



MULTI FORMAT BROADCAST MONITOR



SERVICE MANUAL

MODEL NAME:

LVM-173W-3G 17" MULTI FORMAT BROADCAST MONITOR

KEEP THIS SERVICE MANUAL FOR FUTURE REFERENCE.

PLEASE CALL 82-70-8668-6611 OR EMAIL TO support@tvlogic.co.kr FOR ASSISTANCES
IF YOU HAVE ANY QUESTION ABOUT LVM-173W-3G MODEL.

TVlogic



THIS INFORMATION OF THIS MANUAL IS SUBJECT TO CHANGE WITHOUT ANY NOTICE.

ABOUT TVLOGIC SERVICE MANUAL:

TVLogic Service manual contains information and service procedures to assist the service technician in understanding and correcting problem about LVM-173W-3G model.

This information should be reviewed by a service personnel to provide a basic understanding of how the components function in the working system.

The troubleshooting section of this manual is intended to provide a quick reference concerning issues that occur most frequently through customer complaints.

We hope that technicians will repair LVM-173W-3G without any problem through our service manual.

SERVICE PREPARATION:

A clean work area at the start of each job is essential for efficient service work. Tools needed for the job should be ready for use before the work is started.



1.SAFETY PRECAUTION

USE SET VOLTAGE.

- AC 100 ~ 240V (1.2A / 50~60Hz)
- DC 12 ~ 24V (MAX 6A)

SAFETY PRECAUTION ABOUT PARTS

- Some parts of this product should be handled with caution. User can find these parts in a circuit diagram and part list.
- Do not use attachments not recommended by the manufacturer. Use of inadequate attachment can result in accidents.
- Drawing can't be revised without TVLogic's permission.

SAFETY PRECAUTIONS ABOUT HANDING LCD MODULE

- Use the screw holes on the corner when installing the LCD module.
- Do not push the panel or frame and do not cause an electric shock to protect the product from damages.
- When handling the LCD module, put a wrist band on to avoid static electricity with the LCD module which may cause damages to the electric components.
- Do not leave the product in a hot or humid place for a long time.
- Keep the LCD module away from direct rays of sunlight.
- Keep away the product from water because it's the reason for short circuit and reducing life span of electric components.
- Use soft cloths to wipe the surface of LCD module when it gets dirty. Do not use coarse cloths which might cause damages to the LCD module.
- If the product is exposed to water, you must wipe the device with a dry cloth then disassemble the device to dry.

SAFETY PRECAUTIONS ABOUT DISASSEMBLY

- Please use soft cloths or cushioned sponge when you disassemble or assemble the products.
- To separate the panel, release the screws on the four corners then slowly lift up the panel while removing the panel interface cable.
- To separate the board, remove the cable from it first, remove the bolt which is holding down the board then separate. Make sure the cable pin is firmly connected to the connector while doing it.

SAFETY PRECAUTIONS ABOUT ASSEMBLY

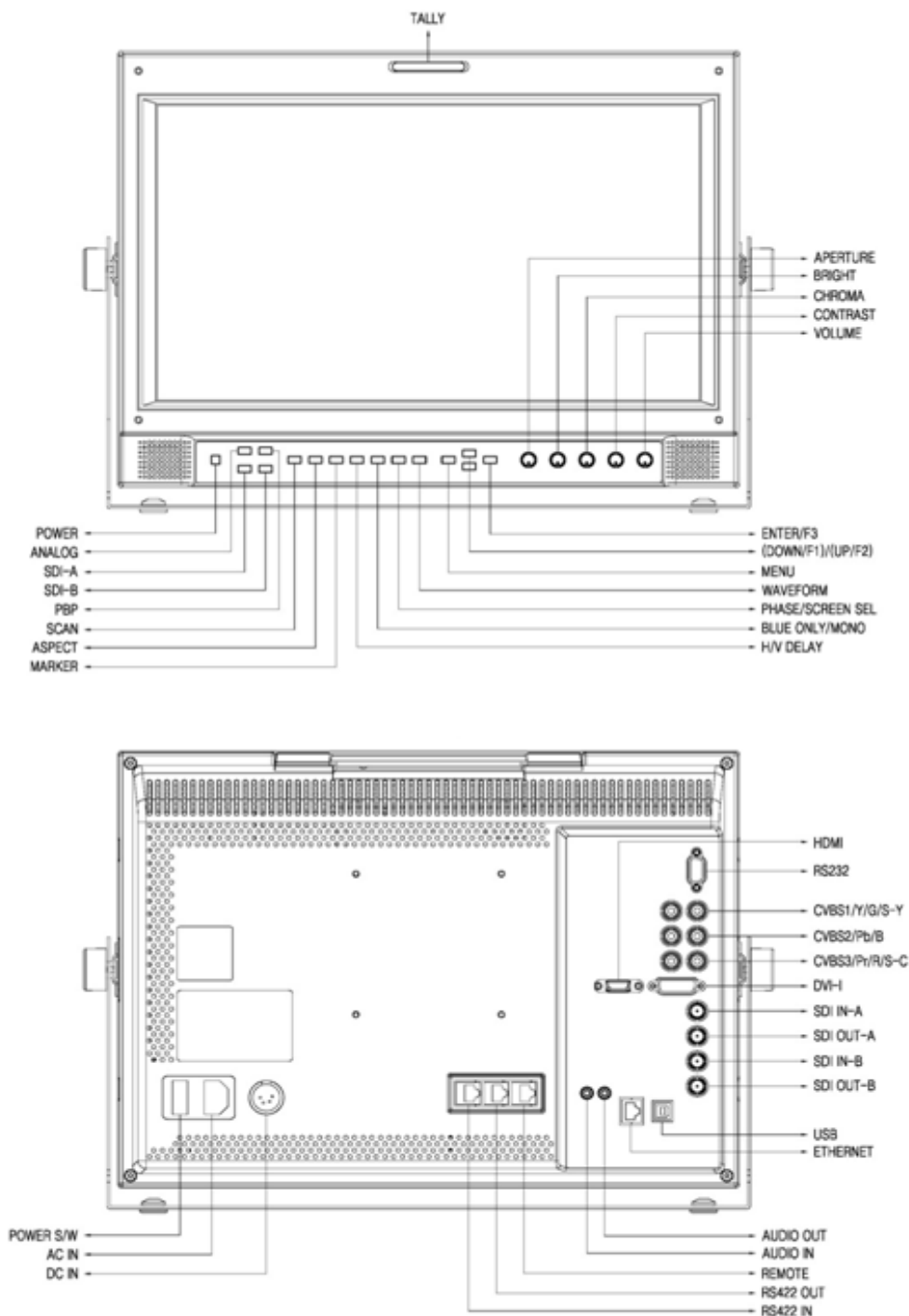
- Please set torque at 2K of electronic screw driver when you assemble LCD panel and cases in order to avoid damages of screw holes on the case. This might cause damage and require you to change the whole case if you use over torque of electronic screw driver.
- The connector should be handled with caution because it is thin and weak. Wrong connection causes malfunction of the board and the panel.

WARNING

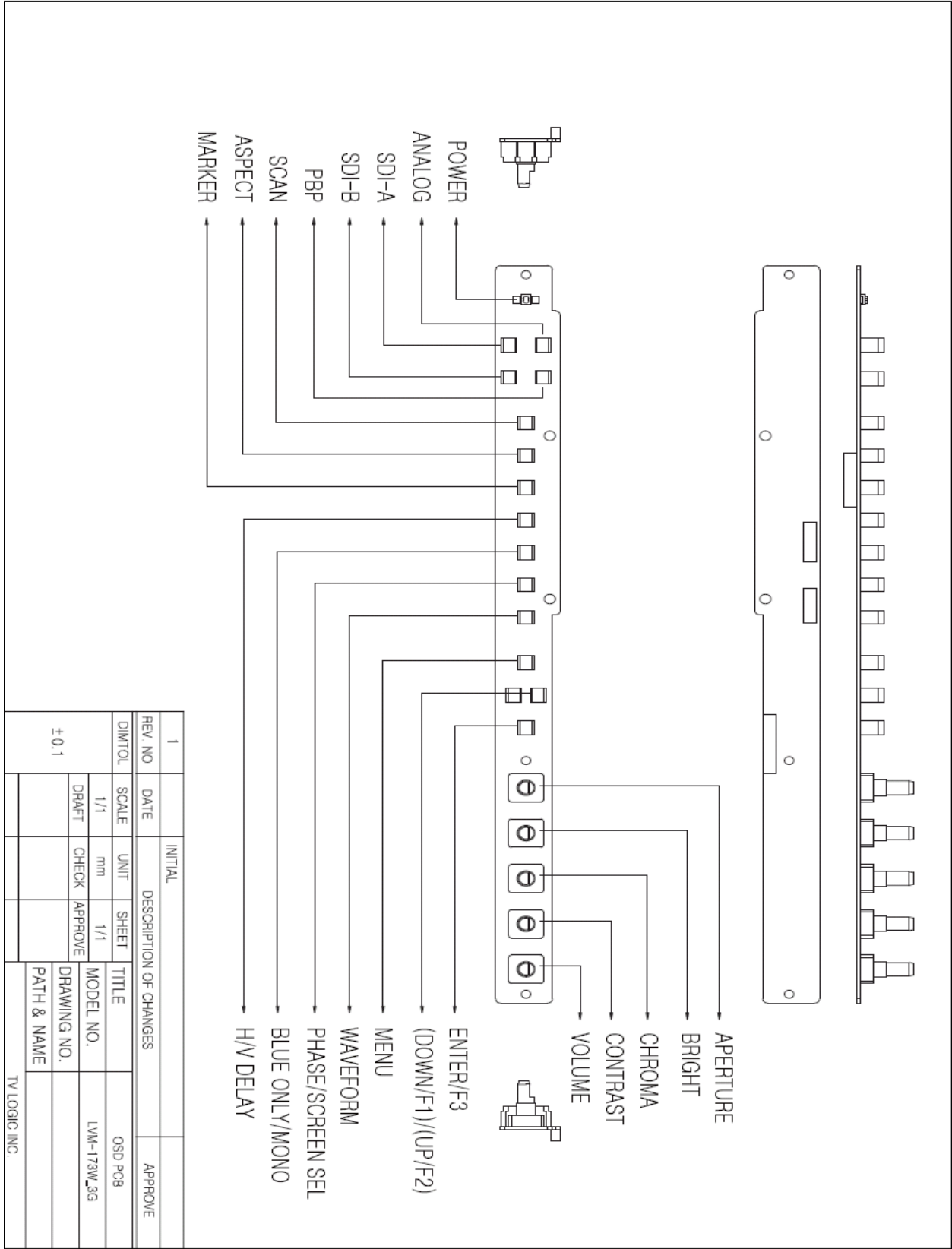
BE CAREFUL OF THE ELECTRIC SHOCK!

- Make sure to disconnect the adapter from the AC power when replacing CCFL or inverter circuit because high voltage of around 650 Vrms flows in the inverter circuit.
- Do not damage the cable covers in order to avoid accidents such as a fire and an electric shock. All the cables in inverter circuit must be handled with caution.

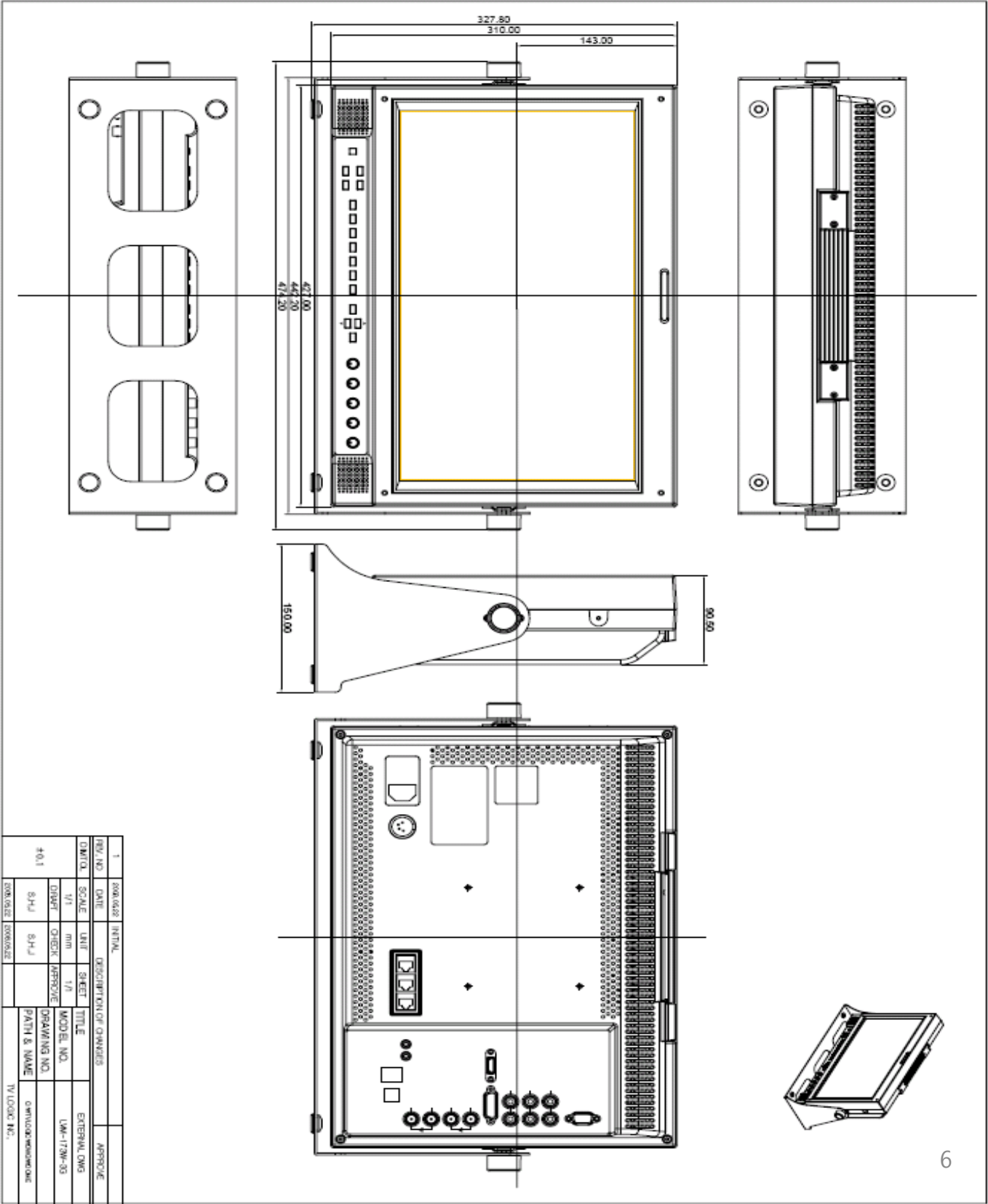
2.CONTROLS & FUNCTIONS



3.FRONT KEY BUTTON



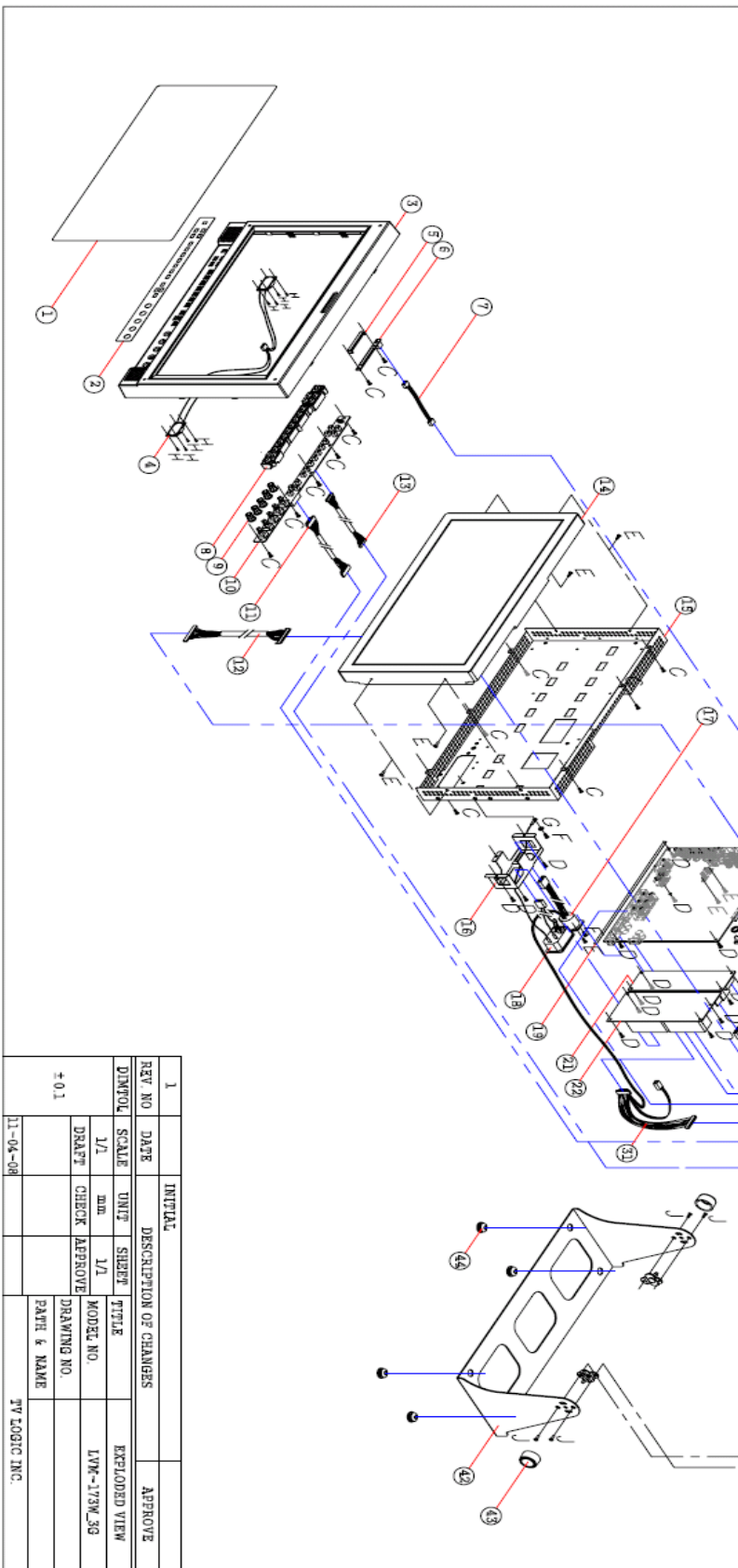
4.MONITOR DRAWING



5.EXPLODED DIAGRAM

PARTS				
NO	REF CODE	DESCRIPTION	QTY	REMARK
1	BEAD1-0003	PROTECTOR FILM	1	
2	BA100-0048	OSD PLATE	1	
3	BA100-0001	FRONT	1	
4	CBAC0-0004	SPEAKER	2	
5	BA100-0018	PLATE	1	
6	BE100-0007	PLATE BOARD	1	
7	BE100-0003	PLATE CABLE	1	
8	BA100-0011	OSD BUTTON	1	
9	BA100-0008	CONTROL KNOB	1	
10	BE100-0009	KEY PAD BOARD	1	
11	BE100-0023	ENCODER CABLE	1	
12	BE100-0012	LVD5 CABLE	1	
13	BE100-0009	OSD CABLE	1	
14	BA100-0002	PANEL	1	
15	BA100-0047	MAIN BRACKET	1	
16	BA100-0007	SOCKET BRACKET	1	
17	BE100-0025	DC JACK	1	
18	BE100-0028	AC INLET	1	
19	BA100-0035	EMI GASKET (A)	1	
20	BE100-0082	MAIN BOARD(TV744-MB007)	1	
21	BE100-0001	RF-306	1	
22	BE100-0003	RF-306	1	
23	DO100-0007	BNC RING	4	
24	BA100-0131	BNC BRACKET	4	
25	DO100-0005	BNC RING	4	
26	BA100-0108	FOOT WASHER(IN TOOTH)	4	
27	BA100-0087	HEXAGON NUT	4	

PARTS				
NO	REF CODE	DESCRIPTION	QTY	REMARK
28	BA100-0035	EMI GASKET (SDI)	1	
29	BE100-0010	INVERTER CABLE	1	
30	BE100-0005	BOARD POWER CABLE	1	
31	BE100-0024	DC DC POWER CABLE	1	
32	BA100-0008	MAIN BOARD COVER	1	
33	BA100-0034	CONDUCTIVE TAPE	1	
34	BA100-0033	EMI GASKET (B)	1	
35	BA100-0006	HANDLE BAR	1	
36	BA100-0003	REAR	1	
37	BA100-0044	HANDLE	1	
38	BA100-0037	HANDLE COVER	2	
39	BA100-0049	REAR PLATE	1	
40	BA100-0028	SERIAL LABEL	1	
41	BA100-0033	ID LABEL	1	
42	BA100-0003	STAND	1	
43	BA100-0005	STAND KNOB	1	
44	BA100-0014	FOOT RUBBER	4	
45	BA100-0028	FRAX16	5	
46	BA100-0028	PTX320	15	
47	BA100-0001	PTX320	22	
48	BA100-0002	PTX320	8	
49	CC000-0025	TOOTH WASHER (OUT TOOTH)	1	
50	BA100-0025	PTX320	8	
51	BA100-0032	#4X3XSTAP Nut	4	
52	BA100-0029	SK 3X8	4	



1		INITIAL		DESCRIPTION OF CHANGES		APPROVE	
REV NO	DATE	SCALE	UNIT	SHEET	TITLE	EXPLODED VIEW	
1/1	mm	1/1					
DRAFT	CHECK	APPROVE					
±0.1		DRAWING NO.		PART & NAME		TV LOGIC INC.	
11-04-08							

6.1 DISASSEMBLY PROCEDURE



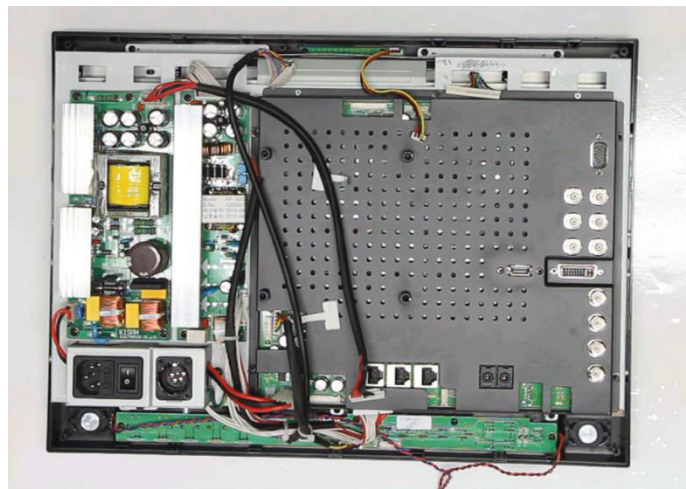
- 1) Loosen and remove 2 stand knobs on both sides of LVM-173W-3G.



- 2) Release the screws. Then separate the stand from the product.



- 3) Loosen and remove all the screws around the rear and take the Rear panel away from the product.

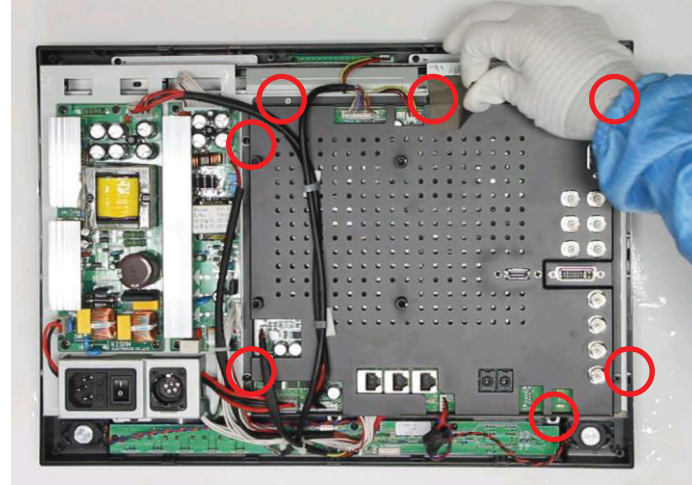


- 4) Disconnect all the cables around the main board cover.

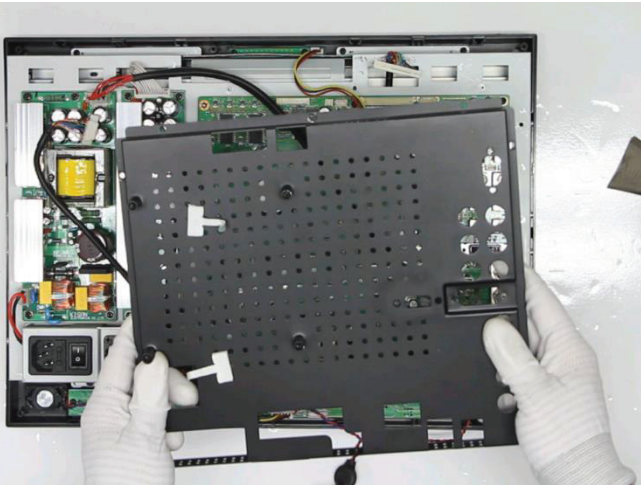
6.2 DISASSEMBLY PROCEDURE



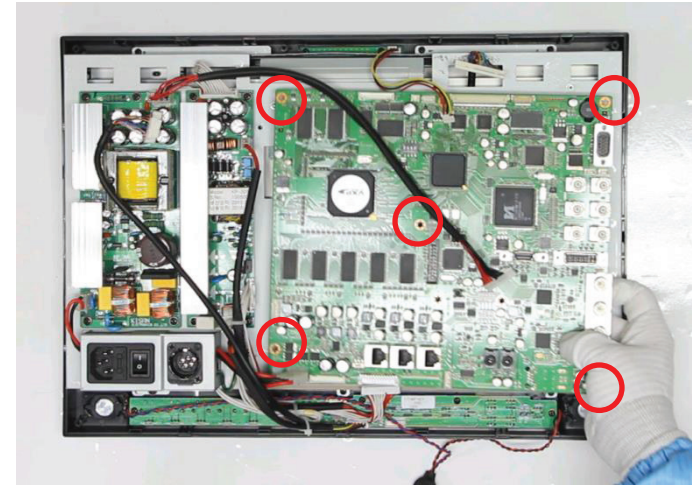
- 5) Release all the screws on the main board Cover DVI and HDMI.



- 6) Remove all the screws on the main board cover.

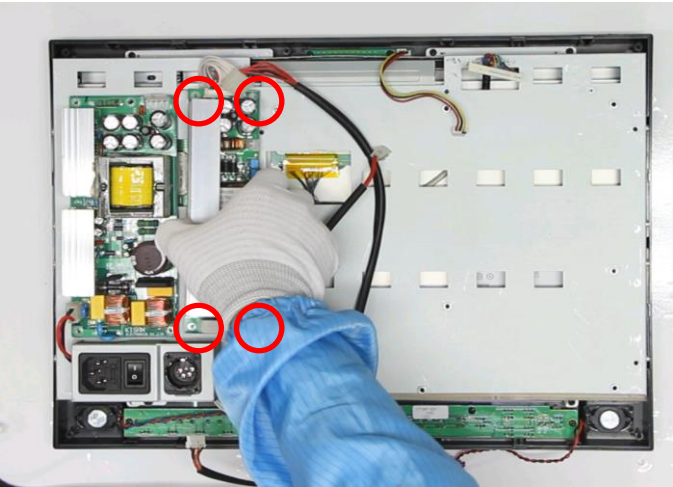


- 7) Take the main board cover away from the product.

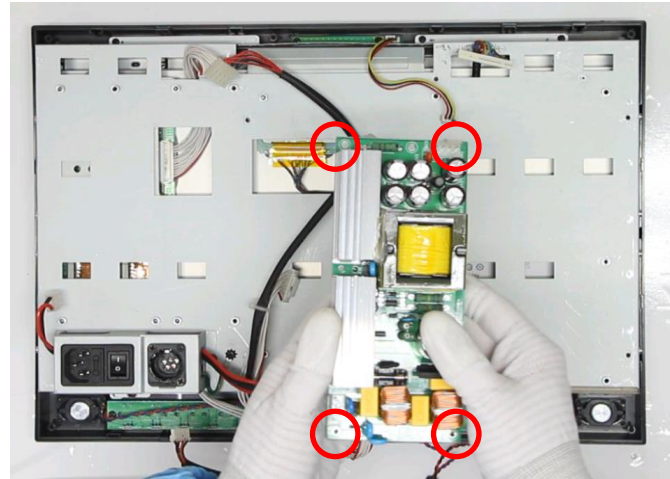


- 8) Loosen and remove all the screws attached to the main board and dismount it.

6.3 DISASSEMBLY PROCEDURE



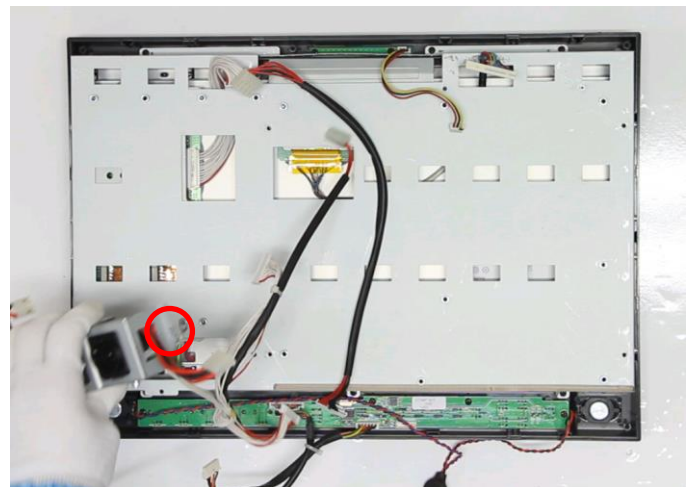
- 9) Remove all the screws attached to the KP-305 and pull up the KP-305.



- 10) Remove all the screws attached to the KP-306 and pull up the KP-306.

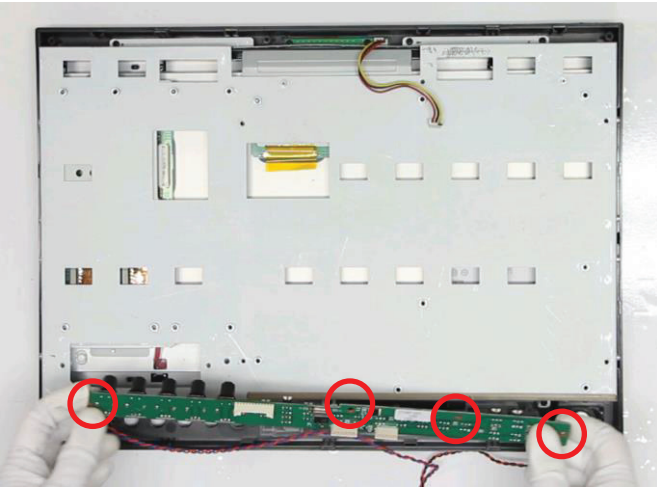


- 11) Disconnect the LVDS Cable.

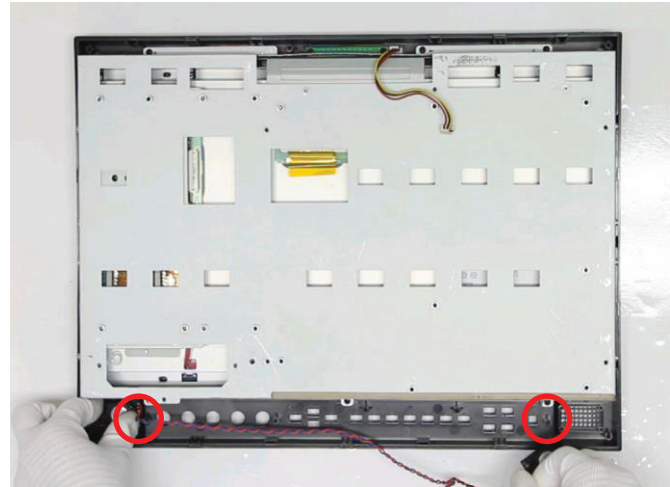


- 12) Release screws on the socket bracket and dismount it.

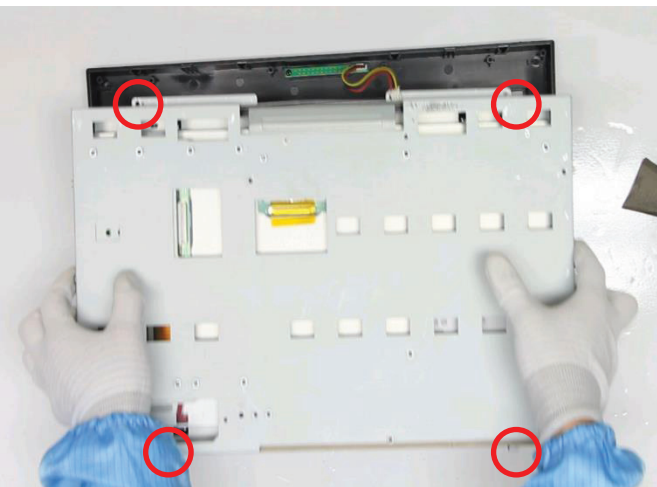
6.4 DISASSEMBLY PROCEDURE



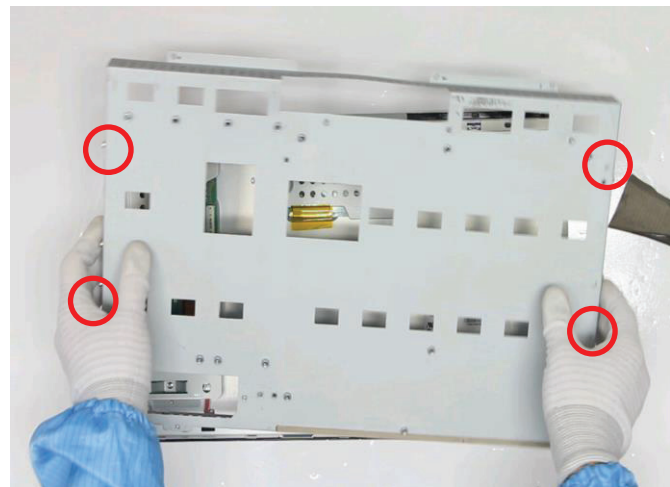
- 13) Loosen and remove all the screws on the Front and dismount the key Pad board.



- 14) Loosen and remove screws on the speaker and dismount the speaker.

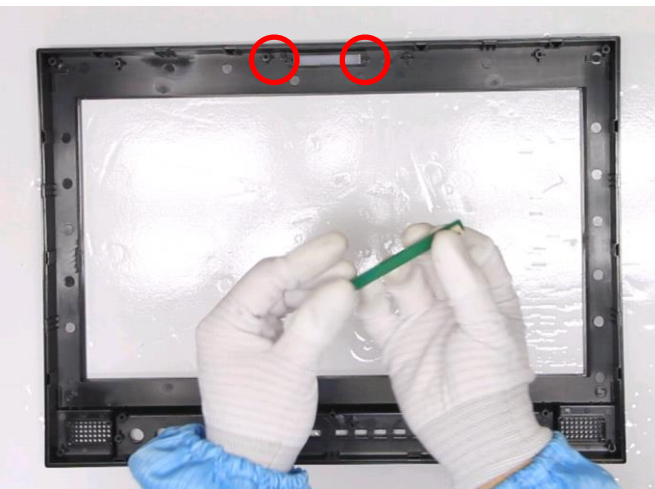


- 15) Separate the Front from the main bracket.



- 16) Remove all the screws on the side of the panel and main bracket, then separate them.

6.5 DIASSEMBLY PROCEDURE



17) Separate the tally board from the front.



18) Separate the tally from the front.



19) Front



20) Rear

7. DVI ANALOG/ DVI DIGITAL / HDMI RESOLUTION

DVI ANALOG/DVI DIGITAL/HDMI Support Resolution(LVM-173W-3G)

- DVI-ANALOG mode supports the following modes :

Resolution	Frequency
640 × 480	60Hz, 75Hz
720 × 400	70Hz
800 × 600	60Hz, 72Hz, 75Hz
1024 × 768	60Hz, 70Hz, 75Hz
1366 × 768	60Hz/75Hz

- DVI DIGITAL/HDMI Graphic mode supports the following modes

Resolution	Frequency
640 × 480	60Hz, 75Hz
800 × 600	60Hz, 72Hz, 75Hz
1024 × 768	60Hz, 70Hz, 75Hz
1366 × 768	60Hz/75Hz

- DVI DIGITAL/HDMI Video mode support the following input signals :

SMPTE-274M	1080i (60 / 59.94)
SMPTE-296M	720p (60 / 59.94)
SMPTE-125M	480i (59.94), 480p(59.94)

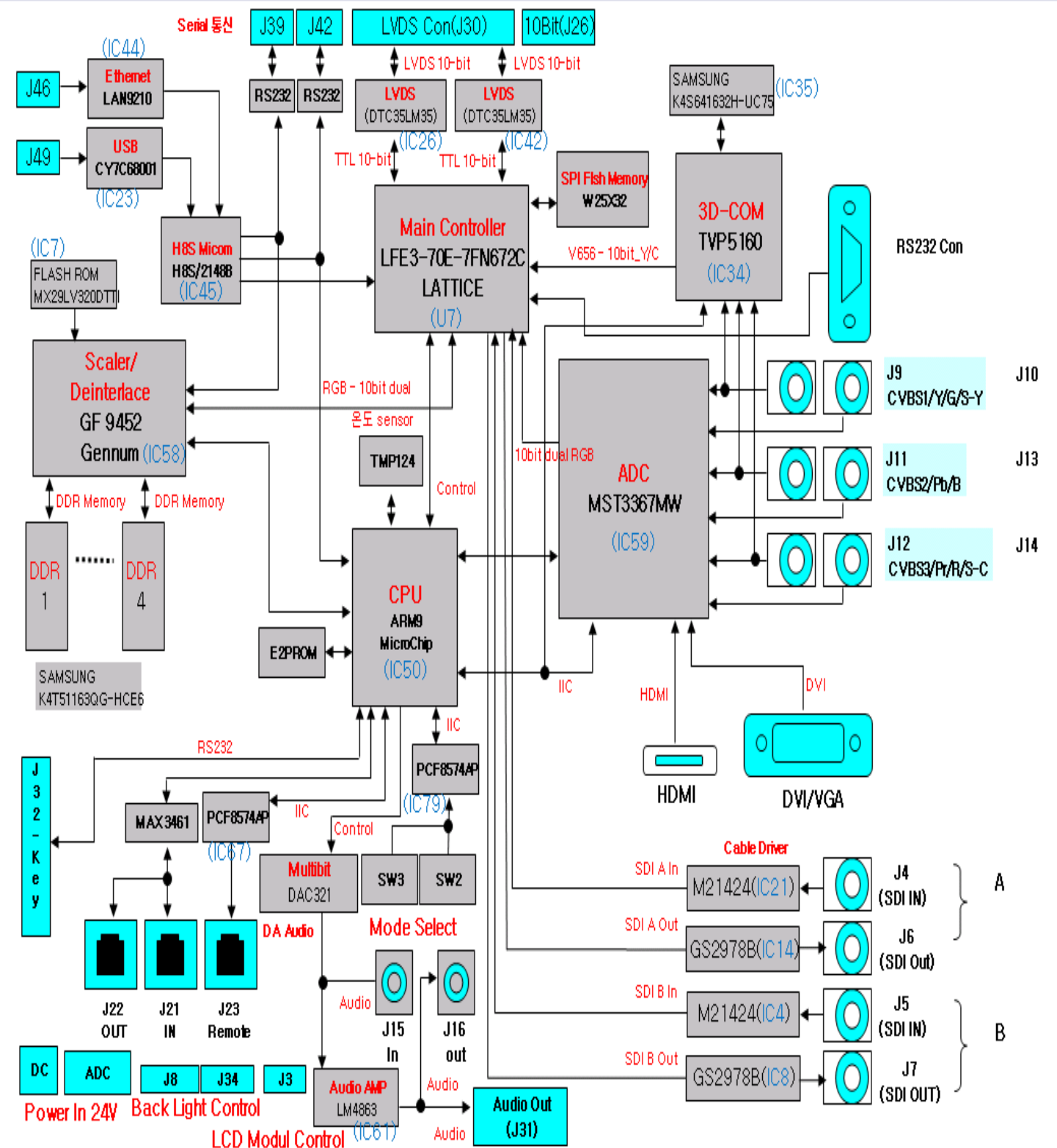
- DVI DIGITAL mode is separated into Graphic mode and Video mode.
- In DVI ANALOG/DIGITAL mode, ZERO scan must be selected for normal function.
- If the input image is in non-wide mode, press ASPECT button to change to wide display.

8.PRODUCT SPECIFICATIONS

LVM-173W-3G			
Input	1 x DVI-I	DVI-I(RGB) IN	
	3 x BNC	Analog Input	
	2 x BNC	SDI A/B Channel Input	
	1 x HDMI	HDMI Input	
Output	3 x BNC	Analog Output	
	2 x BNC	SDI A/B Channel (Loop Through Out)	
Input Signal	Analog	Composite / S-Video / Component / RGB	
	HD-SDI	1.485Gbps	
	SD-SDI	270Mbps	
	DVI	VESA/IBM Modes	
	HDMI	480i/480p/720p/1080i & VESA/IBM Modes	
Analog Input Spec	Composite	1.0Vpp (With Sync)	
	S-Video	1.0Vpp (Y With Sync), 0.286Vpp(C)	
	Component	1.0Vpp (Y With Sync), 0.7Vpp (Pb,Pr)	
	RGB	1.0Vpp (G With Sync), 0.7Vpp (B,R)	
SDI Input Signal Formats	SMPTE-425M-A/B	1080p (60/59.94/50/30/29.97/25/24/23.98/30sF/29.97sF/25sF/24sF/23.98sF) 1080i (60/59.94/50)	
		Dual HD-SDI YPbPr (4:2:2)	1080p (50 / 59.94 / 60)
	SMPTE-372M	Dual HD-SDI YPbPr/RGB (4:4:4)	1080i (50 / 59.94 / 60)
			1080p/psf (30 / 29.97 / 25 / 24 / 23.98)
	SMPTE-274M	1080i (60/59.94/50)	
		1080p (30/29.97/25/24/24sF/23.98/23.98sF)	
	SMPTE-296M	720p (60/59.94/50)	
	SMPTE-260M	1035i (60/59.94)	
	SMPTE-125M	480i (59.94)	
	ITU-R BT.656	576i (50)	
	2K Format	2048 x 1080(23.98p/psf, 24p/psf)	
Audio In		Embedded Audio / Analog Stereo (Phone Jack)	
Audio Out		Analog Stereo (Phone Jack). Internal Speaker(Stereo)	
LCD	Size	16.84"	
	Resolution	1366 x 768 (16:9)	
	Pixel Pitch	0.273(H) x 0.273(W) mm	
	Color	16.7M(true 8bit)	
	Viewing Angle	H : 178 degrees / V : 178 degrees	
	Luminance of white	350 cd/m ² (Center)	
	Contrast	900:1	
	Display Area	372.9(H) x 209.6(V) mm	
Power		DC 12V/24V/AC100~240V(1.8A/50~60Hz)	
Power Consumption (Approx.)		60 Watts(Max)	
Operating Temperature		0°C to 40°C (32°F to 104°F)	
Storage Temperature		-20°C to 60°C (- 4°F to 140°F)	
Main Body Dimensions (mm/inch)		427 x 310 x 90.5 (16.8 x 12.2 x 3.5)	
Main Body Dimensions (With Stand)		474 x 327 x 150 (18.6 x 12.8 x 5.9)	
Weight		7.1Kg / 15.65 lb	
Accessory		AC Power cord, Manual	
Option		Carrying case, V-Mount, Hood, 19" Rack Mountable Kit(7U), ND Filter, Sun-Hood	

* Above specifications may be changed without notice

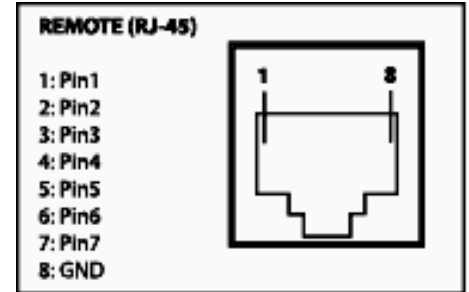
9. PCB BLOCK DIAGRAM



10. CIRCUIT OPERATION

<GPI Remote>

- The location of each pin is shown on the right picture.



- The selectable functions are as follows

Menu Classification	Settable Values
PIN 1~6	NONE, ANALOG CHANNEL, DIGITAL A CHANNEL, DIGITAL B CHANNEL, PBP CHANNEL, TALLY R, TALLY G, TALLY Y, UNDER SCAN, 1:1 SCAN, ASPECT, H/V DELAY, BLUE ONLY, MONO, 16:9 MARKER, 4:3 MARKER, 4:3 ON AIR MARKER, 15:9 MARKER, 14:9 MARKER, 13:9 MARKER, 1.85:1 MARKER, 2.35:1 MARKER, 1.85:1&4:3 MARKER, CENTER MARKER, SAFETY AREA 80%, SAFETY AREA 85%, SAFETY AREA 88%, SAFETY AREA 90%, SAFETY AREA 93%, SAFETY AREA 100%, 708, 608(LINE 21), 608(ANC), DYNAMIC-UMD

<LVM-173W-3G>

- PIN 7 is POWER ON/OFF use only, PIN 8 is GND.

< Video Input >

- Video input connection method

Connector	Composite	Component		S-Video
1	CVBS 1	Y	G	Y
2	CVBS 2	Pb	B	No Con.
3	CVBS 3	Pr	R	C

11. PROGRAM UPDATE – WEBHARD

TVLOGIC WEBHARD INFORMATION

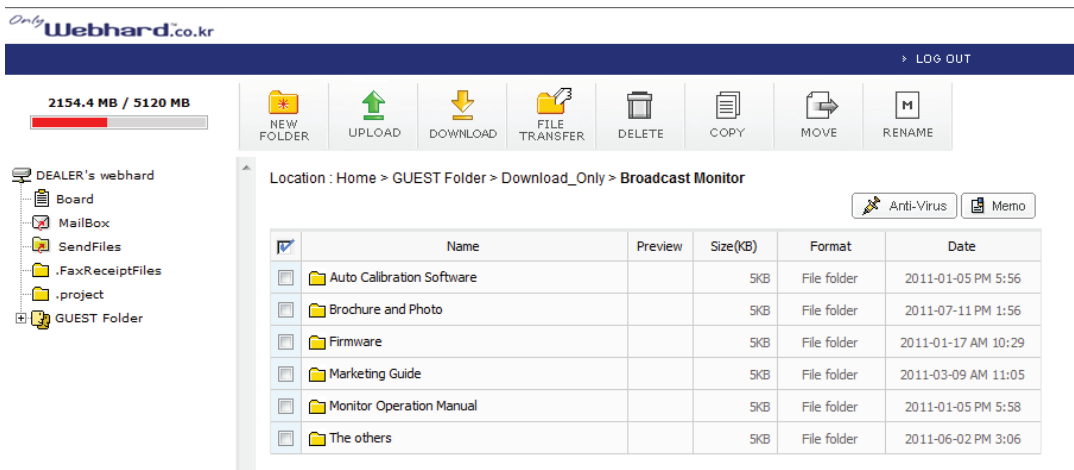
If you need to upgrade to a new firmware with TVLogic monitors,
please visit the TVLogic webhard at <http://tvlogic.webhard.co.kr/english>



ID: dealer

Password: XXXXXXXXXX

Please request the password from TVLogic overseas sales team.
the password may be changed without any notice.



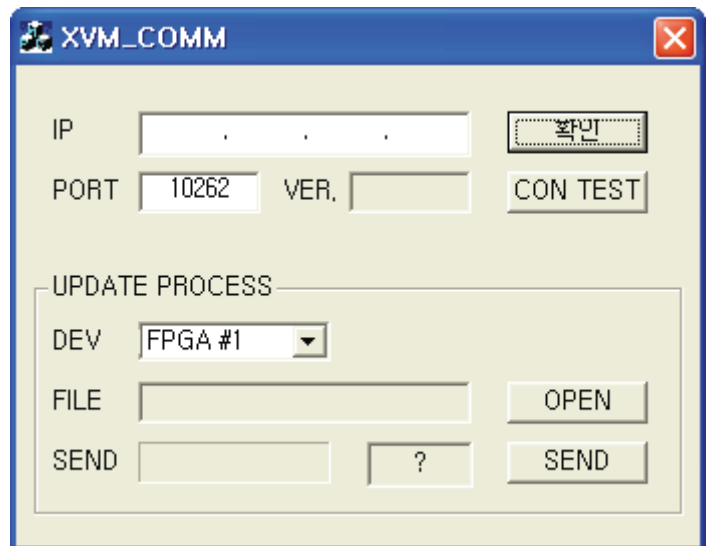
12.1 PROGRAM UPDATE WITH ETHERNET

1) Monitor Settings

- In the OSD Menu -> REMOTE -> Enter IP Address, Subnet Mask, Gateway value.
 - * Changing the PORT NO. is not recommended.
 - * Enter the IP Address of the connected internet with monitor.
 - * PASSWORD feature is available with Ver. 1.0 and above.
- Leave the monitor on.

2) Upgrade program settings

- Run XVM_COMM.exe



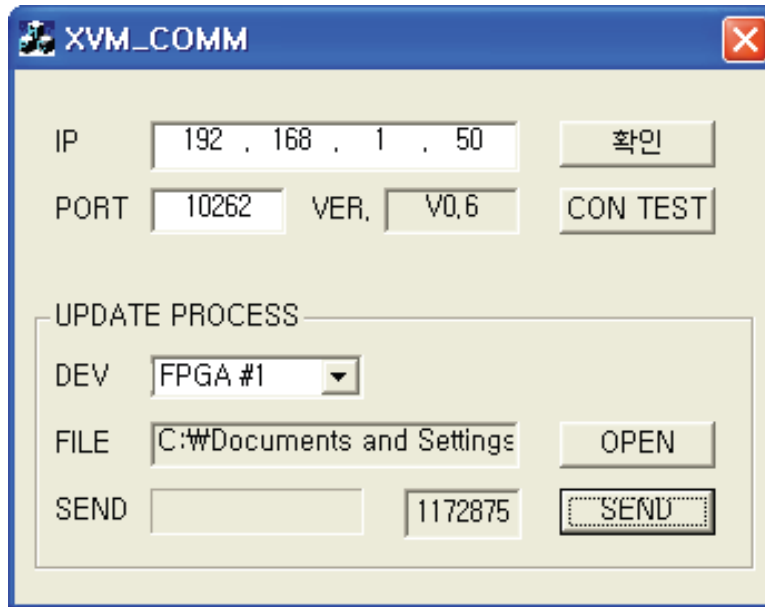
Picture 1 : Monitor upgrade SW=>

- Enter the same IP address as entered for the monitor. (See Picture 2)
 - * Changing the PORT NO. is not recommended.
- When the "CON TEST" button is pressed, Version number will appear in the Ver. Box if connected properly. If not, "???" will appear in the box.
- If "???" appears, check the IP address for the monitor and program, then try again.

12.2 PROGRAM UPDATE WITH ETHERNET

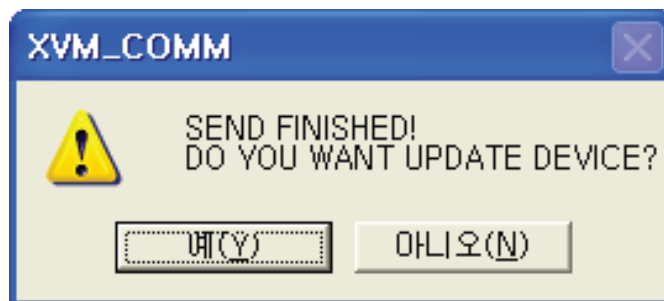
3) Firmware update

- FPGA



Picture 2 : Update setting

- * Select FPGA #1 for DEV in UPDATE PROCESS. Then, OPEN and select the FPGA firmware file.
- * Press the SEND button to start transferring the firmware file to the Ethernet Board.



Picture 3: Transfer finished message window

- * Once the transfer finishes, message window appears to confirm the start of update.

12.3 PROGRAM UPDATE WITH ETHERNET

Picture 4: Update start message window =>



- * Press the “OK” button to start updating.

Picture 5: CONFIG SUCCESS message window =>



- * “CONFIG SUCCESS” message window appears when update is finished.

- CPU

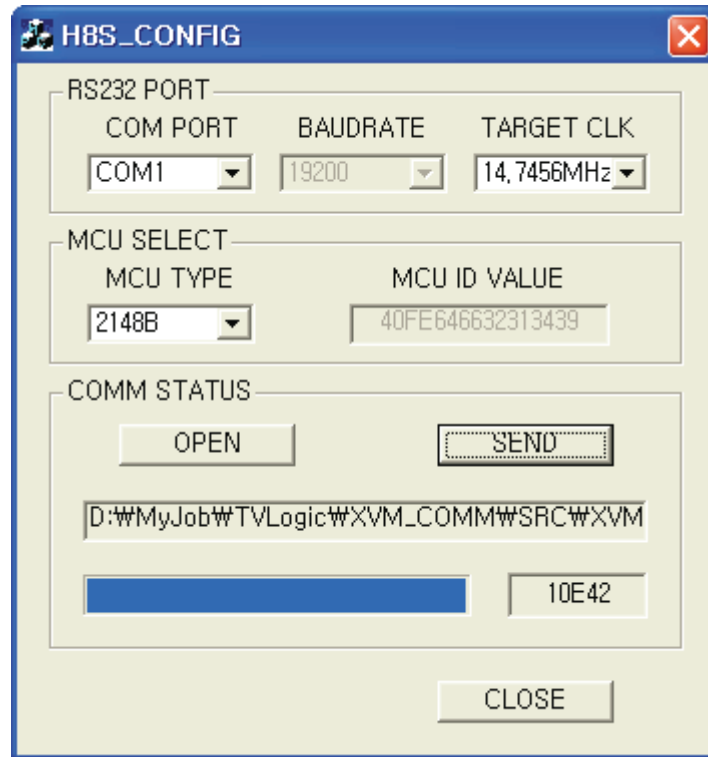
- * Select ARM/GEN for DEV in UPDATE PROCESS. Then, OPEN and select the ARM/GEN firmware file.
- * Press the SEND button to start transfer.
- * Follow the above FPGA updating steps to finish the update.

- VXP

- * Select VXP #1 for DEV in UPDATE PROCESS. Then, OPEN and select the VXP firmware file.
- * Press the SEND button to start transfer.
- * Follow the above FPGA updating steps to finish the update.

12.4 PROGRAM UPDATE WITH ETHERNET BOARD

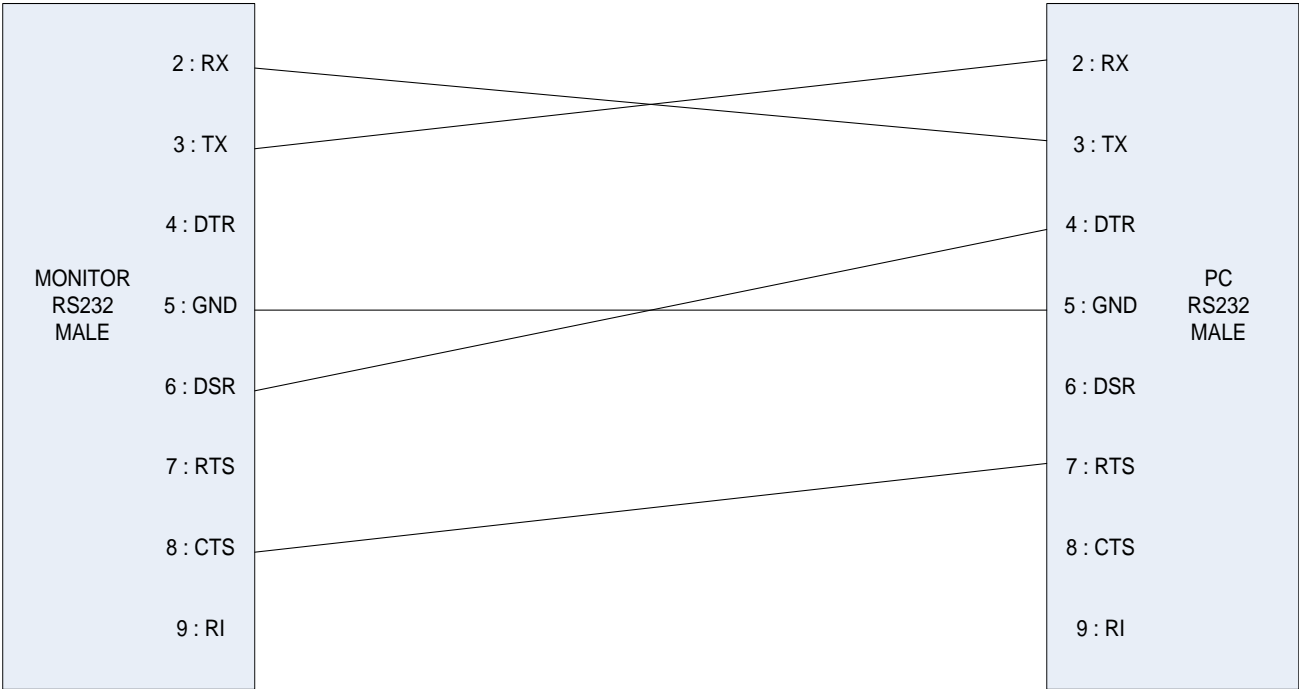
4) How to Upgrade ETHERNET BOARD



Picture 6: ETHERNET BOARD Upgrade SW

- Connect the serial port of the PC and the RS232 port of monitor with a cable. The PC must have RS232 port and cannot use the USB for RS232 converter. See Picture 7 for the cable connection.
- Select COM PORT.
- Select "14.7456 MHz" for TARGET CLK.
- Select "2148B" for MCU TYPE.
- OPEN and select the "*.mot" file.
- Press the SEND button.

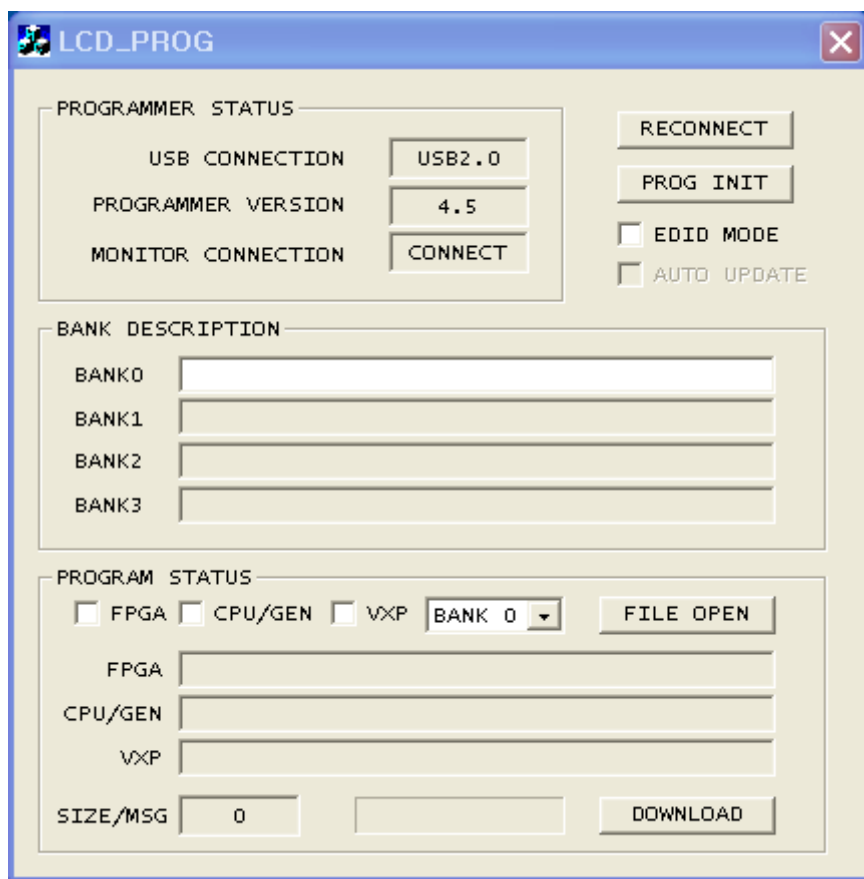
12.5 PROGRAM UPDATE WITH ETHERNET BOARD



Picture 7: Cable connection for ETHERNET BOARD upgrade

13.1 PROGRAM UPDATE WITH USB

- 1) Install the CyUSB driver on your PC.
- 2) Turn on the monitor after connecting the PC with monitor by USB Cable.
- 3) Upgrade program settings
 - Run LCD_PROG.exe



- Check the connection in PROGRAMMER STAUS.

13.2 PROGRAM UPDATE WITH USB

CAUTION:
FPGA A, CPU and VXP should be separately updated.

4) Firmware update

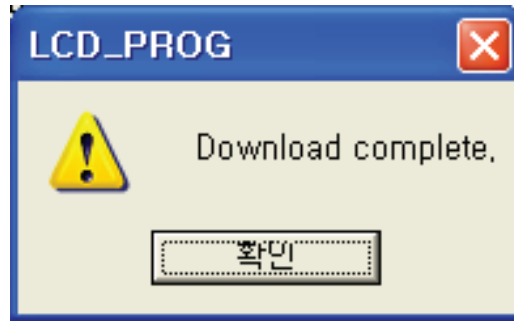
-FPGA



Picture 1: FPGA setting

- * Select the FPGA type check box in PROGRAM STATUS.
- * Select Bank0 from bank selection window. Then click on the File Open button to open firmware file for FPGA.
- * Click on the DOWNLOAD button to start download.

13.3 PROGRAM UPDATE WITH USB



Picture 2: Download complete message window

- * Update will be proceeded after Download complete. Update status appears in SIZE/MSG

-CPU/GEN

- * Select the CPU/GEN check box in PROGRAM STATUS.
- * Select Bank0 from bank selection window. Then click on the File Open button to open firmware file for CPU/GEN.
- * Click on the DOWNLOAD button to start download.
(Follow the FPGA updating steps to finish the update.)

-VXP

- * Select VXP type from check box in PROGRAM STATUS.
- * Select BANK0 from bank selection window. Then click on the File Open button to open firmware for VXP
- * Click on the DOWNLOAD button to start download.
(Follow the FPGA updating steps to finish the update).

Selection	UPDATE		
	FPGA_A(.bit)	CPU/GEN(.a79)	VXP(.bin)
BANK0(extension)			
BANK1(extension)	X	X	X

*** FPGA A, CPU and VXP should be separately updated. ***

14.1 CABLIBRATION S/W INSTALLATION

Please read the following calibration instruction before starting calibration software with Monitors.

- Avoid shocks or vibrations when calibrating TVLogic monitors.
These may damage the unit and cause it to malfunction.
- Wait minimum 20 minutes before starting calibration with TV Logic monitor.
- Start calibration when the brightness change of the screen is less than 1cd/m^2 .
- Recommendable Room temperature for calibrating monitor is $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
- Recommendable Room (Environmental) brightness is less than 5 cd/m^2 . While calibrating Monitor, light from outside should be cut off.
- Do not expose this monitor directly to sunlinght while calibrating TVLogic monitors.

14.2 CABLIBRATION S/W INSTALLATION

1. INSTALLATION

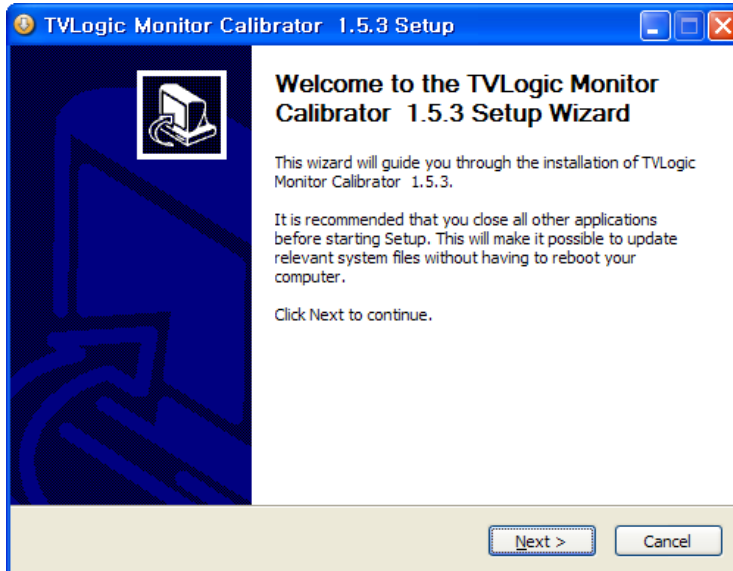
The calibration software requires these minimum hardware specifications:

CPU	Pentium PC
System	Windows 98SE/2000/ME/XP/VISTA/7
Display	Any compatible 24 bit video card

Designed for windows 98/2000/XP that supports the 1024 x 768 resolution

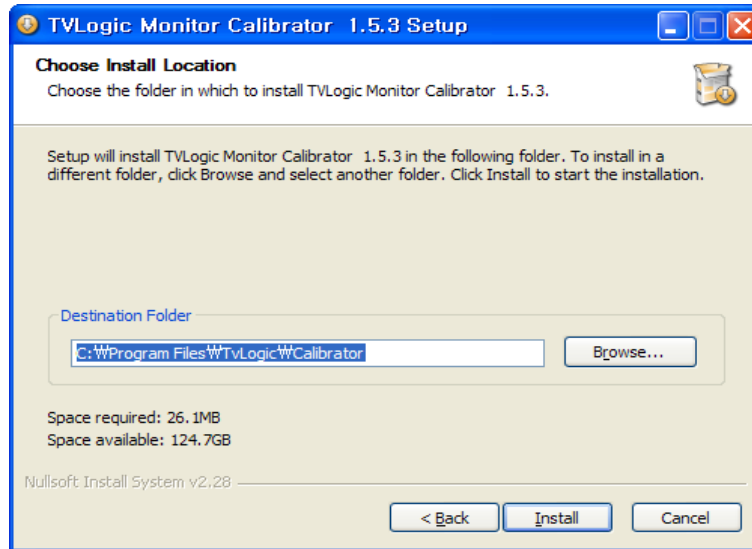
Step 1 TVLogic Calibration Program Installation

- 1.1 Launch "CalibratorSetup.exe"
- 1.2 The "Calibration program setup window" will launch as shown below
Please click the "Next" button.

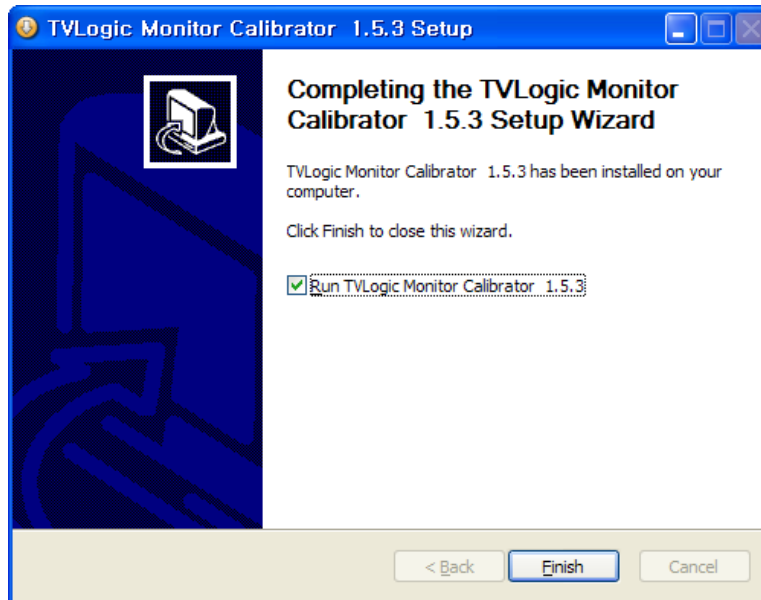


14.3 CABLIBRATION S/W INSTALLATION

- 1.3 Designate the location where the program will be installed in your PC, and click the “Next” button.



- 1.4 If the user sees the image below, the installation was successful.



- 1.5 Please copy "LicenseKey.tvl" file into the wbin folder (found under the Calibration program directory)

14.4 CABLIBRATION S/W INSTALLATION

2. CALIBRATION

The purpose of our calibration tool is to optimize the colors of LCD displays by compensating factors which affect the LCD panel. This calibration program is used for all of our LCD monitors. For a detailed calibration procedure, please refer to the following.

CALIBRATION PROCEDURE

PGM Port (15 Pin Port)

Please connect the 15 pin serial cable to monitor's factory PGM port to your PC's serial port.

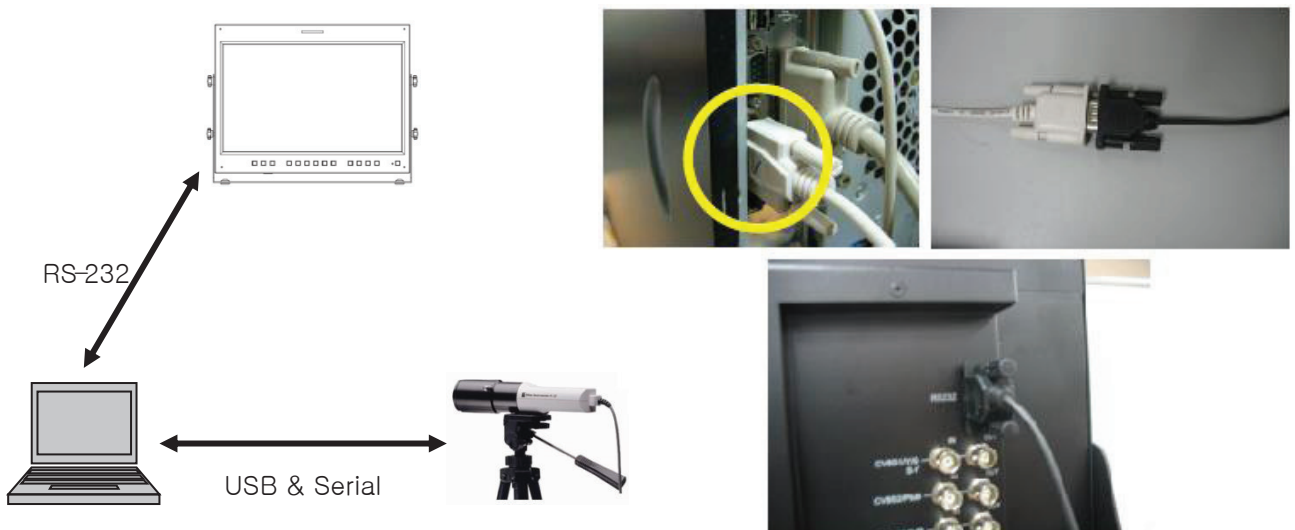


Fig 1: Connecting to the serial port

RS-232 Port (9 Pin Port)

Connect the monitor's factory RS232 port (PGM port) to the PC's serial port with the 9 pin serial cable.

Please do not connect the serial cable to the monitor directly. Use an additional cable or connector

RS - 232 port support model: 9 pin to 9 pin connector (TX,RX,GND only)

PGM port support model: 15 pin to 9 pin connector

14.5 CABLIBRATION S/W INSTALLATION

If you are connecting an X-Rite, CA-210, CS-200, or an Eye-One, connect the probe with the PC through the USB port.

Those probes which connect with USB should install the device driver offered by the measurement device company.

(The XVM-245W supports the Klein K-10, Konica-Minolta CA-210, CS-200 and X-Rite i1 Display3 probes)

Put the measurement device facing toward the center of the monitor.



Set the input source of the monitor as SDI-A.

FCM Series, LHM Series: After input the DVI input signal, set the input source of the monitor as DVI

If you pre-heat (or turn on) the monitor for more than 30 minutes before the calibration, you can get a more accurate result.

14.6 CABLIBRATION S/W INSTALLATION

CALIBRATION PROCEDURE

1. Launch the calibration program. The main window appears as below.

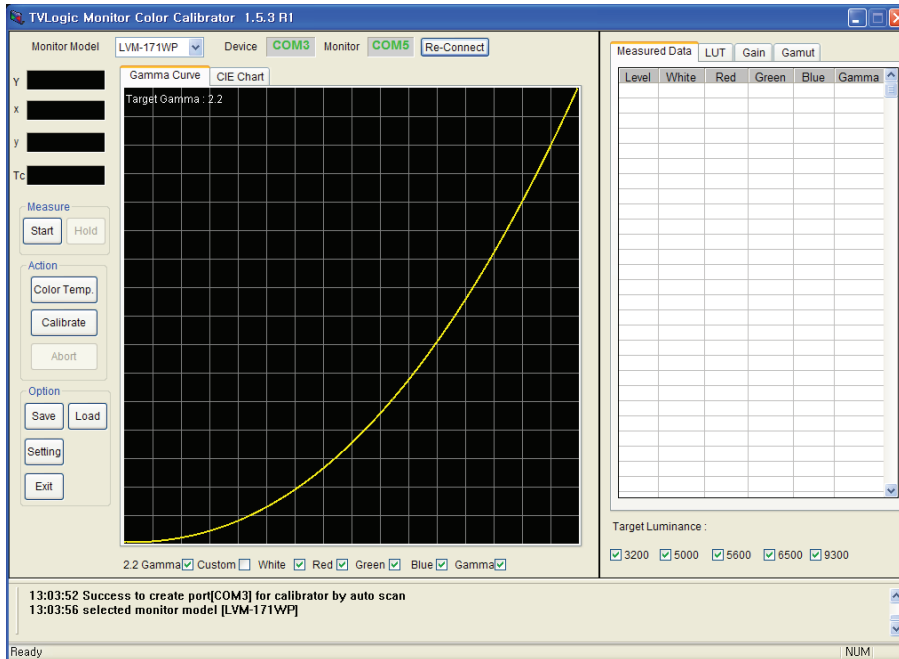


Fig 2 Calibration main window

2. The probe and the monitor's ports will be displayed on the top of the screen. If see the port's sign highlighted in green, it the monitor and the probe is well connected. If it is not, the port's sign will be highlighted in red.

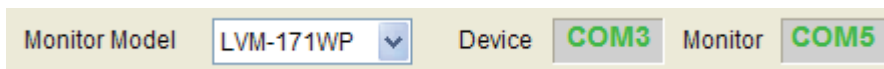


Fig 3 Status of connected serial port

14.7 CABLIBRATION S/W INSTALLATION

3. Our calibration software supports the automatic detection of the applied model connected for most of our monitors.
However, monitors using the Genesis scaler (LVM-071W, LVM-091W, LVM-XX2W, FCM and LHM series) does not support feature. In this case, you must choose the applied model manually. Afterwards, click the "Re-Connect" button for re-connection.
 4. If the measuring device is not detected, check and make sure that the "Measuring Device" selection under the Setting menu is selected correctly.
 5. Before starting the calibration, set the gamma and target luminance level in the Settings menu. (See 3.Setting for more info)
- NOTE:** To calibrate the XVM-245W using K-10 probe, select the XVM cal file of K-10 in the setting by pressing the "Set" button next to the measuring device selection.
6. Click the "Calibrate" button for the adjustment of the Gamma curve and color temperatures.

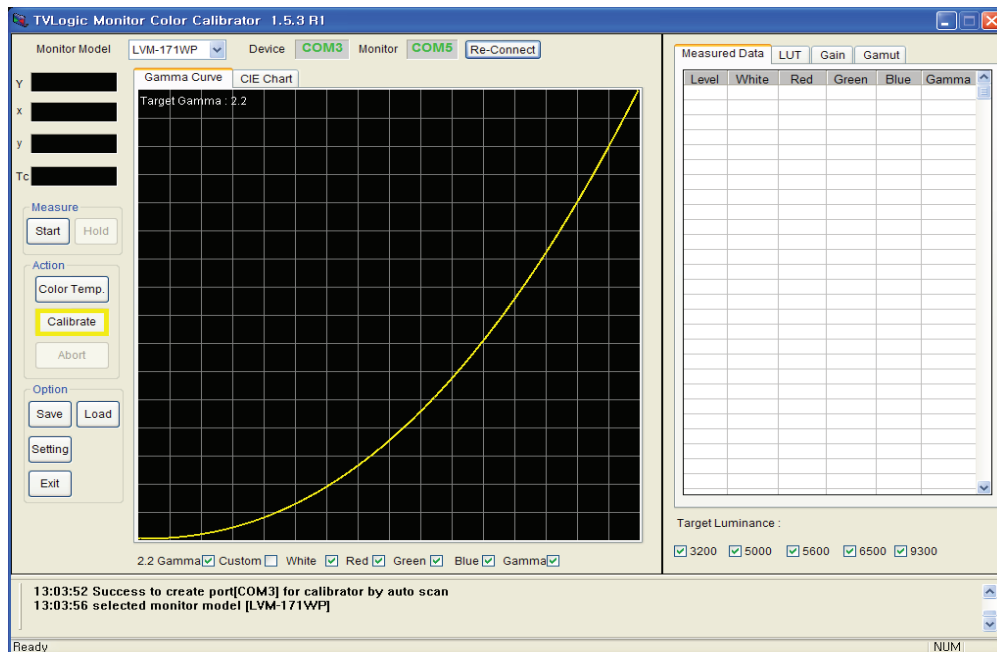


Fig 4 Program Calibrating Monitor

14.8 CABLIBRATION S/W INSTALLATION

7. A message stating "Finished calibrating LCD Panel" will be displayed if your calibration procedure was successful.

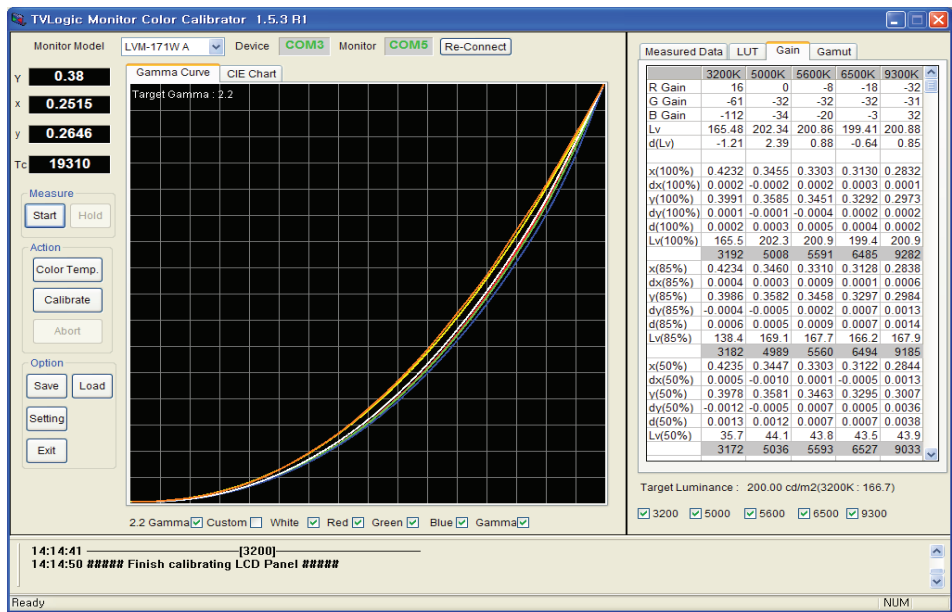


Fig 5 Completed calibration

14.9 CABLIBRATION S/W INSTALLATION

Saving the Calibration data

1. To save the calibration result data, please click the “Save” button.

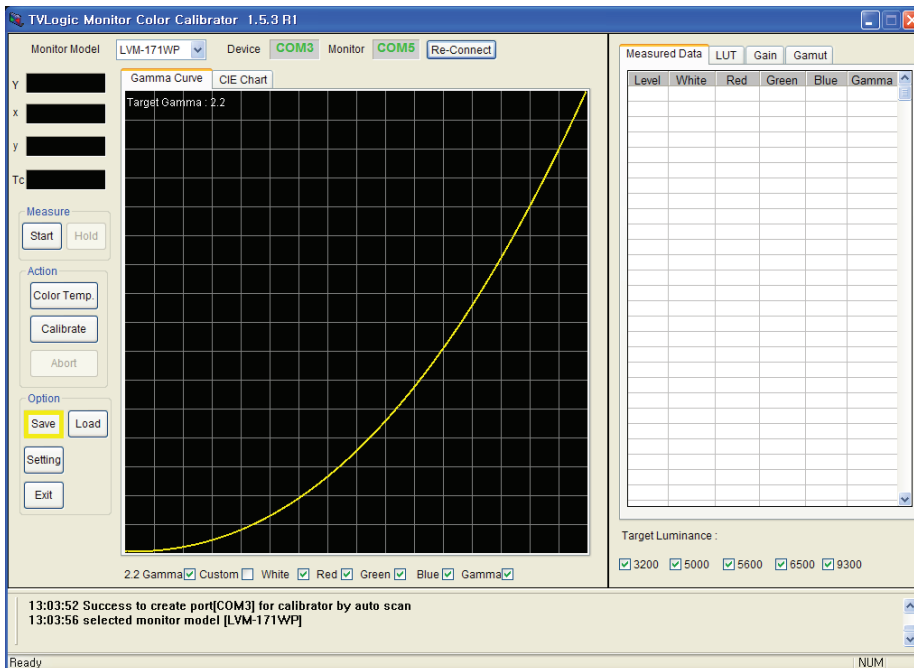


Fig 6 Save calibration result

2. Input the Monitor's serial number (or File name)

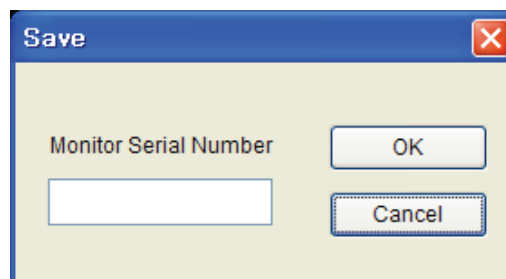


Fig 7 Save file dialog

3. File will be saved under the directory: “C:/Program Files/TvLogic/Calibrator/data”

14.10 CABLIBRATION S/W INSTALLATION

3. CL-SOFT SETTINGS

The Settings menu is located on the bottom left hand side of the calibration program. Under the Settings menu, you can set the following various settings.

Calibration Tab

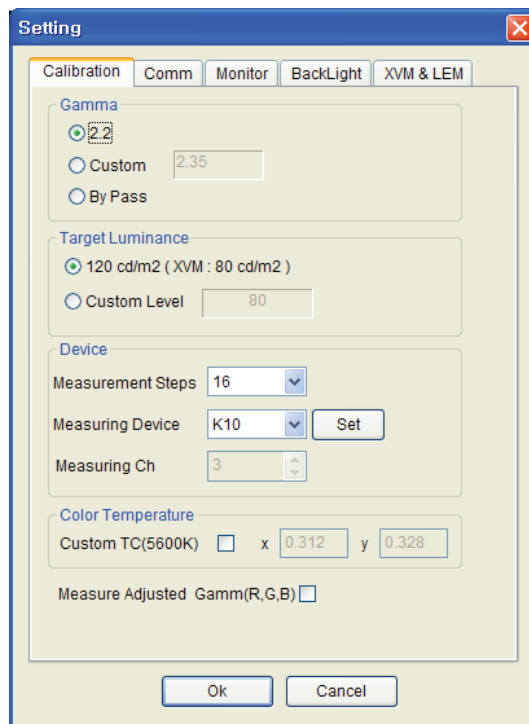


Fig 8 Setting calibration dialog

Gamma

Gamma 2.2 is the default setting. However, the user can change it using the "Custom" menu. It also allows the user to bypass the Gamma adjustment by using the "By pass" option.

Target Luminance

When adjusting the color temperature, the user can set the target luminance value. The user can also set the custom target luminance by using the "Custom Level" menu.

14.11 CABLIBRATION S/W INSTALLATION

Measurement Steps

When adjusting the Gamma value, each measuring interval from 1 to 64 steps can be selected. The lower the figure, the more precise measuring data can be achieved. The recommended step size is 16.

Measuring Device

The user can choose from 6 different probes: Klein K-10, X-Rite (DTP94), CA-210, CS-200, DK-PM5639 and the Eye-One.

Set

This button is activated only when the K-10 is selected.

0 Cali

This button is activated only when the CA-210 is selected. Clicking the button will perform zero calibration.

Measuring Ch

This menu supports the CA-210 probe for color coordinates and data channel selection.

Custom TC (5600K)

The user can program the custom color coordinates in 5600K color space.

Measure Adjusted Gamma (R, G, B)

This feature is used to measure red, green and blue after the gamma correction.

14.12 CABLIBRATION S/W INSTALLATION

Comm Tab

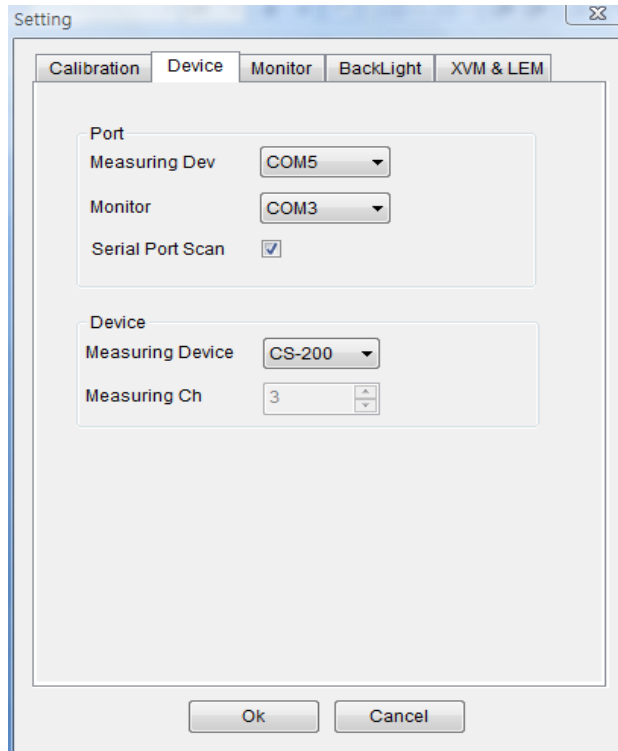


Fig 9 Setting communication dialog

Measuring Dev

Measurement device port selection

Device:

Klein K-10 , X-Rite (DTP94), CA-210, CS-200, DK-PM5639
EYE-ONE, Specbos 1211

Measuring Device Selection:

The user can choose from 7 different probes: Klein K-10, X-Rite (DTP94), CA-210, CS-200, DK-PM5639 , Specbos 1211, i1Display2 and the i1Display3.

Monitor

Monitor connection port selection

Serial Port Scan

Activates automatic port scan for connected devices.

14.13 CABLIBRATION S/W INSTALLATION

Monitor

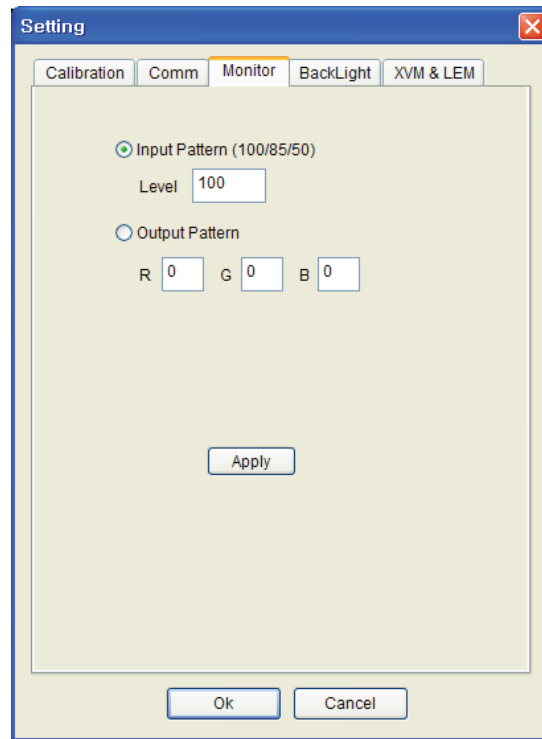


Fig 10 Setting pattern dialog

Input Pattern/Output Pattern

The user can display the input pattern or output pattern on the monitor. The input level can be selected between the ranges of 50, 85 and 100. Each output level for R, G, and B can be selected from 0 to 255 (8 BIT) and 1024 step (10 BIT). After the input of the appropriate values, click the "Apply" button.

14.14 CABLIBRATION S/W INSTALLATION

Backlight

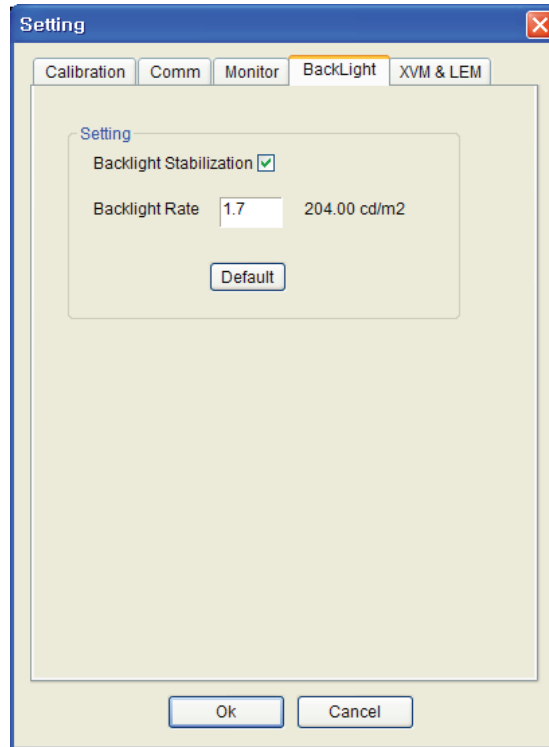


Fig 11 Setting backlight dialog

Backlight Stabilization

After powering up, the LCD panel needs some time for the stabilization of the backlight. This process takes about 20 ~ 60 min. We recommend the user to choose the “Backlight Stabilization”. When the user selects this function, the calibration procedure will start immediately once the backlight is stabilized.

Backlight Rate

Backlight rate is a ratio to set the target brightness value.

This feature is not available for LVM-XX0W series.

14.15 CABLIBRATION S/W INSTALLATION

COLOR TAB

LEM/ XVM MODEL

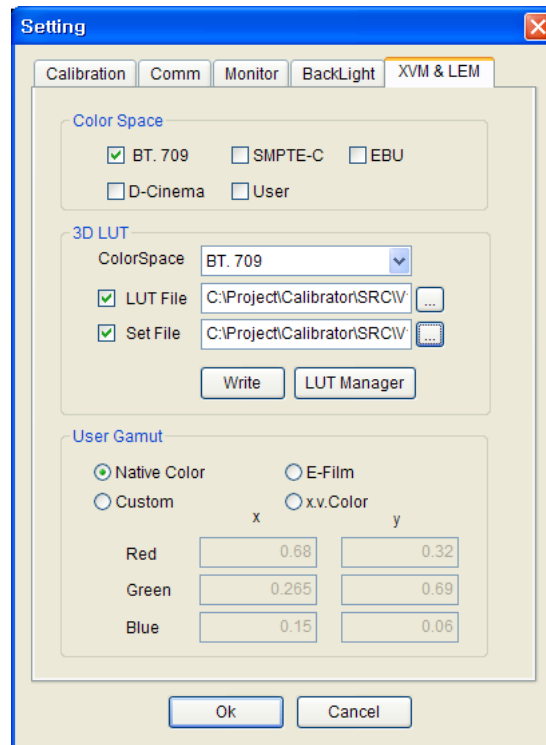


Fig 12 Setting XVM&LEM model dialog

Color Space

Color space selection for XVM and LEM Calibration

3D LUT

Write: Save the loaded LUT to connected monitor.

LUT Manager: User's LUT support function

User Gamut

If the "User" box is selected in the Color Space selection above, the User LUT will be programmed to the color space of the monitor after calibration.

14.16 CABLIBRATION S/W INSTALLATION

Import Tab

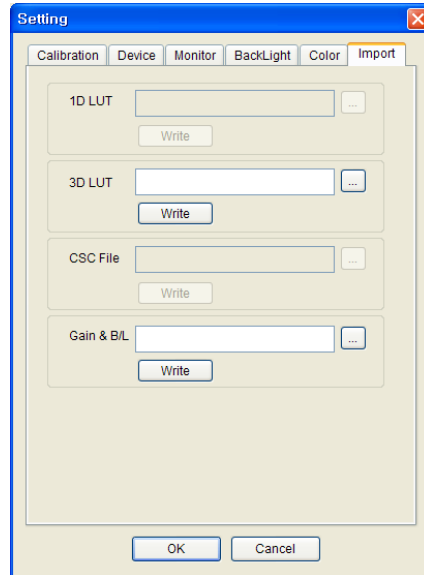


Fig 13 Setting LUT

1D LUT

This channel is used to apply the stored 1D LUT File to the monitor.

3D LUT

This channel is used to apply the stored 3D LUT File to the monitor.

CSC File

This channel is used to apply the stored CSC File to the monitor.

Gain & B/L

This channel is used to apply the File which stored Gain and Backlight values to the monitor.

14.17 CABLIBRATION S/W INSTALLATION

K-10, i1 Display3 Setting Dialog



Fig 14 Device Setting

When the K-10 or i1 Display3 is connected to PC for the first time, the “Device Setting” pop-up appears as shown above. (Fig 14)

Default LCD

This channel is used for color calibration of normal LCD display which is CCFL backlight type.

LED B/L LCD

This channel is used for color calibration of LED backlight type displays like XVM-245W.

OLED

This channel is used for color calibration of OLED panel equipped displays like LEM-150 and TDM-150W.

WCG-CCFL

This channel is used for color calibration of LCD display which is Wide Color Gamut – CCFL backlight type.

- ※ Once the Device Setting is completed, above pop-up will not appear again. If you want to re-set the options, enter the [Setting] menu and select the [Calibration] tab and then press the “Set” button on [Measure Device].

14.18 CABLIBRATION S/W INSTALLATION

Uniformity Calibration (XVM-245W)

To proceed the Panel Uniformity Calibration of XVM-245W, please refer to the following:

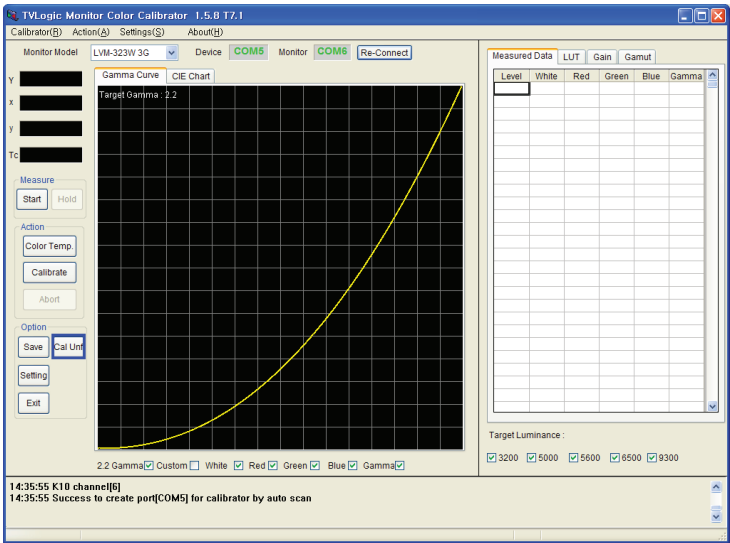


Fig 15 Calibration Uniformity

Center: 980, Auto Move: Unchecked

After clicking the button, the Calibration Uniformity pop-up appears as below. Then set the values as follows:

Center: 980, Auto Move: Unchecked

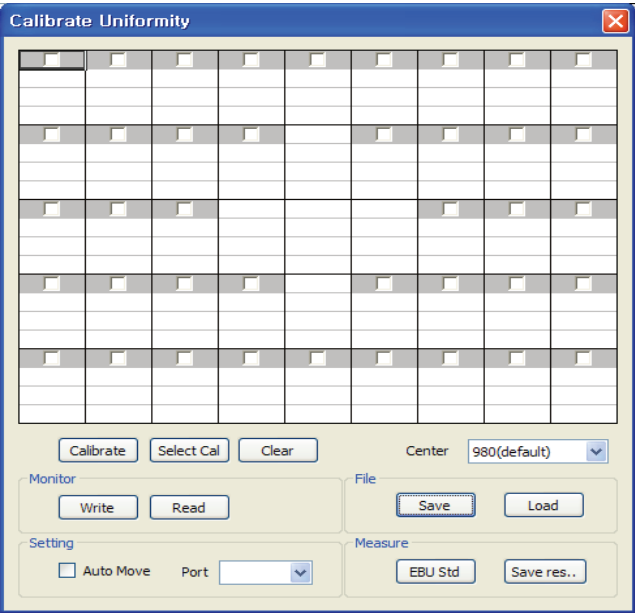


Fig 16 Calibration Uniformity Dialog

14.19 CABLIBRATION S/W INSTALLATION

Click "Calibrate" button to start the Uniformity Calibration.

After starting the procedure, a black mark will be appeared on the center of the screen. Put the measurement device on the black mark and click the next step button. Repeat the same until the calibration is done.

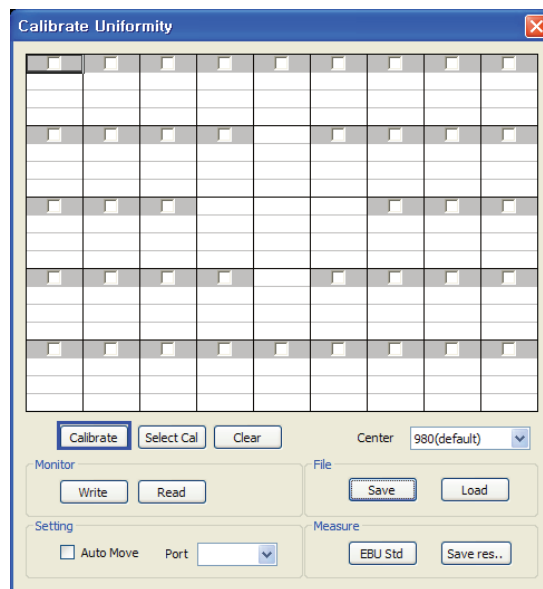
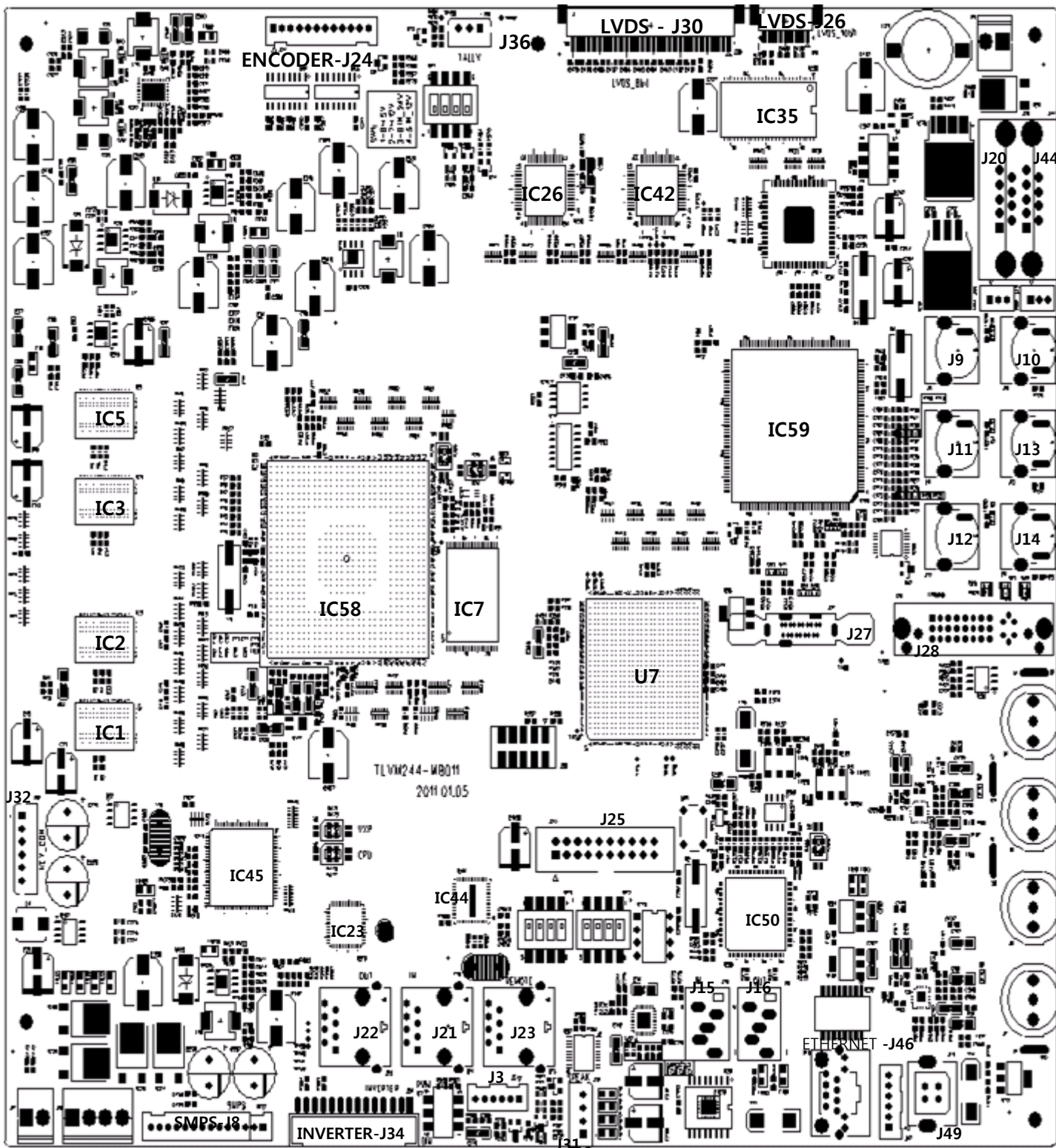


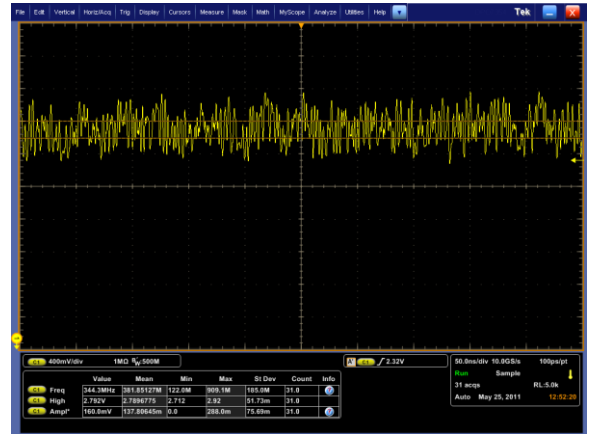
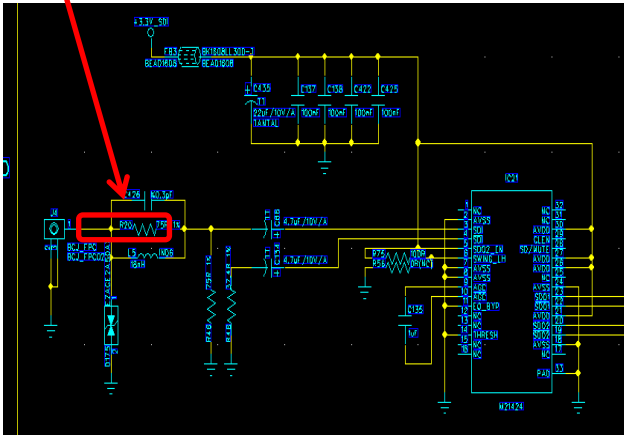
Fig 17 Calibration Uniformity Progress

15. CIRCUIT BOARD LAYOUT

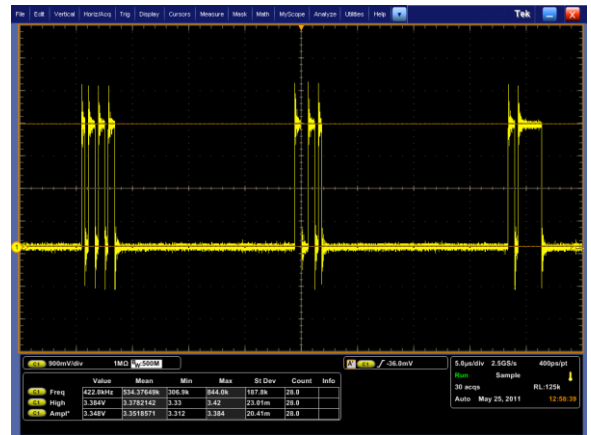
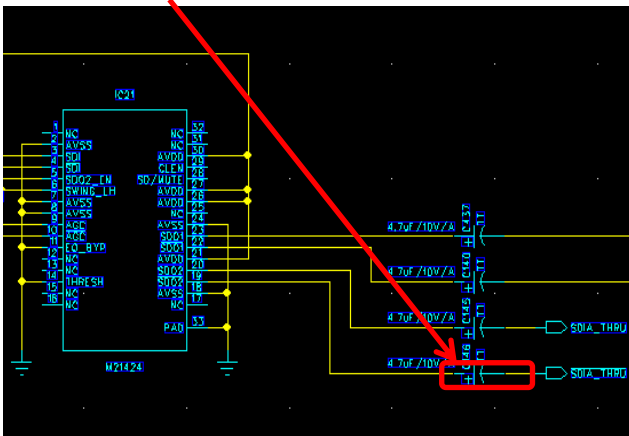


16.1 OSCILLOSCOPE

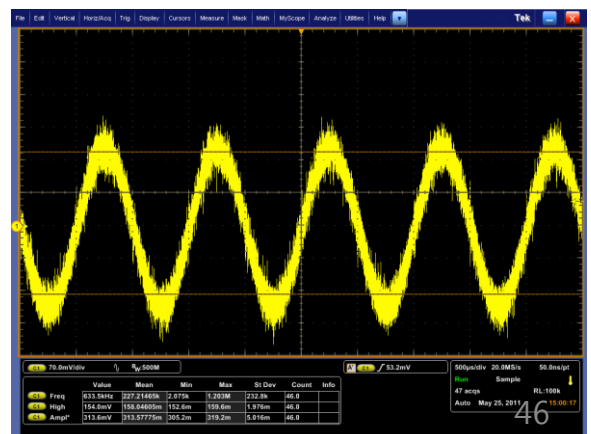
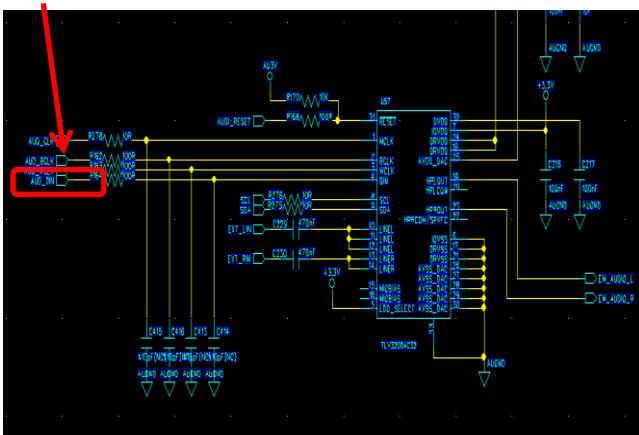
• SDI_IN



• SDIA_THRU

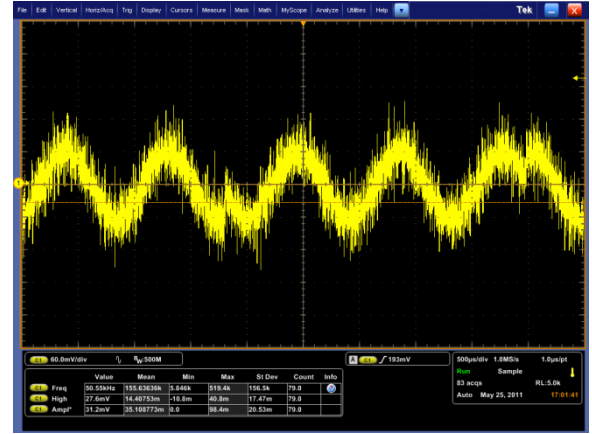
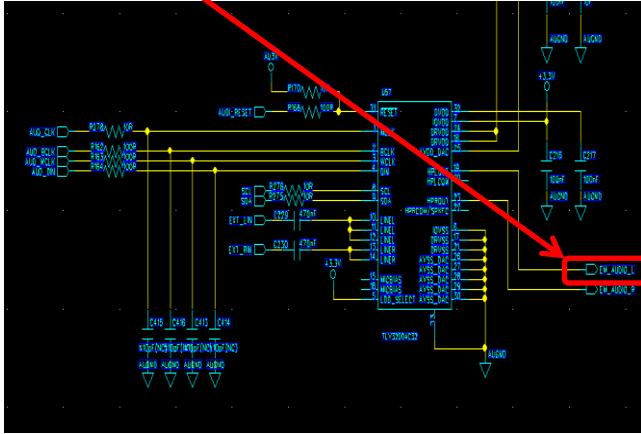


• AUDIO_DIN

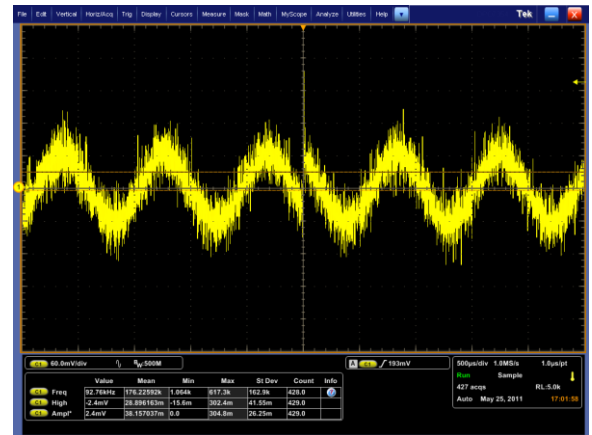
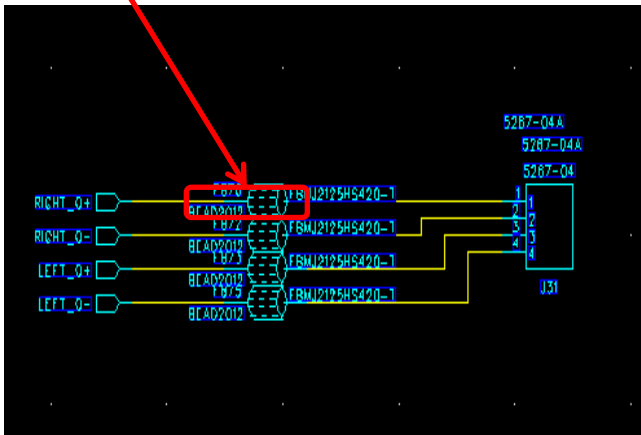


16.2 OSCILLOSCOPE

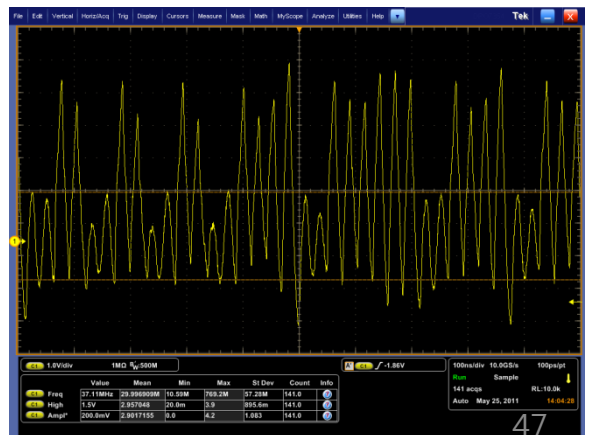
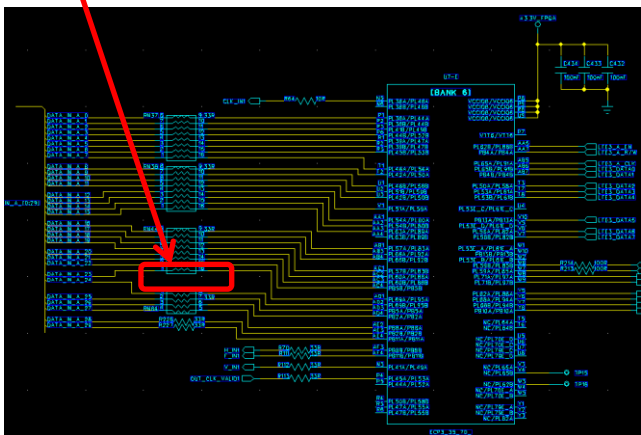
• EM_AUDIO_L



• RIGHT_O+

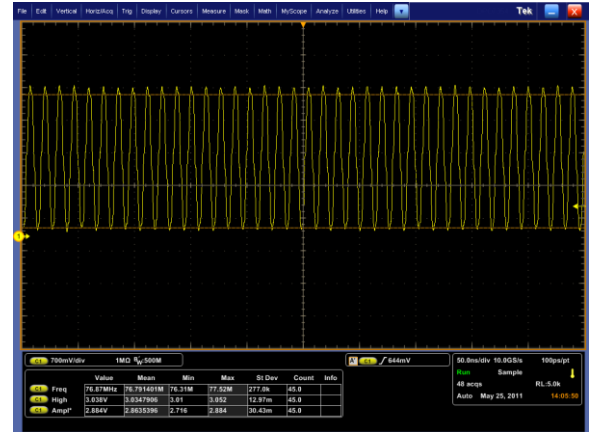
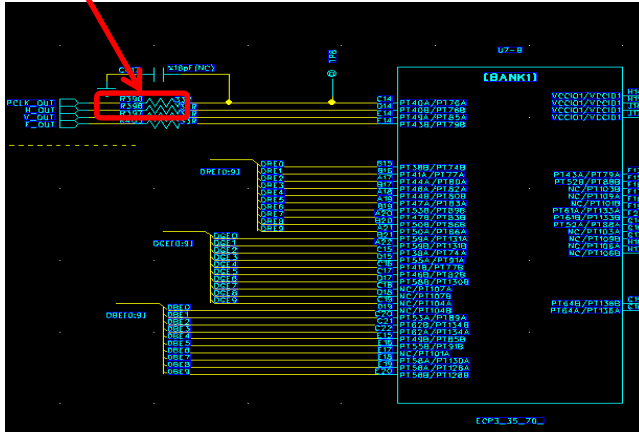


• DATA_IN_A

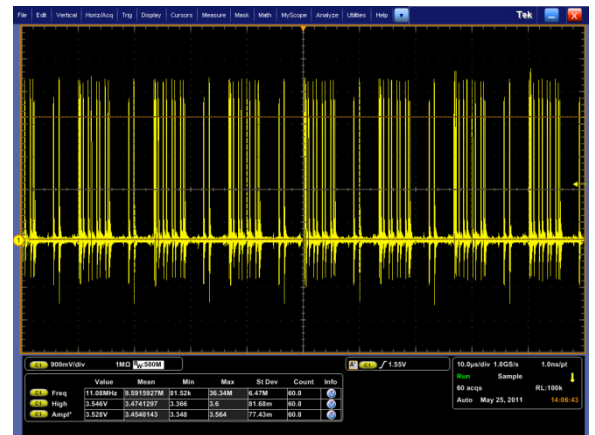
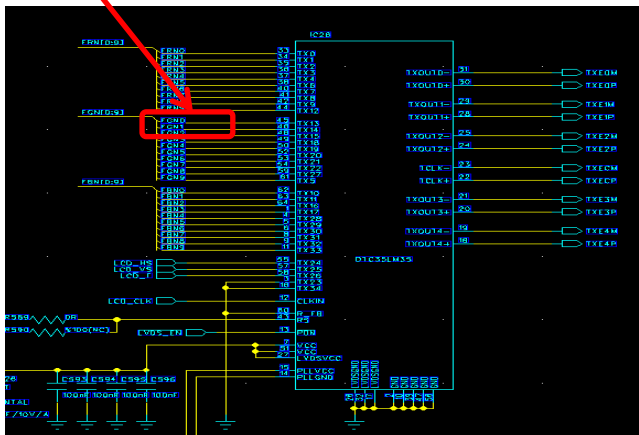


16.3 OSCILLOSCOPE

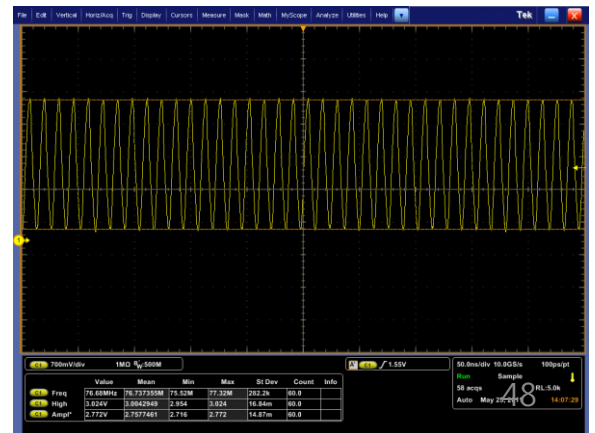
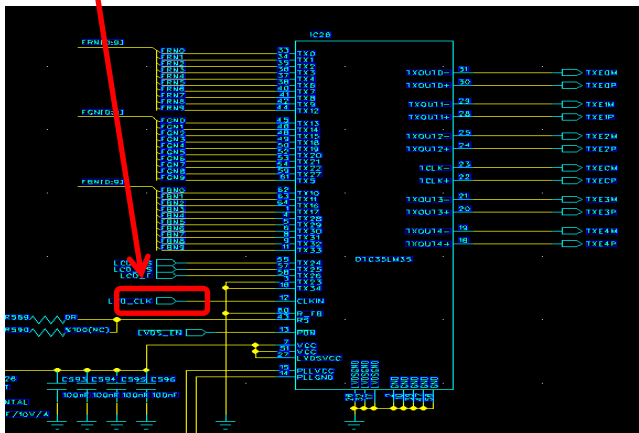
• PCLK_OUT



• FGNO

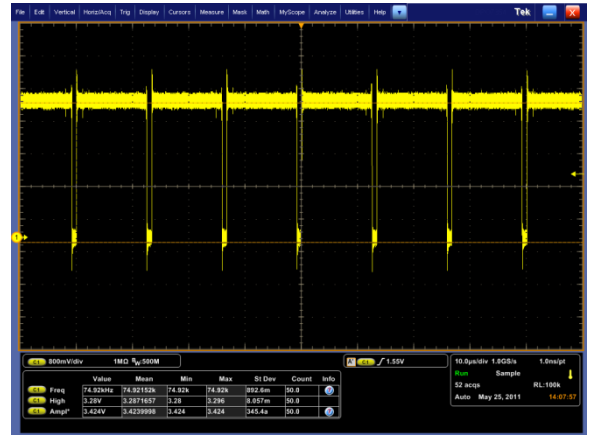
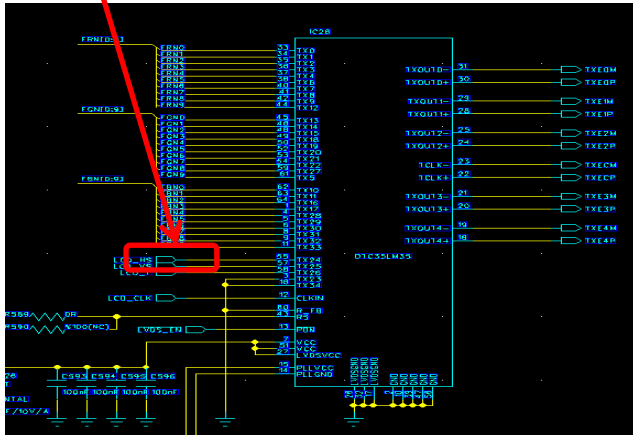


• LCD_CLK

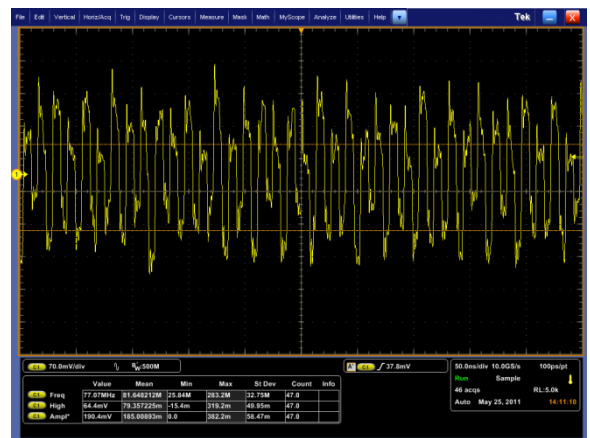
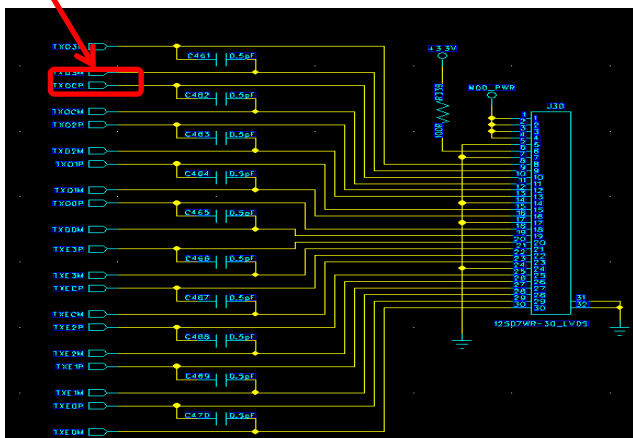


16.4 OSCILLOSCOPE

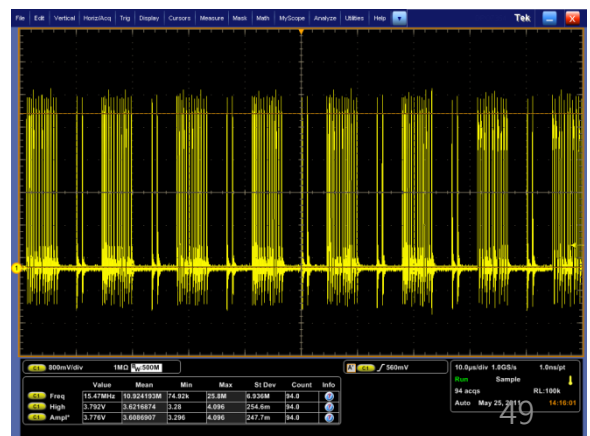
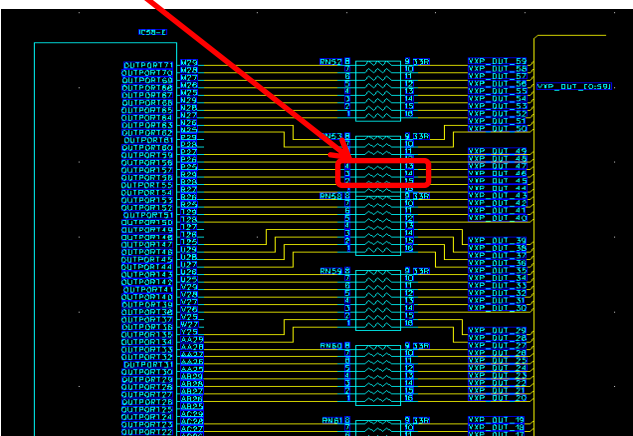
• LCD_HS



• TXOCP



• VXP_OUT



17.1 PIN ASSIGNMENT SPECIFICATION

NO.	Symbol
1	NC
2	CB_RX
3	CB_TX
4	NC
5	GND
6	CB_DSR
7	NC
8	CB_CTS
9	NC
10	GND
11	GND

Reference No : J20
Item : RS232 Control

NO.	Symbol
1	NC
2	USB_IF -
3	USB_IF +
4	GND
5	GND
6	GND

Reference No : J49
Item : USB

NO.	Symbol
1	ENET_TX +
2	ENET_YX -
3	ENET_RX +
4	
5	
6	ENET_RX -
7	
8	
9	
10	
11	
12	
13	NC
14	NC
15	TIP
16	TIP

Reference No : J46
Item : Ethernet

17.2 PIN ASSIGNMENT SPECIFICATION

NO.	Symbol
1	GND
2	REMOTE6
3	POWER_EN
4	TX1
5	RX1
6	5V_STB

Reference No : J32
Item : Key Control

NO.	Symbol
1	24Vdc
2	GND
3	GND
4	24Vdc

Reference No : J18
Item : DC Jack

NO.	Symbol
1	BKL_SCL
2	BKL_SDA
3	BKL_CTRL
4	BKL_EN
5	GND
6	GND
7	GND
8	GND
9	GND
10	24V
11	24V
12	24V
13	24V
14	24V

Reference No : J8
Item : SMPS to Board

17.3 PIN ASSIGNMENT SPECIFICATION

NO.	Symbol
1	RIGHT_0 +
2	RIGHT_0 -
3	LEFT_0 +
4	LEFT_0 -

Reference No : J31
Item : Speaker

NO.	Symbol
1	NC
2	APERTURE_A
3	APERTURE_B
4	BRIGHT_A
5	BRIGHT_B
6	CHROMA_A
7	CHROMA_B
8	VOLUME_A
9	VOLUME_B
10	CONTRAST_A
11	CONTRAST_B
12	GND

Reference No : J24
Item : Encoder

NO.	Symbol
1	24V
2	24V
3	24V
4	24V
5	24V
6	GND
7	GND
8	GND
9	GND
10	GND
11	BKL_SCL
12	BKL_EN
13	BKL_CTRL
14	BKL_SDA

Reference No : J34
Item : Inverter

17.4 PIN ASSIGNMENT SPECIFICATION

NO.	Symbol
1	TALLY_R / Y
2	GND
3	TALLY_G / Y

Reference No : J36
Item : Tally

NO.	Symbol
1	GND
2	TXE4M
3	TXE4P
4	GND
5	TXO4M
6	TXO4P
7	GND
8	BKL_SCL
9	BKL_SDA

Reference No : J26
Item : LVDS

Reference No : J30
Item : LVDS

NO.	Symbol
1	MOD_PWR
2	MOD_PWR
3	MOD_PWR
4	MOD_PWR
5	GND
6	3.3V
7	GND
8	TXO3P
9	TXO3M
10	TXOCP
11	TXOCM
12	TXO2P
13	TXO2M
14	GND
15	TXO1P
16	TXO1M
17	GND
18	TXO0P
19	TXO0M
20	TXE3P
21	TXE3M
22	TXECP
23	TXECM
24	GND
25	TXE2P
26	TXE2M
27	TXE1P
28	TXE1M
29	TXE0P
30	TXE0M
31	GND
32	GND

17.5 PIN ASSIGNMENT SPECIFICATION

NO.	Symbol
1	AUGND
2	NC
3	EXT_RIN
4	NC
5	EXT_LIN

Reference No : J15

Item : Audio In

NO.	Symbol
1	AUGND
2	NC
3	RIGHT
4	MUTE
5	LEFT

Reference No : J16

Item : Audio Out

NO.	Symbol
1	TX_H
2	TX_L
3	RX_H
4	NC
5	NC
6	RX_L
7	NC
8	GND
9	GND
10	GND
11	NC
12	NC

Reference No : J21

Item : GPI In

17.6 PIN ASSIGNMENT SPECIFICATION

NO.	Symbol
1	TX_H
2	TX_L
3	RX_H
4	NC
5	NC
6	RX_L
7	NC
8	GND
9	GND
10	GND
11	NC
12	NC

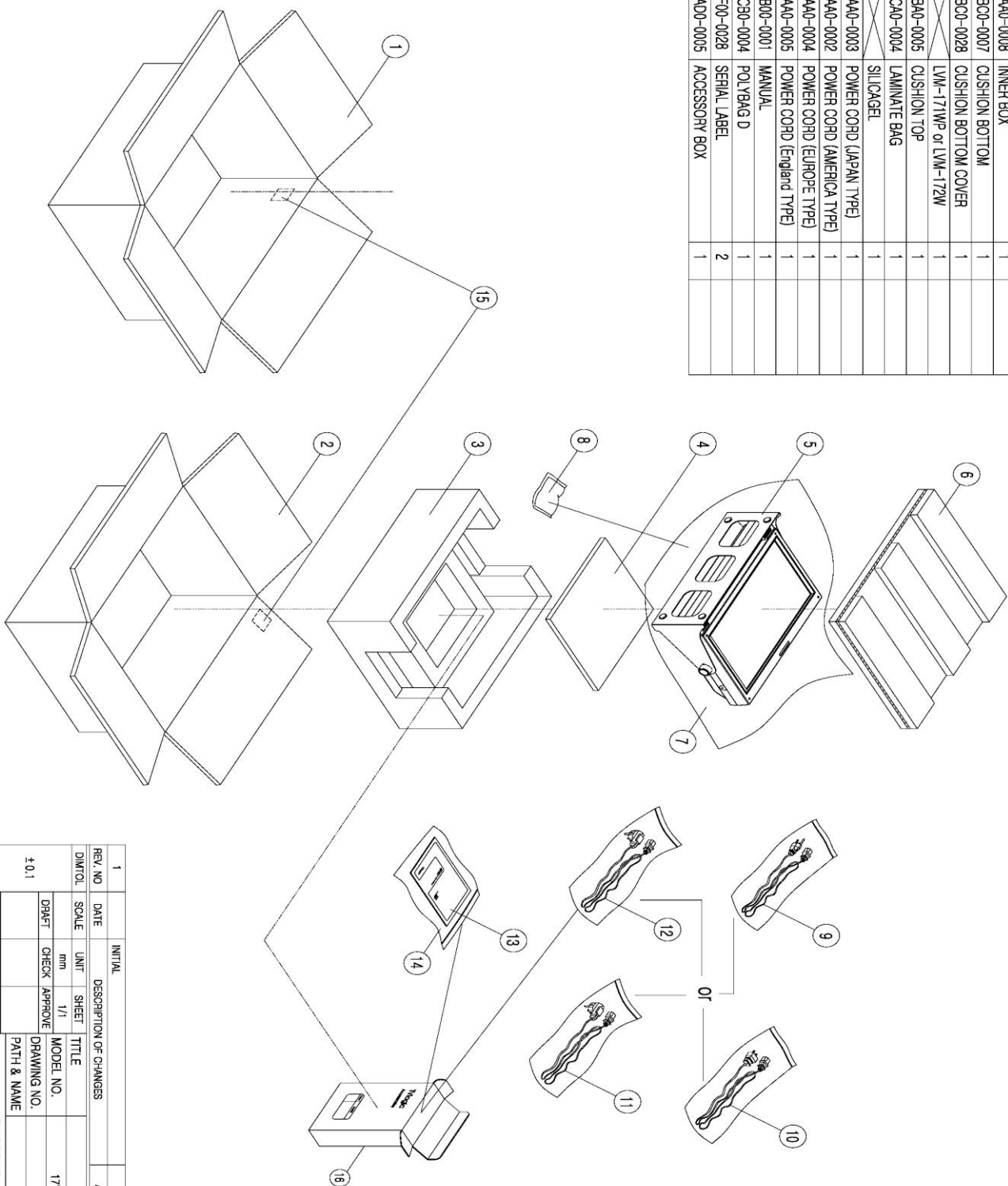
Reference No : J22
Item : GPI Out

NO.	Symbol
1	REMOTE0
2	REMOTE1
3	REMOTE2
4	REMOTE3
5	REMOTE4
6	REMOTE5
7	REMOTE6
8	GND
9	GND
10	GND
11	NC
12	NC

Reference No : J23
Item : GPI Remote

18. PACKAGE DRAWING

NO	ERP CODE	DESCRIPTION	QTY	REMARK
1	CACD-0008	OUTER BOX	1	
2	CMAA-0008	INNER BOX	1	
3	CABCO-0007	CUSHION BOTTOM	1	
4	CABCO-0028	CUSHION BOTTOM COVER	1	
5		LVM-177WP or LVM-172W	1	
6	CABA-0005	CUSHION TOP	1	
7	CACA-0004	LAMINATE BAG	1	
8		SILICAGEL	1	
9	CBAA-0003	POWER CORD (JAPAN TYPE)	1	
10	CBAA-0002	POWER CORD (AMERICA TYPE)	1	
11	CBA-0004	POWER CORD (EUROPE TYPE)	1	
12	CBA-0005	POWER CORD (England TYPE)	1	
13	CBBD-0001	MANUAL	1	
14	CACB-0004	POLYBAG D	1	
15	BAFO-0028	SERIAL LABEL	2	
16	CADD-0005	ACCESSORY BOX	1	



1	INITIAL	DESCRIPTION OF CHANGES				APPROVE
REV. NO	DATE	UNIT	SHEET	TITLE		
DIMTOL.	SCALE	mm	1/1	MODEL NO.	17"	
	DRAFT	CHECK	APPROVE	DRAWING NO.		
± 0.1				PATH & NAME		
11-04-13					TV LOGIC INC.	

MEMO

Developed by



For more information please visit : <http://www.tvlogic.tv>

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KOREA

Tel : +82-70-8668-6611, Fax : +82-2-6123-3201, Email: sales@tvlogic.co.kr