE	32	55	BLK_OFF	0	100	VSAW0_AMP	0
11	COL_AXIS	2	56	AKBOFF	0	101	PIN_COMP	0
12	COLOR	38	57	UP_BLK	2	102	VSAW1_AMP	0
13	CTI_LEV	1	58	LO_BLK	5	103	AFC_COMP	0
14	BRIGHT	21	59	V_SIZE	33	104	MP_PARA_DC	0
15	S_ABL	0	60	V_ON	1	105	MP_PARA_AMP	0
16	SHARPNESS	52	61	EW_DC	0	106	HC_PARA_DC	57
17	LTI_LEV	3	62	V_POSITION	31	107	ASP_SW	0
18	R_DRIVE	31	63	VSAW0_DCH	0	108	VDRV_SW	0
19	PLIMIT_LEV	0	64	V_LIN	7	109	HC_PARA_AMP	45
20	G_DRIVE	31	65	S_CORRECTION	2	110	HC_PARA_PHASE	31
21	ABL_MODE	2	66	H_SIZE	36	111		
22	B_DRIVE	31	67	UP_UCP	0	112		
23	CTI_MODE	0	68	PIN_AMP	37	113		
24	SUB_BRIGHT	15	69	LO_UCP	0	114		
25	GAMMA	1	70	UP_CPIN	37	115		
26	R_CUTOFF	31	71	UP_UCG	1	116		
27	LTI_MODE	1	72	LO_CPIN	34	117		
28	G_CUTOFF	31	73	LO_UCG	1	118		
29	DPIC_LEV	2	74	PIN_PHASE	46	119		
30	B_CUTOFF	31	75	UC_POL	0	120		
31	DC_TRAN	3	76	VBLK_SW	0	121		
32	SUB_CONT	12	77	H_POSITION	24	122		
33	LRGB2_LEV	0	78	CLP_SHIFT	0	123		
34	SUB_COL	7	79	SYNC_PHASE	0	124		

* System
  RF, AV, 480i: 2
  480p: 2
  HD, 720p, 1080I: 3

* SHP-F0
  SD: 1
  HD: 0

(2) CXA1875AM

NO	OSD	DATA
1	REF	0
2	SW3	1
3	SW2	1
4	Tilt1	0
5	Tilt2	1
6	DF Gain	80
7	DF Phase	120
8	DAC2	0
9	Tilt CTR	0
10	CSCTR	48

(3) VPX3226E

NO	OSD	DATA	NO	OSD	DATA
1	NOSEL	3	11	CHROMA_V	0
2	DDR	3	12	FREQUENCY	1
3	HDG	3	13	BRIGHTNESS	1
4	VDG	0	14	LIM	0
5	VPK	4	15	CONTR1	31
6	CORING	3	16	NOISE1	0
7	PEAKING	3	17	CLAMP1	1
8	LOWPASS	0	18	BRIBYP1	0
9	SKEWFILTER	0	19	CONBYP1	0
10	VACK	0			

(4) UPD64083

NO	ITEM	Initial Data	NO	ITEM	Initial Data	NO	ITEM	Initial Data
1	YAPS	3	32	LDSR	2	63	VCT	0
2	COUTS	3	33	YTRR	1	64	SHT	0
3	NRMO	0	34	VTRH	1	65	KILR	0
4	KILS	1	35	WSC	1	66	PLLFG	1
5	MSS	0	36	TT	0	67	FSCFG	0
6	KSDS	0	37	FELCHK	1	68	BPLLFS	0
7	CLKS	0	38	TH	0	69	HPLLFS	0
8	EXCSS	1	39	ID1DECON	1	70	VSSL	3
9	PECS	0	40	WSS	0	71	HSSL	8
10	MFREEZE	0	41	VAPINV	31	72	BGPW	7
11	EXADINS	0	42	VAPGAIN	0	73	BGPS	3
12	DYCOS	2	43	YPFG	10	74	VTVH	0
13	CDL	4	44	YPFT	0	75	FSCOFF	1
14	HDP	4	45	SELD2FH	0	76	NRZOFF	1
15	CPP	0	46	CLPH	0	77	NSDSW	0
16	DYGAIN	9	47	C0HS	0	78	ADPDS	1
17	DYCOR	2	48	CC3N	0	79	ADCLKS	3
18	DCGAIN	6	49	YEGS	2	80	HIZEN	0
19	DCCOR	3	50	V1PS	2	81	EXTDYCO	0
20	CNRLIN	1	51	SELD1FL	0	82	SYSPDS	0
21	CNRINY	0	52	KCTT	0	83	ADCLPSTP	0
22	CNRK	0	53	CSHDT	0	84	ADCLPFSW	0
23	YNRLIM	1	54	OVST	0	85	HCNTFSYN	0
24	YNRINV	0	55	ED2OFF	1	86	CNROFS	0
25	YNRK	0	56	YHCGAIN	0	87		
26	STOS	1	57	YHCCOR	1	88		
27	STIS	0	58	CLKGT	0	89		
28	CL8OFF	1	59	CLKGEB	0	90		
29	ID1W0A2	0	60	CLKGGT	0	91		
30	ID1W0A1	0	61	CLKG2D	1	92		
31	ID1ON	0	62	OTT	0	93		

(5) MST3000

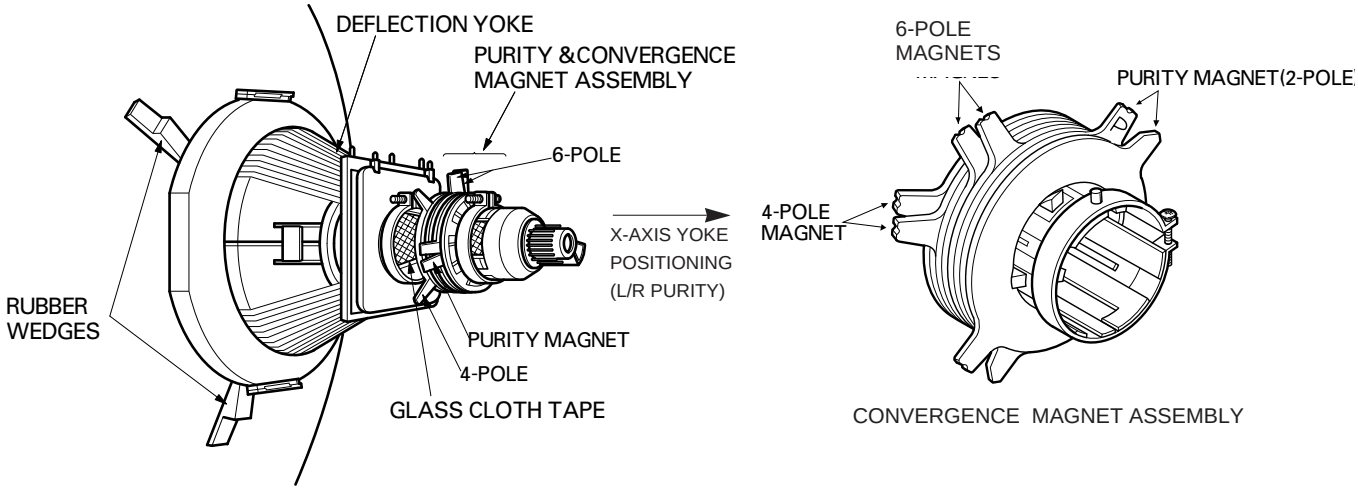
NO	ITEM	Initial Data	NO	ITEM	Initial Data
1	CHIP_REVISION	0	32	RED_CLAMP_SEL	1
2	PLL_DIV_MSB	103	33	GREEN_CLAMP_SEL	0
3	PLL_DIV_LSB	1	34	BLUE_CLAMP_SEL	1
4	VCO_RANGE	2	35	SYNC_SEPARATOR	32
5	CHARGE_PUMP_CURRE	4	36	PRE_COAST	15
6	PHASE_ADJUST	16	37	POST_COAST	15
7	CLAMP_PLACEMENT	56	38		
8	CLAMP_DURATION	64	39		
9	HSYNC_OUTPUT_PULS	32	40		
10	RED_GAIN	167	41		
11	GREEN_GAIN	196	42		
12	BLUE_GAIN	168	43		
13	RED_OFFSET	60	44		
14	GREEN_OFFSET	48	45		
15	BLUE_OFFSET	60	46		
16	HSYNC_POLARITY	1	47		
17	HSYNC_INPUT_POL	0	48		
18	HSYNC_OUTPUT_POL	1	49		
19	ACTIVE_HSYNC_OVER	1	50		
20	ACTIVE_HSYNC_SEL	1	51		
21	VSYNC_OUTPUT_INV	1	52		
22	ACTIVE_VSYNC_OVER	1	53		
23	ACTIVE_VSYNC_SEL	1	54		
24	CLAMP_FUNCTION	0	55		
25	CLAMP_POLARITY	0	56		
26	COAST_SLELECT	1	57		
27	COAST_POLARITY_OVER	0	58		
28	COAST_POLARITY	1	59		
29	SEEK_MODE_OVERR	0	60		
30	POWER_DOWN	1	61		
31	SYNC_FREEN_THRESH	26	62		

PURITY & CONVERGENCE ADJUSTMENT

Caution:
Convergence and Purity have been factory aligned. Do not attempt to tamper with these alignments.
However, the effects of adjacent receiver components, or replacement of picture tube or deflection yoke may require the readjustment of purity and convergence.

5. Reconnect the internal degaussing coil.

6. Position the beam bender locking rings at the 9 o'clock position and the other three pairs of tabs (2,4 and 6 pole magnets) at the 12 o'clock position.



● Purity Adjustment

This procedure DOES NOT apply to bonded yoke and picture tube assemblies.
The instrument should be at room temperature (60 degrees F or above) for six (6) hours and be operating at low beam current (dark background) for approximately 20 to 30 minutes before performing purity adjustments.

CAUTION: Do not remove any trim magnets that may be attached to the bell of the picture tube.

1. Remove the AC power and disconnect the internal degaussing coil.

2. Remove the yoke from the neck of the picture tube.

3. If the yoke has the tape version beam bender, remove it and replace it with an adjustable type beam bender (follow the instructions provided with the new beam bender)

4. Replace the yoke on the picture tube neck, temporarily remove the three (3) rubber wedges from the bell of the picture tube and then slide the yoke completely forward.

7. Perform the following steps, in the order given, to prepare the receiver for the purity adjustment procedure.

   a. Face the receiver in the "magnetic north" direction.

   b. Externally degauss the receiver screen with the television power turned off.

   c. Turn the television on for approximately 10 seconds to perform internal degaussing and then turn the TV off.

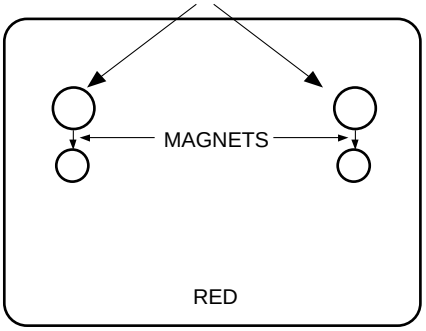
   d. Unplug the internal degaussing coil. This allows the thermistor to cool down while you are performing the purity adjustment. DO NOT MOVE THE RECEIVER FROM ITS "MAGNETIC NORTH" POSITION.

   e. Turn the receiver on and obtain a red raster by increasing the red bias control (CW) and decreasing the bias controls for the remaining two colors (CCW).

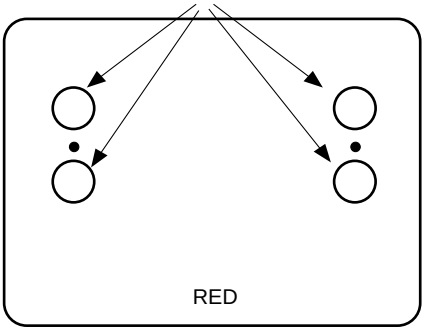
   f. Attach two round magnets on the picture tube screen at 3 o'clock and 9 o'clock positions, approximately one (1) inch from the edge of the mask (use double-sided tape).

PURITY & CONVERGENCE ADJUSTMENT

1.ADJUST YOKE Z-AXIS FIRST TO GET EQUAL BLUE COLOR CIRCLES



2 .ADJUST BEAM BENDER 2 POLE MAGNET TO GET FOUR EQUAL COLOR CIRCLES



8. Referring to above, perform the following two steps:
   a. Adjust the yoke Z-axis to obtain equal blue circles.
   b. Adjust the appropriate beam bender tabs to obtain correct purity (four equal circles).

9. After correct purity is set, tighten the yoke clamp screw and remove the two screen magnets.

10. Remove the AC power and rotate the receiver 180 degrees (facing "magnetic south").

11. Reconnect the internal degaussing coil.

12. Turn the receiver on for 10 seconds (make sure the receiver came on) to perform internal degaussing, and then turn the receiver off.

13. Unplug the internal degaussing coil.

14. Turn the receiver on and check the purity by holding one (1) round magnet at the 3 o'clock and a second round magnet at 9 o'clock position. If purity is not satisfactory, repeat steps 8 through 14.

15. Turn off the receiver and reconnect the internal degaussing coil.

● Convergence Adjustment

Caution: This procedure DOES NOT apply to bonded yoke and picture tube assemblies.
Do not use screen magnets during this adjustment procedure. Use of screen magnets will cause an incorrect display.

1. Remove AC power and disconnect the internal degaussing coil.

2. Apply AC Power and set the brightness to the Picture Reset condition. Set the Color control to minimum.

3. Make horizontal line.

4. Adjust the Red, Green and Blue Bias controls to get a dim white line.

5. Restore the screen by removing the horizontal line.

6. Reconnect the internal degaussing coil and apply AC power.

7. Turn the receiver on for 10 seconds to perform internal degaussing and then turn the receiver off again.

8. Unplug the internal degaussing-coil.

9. Turn the receiver on, connect a signal generator to the VHF antenna terminal and apply a crosshatch signal.

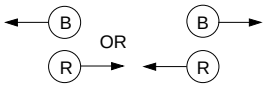
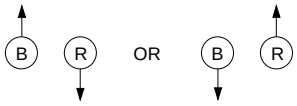
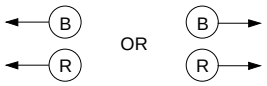
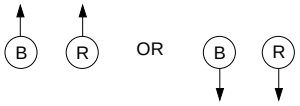
Caution: During the convergence adjustment procedure, be very careful not to disturb the purity adjustment tabs. Purity should be confirmed before proceeding with the convergence adjustments.

Note: Make sure the focus is set correctly on this instrument before proceeding with the following adjustment.

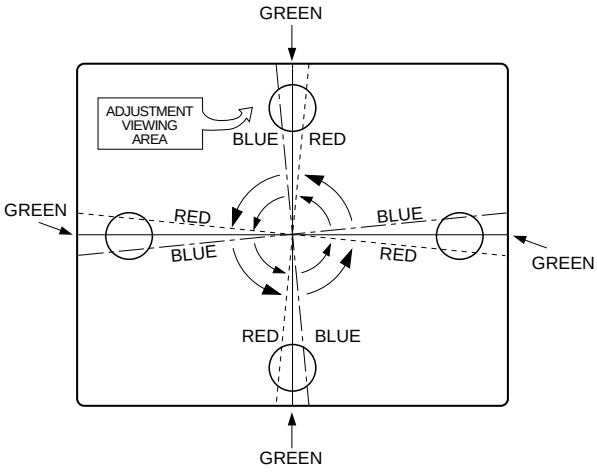
10. Converge the red and blue vertical lines to the green vertical line at the center of the screen by performing the following steps (below TABLE).
    a. Carefully rotate both tabs of the 4-pole ring magnet simultaneously in opposite directions from the 12 o'clock position to converge the red and blue vertical lines.
    b. Carefully rotate both tabs of the 6-pole ring magnet simultaneously in opposite directions form the 12 o'clock position to converge the red and blue (now purple) vertical lines with the green vertical line.

11. Converge the red and blue horizontal with the green line at the center of the screen by performing the following steps. (below TABLE)
    a. Carefully rotate both tabs of the 4-pole ring magnet simultaneously in the same direction (keep the spacing between the two tabs the same) to converge the red and blue horizontal lines.
    b. Carefully rotate both tabs of the 6-pole ring magnet simultaneously in same direction (keep the spacing between the two tabs the same) to converge the red and blue (now purple) horizontal lines with the green horizontal line.
    c. Secure the tabs previsouly adjusted by locking them in place with the locking tabs on the beam bender.

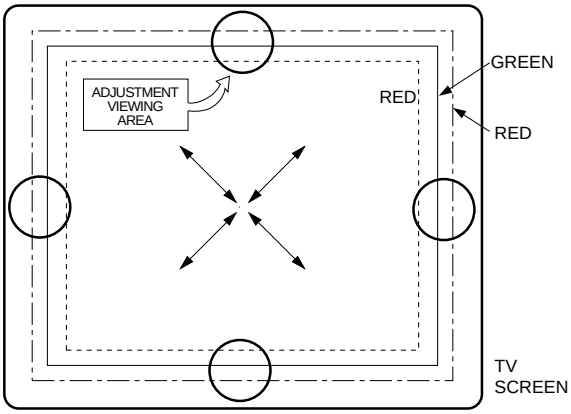
PURITY & CONVERGENCE ADJUSTMENT

RING PAIRS	ROTATION DIRECTION OF BOTH TABS		MOVEMENT OF RED AND BLUE BEAMS
4 POLE		OPPOSITE	
		SAME	
6 POLE		OPPOSITE	
		SAME	

UP/DOWN ROCKING OF THE YOKE CAUSES OPPOSITE ROTATION OF RED AND BLUE RASTERS

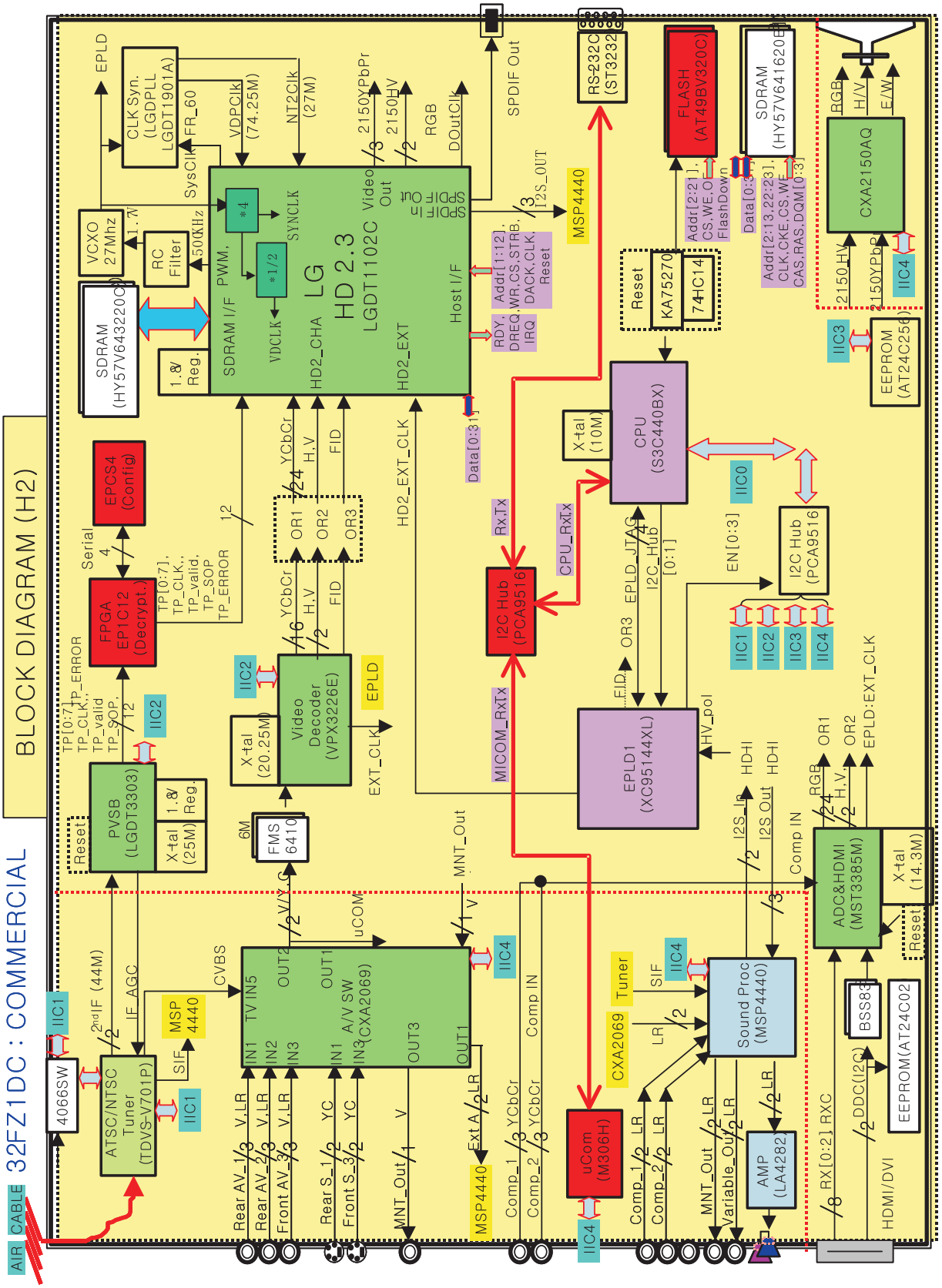


LEFT/RIGHT ROCKING OF THE YOKE CAUSES OPPOSITE SIZE CHANGE OF THE RED AND BLUE RASTERS

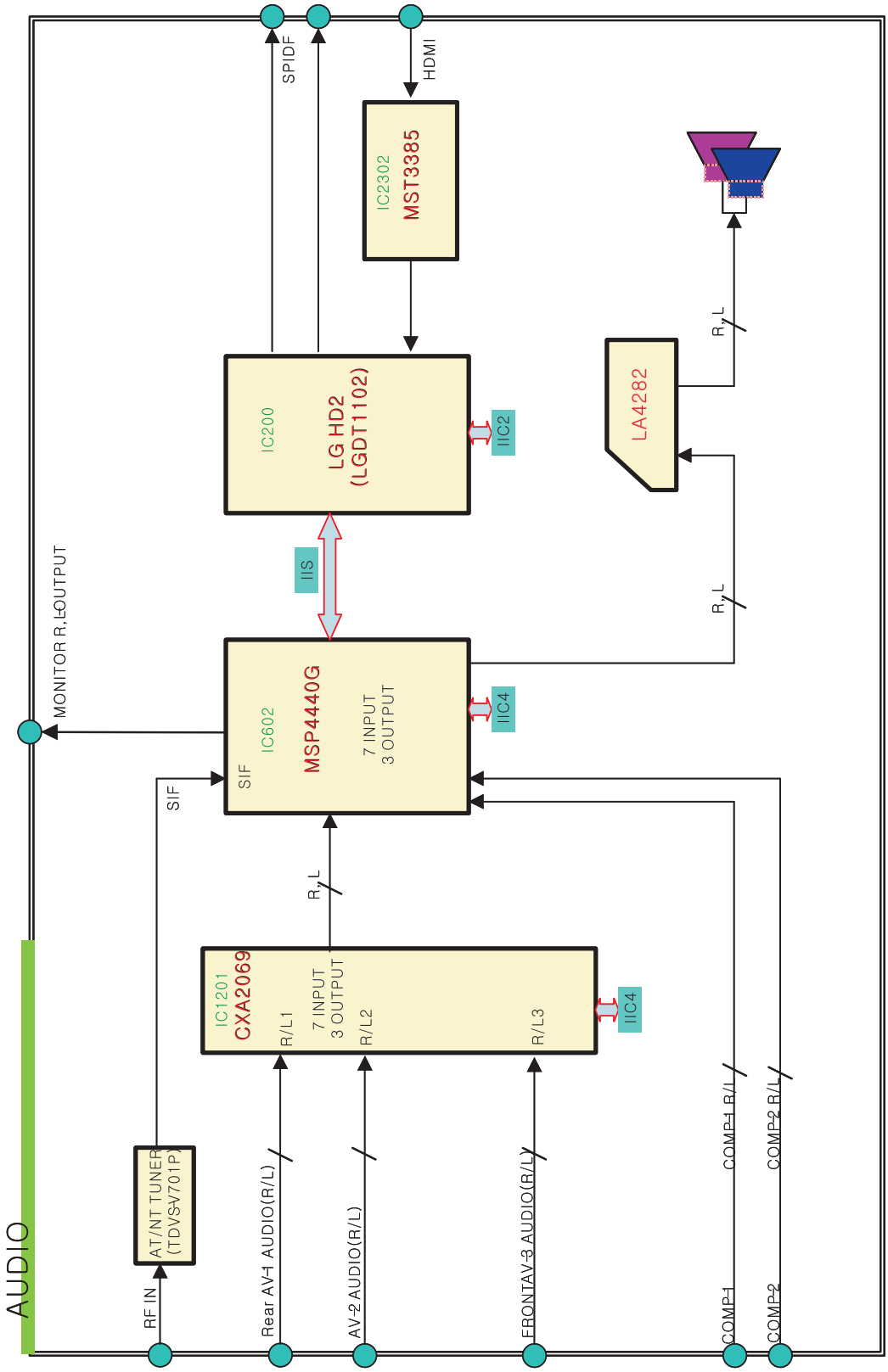


12. While watching the 6 o'clock positions on the screen, rock the front of the yoke in a vertical (up/down) direction to converge the red and blue vertical lines. (Fig upper left)
13. Temporarily place a rubber wedge at the 12 o'clock position to hold the vertical position or the yoke.
14. Check the 3 o'clock and 9 o'clock areas to confirm that the red and blue horizontal lines are converged.
    If the lines are not converged, slightly offset the vertical tilt of the yoke (move the rubber wedge if necessary) to equally balance the convergence error of the horizontal lines at 3 o'clock and 9 o'clock and the vertical lines at 6 o'clock and 12 o'clock.
15. Place a 1.5 inch piece of glass tape over the rubber foot at the rear of the 12 o'clock wedge.
16. While watching the 6 o'clock and 12 o'clock areas of the screen, rock the front of the yoke in the horizontal (left to right) motion to converge the red and blue horizontal lines. (Fig. upper right)
17. Temporarily place a rubber wedge at the 5 o'clock and 7 o'clock positions to hold the horizontal position of the yoke.
18. Check the 3 o'clock and 9 o'clock areas to confirm that the red and blue vertical lines are converged. If the lines are not converged, slightly offset the horizontal tilt of the yoke (move the temporary rubber wedges if necessary) to equally balance the convergence error of the horizontal lines at 6 o'clock and 12 o'clock and the vertical lines at 3 o'clock and 9 o'clock.
19. Using a round magnet confirm purity at the center, right and left sides and corners. See Purity Adjustment Procedure.
20. Reconfirm convergence and apply a 1.5 inch piece of glass tape over the rubber foot at the rear of the 5 o'clock and the 7 o'clock wedges.

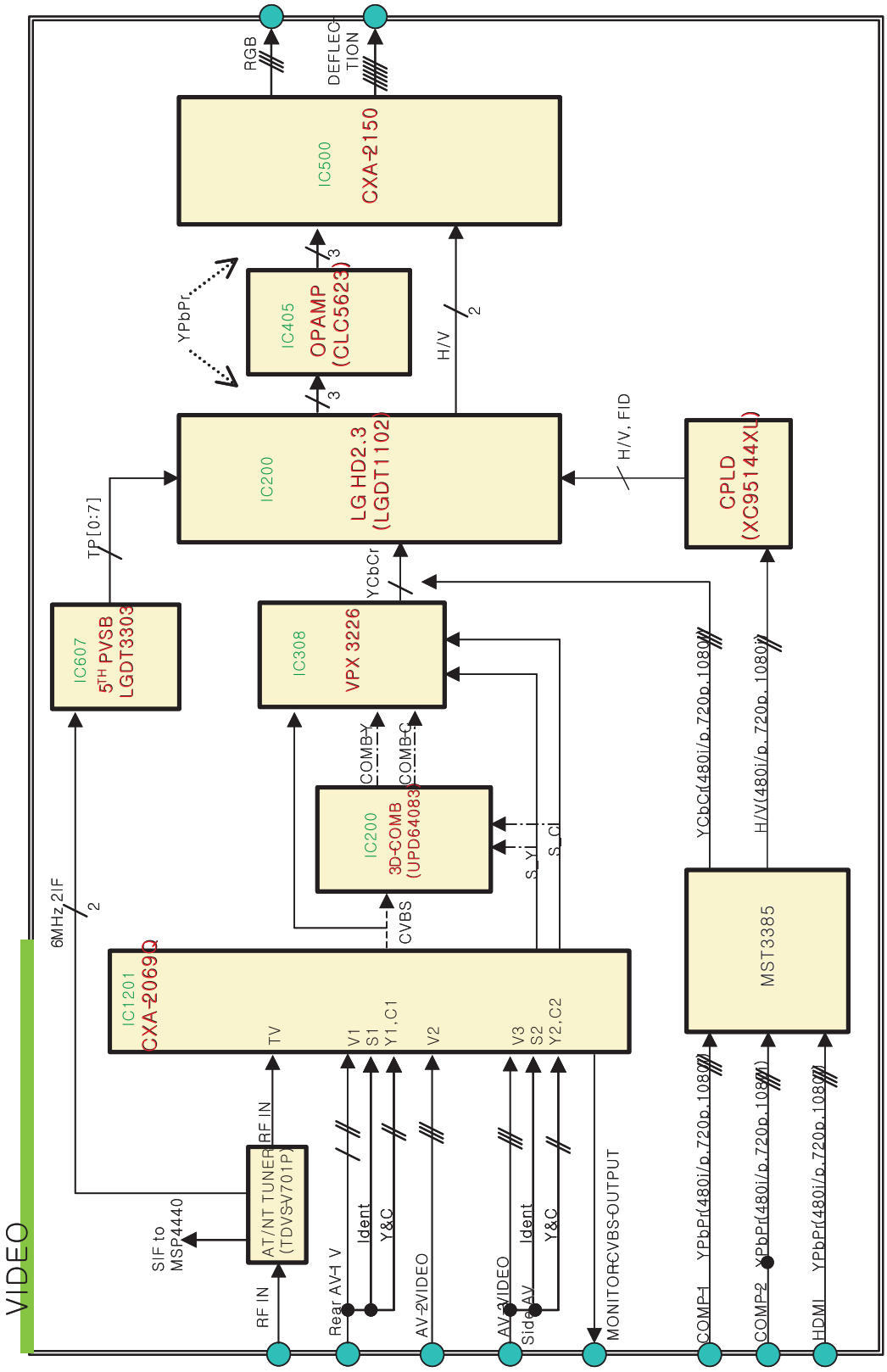
BLOCK DIAGRAM



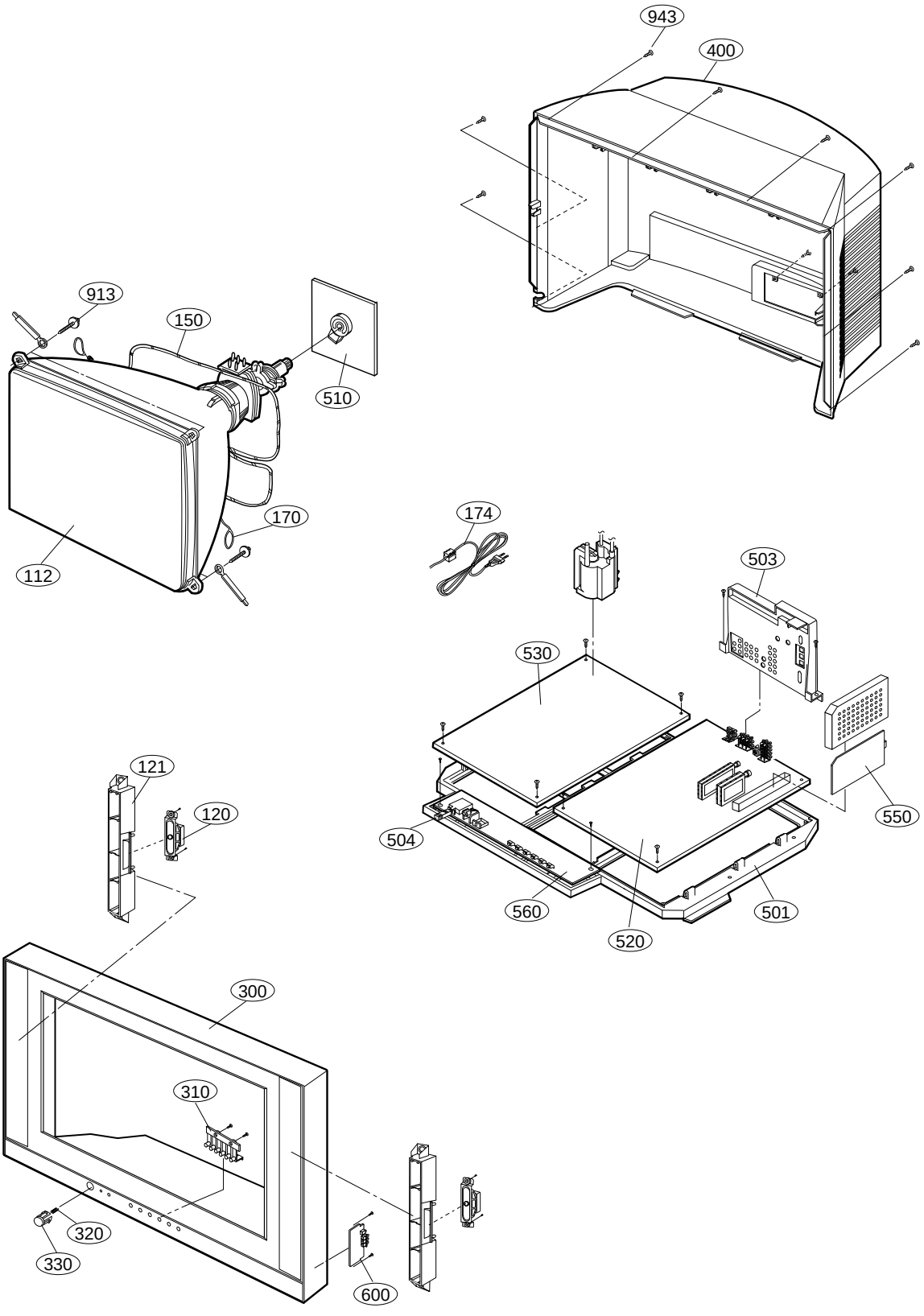
BLOCK DIAGRAM



BLOCK DIAGRAM



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	Part No.	Description
112	6335V32020G	CPT ASSEMBLY,W76QEP270X VANLGD N(+0.40G) 0G 32WF RAC TINT
120	120-C77N	SPEAKER,FULLRANGE C122S01K1450 8OHM 15/25W 84.5DB OTHERS
121	4810V00542A	BRACKET,SPK FOR VE 29Q20/FA30
150	6140VC2006H	COIL,DEGAUSSING AL 65TURN 14.5OHM 0.80PIE 3800MM 32 2007J+D07D
170	170-797X	CPT EARTH,32 144T 2LUG 1P*2 .
174	6410VUH004A	POWER CORD,UL/CSA3000MM 3P 3000MM HUG BLACK 500MH 7A
300	3091V00554H	CABINET ASSEMBLY,32FZ1DC-UB STEREO AC02SD NON
310	5020V00505A	BUTTON,CONTROL 32XF70 ABS, HF-380 6KEY #102
320	320-062G	SPRING,COIL STSC 304 D15*20 NON
330	5020V00506A	BUTTON
400	3809V00608A	BACK COVER ASSEMBLY,32FZ1DC-UA 2P/1D AC02SD
501	4810V00311F	BRACKET,MAIN RN-32FZ10H NC01AA HIPS-40AF .
503	4811V00186D	BRACKET ASSEMBLY,REAR AV 32FZ1DC-UB AC02SD
504	351-009A	LINK,POWER S/W
510	6871VSMQ28H	PCB ASSEMBLY,SUB CRTMIN AC02SC DU-32FZ40 CPT BOARD
520	6871VMM781A	PCB ASSEMBLY,MAIN AC-02SD 32FZ1DC-UA M/I
530	6871VDM920B	PCB ASSEMBLY,DEFLECTION MAIN2 AC-02SD 32FZ1DC-UB M.I
550	6871VSMAPAA	PCB ASSEMBLY,SUB DIGITAL AC02SD 32FZ1DC-UA (M/I)
560	6871VSMZ66B	PCB ASSEMBLY,SUB CONT AC02SD 32FZ1DC-UB M.I
600	6871VSMAPBA	PCB ASSEMBLY,SUB A/V AC02SD SIDE A/V 32FZ1DC-UA
943	1PTF0403116	SCREW TAP TITE(P),TRUSS HEAD

REPLACEMENT PARTS LIST

For Capacitor & Resistors, the charactors at 2nd and 3rd digit in the P/No. means as follows;
CC, CX, CK, CN : Ceramic
CQ : Polyestor
CE : Electrolytic
RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RF : Fusible

RUN DATE : 2005.6.13

LOCA. NO	PART NO	DESCRIPTION
IC		
D808	0ISK100300A	SLA1003 SIP12 (RU4AM+FMLG12S)
IC100	0IMCRSS016A	S3C44BOX01-EDRO LQFP-160
IC101	0ISH323422A	PQ3RF23 4P(TO-220) 3.3V
IC103	0IMMRHY001F	HY57V641620HGT-H 54P
IC103	0ISJ156612A	SC15661T-2.5TR 3P TO-220-3L
IC104	0IMMRHY001F	HY57V641620HGT-H 54P
IC105	0IMCRKE005A	KIA7029AP KEC TO-92, 3P TP 2.9V
IC106	0IPH741400E	74HC14D 14SOP
IC107	0IAL242561B	AT24C256W-10SI-2.7V 8P
IC109	0IMCRPH026B	PA9516APW PHILIPS 16P
IC11	0ISG111733B	LD1117V33C 3SIP
IC110	0IMCRSG010A	ST3232CDR SOP16 R/TP RS232
IC112	0IMMR00037A	M306H3FCFP 116P
IC113	0IMCRPH026B	PA9516APW PHILIPS 16P
IC12	0IKE780500Q	KIA7805API 3P TO-220
IC1201	0ISO206900A	CXA2069Q QFP64 BK I2C BUS AV S/W
IC13	0IMCRKE006A	KIA278R05PI TO220IS,4P
IC14	0ISH052100C	PQ05RD21 4SIP
IC1401	0ISA784500A	LA7845 7SIP V/OUT(1.5A)
IC1504	0IKE780500Q	KIA7805API 3P TO-220
IC1505	0ISS455880A	KA4558D 8SOP OP AMP
IC1506	0ISA164500B	LB1645N 10SIP MOTOR DRIVE IC
IC1602	0ISA428200A	LA4282-(E) 12P STICK 2CH 10W AUDIO
IC17	0IFA753307A	KA75330ZTA 3P,TO-92 TP 3.3V
IC18	0IFA754207A	KA75420ZTA 3P,TO-92 TP 4.2V
IC19	0IMCRAL006A	AT24C16AN-10SU-2.7 8P
IC20	0IMCRKE007A	KIA278R09PI TO220IS,4P
IC200	0ICTMLG009C	LGDT1102C HD2.3 SBGA-432P
IC202	0IMMRHY025C	HY57V643220DT-6 86P/TSOP
IC203	0IMMRHY025C	HY57V643220DT-6 86P/TSOP
IC2300	0IPRPFA015A	FMS6410CSX-NL(PB-FREE) 8P
IC2302	0IPRPM3021A	MST3385M-80 128PIN
IC308	0ILNRMN005A	VPX3226E MICRONAS 44
IC314	0IMCRXL003A	XC95144XL-10TQG100C 100P
IC315	0ICTMLG013A	LGDT1901A LG IC 24P
IC405	0ILNRIS002A	EL8401ISZ-T7 14PIN
IC407	0IPMGSH019A	PQ018EZ02ZPH(PB-FREE) DPAK-5 R/TP 1.8V
IC500	0ICB841500B	CS8415A-CZR 28P 96KHZ DIGITAL AUDIO
IC501	0IMCRSO007A	CXA2150Q SONY 64P QFP TRAY 60LCD
IC502	0ISS455880A	KA4558D 8SOP OP AMP
IC503	0IMCRFA003A	KA2903 FAIRCHILD 8SOP
IC504	0IKE782400C	KIA7824API 3 ST REGULATOR .
IC504	0IMCRFA014A	74F04SCX FAIRCHILD 14P
IC506	0ITO741570C	TC74LCX157FT 16P
IC601	0IKE780500P	KIA78L05BP(AT) 3P 5V,150MA
IC601	0IMMRAL014B	AT24C02N-10SI-2.7 8P
IC602	0IMCRMN027E	MSP4440G QA B8 80P
IC607	0ICTMLG019A	LGDT3303 LG IC 100P
IC610	0IMMRCS012B	CAT24WC08W-T(MST3000) 8P
IC700	0IPRPAT002A	EP1C12F256C8N(PB FREE) 256P/FPGA
IC701	0IPMGSG018C	LD1086DT15TR 2P
IC702	0IMMRAT006C	EPCS4S18N(PROGRAMED) 8PIN
IC802	0ILI817000G	LTV817M-VB 4P
IC803	0ISK115000A	SE115N(LF12) 3P 115V ERROR AMP
IC805	0IMCRKE007A	KIA278R09PI TO220IS,4P
IC806	0ISH122100B	PQ12RD21 4SIP
IC807	0IMCRSK001A	STR-F6456R 5PIN(LF1352)
IC901	0IPH612000B	TDA6120Q/N2 13P
IC902	0IPH612000B	TDA6120Q/N2 13P
IC903	0IPH612000B	TDA6120Q/N2 13P
TRANSISTOR		
C1304	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q001	0TR319809AA	KTC3198(KTC1815) TO92 50V 150MA
Q100	0TR102008AA	KRA102S SOT23 CHIP TR
Q102	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q104	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q110	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1203	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q1204	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1205	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1206	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1208	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1209	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1210	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1301	0TFRH80001A	RK7002T116 SOT23 60V 115MA
Q1302	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1303	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1304	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q1402	0TFIR10003A	IRFBC20 ST TO220AB 600V 2.2A
Q1403	0TRFC10001A	KSC5042F-YDTU TO220F 1500V
Q1405	0TR127509AC	KTA - 1275-Y (KTA1013)
Q1406	0TR319809AA	KTC3198(KTC1815) TO92 50V 150MA
Q1407	0TR126609AA	KTA1266-Y(KTA1015) TO92 PNP
Q1408	0TRTH10006A	2SC5446(AS) TO3P 1700V 23A
Q1409	0TR126609AA	KTA1266-Y(KTA1015) TO92 PNP
Q1410	0TR205900AB	KTD2059-Y TO-220IS BK KEC
Q1504	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1505	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1601	0TR126609AA	KTA1266-Y(KTA1015) TO92 PNP
Q1604	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1605	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1606	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1607	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
Q1608	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1609	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1610	0TR102008AA	KRA102S R/TP KEC SOT23
Q1901	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1902	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1903	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1904	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1905	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1906	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1907	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q1920	0TR322800AB	KTC3228-Y(KTC2383), BK KEC
Q1921	0TRFC10001A	KSC5042F-YDTU TO220F 1500V
Q203	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q206	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q207	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q208	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q212	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q213	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q215	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q2301	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q308	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q311	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q503	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q504	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q505	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q506	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q507	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q508	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q510	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q511	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q515	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q516	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q600	0TR830009BA	BSS83
Q601	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q601	0TR830009BA	BSS83
Q602	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q603	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q603	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q604	0TR387500AA	CHIP 2SC3875S(ALY) BK KEC
Q605	0TR150400BA	CHIP 2SA1504S(ASY) BK KEC
Q801	0TR322709AA	KTC3227 Y, (KTC1627A)
Q802	0TR421009CB	BF421L(AMMO)TO-92 TP PHILIPS
Q803	0TR322709AA	KTC3227 Y, (KTC1627A)
Q804	0TR102009AB	KRC102M,TP(KRC1202),KEC
Q901	0TR319809AA	KTC3198(KTC1815) TO92 50V
Q902	0TR126609AA	KTA1266-Y(KTA1015) TO92 PNP
Q903	0TR322709AA	KTC3227 Y, (KTC1627A)
Q904	0TR322709AA	KTC3227 Y, (KTC1627A)
Q905	0TR127409AB	KTA1274-Y TO-92L
Q970	0TR127409AB	KTA1274-Y TO-92L
Q971	0TR322709AA	KTC3227 Y, (KTC1627A)

LOCA. NO	PART NO	DESCRIPTION
Q972	0TR394400AA	2SC3944A TO220 180V
Q973	0TR153500AA	2SA1535A TO220 -180V
		DIODE
D100	0DD184009AA	KDS184 - 85V - 300MA
D1401	0DD150009CE	GP15J 600V
D1405	0DD100009AQ	RP1HV(1) TP SANKEN TP SANKEN
D1406	0DD100009AQ	RP1HV(1) TP SANKEN TP SANKEN
D1409	0DD100009AE	RU1A V(1) 600V 0.25A 15A
D1410	0DD100009AE	RU1A V(1) 600V 0.25A 15A
D1415	0DD100009AE	RU1A V(1) 600V 0.25A 15A
D1417	0DZ510009AK	ZENERS,GDZJ5.1B
D1419	0DR500000CA	FMQ-G5GS TO3P 1700V 10A 50A
D1420	0DR360000AA	FMG-36S 2.2V 100NSEC 1.0MA
D1426	0DD140009AA	EK14 V(1) 40V 1.5A 40A 0.2US 5MA
D1427	0DD414809ED	1N4148 TP GRANDE
D1428	0DD414809ED	1N4148 TP GRANDE
D1429	0DD400509AA	1N4005 DO204AL 600V 1A 30A
D1430	0DZ120009BG	ZENERS,GDZJ12B
D1433	0DD400509AA	1N4005 DO204AL 600V 1A 30A
D1501	0DS113379BA	1SS133 T-72 DO34 90V
D1601	0DS113379BA	1SS133 T-72 DO34 90V
D1604	0DS113379BA	1SS133 T-72 DO34 90V
D1605	0DS113379BA	1SS133 T-72 DO34 90V
D1606	0DS113379BA	1SS133 T-72 DO34 90V
D1609	0DS113379BA	1SS133 T-72 DO34 90V
D1901	0DD060009AC	TVR06J 600V 250NSEC -
D1903	0DD060009AC	TVR06J 600V 250NSEC -
D1904	0DD060009AC	TVR06J 600V 250NSEC -
D1905	0DD060009AC	TVR06J 600V 250NSEC -
D1907	0DD060009AC	TVR06J 600V 250NSEC -
D1908	0DD060009AC	TVR06J 600V 250NSEC -
D1909	0DZ100009AE	ZENERS,MTZJ10C
D1913	0DD060009AC	TVR06J 600V 250NSEC -
D1914	0DD060009AC	TVR06J 600V 250NSEC -
D505	0DS113379BA	1SS133 T-72 DO34 90V
D506	0DS113379BA	1SS133 T-72 DO34 90V
D511	0DS113379BA	1SS133 T-72 DO34 90V
D512	0DS113379BA	1SS133 T-72 DO34 90V
D514	0DS113379BA	1SS133 T-72 DO34 90V
D600	0DD184009AA	KDS184 - 85V - 300MA
D804	0DD414809ED	1N4148 TP GRANDE
D805	0DD414809ED	1N4148 TP GRANDE
D813	0DD100009AM	EU1ZV(1) 200V 0.25A 15A
D816	0DD120000BB	FML-G12S SANKEN
D817	0DD100009AM	EU1ZV(1) 200V 0.25A 15A
D819	0DRTW00131C	TS6P05G TSOP-6 600V
D820	0DD100009AM	EU1ZV(1) 200V 0.25A 15A
D821	0DD200009AF	RU2M V(1) 400V 1.1A 20A
D822	0DD200009AF	RU2M V(1) 400V 1.1A 20A
D823	0DD300009AC	RU3AMV(1) 600V 1.5A 50A

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
D830	0DD060009AC	TVR06J 600V 250NSEC -
D831	0DD060009AC	TVR06J 600V 250NSEC -
D832	0DD060009AC	TVR06J 600V 250NSEC -
D833	0DD060009AC	TVR06J 600V 250NSEC -
D834	0DD060009AC	TVR06J 600V 250NSEC -
D837	0DD060009AC	TVR06J 600V 250NSEC -
D901	0DD226239AA	KDS226
D904	0DD226239AA	KDS226
D907	0DD226239AA	KDS226
D908	0DD226239AA	KDS226
D970	0DD060009AC	TVR06J 600V 250NSEC -
D971	0DD060009AC	TVR06J 600V 250NSEC -
D972	0DD060009AC	TVR06J 600V 250NSEC -
D973	0DD060009AC	TVR06J 600V 250NSEC -
LD1	162-002B	LED ASSY
LED600	0DL233309AC	LED,SAM2333
ZD100	0DRSE00038A	SDC15 TVS SOT23 12.8V
ZD101	0DRSE00038A	SDC15 TVS SOT23 12.8V
ZD11	0DZ620009AK	ZENERS,GDZJ6.2B
ZD110	0DZ510009BF	ZENERS,GDZ5.1B
ZD12	0DZ510009BF	ZENERS,GDZ5.1B
ZD501	0DZ120009AF	ZENERS,MTZJ12B
ZD502	0DZ560009AH	ZENERS,GDZJ5.6B
ZD503	0DZ620009AK	ZENERS,GDZJ6.2B
ZD601	0DZ820009BF	ZENERS,GDZJ8.2B
CAPACITOR		
C001	0CN1030F679	10000PF D 16V 20%
C005	0CE476DF618	47UF STD 16V M
C006	0CE476DF618	47UF STD 16V M
C007	0CN1020K519	1000PF D 50V 10%
C10	0CK104DK56A	0.1UF 2012 50V 10%
C110	0CE477DD618	470UF STD 10V 20%
C111	0CE477DD618	470UF STD 10V 20%
C114	0CE476DD618	47UF STD 10V 20%
C118	0CK104DK56A	0.1UF 2012 50V 10%
C119	0CK104DK56A	0.1UF 2012 50V 10%
C12	0CE477DF618	470UF STD 16V 20%
C120	0CK104DK56A	0.1UF 2012 50V 10%
C1201	0CE106SF6DC	10UF MVG 16V 20%
C1204	0CE106DK618	10UF STD 50V M
C1205	0CE105DK618	1UF STD 50V M
C1208	0CE105DK618	1UF STD 50V M
C121	0CE477DD618	470UF STD 10V 20%
C1216	0CE106DK618	10UF STD 50V M
C1217	0CE105DK618	1UF STD 50V M
C1220	0CE105DK618	1UF STD 50V M
C1227	0CE226DK618	22UF STD 50V M
C1228	0CE226DK618	22UF STD 50V M
C1229	0CE106DK618	10UF STD 50V M
C123	0CK104DK56A	0.1UF 2012 50V 10%

LOCA. NO	PART NO	DESCRIPTION
C1231	0CK104DK56A	0.1UF 2012 50V 10%
C1232	0CE226DF618	22UF STD 16V M
C124	0CE106SF6DC	10UF MVG 16V 20%
C125	0CK104DK56A	0.1UF 2012 50V 10%
C125	0CE106SF6DC	10UF MVG 16V 20%
C126	0CK104DK56A	0.1UF 2012 50V 10%
C129	0CE105SK6DC	1UF MVG 50V 20%
C130	0CE105SK6DC	1UF MVG 50V 20%
C1301	0CE106DK618	10UF STD 50V M
C1302	0CE105DK618	1UF STD 50V M
C1303	0CE105DK618	1UF STD 50V M
C131	0CE105SK6DC	1UF MVG 50V 20%
C132	0CE477DD618	470UF STD 10V 20%
C132	0CE105SK6DC	1UF MVG 50V 20%
C1328	0CE106SF6DC	10UF MVG 16V 20%
C1334	0CK104DK56A	0.1UF 2012 50V 10%
C1335	0CK104DK56A	0.1UF 2012 50V 10%
C1339	0CE476DF618	47UF STD 16V M
C135	0CE108DD618	1000UF STD 10V M
C136	0CE108DD618	1000UF STD 10V M
C138	0CE476DF618	47UF STD 16V M
C14	0CE477DF618	470UF STD 16V 20%
C140	0CE476DD618	47UF STD 10V 20%
C140	0CE105SK6DC	1UF MVG 50V 20%
C1401	0CE108DH618	1000UF STD 25V M
C1405	0CE107BK618	100UF KME TYPE 50V 20%
C1407	0CQ3331N509	0.033UF D 100V 10%
C1412	181-013N	MPP 400V 0.27UF J
C1413	0CK2220W515	2200PF D 500V 10%
C1414	0CE108DH618	1000UF STD 25V M
C1415	0CK1020K515	1000PF D 50V 10%
C1416	0CE227BK618	220UF KME TYPE 50V 20%
C1417	0CQ1041N509	0.1UF D 100V 10%
C1418	181-010E	PP 400V 0.12UF J
C1420	0CQ3341N401	0.33UF D 100V 5%
C1421	181-010E	PP 400V 0.12UF J
C1423	0CK1020K515	1000PF D 50V 10%
C1425	181-014V	0.01UF 2KV 5%
C1426	0CE476BK618	47UF KME TYPE 50V 20%
C1428	181-014Z	BUP 0.0033UF 1.6KV 5%,-5%
C1431	0CE106DK618	10UF STD 50V M
C1432	0CE226CR618	22UF SHL,SD 250V M
C1434	181-091W	R 470PF 2KV 10%,-10% R/TP TP7.5
C1435	181-091W	R 470PF 2KV 10%,-10% R/TP TP7.5
C1436	0CQ5621N419	5600PF D 100V 5% PE NI TP5
C1437	181-009D	PP 200V 0.068UF J
C1438	181-014J	0.0077UF 1.6KV 5%,-5% FM
C1439	181-011B	0.001UF D 1.6KV J M/PP NI FM20
C1440	0CK2210W515	220PF D 500V 10%
C1442	181-010J	PP 630V 0.0082UF J
C1443	181-0641	CE 6.8UF 50V 5% M (16*35.5)

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
C1444	181-0641	CE 6.8UF 50V 5% M (16*35.5)
C1445	0CE106BP618	10UF KME TYPE 160V 20%
C1449	0CE335CK636	3.3UF SHL,SD 50V 20% FM5 BP(D) TP
C15	0CE108DF618	1000UF STD 16V M
C1500	0CK104DK56A	0.1UF 2012 50V 10%
C1501	0CE107BK618	100UF KME TYPE 50V 20%
C1502	0CE475DK618	4.7UF STD 50V 20%
C1508	0CE106DK618	10UF STD 50V M
C1509	0CQ1041N509	0.1UF D 100V 10%
C151	0CE226SF6DC	22UF MVG 16V 20%
C1521	0CE105DK618	1UF STD 50V M
C1525	0CK104DK56A	0.1UF 2012 50V 10%
C1526	0CE226DK618	22UF STD 50V M
C16	0CK104DK56A	0.1UF 2012 50V 10%
C1602	0CE106DF618	10UF STD 16V M
C1604	0CE226DF618	22UF STD 16V M
C1605	0CE226DF618	22UF STD 16V M
C1607	0CE108DF618	1000UF STD 16V M
C1608	0CE226DF618	22UF STD 16V M
C1610	0CE226DF618	22UF STD 16V M
C1613	0CE226DF618	22UF STD 16V M
C1614	0CC5610K405	560PF D 50V 5% SL TR
C1616	0CC5610K405	560PF D 50V 5% SL TR
C1618	0CE226DF618	22UF STD 16V M
C1620	0CE107DF618	100UF STD 16V M
C1623	0CE107DH618	100UF STD 25V M
C1627	0CE105DK618	1UF STD 50V M
C1628	0CE107DF618	100UF STD 16V M
C1631	0CE108DK61A	1000UF STD 50V 20%
C1632	0CQ1041N509	0.1UF D 100V 10%
C1636	0CQ1041N509	0.1UF D 100V 10%
C1637	0CQ1041N509	0.1UF D 100V 10%
C1639	0CE228DJ650	2200UF STD 35V 20%
C1641	0CE228DJ650	2200UF STD 35V 20%
C1644	0CK104DK56A	0.1UF 2012 50V 10%
C1645	0CE105DK618	1UF STD 50V M
C1646	0CE106DK618	10UF STD 50V M
C1647	0CE105DK618	1UF STD 50V M
C1648	0CE106DK618	10UF STD 50V M
C1650	0CK104DK56A	0.1UF 2012 50V 10%
C17	0CE108DF618	1000UF STD 16V M
C18	0CE107DF618	100UF STD 16V M
C19	0CK104DK56A	0.1UF 2012 50V 10%
C1902	0CK104DK56A	0.1UF 2012 50V 10%
C1905	0CE108BF618	1000UF KME TYPE 16V 20%
C1906	0CK104DK56A	0.1UF 2012 50V 10%
C1907	0CE107BF618	100UF KME TYPE 16V 20%
C1911	0CK47202510	4700PF D 2KV 10%
C1912	0CK47102515	470PF D 2KV 10%
C1915	0CE106DR618	10UF STD 250V 20%
C1916	0CE108DF618	1000UF STD 16V M

LOCA. NO	PART NO	DESCRIPTION
C1917	0CE107BF618	100UF KME TYPE 16V 20%
C1918	0CQ1044R539	0.1UF TE 250V 10%
C1923	0CE106DR618	10UF STD 250V 20%
C1925	0CQ1044R539	0.1UF TE 250V 10%
C1926	0CE107BF618	100UF KME TYPE 16V 20%
C1928	0CE107BF618	100UF KME TYPE 16V 20%
C1929	0CE108DF618	1000UF STD 16V M
C1930	0CK1040K945	0.1UF D 50V 80%,-20%
C1931	0CQ1044R539	0.1UF TE 250V 10%
C1940	0CE107BF618	100UF KME TYPE 16V 20%
C1952	0CK104DK56A	0.1UF 2012 50V 10%
C1953	0CK104DK56A	0.1UF 2012 50V 10%
C1955	0CK104DK56A	0.1UF 2012 50V 10%
C1956	0CK104DK56A	0.1UF 2012 50V 10%
C20	0CE107DD618	100UF STD 10V M
C206	0CE226SF6DC	22UF MVG 16V 20%
C21	0CE108DF618	1000UF STD 16V M
C215	0CE106DF618	10UF STD 16V M
C218	0CE106DF618	10UF STD 16V M
C22	0CE477DF618	470UF STD 16V 20%
C222	0CE106DF618	10UF STD 16V M
C227	0CE106DF618	10UF STD 16V M
C23	0CQ1041N509	0.1UF D 100V 10%
C2400	0CE107SF6DC	100UF MVG 16V 20%
C241	0CE475DK618	4.7UF STD 50V 20%
C244	0CE475DK618	4.7UF STD 50V 20%
C246	0CE475DK618	4.7UF STD 50V 20%
C247	0CE475DK618	4.7UF STD 50V 20%
C248	0CE106DF618	10UF STD 16V M
C249	0CE106DF618	10UF STD 16V M
C252	0CE106DF618	10UF STD 16V M
C253	0CE106DF618	10UF STD 16V M
C254	0CK104DK56A	0.1UF 2012 50V 10%
C2608	0CE106SF6DC	10UF MVG 16V 20%
C2609	0CE106SF6DC	10UF MVG 16V 20%
C2610	0CE106SF6DC	10UF MVG 16V 20%
C2611	0CE106SF6DC	10UF MVG 16V 20%
C2612	0CE106SF6DC	10UF MVG 16V 20%
C2613	0CE106SF6DC	10UF MVG 16V 20%
C2631	0CE106SF6DC	10UF MVG 16V 20%
C27	0CK104DK56A	0.1UF 2012 50V 10%
C29	0CK104DK56A	0.1UF 2012 50V 10%
C30	0CE108DD618	1000UF STD 10V M
C31	0CK104DK56A	0.1UF 2012 50V 10%
C364	0CE106SF6DC	10UF MVG 16V 20%
C368	0CE226SF6DC	22UF MVG 16V 20%
C371	0CE106SF6DC	10UF MVG 16V 20%
C38	0CK104DK56A	0.1UF 2012 50V 10%
C384	0CE106SF6DC	10UF MVG 16V 20%
C386	0CE106SF6DC	10UF MVG 16V 20%
C39	0CE108DD618	1000UF STD 10V M

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
C397	0CE226SF6DC	22UF MVG 16V 20%
C398	0CE106SF6DC	10UF MVG 16V 20%
C40	0CK104DK56A	0.1UF 2012 50V 10%
C41	0CE476DD618	47UF STD 10V 20%
C42	0CE105DK618	1UF STD 50V M
C422	0CE107SF6DC	100UF MVG 16V 20%
C424	0CE107SF6DC	100UF MVG 16V 20%
C426	0CE107SF6DC	100UF MVG 16V 20%
C428	0CE107SF6DC	100UF MVG 16V 20%
C43	0CE477DD618	470UF STD 10V 20%
C430	0CE107SF6DC	100UF MVG 16V 20%
C437	0CE226SF6DC	22UF MVG 16V 20%
C439	0CE226SF6DC	22UF MVG 16V 20%
C44	0CK104DK56A	0.1UF 2012 50V 10%
C440	0CE226SF6DC	22UF MVG 16V 20%
C442	0CE106SF6DC	10UF MVG 16V 20%
C45	0CK104DK56A	0.1UF 2012 50V 10%
C47	0CE107DD618	100UF STD 10V M
C470	0CE476SF6DC	47UF MVG 16V 20%
C471	0CE476SF6DC	47UF MVG 16V 20%
C473	0CE476SF6DC	47UF MVG 16V 20%
C475	0CE476SF6DC	47UF MVG 16V 20%
C48	0CK104DK56A	0.1UF 2012 50V 10%
C501	0CK104DK56A	0.1UF 2012 50V 10%
C502	0CK104DK56A	0.1UF 2012 50V 10%
C503	0CE476DF618	47UF STD 16V M
C504	0CK104DK56A	0.1UF 2012 50V 10%
C504	0CE107SF6DC	100UF MVG 16V 20%
C505	181-064P	10UF 0 16V K CA TP 5
C506	0CE476DK618	47UF STD 50V M
C507	0CE107DF618	100UF STD 16V M
C508	0CK104DK56A	0.1UF 2012 50V 10%
C509	0CE475DK618	4.7UF STD 50V 20%
C510	181-007H	MPE ECQ-V1H474JL3(TR), 50V 0.47UF J
C511	0CK104DK56A	0.1UF 2012 50V 10%
C512	0CK104DK56A	0.1UF 2012 50V 10%
C513	0CK104DK56A	0.1UF 2012 50V 10%
C514	0CK104DK56A	0.1UF 2012 50V 10%
C515	0CK104DK56A	0.1UF 2012 50V 10%
C516	0CK104DK56A	0.1UF 2012 50V 10%
C517	0CK104DK56A	0.1UF 2012 50V 10%
C518	0CK104DK56A	0.1UF 2012 50V 10%
C519	0CE105DK618	1UF STD 50V M
C52	0CE107DD618	100UF STD 10V M
C520	0CK104DK56A	0.1UF 2012 50V 10%
C521	0CE107DF618	100UF STD 16V M
C523	0CE106DK618	10UF STD 50V M
C524	0CK104DK56A	0.1UF 2012 50V 10%
C525	0CE107DF618	100UF STD 16V M
C526	181-007J	MPE ECQ-V1H564JL3(TR), 50V 0.56UF J
C528	181-007H	MPE ECQ-V1H474JL3(TR), 50V 0.47UF J

LOCA. NO	PART NO	DESCRIPTION
C529	0CK104DK56A	0.1UF 2012 50V 10%
C53	0CE107BF618	100UF KME TYPE 16V 20%
C530	0CQ1041N455	0.1UF D 100V 5%
C531	0CQ1041N455	0.1UF D 100V 5%
C532	0CE107DF618	100UF STD 16V M
C536	0CE226DF618	22UF STD 16V M
C54	0CE107DH618	100UF STD 25V M
C541	0CE474DK618	0.47UF STD 50V 20%
C544	0CE107DJ618	100UF STD 35V M
C553	0CE476DK618	47UF STD 50V M
C555	0CE107DJ618	100UF STD 35V M
C556	181-288N	MKT 100V 103JTR PHS86103
C601	0CK104DK56A	0.1UF 2012 50V 10%
C601	0CE106SF6DC	10UF MVG 16V 20%
C602	0CE477DF618	470UF STD 16V 20%
C603	0CE226DD618	22UF STD 10V 20%
C604	0CK104DK56A	0.1UF 2012 50V 10%
C607	0CK104DK56A	0.1UF 2012 50V 10%
C610	0CK104DK56A	0.1UF 2012 50V 10%
C611	0CE107DF618	100UF STD 16V M
C612	0CE335DK618	3.3UF STD 50V 20%
C619	0CE226DF618	22UF STD 16V M
C621	0CK104DK56A	0.1UF 2012 50V 10%
C628	0CE335DK618	3.3UF STD 50V 20%
C629	0CE106DF618	10UF STD 16V M
C630	0CE106DF618	10UF STD 16V M
C633	0CE107DF618	100UF STD 16V M
C634	0CK104DK56A	0.1UF 2012 50V 10%
C643	0CE106DK618	10UF STD 50V M
C677	0CE476SF6DC	47UF MVG 16V 20%
C689	0CK105DF64A	1UF 2012 16V 20%
C700	0CE106SF6DC	10UF MVG 16V 20%
C701	0CE476SF6DC	47UF MVG 16V 20%
C702	0CE106SF6DC	10UF MVG 16V 20%
C705	0CE476SF6DC	47UF MVG 16V 20%
C732	0CE105SK6DC	1UF MVG 50V 20%
C735	0CE105SK6DC	1UF MVG 50V 20%
C738	0CE105SK6DC	1UF MVG 50V 20%
C739	0CE105SK6DC	1UF MVG 50V 20%
C800	0CQZVBK002C	A.C 275V 0.22UF K (S=22.5)
C802	0CE108DH618	1000UF STD 25V M
C802	0CE476DF618	47UF STD 16V M
C803	0CN1020K519	1000PF D 50V 10%
C806	0CQZVBK002A	A.C 275V 0.1UF M (S=15)
C807	181-120N	1000PF 4KV M
C808	0CE227DP61A	220UF STD 160V 20%
C809	0CE337DD618	330UF STD 10V M
C810	181-091P	SL 270PF 1KV 10%,-10%
C811	0CE106DH618	10UF STD 25V 20%
C814	0CF2241L438	0.22UF D 63V 5%
C815	181-091Q	R 470PF 1KV 10%,-10%

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
C816	181-014A	0.0022UF 1.6KV 5%
C817	181-091C	DEHR33A471KN2A 470PF 1KV 10%,-10%
C818	0CE478BH650	4700UF KME TYPE 25V 20%
C820	0CE108BF618	1000UF KME TYPE 16V 20%
C821	0CE337BH618	330UF KME TYPE 25V 20%
C822	0CK4710W515	470PF D 500V 10%
C823	0CE228DK650	2200UF STD 50V 20%
C824	0CE227BJ618	220UF KME TYPE 35V 20%
C825	0CK4710W515	470PF D 500V 10%
C826	0CK4710W515	470PF D 500V 10%
C830	0CK47101515	470PF D 1KV 10%
C831	0CK10201515	1000PF D 1KV 10%
C833	0CE108DH618	1000UF STD 25V M
C834	0CE108DH618	1000UF STD 25V M
C835	0CK4710W515	470PF D 500V 10%
C837	181-120K	2200PF 4KV M
C838	181-091Q	R 470PF 1KV 10%,-10%
C839	181-091R	R 1000PF 1KV 10%,-10%
C840	181-091R	R 1000PF 1KV 10%,-10%
C841	181-091R	R 1000PF 1KV 10%,-10%
C842	181-091R	R 1000PF 1KV 10%,-10%
C845	181-001C	CE 200V 680UF M LUG (85)
C846	0CQZVBK002D	A.C 275V 0.47UF K (S=22.5)
C849	0CE108DF618	1000UF STD 16V M
C850	0CE478BH650	4700UF KME TYPE 25V 20%
C851	0CE337DH618	330UF STD 25V M
C852	0CE108BF618	1000UF KME TYPE 16V 20%
C855	0CK1020W515	1000PF D 500V 10%
C856	0CK1020W515	1000PF D 500V 10%
C857	0CK4710W515	470PF D 500V 10%
C859	0CE227DP61A	220UF STD 160V 20%
C901	0CE106DK618	10UF STD 50V M
C902	0CE476DK618	47UF STD 50V M
C903	0CE106DK618	10UF STD 50V M
C903	0CE106BK618	10UF KME TYPE 50V 20%
C904	0CE106DK618	10UF STD 50V M
C905	0CQ1031N509	0.01UF D 100V 10%
C906	0CE476DK618	47UF STD 50V M
C906	0CE476BK618	47UF KME TYPE 50V 20%
C908	0CE336DK618	33UF STD 50V M
C911	0CK104DK56A	0.1UF 2012 50V 10%
C920	0CK104DK56A	0.1UF 2012 50V 10%
C939	0CE337DK618	330UF STD 50V M
C972	0CE106DR618	10UF STD 250V 20%
C973	0CE106DK618	10UF STD 50V M
C974	0CE106DK618	10UF STD 50V M
C975	0CE106DK618	10UF STD 50V M
C976	0CE336DP618	33UF STD 160V 20%
C977	0CE107DN618	100UF STD 100V 20%
C978	0CQ1031N509	0.01UF D 100V 10%
C979	0CK104DK56A	0.1UF 2012 50V 10%

LOCA. NO	PART NO	DESCRIPTION
R1977	0CK104DK56A	0.1UF 2012 50V 10%
COIL & TRANSFORMER		
L001	0LA1000K119	INDUCTOR,100UH K
L002	0LA0102K119	INDUCTOR,10UH K
L1401	6140VE0001T	COIL,LINEARITY 23.5TURN L81 YL81 5.2UH
L1402	0LA1001K139	INDUCTOR,1000UH 10% A
L1403	150-717K	COIL,CHOKE 1.1UH
L1406	150-C04E	COIL,CHOKE 285UH
L1413	150-W01A	COIL,CHOKE WIDTH 24UH
L1503	0LA0471K119	INDUCTOR,4.7UH K
L1901	0LA0102K119	INDUCTOR,10UH K
L1903	0LA0102K119	INDUCTOR,10UH K
L1910	0LA0102K119	INDUCTOR,10UH K
L503	0LA0332K119	INDUCTOR,33UH 10% A
L805	150-C02F	COIL,CHOKE 82UH
L806	6170VZ0005A	TRANSFORMER,HDRIVER IRON-15 120UH
L807	150-C02F	COIL,CHOKE 82UH
T1401	6174V-5008J	FBT,BSC25-N1543 32 600V
T1402	6170VC0002A	TRANSFORMER,H-DRIVE EER-2619
T1403	151-E06A	TRANSFORMER,POWER EER2834 0UH
T802	6170VMCC01Y	TRANSFORMER,SMPS[COIL] EER5345 360UH
T803	6170VS0001D	TRANSFORMER,STAND-BY EER3541 0UH
CONNECTOR		
C2	387-907N	CONNECTOR ASSEMBLY,1P NON 900MM
C3	6631V25014H	CONNECTOR ASSEMBLY,3P 2.5MM 800MM
C4	6631V25A27L	CONNECTOR ASSEMBLY,4P 2.5MM 700MM
C5	387-J12K	CONNECTOR ASSEMBLY,12P 2.5MM 600MM
P005	6630N600132	CONNECTOR,DIN41612-B49-FL32
P006	6630N600132	CONNECTOR,DIN41612-B49-FL32
P104	6630VGA004B	CONNECTOR,D-SUB 9P 2.77MM
P403B	6631V25A04A	CONNECTOR ASSEMBLY,14P 2.5MM 100MM
P405B	387-A15A	CONNECTOR ASSEMBLY,12P 2.5MM 100MM
P604B	387-A05A	CONNECTOR ASSEMBLY,5P 2.5MM 100MM
P801AB	6631V23001N	CONNECTOR ASSEMBLY,3P NON 200MM
P803B	387-A10C	CONNECTOR ASSEMBLY,10P 2.5MM 200MM
P804B	387-A10A	CONNECTOR ASSEMBLY,10P 2.5MM 100MM
P901	387-J12J	CONNECTOR ASSY,12P SHIELD(500)
P905	387-A10G	CONNECTOR ASSEMBLY,10P 2.5MM 400MM
PA001	387-A08C	CONNECTOR ASSEMBLY,8P 2.5MM 200MM
JACK		
IC501	6612BBBHN4A	JACK,DIN TOTX179
IC502	6612BBBHN4B	JACK,DIN TORX179
JA1201	6613V00013F	JACK ASSEMBLY,PMJ021F 9P
JA1202	380-404A	JACK,DIN PHSJ-9504
JA201	6613V00010D	JACK ASSEMBLY,PMJ-016D 3P
JA203	6612VJH022B	JACK,RCA PPJ125B 10P

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
P601	6612B00015A	JACK,DIN DC1R019NDA JAE 1.0MM
	RESISTOR	
AR100	0RRZVTA001C	4.7K OHM 1 / 16 W 1608 5%
AR101	0RRZVTA001C	4.7K OHM 1 / 16 W 1608 5%
AR600	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR601	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR602	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR603	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR604	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR605	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR611	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR612	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
AR613	0RRZVTA001D	22 OHM 1 / 16 W 1608 5%
D835	0RD2002F609	20K OHM 1/6 W 5.00%
R001	0RD6801F609	6.8K OHM 1/6 W 5.00%
R002	0RD4702F609	47K OHM 1/6 W 5%
R003	0RD4701F609	4.7K OHM 1/6 W 5%
R006	0RD2001F609	2K OHM 1/6 W 5%
R007	0RD2001F609	2K OHM 1/6 W 5%
R008	0RD6201F609	6.2K OHM 1/6 W 5.00%
R009	0RD6201F609	6.2K OHM 1/6 W 5.00%
R011	0RD1301F609	1.3K OHM 1/6 W 5.00%
R107	0RS0202K607	20 OHM 2 W 5.00%
R11	0RS0472K607	47 OHM 2 W 5.00%
R1403	0RS2200J607	220 OHM 1 W 5.00%
R1404	0RD0332H609	33 OHM 1/2 W 5.00%
R1405	0RN3301F409	3.3K OHM 1/6 W 1.00%
R1406	0RS3300J607	330 OHM 1 W 5.00%
R1407	0RN3301F409	3.3K OHM 1/6 W 1.00%
R1409	0RD1302F609	13K OHM 1/6 W 5.00%
R1410	0RN0101H609	1.0 1/2W 5
R1411	0RN0820H609	0.82 OHM 1/2 W 5.00%
R1413	0RD1302F609	13K OHM 1/6 W 5.00%
R1418	0RF0561K607	5.6 OHM 2 W 5.00%
R1419	0RS1802K607	18K OHM 2 W 5.00%
R1420	0RS1602K607	16K OHM 2 W 5.00%
R1421	0RS1602K607	16K OHM 2 W 5.00%
R1424	0RS1501K607	1.5K OHM 2 W 5.00%
R1425	0RD1502H609	15K OHM 1/2 W 5.00%
R1426	0RD1001H609	1K OHM 1/2 W 5.00%
R1427	0RS1002K607	10K OHM 2 W 5.00%
R1428	180-C02M	5.6K OHM 1/2 W 10%
R1429	0RD4700H609	470 OHM 1/2 W 5.00%
R1430	0RD1000F609	100 OHM 1/6 W 5%
R1431	0RF0470H609	0.47 OHM 1/2 W 5.00%
R1432	0RD5101H609	5.1K OHM 1/2 W 5.00%
R1433	0RD1001H609	1K OHM 1/2 W 5.00%
R1434	0RS0221H609	2.2 OHM 1/2 W 5.00%
R1436	0RS2701J607	2.7K OHM 1 W 5.00%
R1437	0RD2204H609	2.2M OHM 1/2 W 5.00%

LOCA. NO	PART NO	DESCRIPTION
R1439	180-A01M	0.22 OHM 2 W 5%
R1440	180-A01M	0.22 OHM 2 W 5%
R1441	0RD2701H609	2.7K OHM 1/2 W 5.00%
R1442	0RD1000F609	100 OHM 1/6 W 5%
R1443	0RS0391K607	3.9 OHM 2 W 5.00%
R1444	0RD1301H609	1.3K OHM 1/2 W 5.00%
R1445	0RD3901H609	3.9K OHM 1/2 W 5.00%
R1447	0RD4701F609	4.7K OHM 1/6 W 5%
R1448	0RD2400F609	240 OHM 1/6 W 5.00%
R1449	0RS0562K607	56 OHM 2 W 5.00%
R1450	0RS0391K607	3.9 OHM 2 W 5.00%
R1451	0RD1001H609	1K OHM 1/2 W 5.00%
R1452	0RD2202H609	22K OHM 1/2 W 5.00%
R1456	0RD2401H609	2.4K OHM 1/2 W 5.00%
R1457	0RD2401H609	2.4K OHM 1/2 W 5.00%
R1458	0RS1201K607	1.2K OHM 2 W 5.00%
R1459	0RS2701K607	2.7K OHM 2 W 5.00%
R1460	0RD4701H609	4.7K OHM 1/2 W 5.00%
R1462	0RF0101H609	1.0 1/2W 5
R1464	0RD1003F609	100K OHM 1/6 W 5%
R1466	0RF0680J607	0.68 OHM 1 W 5.00%
R1469	0RD1002F609	10K OHM 1/6 W 5%
R1470	0RF0680H609	0.68 OHM 1/2 W 5.00%
R1471	0RD3902F609	39K OHM 1/6 W 5.00%
R1472	0RD9101F609	9.1K OHM 1/6 W 5.00%
R1492	0RS1201K607	1.2K OHM 2 W 5.00%
R1493	0RS1201K607	1.2K OHM 2 W 5.00%
R1494	0RD4301F609	4.3K OHM 1/6 W 5.00%
R1497	0RS4701K607	4.7K OHM 2 W 5.00%
R1500	0RS0222J607	22 OHM 1 W 5.00%
R1509	0RS0472H609	47 OHM 1/2 W 5.00%
R1646	0RF0561H609	5.6 OHM 1/2 W 5.00%
R1647	0RF0561H609	5.6 OHM 1/2 W 5.00%
R1901	0RD1000F609	100 OHM 1/6 W 5%
R1967	0RD2702F609	27K OHM 1/6 W 5.00%
R1971	0RC0512H609	51 OHM 1/2 W 5.00%
R1972	0RC2200H609	220 OHM 1/2 W 5.00%
R1974	0RC2200H609	220 OHM 1/2 W 5.00%
R1975	0RC0512H609	51 OHM 1/2 W 5.00%
R1976	0RKZVTA001A	2.2M OHM 1/2 W 5%
R1981	0RF0561K607	5.6 OHM 2 W 5.00%
R1983	0RC0512H609	51 OHM 1/2 W 5.00%
R1984	0RC2200H609	220 OHM 1/2 W 5.00%
R1986	180-C02M	5.6K OHM 1/2 W 10%
R1997	0RX2402L607	24K OHM 3 W 5%
R1998	0RX2402L607	24K OHM 3 W 5%
R1999	0RX2402L607	24K OHM 3 W 5%
R506	0RN4701F409	4.7K OHM 1/6 W 1.00%
R527	0RN1002F409	10K OHM 1/6 W 1.00%
R801	0RKZVTA001K	0.47M OHM 1/2 W 5%
R802	0RD0102F609	10 OHM 1/6 W 5%

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
R803	0RD0102F609	10 OHM 1/6 W 5%
R804	0RF0161K607	1.6 OHM 2 W 5.00%
R805	0RD2702H609	27K OHM 1/2 W 5.00%
R806	0RS1002J607	10K OHM 1 W 5.00%
R807	0RD4701F609	4.7K OHM 1/6 W 5%
R808	0RD4702F609	47K OHM 1/6 W 5%
R809	0RD5100F609	510 OHM 1/6 W 5.00%
R810	180-822M	RWR 15W 1.0 OHM J PD
R811	0RK8204H609	8.2M OHM 1/2 W 5.00%
R812	0RD7502H609	75K OHM 1/2 W 5.00%
R813	0RF0161K607	1.6 OHM 2 W 5.00%
R814	0RD1002F609	10K OHM 1/6 W 5%
R815	0RD0102F609	10 OHM 1/6 W 5%
R817	0RD4701F609	4.7K OHM 1/6 W 5%
R818	0RS0822H609	82 OHM 1/2 W 5.00%
R819	0RD4702F609	47K OHM 1/6 W 5%
R820	0RD1001F609	1K OHM 1/6 W 5%
R821	0RD3001F609	3K OHM 1/6 W 5.00%
R822	180-A01A	RW ROUND G 2W 0.1 K TA31(63)
R823	0RD4701F609	4.7K OHM 1/6 W 5%
R824	0RS2702K607	27K OHM 2 W 5.00%
R825	0RD1301F609	1.3K OHM 1/6 W 5.00%
R826	0RD1001F609	1K OHM 1/6 W 5%
R827	180-C02B	4.7MOHM 1/2 W 10% A
R830	0RD5601F609	5.6K OHM 1/6 W 5%
R837	0RS2702K607	27K OHM 2 W 5.00%
R838	0RD2403F609	240K OHM 1/6 W 5.00%
R841	0RN1001F409	1K OHM 1/6 W 1.00%
R860	0RP0050H709	0.05 OHM 1/2 W 10%
R861	0RP0050H709	0.05 OHM 1/2 W 10%
R862	0RP0050H709	0.05 OHM 1/2 W 10%
R863	0RP0020J809	0.02 OHM 1 W 20%
R864	0RP0020J809	0.02 OHM 1 W 20%
R865	0RP0020J809	0.02 OHM 1 W 20%
R866	0RP0020J809	0.02 OHM 1 W 20%
R867	0RP0050H709	0.05 OHM 1/2 W 10%
R904	0RD2202F609	22K OHM 1/6 W 5%
R911	0RD3900F609	390 OHM 1/6 W 5%
R911	0RS3900K619	390 OHM 2 W 5% TR
R912	0RD0222F609	22 OHM 1/6 W 5.00%
R925	0RF0102H609	10 OHM 1/2 W 5.00%
R926	0RF0102H609	10 OHM 1/2 W 5.00%
R926	0RF1000H609	100 OHM 1/2 W 5.00%
R948	0RD3900F609	390 OHM 1/6 W 5%
R970	0RD0271H609	2.7 OHM 1/2 W 5.00%
R971	0RD1801H609	1.8K OHM 1/2 W 5.00%
R972	0RD1801H609	1.8K OHM 1/2 W 5.00%
R973	0RD0102H609	10 OHM 1/2 W 5.00%
R974	0RD0271H609	2.7 OHM 1/2 W 5.00%
R977	0RD1000H609	100 OHM 1/2 W 5.00%
R978	0RD1000H609	100 OHM 1/2 W 5.00%
R980	0RD3902H609	39K OHM 1/2 W 5.00%
R981	0RD3902H609	39K OHM 1/2 W 5.00%
R983	0RS1800J607	180 OHM 1 W 5.00%
R986	0RS3001K619	3K OHM 2 W 5% TR
R987	0RS3001K619	3K OHM 2 W 5% TR
R988	0RS3001K619	3K OHM 2 W 5% TR
ZD504	0RN4701F409	4.7K OHM 1/6 W 1.00%
SPARK GAP		
SG1401	165-004A	SPARK GAP,RADIAL AG20PT 152F-L3N/S-23
SG1402	165-004A	SPARK GAP,RADIAL AG20PT 152F-L3N/S-23
SG1901	6918VAX002H	SPARK GAP,WSP-122N 1200V -100V,+300V
SG1902	6918VAX002E	SPARK GAP,WSP-351M 350V 20%
SG1903	6918VAX002E	SPARK GAP,WSP-351M 350V 20%
SG1904	6918VAX002E	SPARK GAP,WSP-351M 350V 20%
SG1905	6918VAX002E	SPARK GAP,WSP-351M 350V 20%
SWITCH		
SW1	140-315A	SWITCH,TACT SKHV17910B
SW100	140-313A	SWITCH,TACT 2LEAD 100G(TA)
SW2	140-315A	SWITCH,TACT SKHV17910B
SW3	140-315A	SWITCH,TACT SKHV17910B
SW4	140-315A	SWITCH,TACT SKHV17910B
SW5	140-315A	SWITCH,TACT SKHV17910B
SW6	140-315A	SWITCH,TACT SKHV17910B
SW801	140-275E	SWITCH,PUSH SPBS222EP011
FILTER & CRYSTAL		
FB01	125-022K	FILTER,EMC 62MM 1UH
FB02	125-123A	FILTER,EMC FERRITE BFD3565R2F
L1405	125-022K	FILTER,EMC 62MM 1UH
L801	125-022K	FILTER,EMC 62MM 1UH
L801	150-F06T	FILTER,EMC SQE3535 20MH
L802	125-022K	FILTER,EMC 62MM 1UH
L802	150-F06T	FILTER,EMC SQE3535 20MH
L803	125-022K	FILTER,EMC 62MM 1UH
L804	150-F06Z	FILTER,EMC SQE3535 10MH
T2400	6200VJT006A	FILTER,EMC STC222D 50VOLT 4A
T403	6200QJ3001A	FILTER,EMC BMS400 25V 200MA
T404	6200QJ3001A	FILTER,EMC BMS400 25V 200MA
T405	6200QJ3001A	FILTER,EMC BMS400 25V 200MA
T406	6200QJ3001A	FILTER,EMC BMS400 25V 200MA
T407	6200QJ3001A	FILTER,EMC BMS400 25V 200MA
T408	6200VJT006A	FILTER,EMC STC222D 50VOLT 4A 2200PF
T409	6200VJT006A	FILTER,EMC STC222D 50VOLT 4A 2200PF
T410	6200VJT006A	FILTER,EMC STC222D 50VOLT 4A 2200PF
T411	6200VJT006A	FILTER,EMC STC222D 50VOLT 4A 2200PF
T412	6200VJT006A	FILTER,EMC STC222D 50VOLT 4A 2200PF
T413	6200QJ3001A	FILTER,EMC BMS400 25V 200MA
X100	6212AB2015E	RESONATOR,CRYSTAL HC-49/SM 10.0MHZ
X103	156-A01T	RESONATOR,CRYSTAL HC49U 10.000MHZ

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION
X301	6202VDT002E	RESONATOR,CRYSTAL SX-1SMD 20250000HZ
X501	6212BA2002C	RESONATOR,CERAMIC CSALA2M69G4ZF01-B0
X601	156-A02R	RESONATOR,CRYSTAL HC49U 18.432MHZ
X602	6202VDT002B	RESONATOR,CRYSTAL SX-1 SC14.3MHZ
MISCELLANEOUS		
C1	6852TAZ012Q	CABLE,NT-RCA(R/A) UL 1365 AWG 26 300MM
F801	0FS5001A51B	FUSE,SLOW BLOW 5000MA 125V
IC101	6927V2107AB	SOFT WARE,2.00.0V A8F1 CTV AC02SD
IC102	6927V2108AB	SOFT WARE,2.00.0V D7F6 CTV AC02SD
IC103	692792004AA	SOFT WARE,2.00.0V ECF9 CTV AC02SD
IC312	6204B60001B	OSCILLATOR,27MHZ +/- 100 PPM 3.3V
PA1	6712R1538GG	REMOTE CONTROLLER RECEIVER,38KHZ
RL801	6920VB1001E	RELAY,SDT-S-105LMR OEG 5V 0.05A
RL802	6920VB1001E	RELAY,SDT-S-105LMR OEG 5V 0.05A
SK902	6620VBD001A	SOCKET,CPT PCS701A 9P 14/360
TH801	163-051C	THERMISTOR,PTC J503P51D6R5S140
TU101	6700AN0002B	TUNER,TDVS-V701P
VA801	164-003K	VARISTOR,SVC621D-14A 620V 0%
X601	6204B47985K	OSCILLATOR,BMS-873R 25MHZ
X700	6204B60001B	OSCILLATOR,27MHZ +/- 100 PPM 3.3V
ACCESSORIES		
A1	3828VA0395F	MANUAL,AC02SD 32FZ1DC-UA
A2	6710V00102W	REMOTE CONTROLLER,AC02SD

LOCA. NO	PART NO	DESCRIPTION

P/NO : 3828VD0156K

June, 2005
Printed in Korea

CANADA: LG Electronics Canada, Inc. 550 Matheson Boulevard East Mississauga, Ontario L4Z 4G3

USA : LG Electronics Alabama Inc. P.O.Box 240007, 201 James Record Road, Bldg. 3, Huntsville, AL 35824

32FZ1DC-UA (AC-02SC COMMERCIAL)

TO POWER B/D P804A

FROM POWER B/D P803A

TO CRT B/D P501A

IC112 M306H3FCFP

IC501 CXA2150AQ

IC502 KA4558

IC1506 LB1645N

IC1505 KA4558

IC1503 KA2903

TO DEF P405A

TO DEF P403A

IC1602 LA4282

L SPK P601

R SPK P602

FROM POWER B/D P605A

IC602 MSP4440

P008

OPTION P009

P005 8value

P006 8value

TU101

P1504

P1201 <OPTION> 3D-COMB

IC1201 CXA2069Q

WOOFER SPK ... * NOT USED * OPTION IN (KOR)

IC1603 LA4282

P603 WOOFER

IC1601 KA4558

(NOT USED)

TO AV4 P500

OPTION FOR DU MODEL

DVI-AUDIO

JA203 COMPONENT-2 COMPONENT-1 COMPONENT

JA204

OPTION FOR DU MODEL (NOT USED)

JA1201

variable audio out

* -> EMS

HDR-2_MAIN CIRCUIT

1/1

IC200

HD2.3

CRT DTV COMMERCIAL

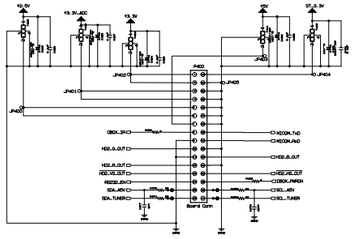
HD-2

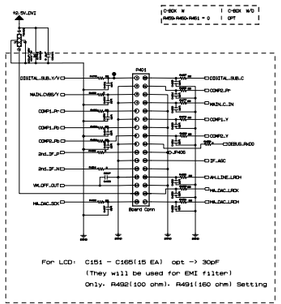
IC100

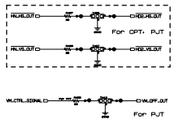
S3C44B0X

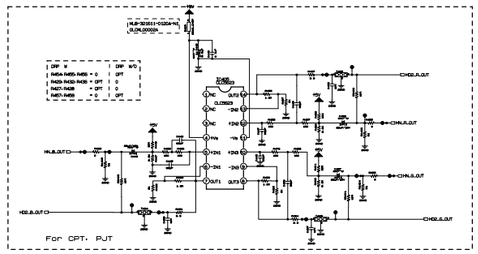
CRT DTV COMMERCIAL

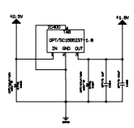
CPU, Memory, Flash, UART etc

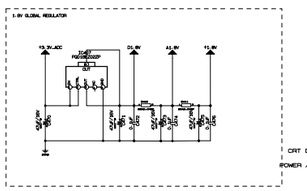




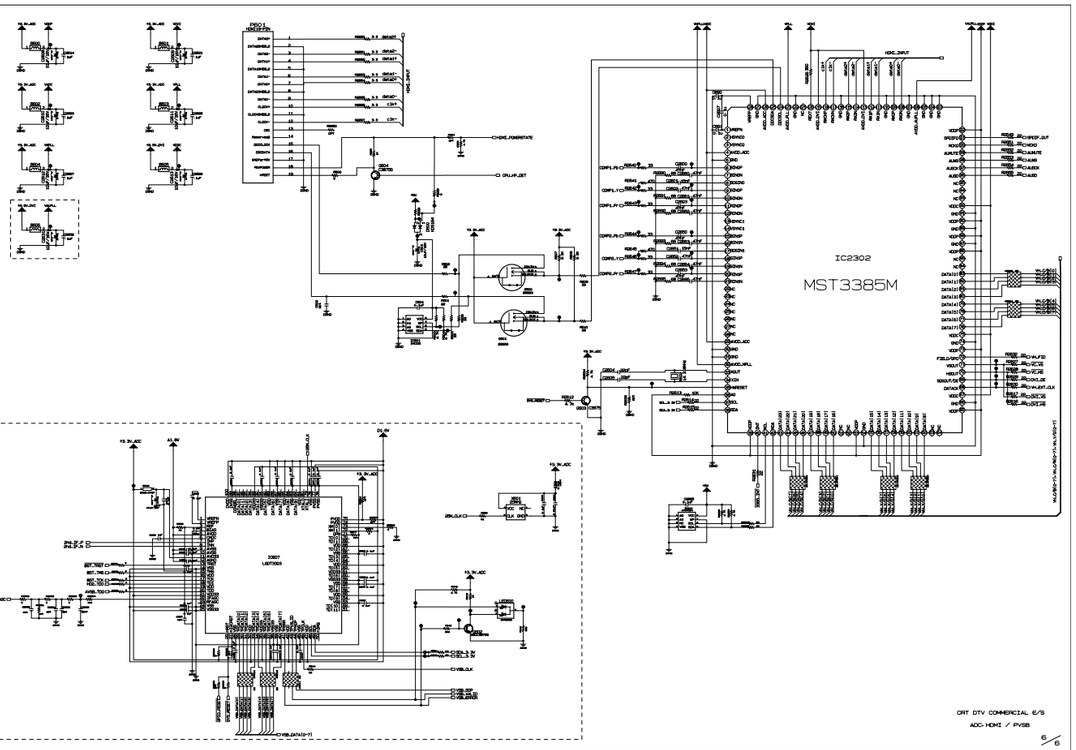




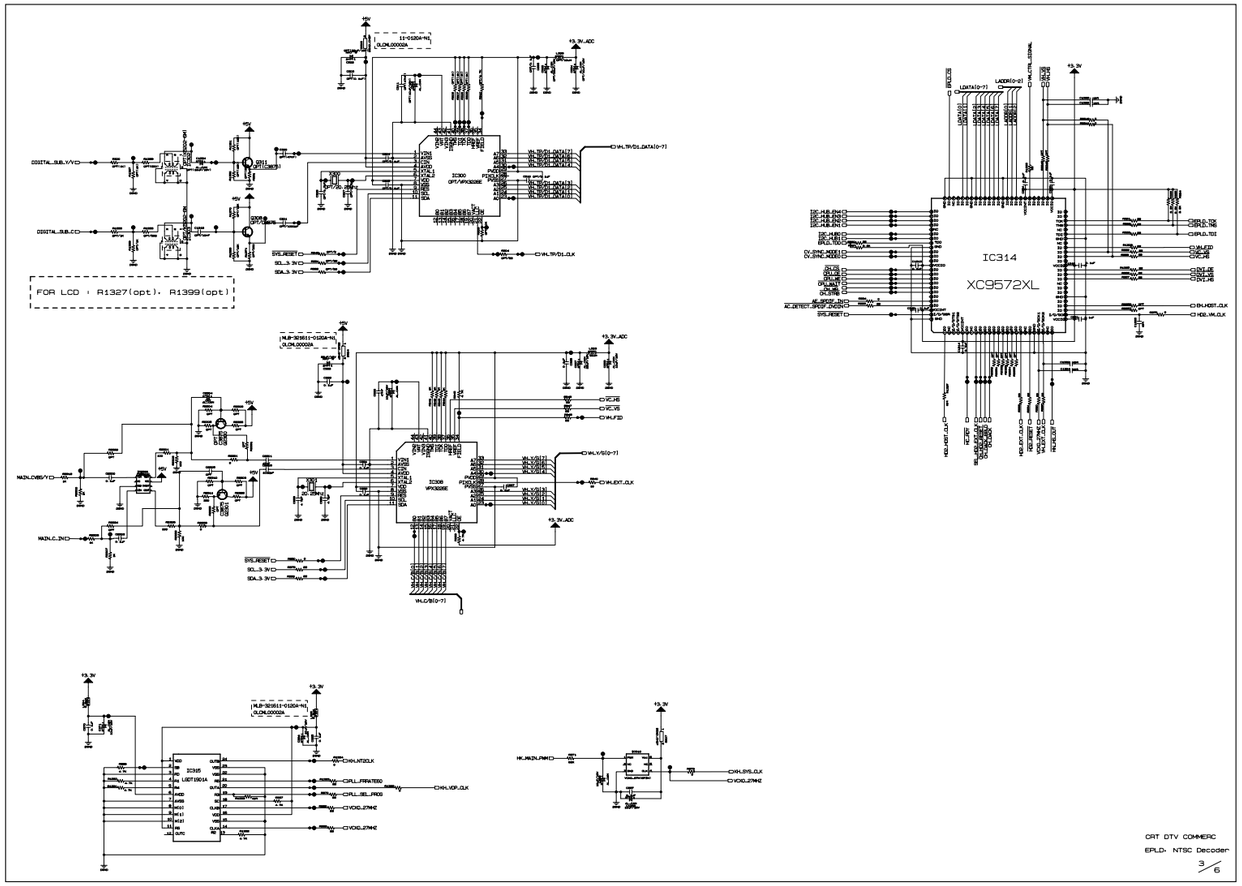




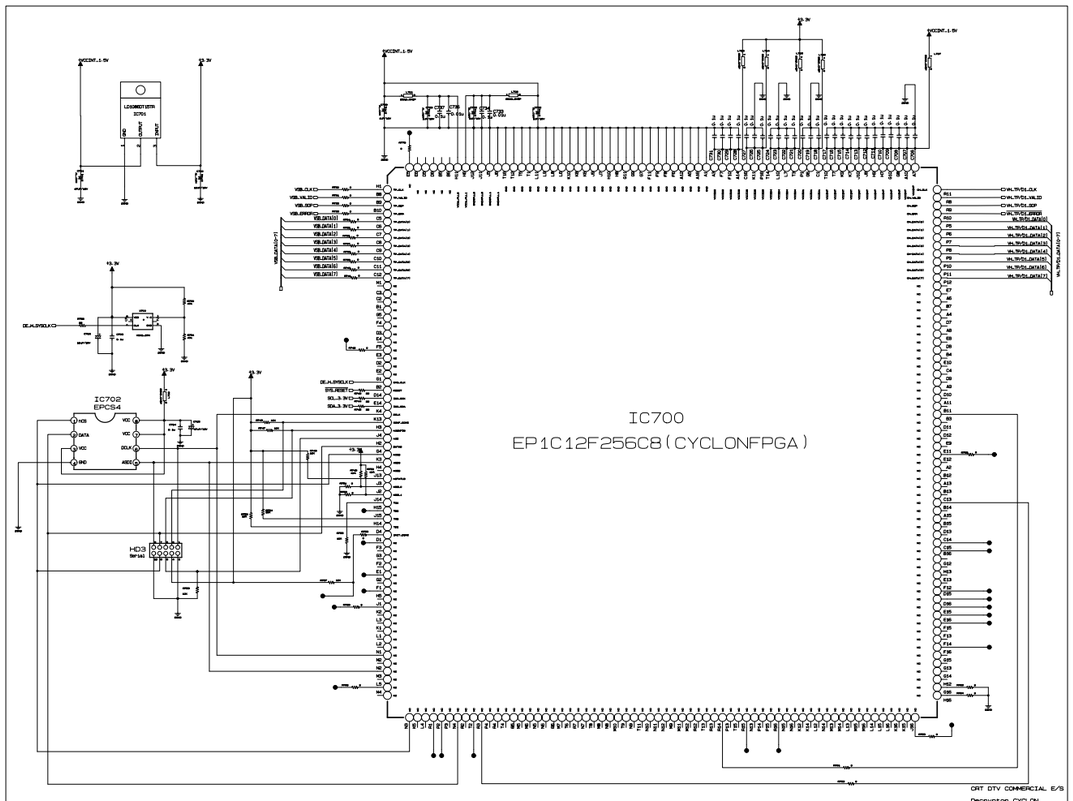
CRT DTV COMMERCIAL E/S
POWER / Digital B.D I/O Part



CRT DTV COMMERCIAL E/S
ADC-HDMI / RVSB



CRT DTV COMMERC
EPLD- NTSC Decoder



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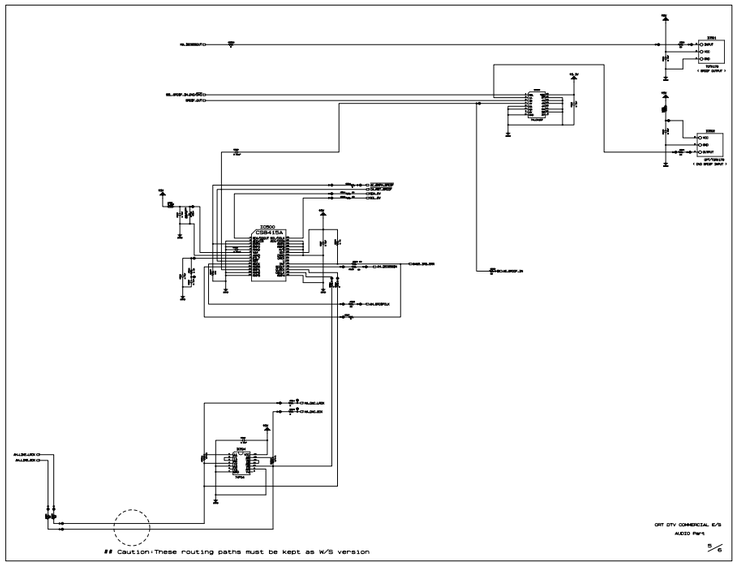
Decryptor CYCLON



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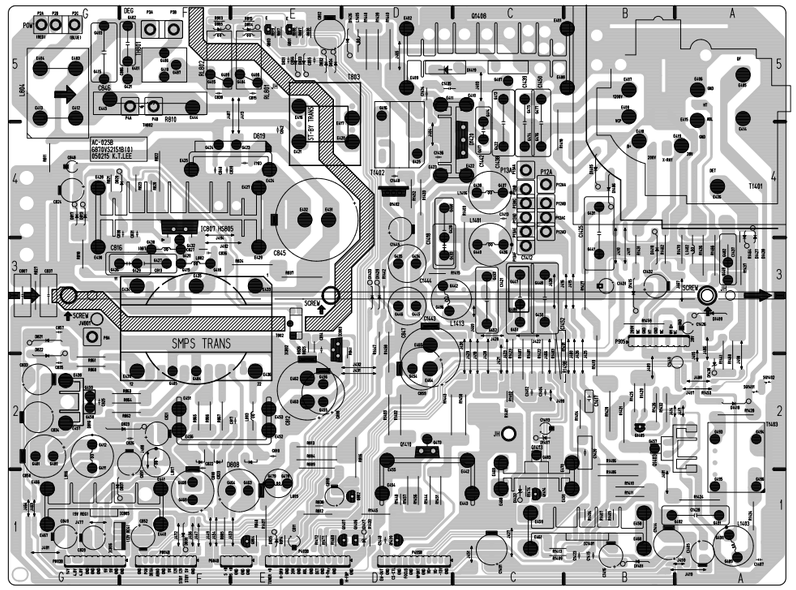

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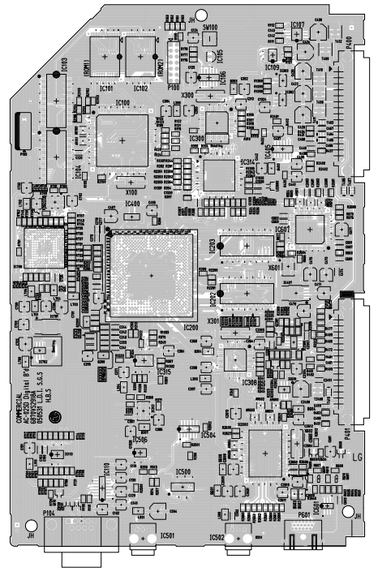

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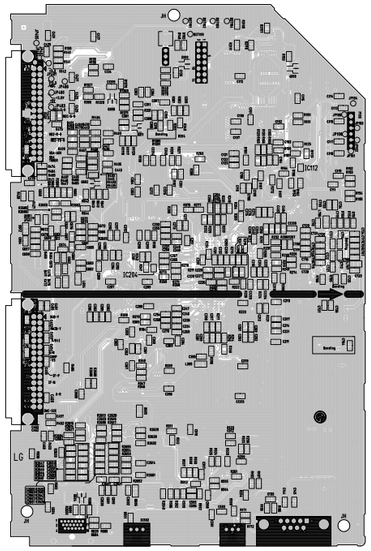

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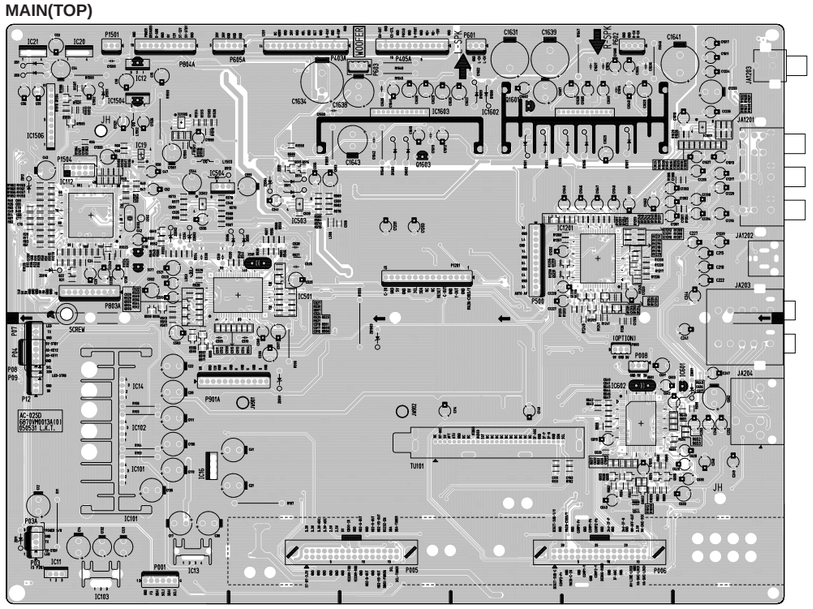

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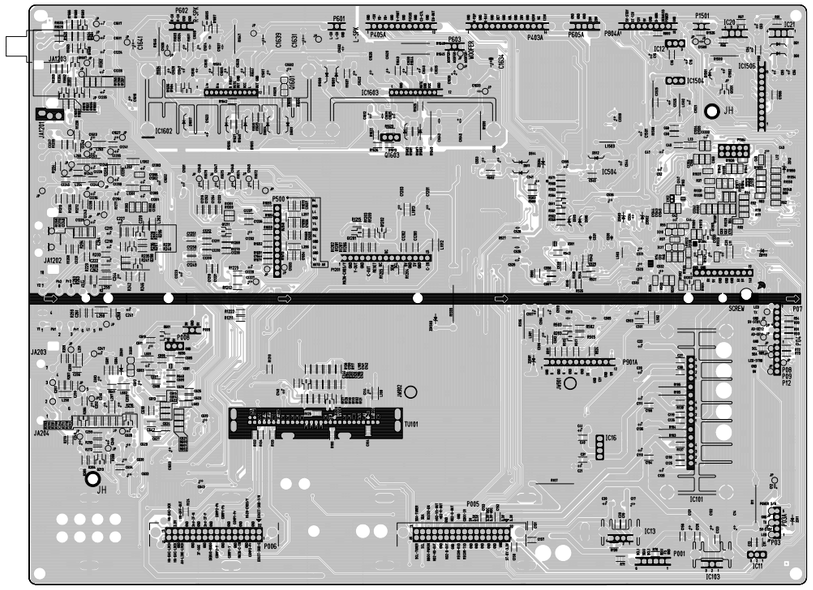
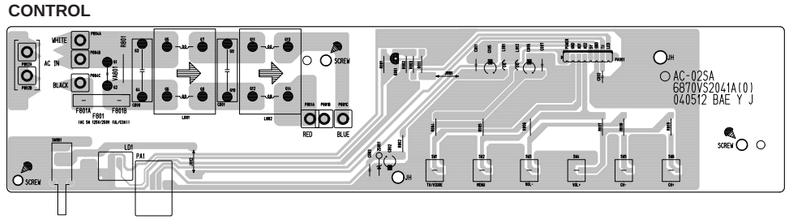
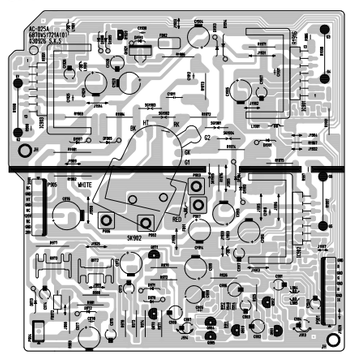


CONTROL



CPT



SIDE A/V