plura®

Operating Instructions

PRM-3G LED & Integrated OLED Series

PRM-3G Series

PRM-217-3G
PRM-224-3G-O

PREACUTION----------**6**

1. OVERVIEW----------**8**

2. GENERAL FEATURES----------**8**

3. FUNCTIONAL EXPLANATION OF EACH PART ---------- **10**

1) FRONT PANEL---------- 10

- *PRM-224-3G-O* ---------- *10*
- *Front Keys Arrangements* ---------- *10*
- *Front Keys Operations*---------- *11*
- *Front panel LED Operations*---------- *11*
- *Speaker Out*---------- *11*

2) REAR PANEL ---------- 12

- *Connection Details* ---------- *12*
- *Power IN* ---------- *12*
- *RJ-45* ---------- *12*
- *Interface description*---------- *13*

4. MENU OVERVIEW ---------- **14**

1. TO SHOW AND REMOVE THE MENU ---------- 14
2. TO GO TO THE NEXT LEVEL---------- 14
3. TO GO BACK TO THE PREVIOUS LEVEL ---------- 14
4. TYPICAL MENU OPERATION---------- 14

5. BASIC OPERATION ---------- **14**

1. TURNING ON THE MONITOR---------- 14
2. VOLUME ADJUSTMENT ---------- 15
3. ON SCREEN MENU LANGUAGE SELECTION---------- 15

6. ON SCREEN MENUS SELECTION AND ADJUSTMENT ---------- **15**

1. HOW TO ADJUST THE OSD SCREEN ---------- 15

7. SELECT VIDEO INPUT ---------- **16**

1. HOW TO SELECT VIDEO SOURCE BY OSD---------- 16

8. PICTURE MENU OPTIONS ---------- **17**

1) VIDEO MENU OF DIFFERENT INPUT MODES---------- 17

2) ADJUST ---- 17
3) COLOR TEMPERATURE CONTROL ---- 17
4) SCAN ---- 18
5) ASPECT RATIO ---- 18
6) ZOOM ---- 18
7) MONO/BLUE ONLY ---- 19
8) PEAKING FILTER ---- 19
9) FALSE COLOR ---- 19
10) HDR MODE - OPTIONAL ---- 20
11) NR (NOISE REDUCTION) ---- 20
12) OUTPUT RANGE ---- 20
13) PC MENU (PC MODE ONLY) ---- 20
14) NTSC SETUP (VIDEO MODE ONLY) ---- 21

9. AUDIO MENU OPTIONS ---- 21

1) MAIN / SUB AUDIO OUT ---- 21
2) SDI 1 / SDI 2 AUDIO OUTPUT CHANNEL ---- 21
3) SDI 1 / SDI 2 AUDIO GROUP ---- 21
4) LEVEL METER ---- 22
5) LKFS - AUDIO LOUDNESS REAL-TIME MONITORING & LOGGING ---- 23
6) VOLUME ---- 24

10. MARKER MENU OPTIONS ---- 25

1) MARKER & USER MARKER ---- 25
2) SAFETY AREA ---- 25
3) CENTER MAKER ---- 25
4) MARKER WIDTH ---- 26
5) MARKER COLOR ---- 26
6) PRESET1 & PRESET2 ---- 26

11. GPI MENU OPTIONS ---- 26

1) GPI CONTROL & GPI# ---- 26

12. SETUP MENU OPTIONS ---- 27

1) SETUP LOAD & SETUP SAVE ---- 27
2) FUNCTION 1 ~6 ---- 28

3) ON SCREEN DISPLAY ---- 29
- *OSD Option* ---- *29*
- *Time code* ---- *29*
- *Under Monitor Display (color: Tally R/G mode action)* ---- *29*
- *Input ID* ---- *29*
- *SDI Signal state* ---- *30*

4) ADVANCED ---- 30
- *Information* ---- *30*
- *Control* ---- *30*
- *Screen Control* ---- *30*
- *Fan Control* ---- *31*
- *Network Config* ---- *31*
- *X768 Mode* ---- *31*

5) CAPTION ---- 31

6) WAVEFORM FORMAT (FOR SDI INPUT ONLY) ---- 32
- *Y-Pb-Pr Waveform* ---- *32*
- *Y-Waveform + Vector Scope* ---- *32*
- *Double* ---- *33*
- *Y-Waveform + Vector Scope Trans* ---- *33*
- *Vector Color* ---- *33*
- *Line Select* ---- *33*
- *Line #* ---- *34*
- *Line Display* ---- *34*

7) VIDEO RANGE ---- 34

8) DUAL LINK MODE (SDI ONLY) ---- 34

9) SET ID & ACTIVE SET ID ---- 34

13. PIP (PICTURE IN PICTURE) ---- 35

1) PIP ON/OFF ---- 35

2) INPUT SOURCE ---- 35

3) ASPECT RATIO ---- 35

4) POSITION ---- 36

5) PIP BLEND ---- 36

6) PIP SWAP ---- 36

7) AUDIO SELECT ---- 36

14. OSD TREE ---------- 37

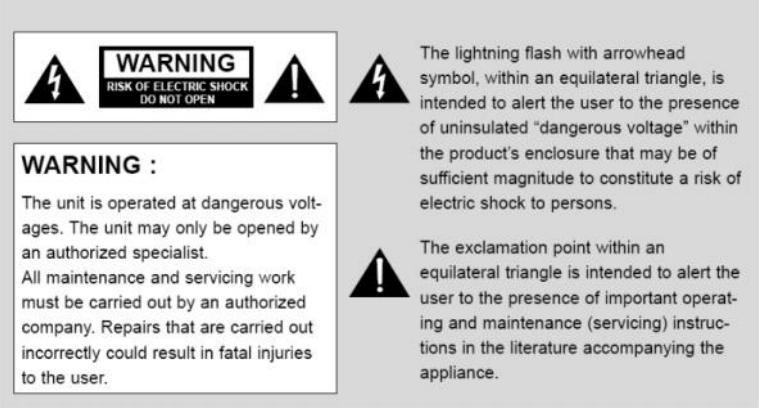
1) VIDEO ---------- 38
2) AUDIO ---------- 39
3) MARKER ---------- 40
4) GPI ---------- 41
5) SETUP ---------- 42
6) PIP ---------- 43

15. MECHANICAL DIMENSION ---------- 44

1) PRM-224-3G-O ---------- 44

PREACUTION

Before operating this unit, please read this manual carefully.



WARNING:

To reduce the risk of any electric shock, please do not remove the back cover. No user serviceable pa rts inside. Refer any service matters to qualified service personnel. To prevent fire or shock hazard, do not expose the rear of the set to rain or moisture. Do not rub, clean or hit the Active Matrix LCD with object that may scratch, mark, or damage the Active Matrix LCD permanently.

CAUTION:

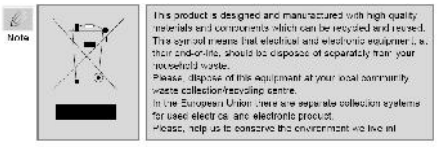
Unauthorized tampering with the inside of the monitor invalidates the warranty.
The manufacturer shall not warrant for any damage caused by improper maintenance and/or repair or work by third parties.
Important safeguards for you and your new product:
Your product has been manufactured and tested with your safety in mind. However, improper use can result in potential electrical shock or fire hazards. Please read and observe the following safety points when installing and using your new product and save them for future reference.

1. *Read Instructions*

2. *Follow Instructions*
   All operating and use instructions should be followed.
3. *Retain Instructions*
   The safety and operating instructions should be retained for future reference.
4. *Notice Warnings*
   All warnings on the product and in the operating instructions should be adhered to.
5. *Cleaning*
   Disconnect the unit from the mains before cleaning the unit. Do not use abrasive cleaners. Use a damp cloth ONLY for cleaning.
6. *Water and Moisture*
   Do not use this product near water.
7. *Transporting Product*
   This product should be moved with care. Quick stops, excessive force and uneven surfaces may cause the product damages.
8. *Accessories*
   Do not use accessories not recommended by PLURA Inc. as they may cause hazards.
9. *Ventilation*
   Do not block any of the ventilation openings.

Install in accordance with the manufacturer's instructions.

10. *Power Sources*
    This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply, consult your power supply company.
11. *Power Lead Polarization*
    This product is equipped with a three-wire grounding-type cord. This is a safety feature. Do not use any other type power cord.
12. *Power Cord Protection*
    Power-supply cords should be dressed so that they are not likely to be pulled or pinched by items placed upon or against them.
13. *Lightning*
    For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent possible damage to the product due to lightning and power-line surges.
14. *Grounding the product*
    This product must be grounded properly to comply with the safety regulations in the country of use. If you are unsure of these regulations, please consult a qualified electrician.
15. *Servicing*
    Do not attempt to service this product by yourself as opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified service personnel.
16. *Damage Service Required*
    Isolate this product from the mains and refer to qualified service personnel under the following conditions:
    A. *If the power-supply cord or plug is damaged.*
    B. *If the front LCD front has been damaged.*
    C. *If the product does not operate correctly by following the operating instructions. Use only the user control buttons any improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.*
    D. *If the product has been dropped.*
    E. *If the product exhibits a distinct change in performance.*
17. *Safety Check*
    Upon completion of any service or repairs to this product, ask the service technician to p erform safety checks to determine that the product is in proper operating condition and t he warranty seal is provided.
18. *Mounting*
    The product should be mounted on a wall as recommended in the instructions.
19. *Power*
    This set operates on an AC supply; the voltage is as indicated on the label on the Manual. This appliance must be earthed at all times through the chassis as well as through the power lead.



1. OVERVIEW

New PRM-3G series including PRM-224-3G offers an elegant slim design integrated with Grade A - 10 BIT OLED 24.5" panel and delivers outstanding BLACK performance, very fast response time for smooth video with virtually NO motion blur, High contrast of 5000:1, wide viewing angle, accurate color reproduction and quality picture consistency that meets all your HD & SD Monitoring application. PRM-3G series also includes PRM-217-3G, Plura 17" FULL HD 1920x1080 Precision Broadcast LCD Series is built with Grade A - 10 BIT LED 17".

PRM Plura Precision Broadcast LCD Series supports 3 Gbps – 1080P/60P input capability as well as all other types of digital video formats HD & SD-SDI and analog video formats like RGB, Component and Composite signals.

2. GENERAL FEATURES

The new PBM-4K has the following advanced features:-

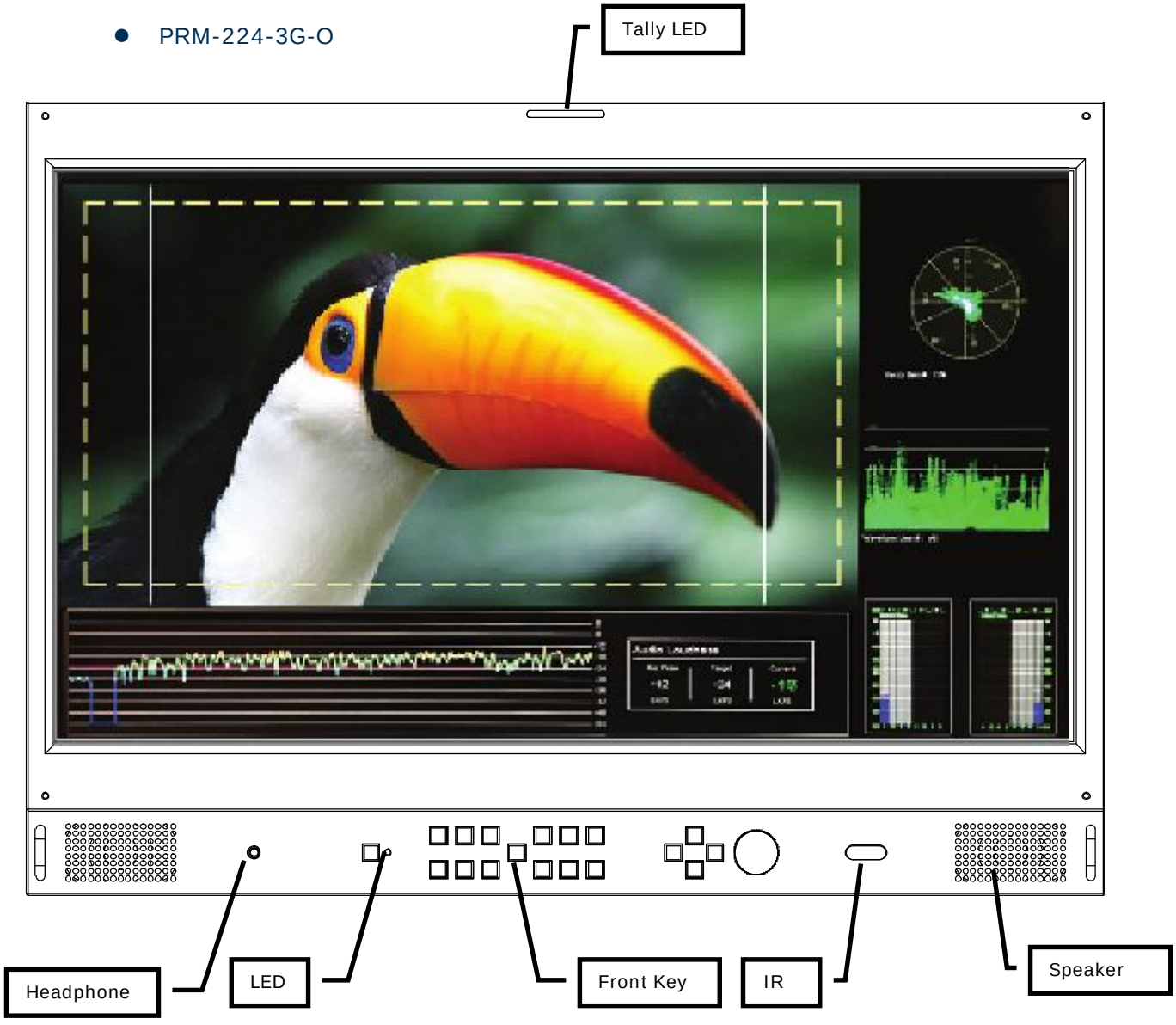
- 2 x 3G, 1.5G
- 10 bit panel color depth
- Supports up to 2048 x 1080 resolutions
- HDR (High Dynamic Range) capabilities – OPTIONAL
- PQ (SMPTE ST 2084) & HLG (Hybrid Log Gamma) – OPTIONAL
- Side by side HDR / SDR mode – OPTIONAL
- RGB 12 Bit Digital Signal Processing
- 178° Viewing Angle Display
- Gamma Selectable (0.8 – 3.0)
- Color Temperature – User, VAR, Adjustable (11000K TO 3200K)
- (ICAC) - Plura Intelligent Connection for Alignment & Calibration
- 3D LUT (ITU-R BT 2020, Native, BT.709, SMPTE-C, EBU, NTSC, D-Cinema, 709)
- Display Advanced Waveform & Vector Scope simultaneously with line select.
- Various and User defined Markers Display, Safe Area

- Programmable 6 User Front Pushbutton Controls & GPI
- LKFS AUDIO Measurement - Digital Loudness Audio Metering with selected channel measurement in LFKS scale
- LKFS AUDIO Logging using the optional PSC/500 controller S/W
- Closed Caption (608/708) – North American Market
- Cutting edge De-interlacing and Scaling Technology
- Fast Response Time for high motion video
- Internal Monitor Display (IMD)
- Ethernet & RS232 Remote Control
- Underscan / Overscan / Normal / Zoom
- Pixel to Pixel Mode, Tally, DC Operation
- False Color and Peaking Filter / Focus Assist
- Video Range test with adjustable Y & C values
- Display LTC & DVITC time code with line select
- Embedded Audio Input, Digital Audio Decoding
- Internal Pattern Generator and Wall Control System
- Built In Stereo Speaker, 16 CH Audio Metering Display
- Rack-Mount OPTIONAL
- Battery Mount OPTIONAL

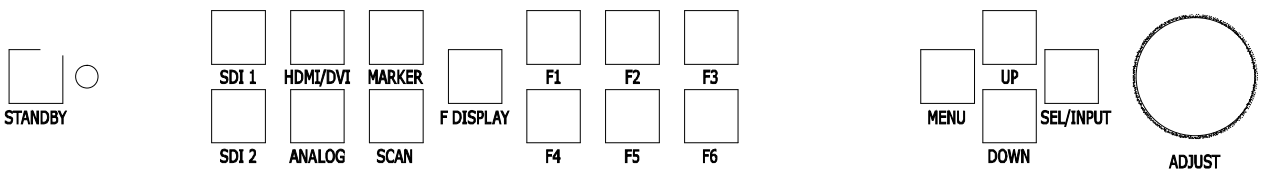
3. Functional explanation of each part

1) Front Panel

- PRM-224-3G-O



- Front Keys Arrangements



- Front Keys Operations

Key Name	Operation
STANDBY	► Power ON/OFF Button.
SDI 1	► Select SDI 1 source
SDI 2	► Select SDI 2 source
HDMI/DVI	► Select HDMI & DVI source
ANALOG	► Select ANALOG source ('Composite1' ->'Composite2' ->'Composite3' -> 'S-video' -> '.B.R' -> 'Y.Pb.Pr' -> 'PC')
MARKER	► Display Marker on Screen (Off -> 16:9 -> 4:3 ... -> 2.35:1)
SCAN	► Executes Scan function (Over-Scan -> Zero-Scan -> Under Scan-> Pixel to Pixel)
FUNCTION	► When pushed it will display a list of the 6 function keys and what they are currently set to. ► F1 ~ F6 Programmable KEYS.
F1 ~ 6	► Executes functions of user selected UNDEF, Marker Size, Audio LV Meter, Wf/Vector, H/V delay. Aspect, Audio Loudness(LKFS), Mono/Blue only, Audio Channel, Safety marker size, Time code, Caption, Audio mute, Still image, Zoom, Flip, Gamma select, Vector Color, Fan Control, I/P Mode, Marker Preset1, Marker Preset2, WFM Line Select, PIP func & Input, Sub win full, Sub win part
MENU	► Activates main OSD menu. ► Navigates higher menu in main OSD menu. ►Exits OSD menu.
UP	► Increases Audio volume of speaker. ► Increases values of user menu in main OSD menu. ► Executes function (by OSD help commands) in main OSD menu.
DOWN	► Decreases Audio volume of speaker. ► Decreases values of user menu in main OSD menu. ► Executes function (by OSD help commands) in main OSD menu.
SEL/INPUT	►Activates OSD menu of input source selecting. ►Changes input source by selecting. ►Executes functions (by OSD help commands) in main OSD menu.
Adjust	► Adjust Picture Menu(Volume -> Brightness -> Contrast -> Color -> Sharpness-> & Tint) ► Turn Right (with 'UP' button is same) ► Turn Left (with 'DOWN' button is same)

- Front panel LED Operations

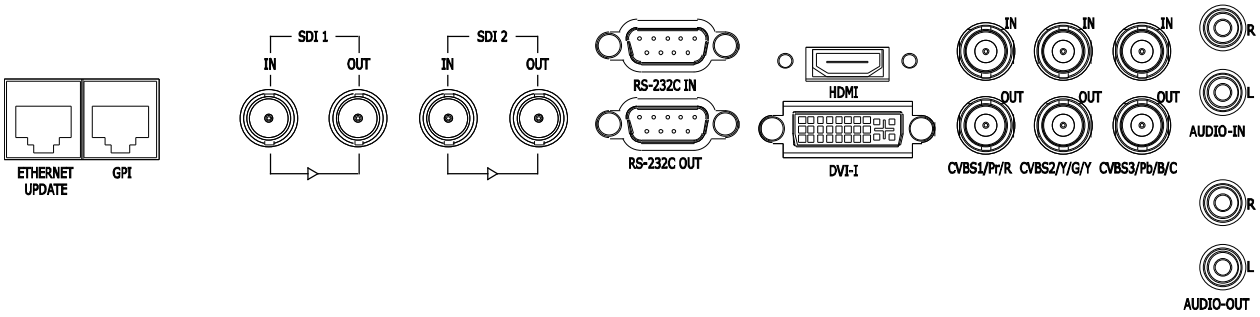
- Power ON mode is LED Green
- Stan-by mode is LED Red

- Speaker Out

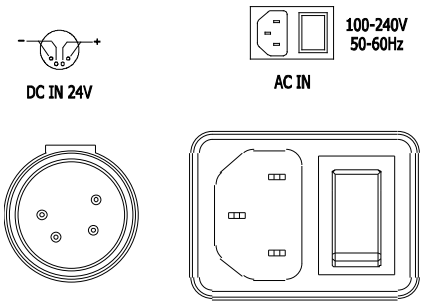
Interface	Description
Speaker R/L out	8 ohm±15%, Max 4W + 4W

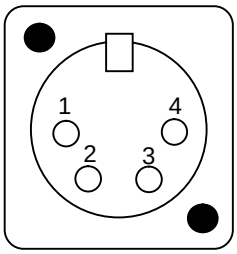
2) Rear Panel

- Connection Details



- Power IN

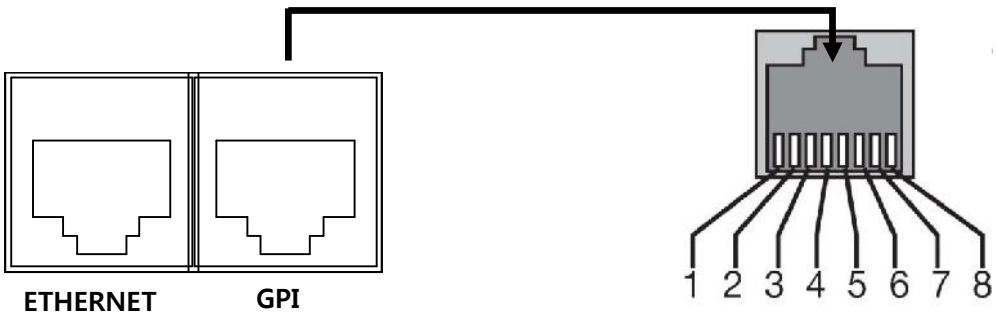




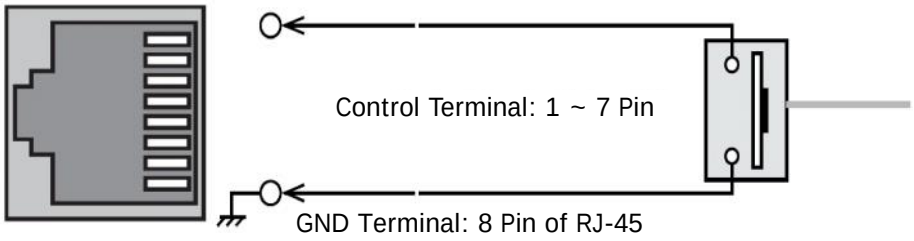
DC 24V IN

IN NO	Description
1,2	GND
3,4	+ 24V

- RJ-45



Remote PIN Assignment			
8 PIN	COMMON(GND)	4 PIN	GPI 4 PORT
7 PIN	GPI 7 PORT (STAND BY/POWER ON/OFF)	3 PIN	GPI 3 PORT
6 PIN	GPI 6 PORT	2 PIN	GPI 2 PORT
5 PIN	GPI 5 PORT	1 PIN	GPI 1 PORT



- Interface description

Interface	Description
SDI 1 IN	HD SDI / SD SDI Input
SDI 2 IN	
SDI 1 OUT	SDI 1, SDI 2 Loop Out
SDI 2 OUT	
RS-232 IN	Update/Multi Control/Auto color calibration
RS-232 OUT	Multi Control out
HDMI	High Definition Multimedia Input
DVI-I	DVI-I Type Digital / Analog PC-RGB Video Input High Definition Multimedia Input Compatible
CVBS1/Pr/R In	GBR (SOG sync) Input Y, Pb, Pr Component Video Input CVBS / Composite/S-Video Input
CVBS2/Y/G/Y In	
CVBS3/Pb/B/C In	
CVBS1/Pr/R Out	Component/GBR/Composite1,2,3/ S-Video Loop Out
CVBS2/Y/G/Y Out	
CVBS3/Pb/B/C Out	
AUDIO R In	DVI-I/Component/GBR/Composite1,2,3/S-Video Sound Input
AUDIO L In	
AUDIO R Out	AUDIO MONITOR OUT
AUDIO L Out	
AC IN	AC90V ~ 240V, 50Hz/60Hz
DC IN	DC 24V
UPDATE	Firmware Upgrade
GPI	GPI 1 ~ 7 Control Port

4. MENU OVERVIEW

In this system menu, there are several ways to maneuver the menu settings.
Most menus consist of three levels to select the necessary option, but some settings require greater depth. If you press the MENU button, the first and second level of the menu system will appear on the monitor screen. The third level can be displayed by pressing SEL/INPUT. If a menu has more than three levels, the pop-up dialogue box will be displayed as the fourth or fifth level.

1. To show and remove the Menu

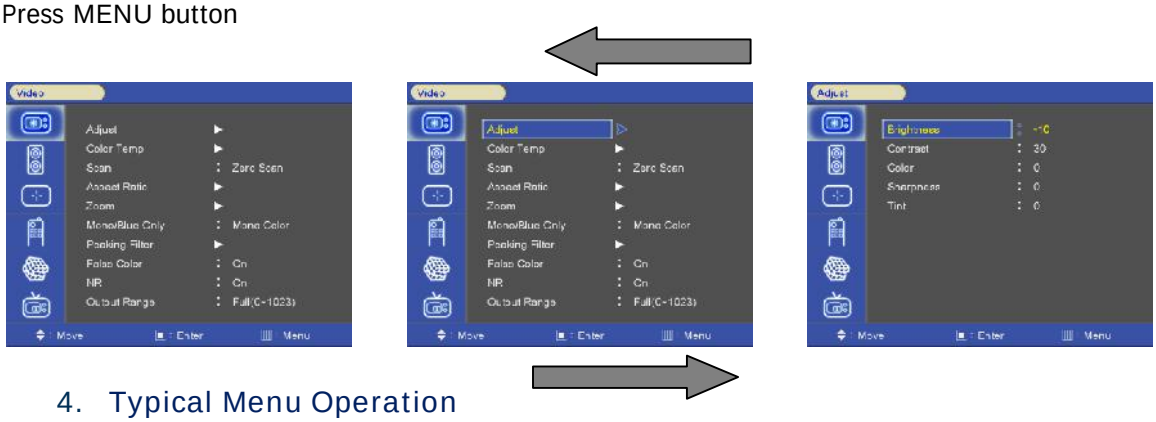
Press the MENU button to display the menu. Press the MENU button again to hide the menu.

2. To go to the next level

Press SEL/INPUT button.

3. To go back to the previous level

Press MENU button



4. Typical Menu Operation

1. Press MENU button: The main menu will be displayed.
2. Use UP/DOWN button to select the desired menu option (icon).
3. While the desired menu option is selected, press SEL/INPUT to move to the second level.
4. Use UP/DOWN button to select the second menu option.
5. Press SEL/INPUT to move to the third level: Some menu options require additional steps.
6. Press MENU to return to the previous menu to return to monitor viewing.

5. BASIC OPERATION

1. Turning On the Monitor

1. Firstly, make sure you have connected the AC power cord or DC XLR connector. The monitor will switch to standby or power on mode. If the monitor is in standby mode, press the ST-BY button to turn on the monitor.

2. Select the source by using SEL/INPUT button on Keypad in front of monitor

2. Volume Adjustment

1. Press the ADJUST button on Keypad.
2. Press the MENU button on Keypad.
 - OSD Audio menu -> Volume menu.

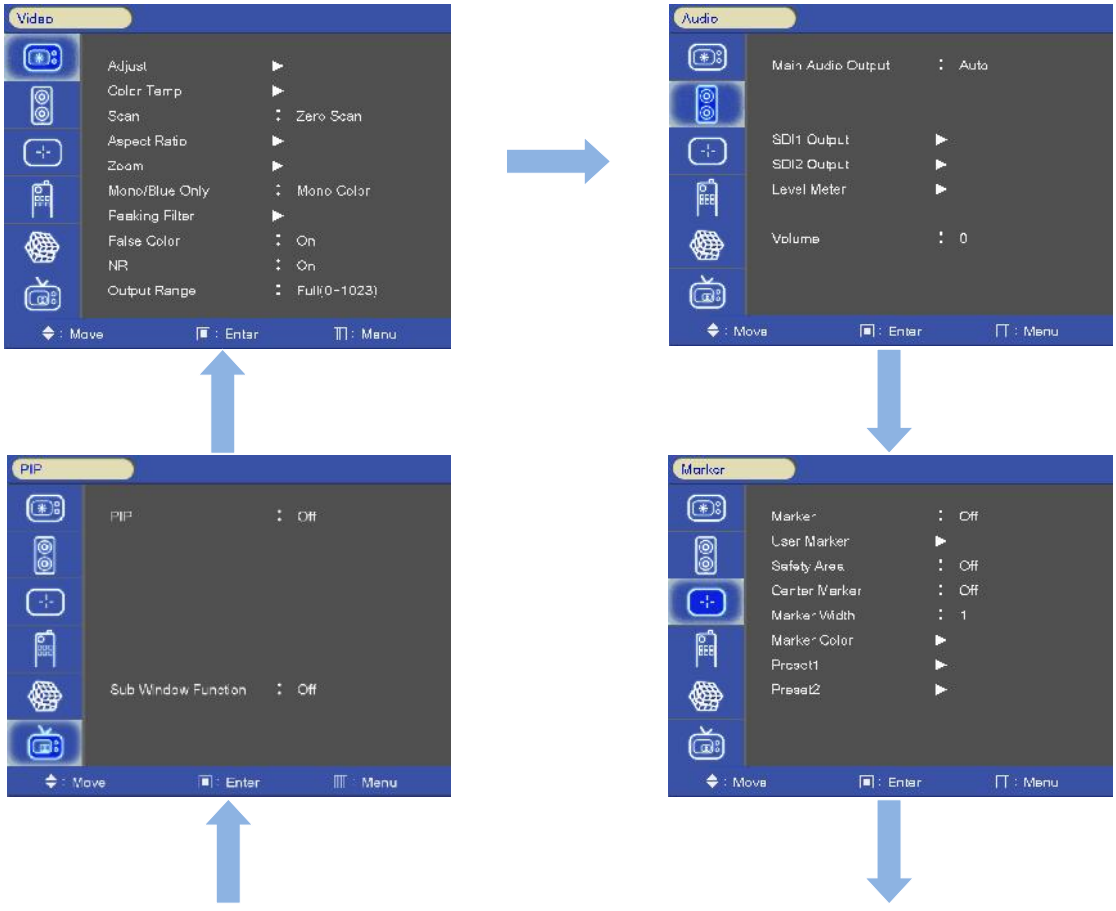
3. On Screen Menu Language Selection

- SETUP -> On Screen Display -> OSD Option -> Language
- The menu can be shown on the screen in the selected language.
- Supported Languages: English, Spanish, Portuguese, German, French, Italian, Hindi

6. On Screen Menus Selection and Adjustment

1. How to adjust the OSD screen

1. Press the MENU button and then UP/DOWN button to select each menu.
2. Press the SEL/INPUT button and then use UP/DOWN (SEL/INPUT)/MENU button to display the available menu.

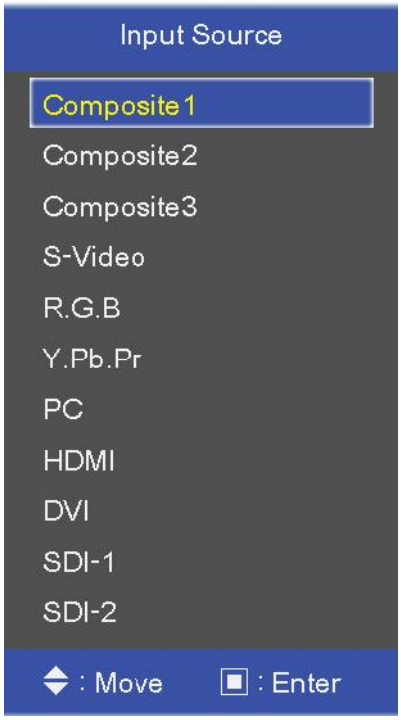


• The monitor's OSD (On Screen Display) may differ slightly from what is shown in this manual.

7. SELECT VIDEO INPUT

1. How to Select Video Source by OSD

1. Press the SET/INPUT button and then UP/DOWN button to select the required video source.
2. Press the SET/INPUT button to select the desired video source.
3. If Input Name is enabled, The SET/INPUT button will show the input name previously programmed instead of the source name.



8. PICTURE MENU OPTIONS

1) Video Menu of different Input modes

< Video (NTSC) Picture menu>

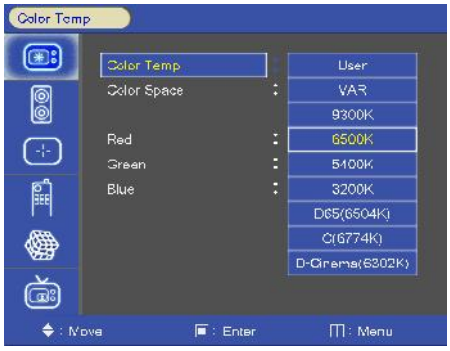
< PC Picture menu>

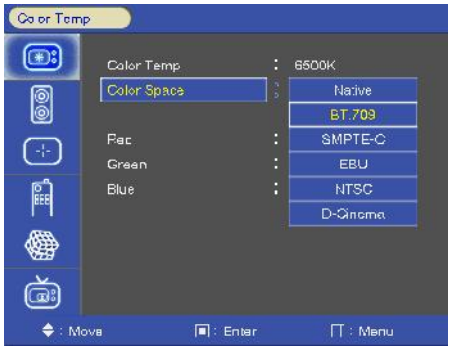
< SDI, HDMI Picture menu>

2) Adjust

- Adjust the values of Brightness, Contrast, Color, Tint and Sharpness range from -50 to 50
  Contrast, Brightness, Sharpness, Color (All Sources), Tint (except PC, DVI, HDMI, Component), Phase (Component).

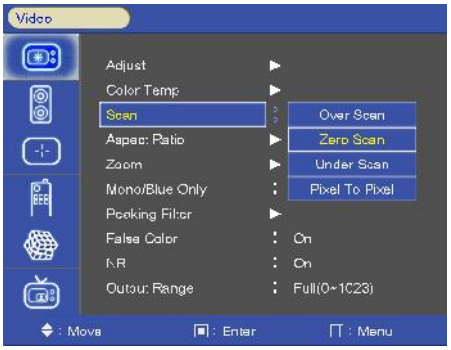
3) Color Temperature Control





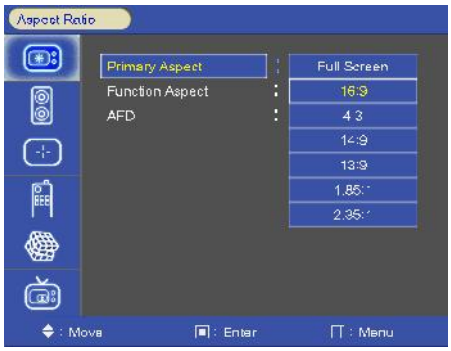
- For Setting the Color temperature or adjusting RGB gain value
- User (User setting RGB gain value), VAR(3200K ~ 11000K), Often used value(11000K, 9300K, 6500K, 5400K,3200K) and 3D LUT Calibration value(D65 – 6504K/C-6774K/D-Cinema 6302K)
- Color Space: Native/BT.709/SMPTE-C/EBU/NTSC/D-Cinema

4) SCAN



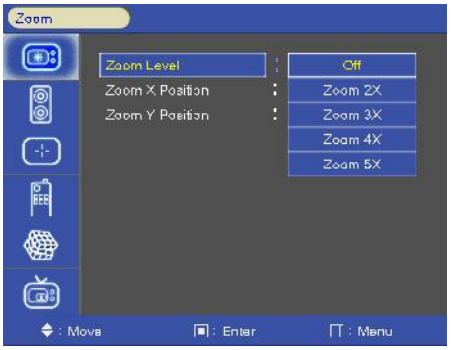
1. Over Scan – 95% input size and fit the selected display size
2. Zero Scan – 100% Input size and fit the selected display size
3. Under Scan – 105% Input size and fit the selected display size
3. Pixel to Pixel – Display size is an input size. If input resolution is bigger than panel size, fit the panel size

5) Aspect Ratio



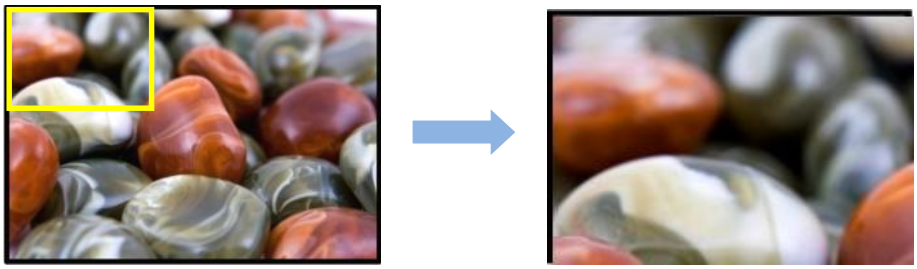
- For setting the aspect ratio.
- Full Screen: The images are displayed with a panel size.
- Full Screen, 16:9, 4:3, 14:9, 13:9, 1.85:1, 2.35:1: The images are displayed with each aspect ratio.
- Funtion-key operate Rotation, Full Screen, 16:9, 4:3, 14:9, 13:9, 1.85:1, 2.35:1
- AFD function Added
- PC mode: Full Screen & 4:3 only

6) Zoom



- Can enlarge picture by (2X, 3X, 4X, 5X) ratios.
- If user selects the Zoom 2X, Yellow box will be displayed.
- Press Select or Enter button, the monitor will display a zoom in portion of this specified location.
- Press Menu key to exit the zoom mode.

- Example (3X3)

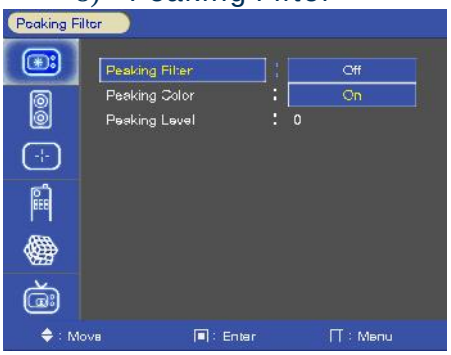


Zoom X position: Coordinate of video image's column position.
Zoom Y position: Coordinate of video image's row position.

7) Mono/Blue Only

- Mono color: For selecting monochrome images.
- Blue Only: Blue Video channel is enabled

8) Peaking Filter

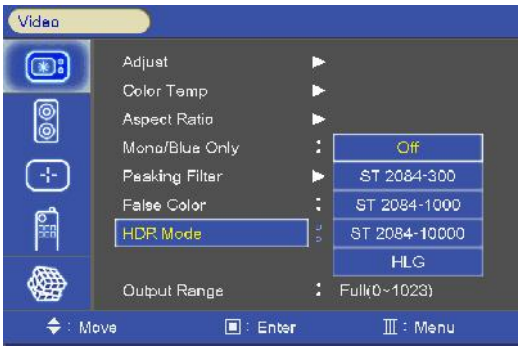


-Peaking Filter: Peaking Filter On/Off.
-Peaking Color: Red/Blue/White/Violet.
-Peaking Level: 0~100.

9) False Color

- False Color on/off

10) HDR Mode - OPTIONAL



- ST 2084-300 / ST 2084-1000 / ST 2084-10000 / HLG
- HDR Demo on/off
- HDR Demo split the screen vertically and shows the image with and without HDR.

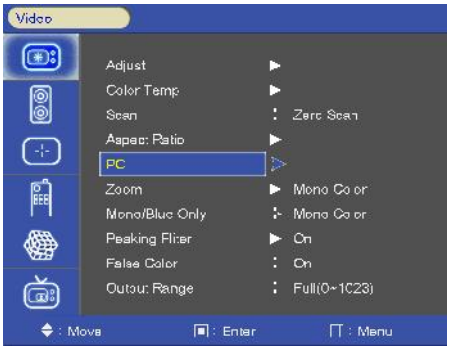
11) NR (Noise Reduction)

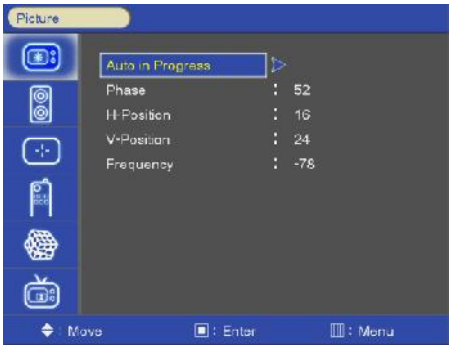
-Noise Reduction on/off. (NR is for (HD-SDI, Composite, S-Video and Y.Pb.Pr) Video signal.

12) Output Range

- Normal (16~235)/Full (0~255)

13) PC Menu (pc mode only)





- Operate Only in PC input mode

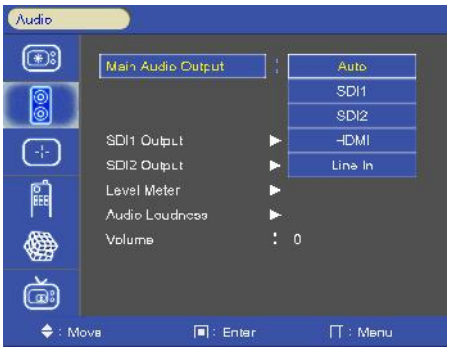
- Select Auto-adjust and adjust Phase, HV position, Frequency
- Auto-Adjust automatically set the optimum values of Phase, HV position and Frequency.

14) NTSC Setup (Video mode only)

- IRE value under NTSC mode between 0 IRE and 7.5 IRE.

9. AUDIO MENU OPTIONS

1) MAIN / SUB Audio out

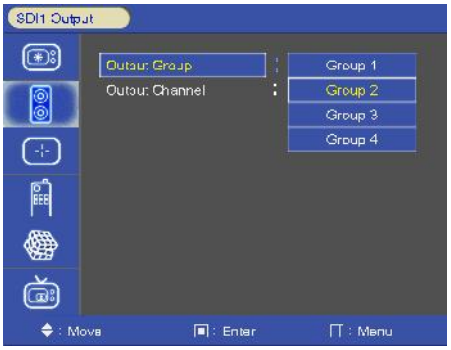


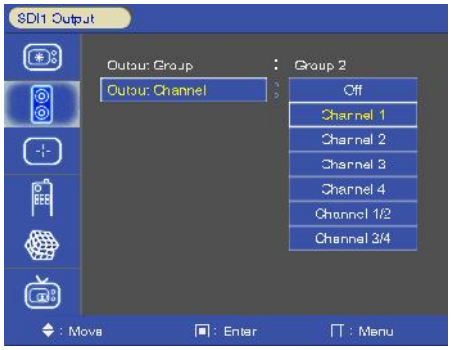
-Main: Select Internal Speaker out. (Auto/SDI1/SDI2/HDMI/Line in)
-Sub: Select sub display sound. (Auto/SDI1/SDI2/HDMI/Line in)

2) SDI 1 / SDI 2 Audio Output Channel

- Audio output channel source select. (Channel1~4, Channel1/2, Channel3/4, off)

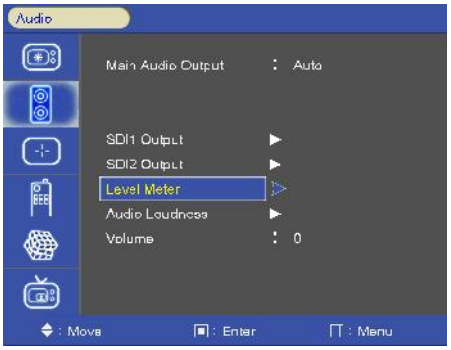
3) SDI 1 / SDI 2 Audio Group



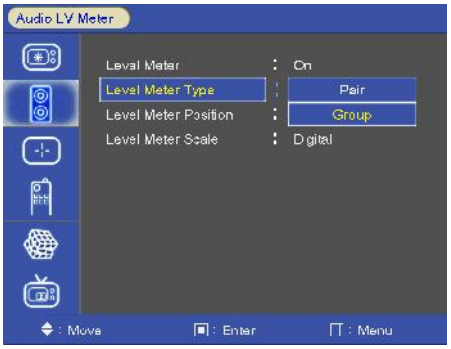


- Select primary or secondary audio group to decode. (Group 1~4)

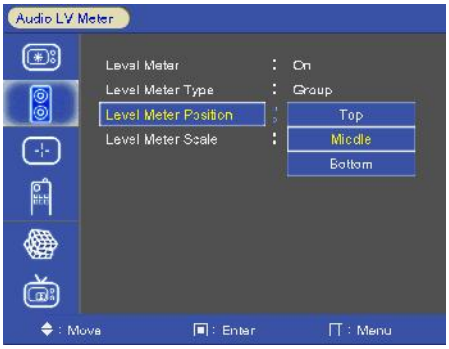
4) Level Meter



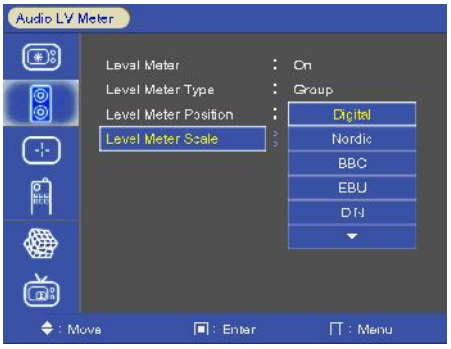
- Display the audio level meter on screen in SDI input.



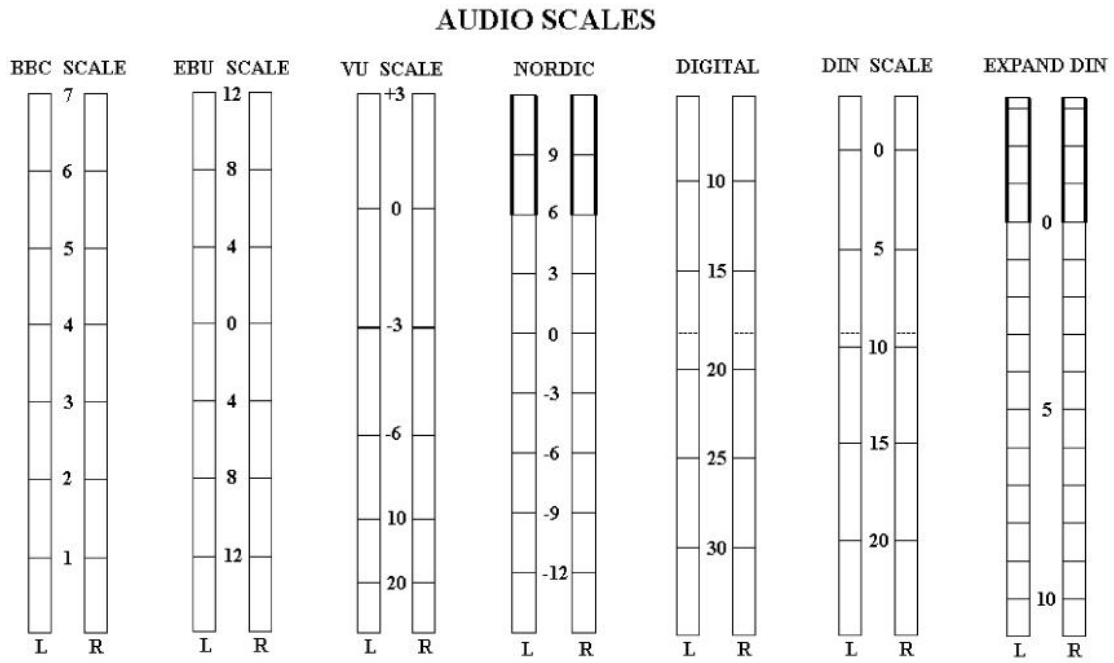
-Pair: Pair L & R channel display
-Group: Group display



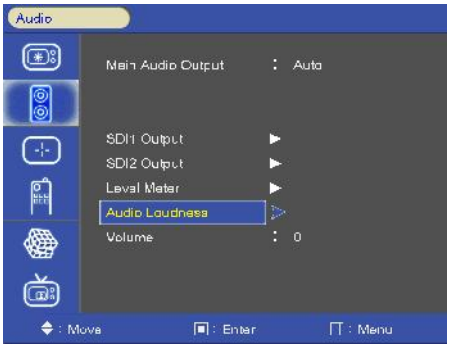
- Level Meter Position selects. (TOP/Middle/Bottom)

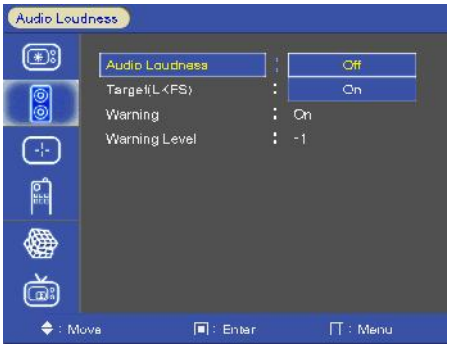


- Level Meter Scale mode selects. (BBC / EBU / VU / NORDIC / DIGITAL / DIN / EXPAND DIN)



5) LKFS - Audio Loudness Real-Time Monitoring & Logging

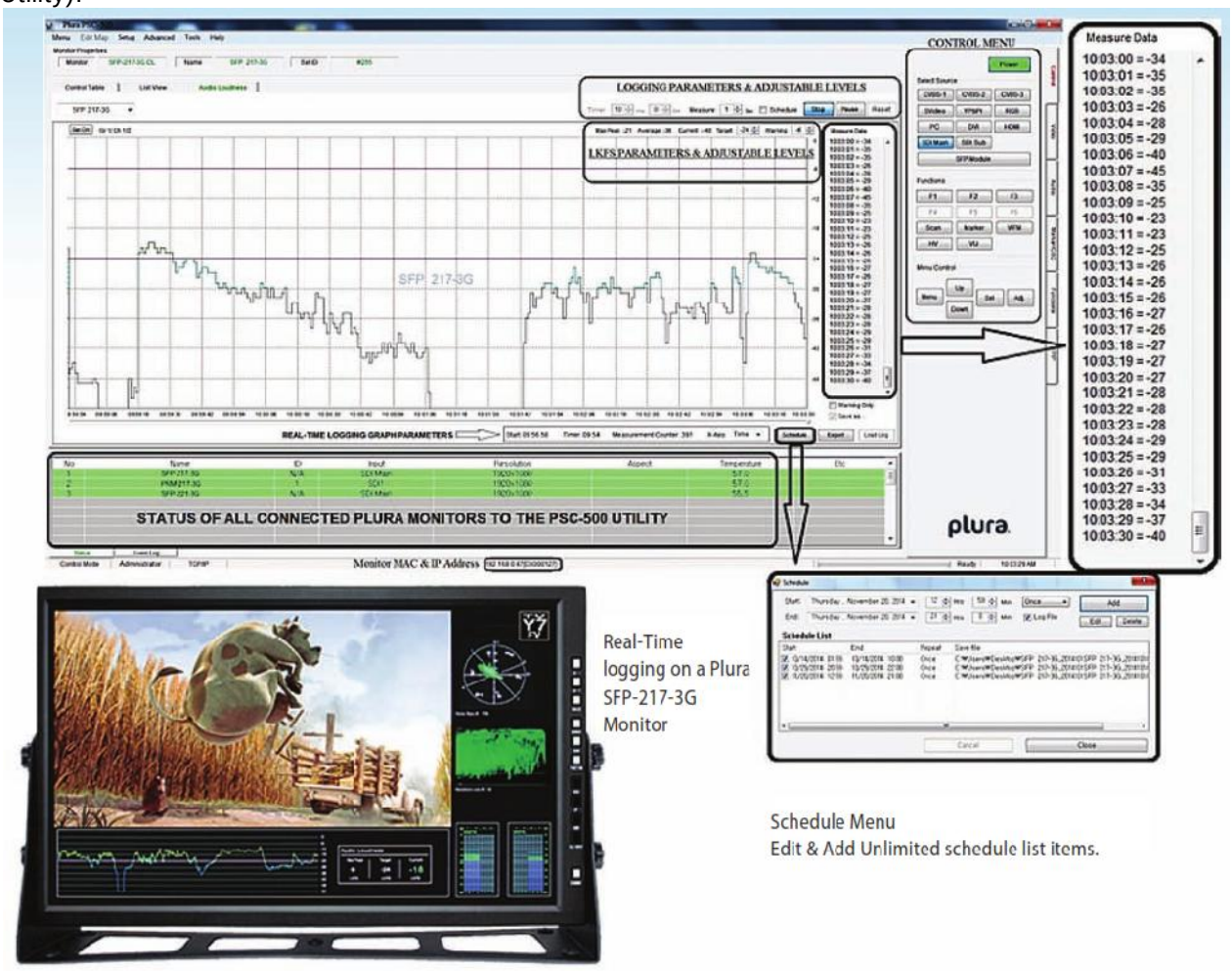




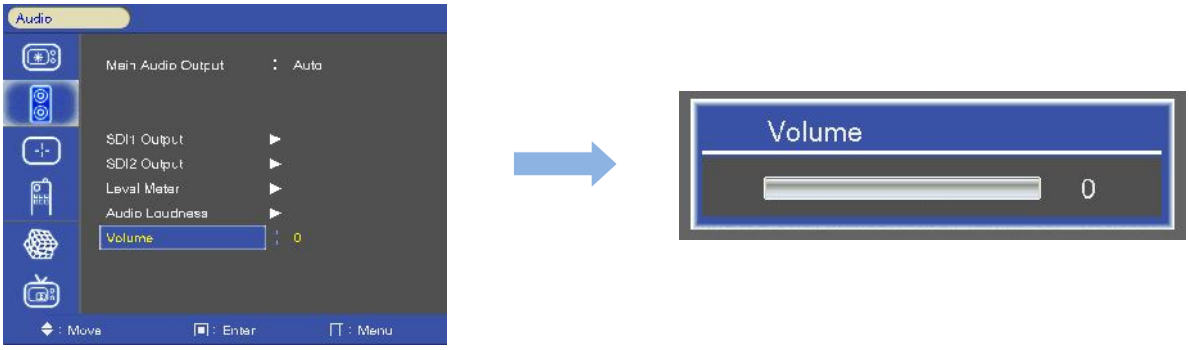
-Audio Loudness setting (On, Off) and Set Target(LKFS)
-Audio Loudness Real-Time monitoring.

Real-Time
Monitoring Display
on PRM-224-3G-O

-Audio Loudness Real-Time logging on a remote PC using the optional PSC-500 (Plura System Controller Utility).



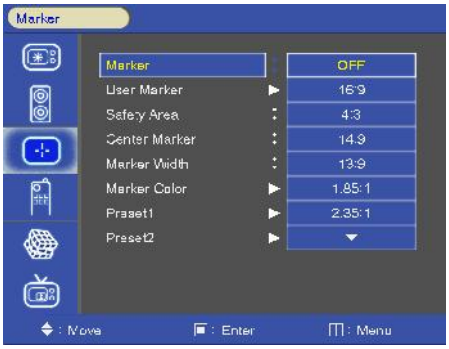
6) Volume



- Adjust the speaker or headphone Volume level. (0~32)

10. Marker MENU OPTIONS

1) Marker & User Marker



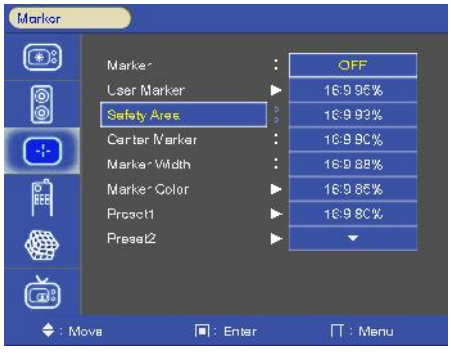
< Marker > < User Marker >

- Marker : 16:9, 4:3, 14:9, 13:9, 1.85:1, 2.35:1, 1.85:1&4:3, User1, User2, User3 (Customized markers).
- User Marker: The user defined Marker size setting.

16:9 (16:9 Marker)

16:9 (4:3 Marker)

2) Safety Area



-Safety Area: Display safety area Marker on screen with below options.
(16:9 95/93/90/88/80%, 4:3 95/93/90/88/80%,
EBU Action 16:9/14:9/4:3, EBU Graphic 16:9/14:9/4:3)

3) Center Maker

- "+" display Marker on center of screen

4) Marker Width

-Marker line thickness setting. (0~10)

5) Marker Color

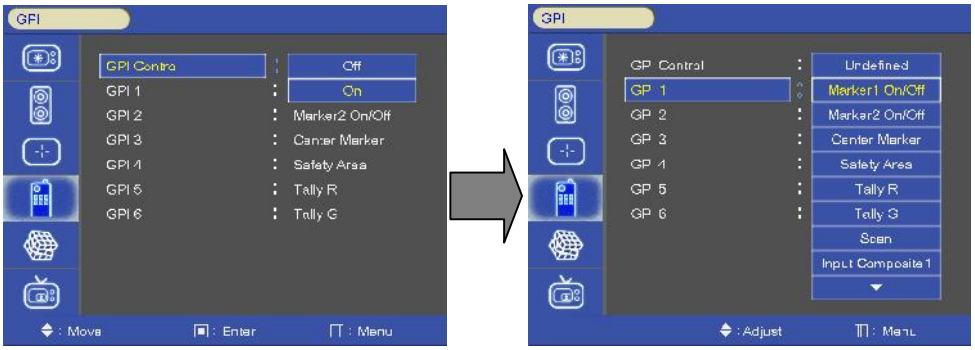
- Marker Line Color: Select Marker line color (White, Yellow, Blue, RED, Black)
- Safety Line Color: Select Safety line color (White, Yellow, Blue, RED, Black)
- Marker outside area color: Select Marker Back Color. (None, Gray, White, Blue, Black)
- Safety outside area color: Select Safety Back Color. (None, Gray, White, Blue, Black)
- Marker BK Blend Color: Select Marker blend level. (0 ~ 5)
- Safety BK Blend Color: Select Safety blend level. (0 ~ 5)

6) Preset1 & Preset2

- Markers can be set as preset 1 & 2 and be triggered by GPI controller.
- GPI preset markers can only be utilized by GPI controller.

11. GPI MENU OPTIONS

1) GPI Control & GPI#

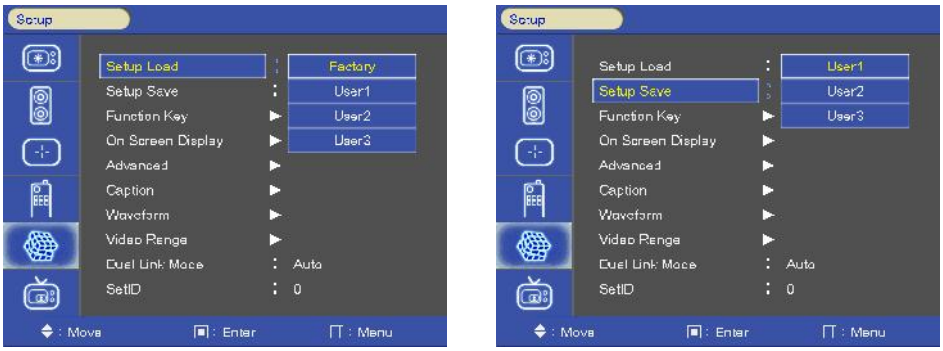


- For allocating functions to particular GPI pins.
- Remote control operations can be performed using the GPI Controller.
- GPI Control: GPI function Enable/Disable
- GPI 1 ~ 7

GPI Function	Description
UNDEF	Not set (no function allocated)
Marker1 On/Off, Marker2 On/Off	Displays the markers which have been set by the GPI PRESET1, 2 items on the screen.
Center Marker	Displays the center marker.
Safety Area	Displays the Safety Area.
Tally R, Tally G	For enabling the Red or Green or amber tally lamp.
Scan	Over Scan/Zero Scan/Under Scan/ Pixel to Pixel
Input Composite1,2,3 Input R.G.B, Input SDI1, Input SDI2,Input Y.Pb.Pr , Input PC , Input DVI, Input HDMI	Switches the input source.
Menu Key, Enter Key, Up Key, Down Key Left Key, Right Key	Use the key function by GPI.
Function key1 ~ 6	
H/V delay	H delay, V delay, HV delay, Off
Aspect	Full Screen, 16:9, 4:3, 14:9, 13:9, 1.85:1, 2.35:1
Waveform	Display the Waveform / Vector
LKFS Warning	LKFS On/Off
GPI 7 : Power Key(Fixed)	

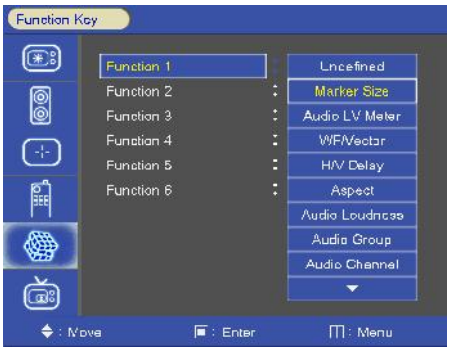
12. SETUP MENU OPTIONS

1) Setup Load & Setup Save



- Setup Load: Load user saved values or default value
- Setup Save: Save user setting values at user 1, 2, 3.

2) Function 1 ~6



- Function 1~6 : Function buttons can be programmed to any function from the below table.

Function1~6 button	Description
UNDEF	Not set (no function allocated)
Marker size	Marker size Select
Audio Lv Meter	Audio Lv Meter On / Off
WF/Vector	Display the Waveform
H/V delay	H delay, V delay, HV delay, Off
Aspect	Sets the aspect ratio of the images
Audio Loudness	Display Audio Loudness
Audio Group	Select the de-embedded audio Group in SDI input.
Audio Channel	Select the de-embedded audio channel in SDI input.
Mono/Blue Only	Mono color or Blue Only
Safety Area Marker	Safety Area Select
Time Code	Time Code Display
False Color	False Color On/Off
Audio Mute	Toggles sound status of speaker/headphone & mute.
Still Image	Still Image On/Off
Peaking Filter	Peaking Filter On/Off
Gamma Select	Gamma Level Select (0.8 ~ 3.0)
Vector Color	Select 100% or 75% range
Fan Control	Internal Fan Controls option by temperature sensor Auto / force on / force off
I/P Mode	Line Doubler / Inter-Field / Field Merge
Marker Preset 1/2	Display the markers which have been set by the PRESET1, 2 items on the screen.
WFM Line Select	WFM Line Select On/Off
PIP Func & Input	PIP func & input Select
Sub Win Full	Display the same full images on POP1 screen
Sub Win Part	First image scale 4:3 aspect ratio and then display on POP2 screen

3) On Screen Display

- OSD Option

→ Language: Select the desired Menu language from list below.
(English, Spanish, Portuguese, German, French, Italian)
→OSD Position: L-T, R-T, C, L-B, R-B
→ OSD Transparency: Disable blending OSD background with video image.
→OSD Time out: OSD display time setting. (3~200)

- Time code

→ Time code Enable: Time code Display (off/ATC/DVITC, SDI only)
→Time code size: Time code size select. (Small, Middle, Large)
→Time code Position: Time code display position selects (L-T, C-T, R-T, L-B, C-B, R-B)
→ Time code Transparency: Enable/Disable Timecode background blending with video image. (0%, 25%, 50%, 75%, 100%)

- Under Monitor Display (color: Tally R/G mode action)

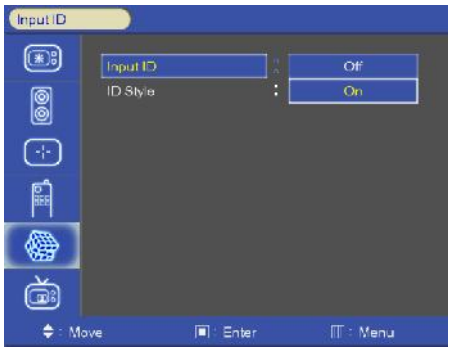
UMD

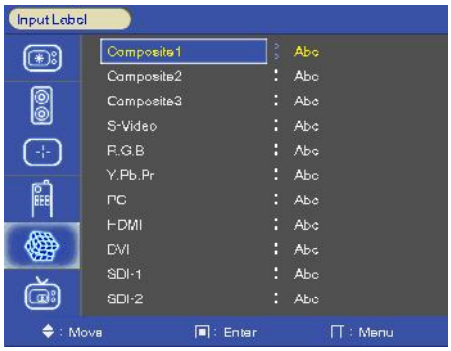
Tally Red

Tally Green

→ UMD: UMD display on/off
→ UMD Character: UMD Character Select
→ UMD Position: UMD display position selection (L-T, C-T, R-T, L-B, C-B, R-B)
→ UMD FG Color: UMD Character color Selection (RGB_255_192_128_Transparent)
→ UMD BG Color: UMD BG color Selection (RGB_255_192_128_Transparent)

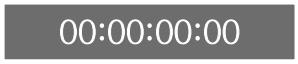
- Input ID





Message OSD

Info Message



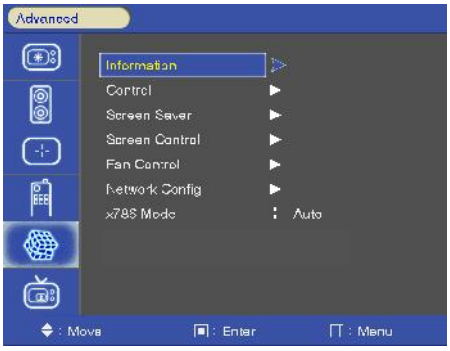
Timecode

→Input ID: source Message display.
→ID Style: select “Input Format”/”Custom Label”
→Input Label: Display custom ID name instead of input source name on source OSD and message OSD

- SDI Signal state

SDI Signal state display on/off (H/V sync, image, Audio, Audio Phase, EDH packet, EDH FF CRC, EDH APCRC, SAC, EAV, VPI)

4) Advanced

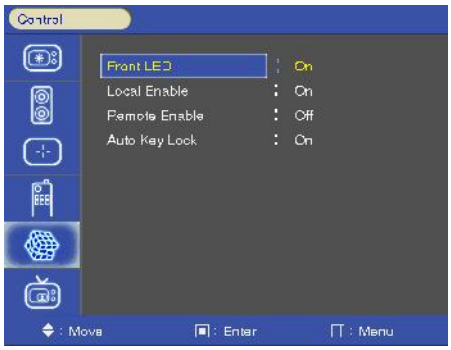


- Information, Control, Screen Saver, Screen Control, Fan Control, x768 Mode

- Information

- Version, Release day, Release time, operating time, FPGA Version, Calibration ID

- Control



- FRONT LED: Front LED on/off
- Local Enable: All buttons except Power, up and down keys are enabled when Local enable is off.
- Remote Enable: Allows you to choose between local or remote controller. If remote controller is selected, both local (front key) and remote are enabled. However if local is selected, remote control is diabled.

- Screen Control

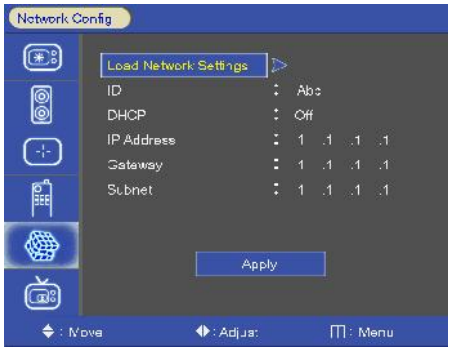
-Reset Calibration
→Color Calibration Reset
-Backlight Adjust
→Inverter dimming Level select (0~100)
-Gamma Select
→Gamma Level Select (0.8 ~ 3.0)
-I/P Mode
→ Line Doubler / Inter-Field / Field Merge
-Dithering
→ Dithering function on/off

- Internal Pattern
→100% Color Bars, 75% Color Bars, Luma, RGB, White, Black, RED, Blue, Green

- Fan Control

→ Fan Control: Internal Fan temperature sensor control options:- Auto / force on / force off
→ Fan Active Temperature: Fan control by temperature settings in Celsius degree and Fan Control setting should be set to Auto.
→ Hysteresis: Adjusts fan hysteresis temperature by Celsius degree. (1~10℃)
→ Shutdown: Monitor will shut down if temperature reach 75℃, Power Off.
→ MCU Fan Control: Control main MCU Fan On/Off

- Network Config



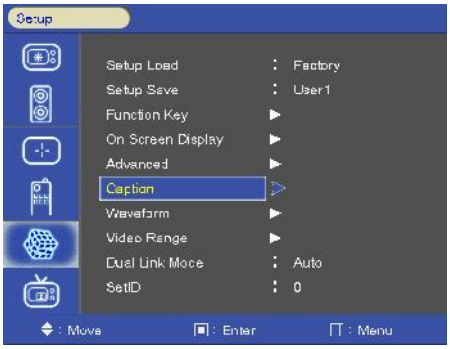
→Plura System Controller (PSC-400/500) Network setting.
→Load Network Settings: Connect to your network and press "Enter". (IP Address/Gateway/Subnet Load)
→DHCP: DHCP on/off (Manual IP settings – DHCP on)
* "Apply" enter all settings.

- X768 Mode

-Selects X768 native PC video timings. (Auto/1024x/1280x/1360x/1366x)

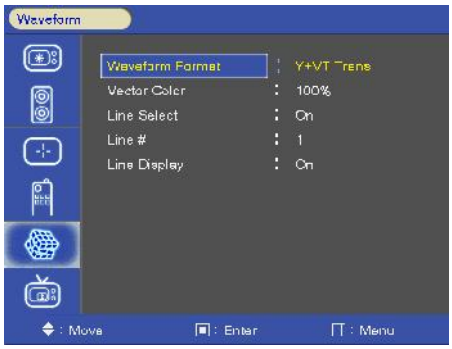
5) Caption

→Closed Caption: select 608 Line21, 608 ANC, 608 Transcoded, 708 mode



- V-Chip : On/Off
- 608 Caption channel: C/C1, C/C2, C/C3, C/C4, TEXT1, TEXT2, TEXT3, TEXT4
- 708 Caption Service: Service 1/Service 2

6) Waveform Format (For SDI input ONLY)



Press the WAVEFORM button to display the WAVEFORM Mode

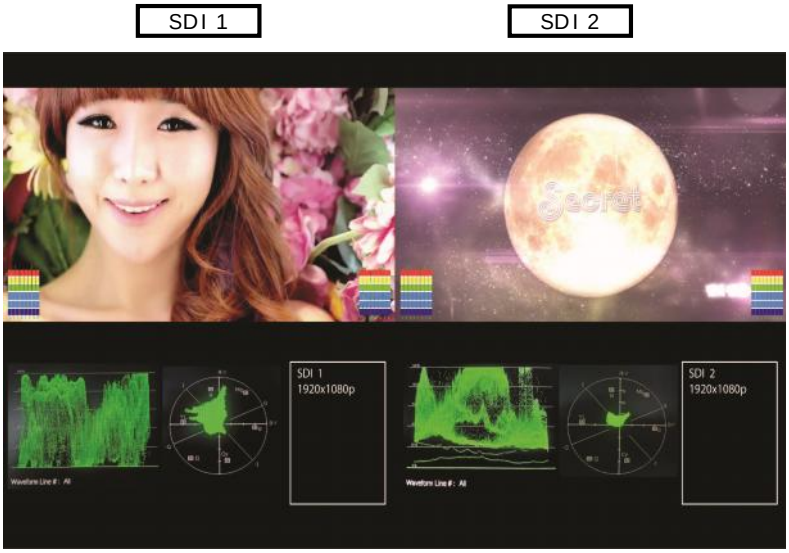
- Y-Pb-Pr Waveform

- Y_Pb_Pr WAVEFORM & Audio Lever Meter & Info Window & Time code Display.

- Y-Waveform + Vector Scope

- WAVEFORM & Vector Scope & Audio Lever Meter & Info Window & Time code Display.

- Double



- SDI 1, 2 & WAVEFORM & Vector Scope & Audio Lever Meter & Info Window.

- Y-Waveform + Vector Scope Trans

- WAVEFORM & Vector Scope Trans.

- Vector Color

- Vector color: Select 100% or 75%

- Line Select

- Select line WAVEFORM & Vector Scope display.
- line select : 1~540

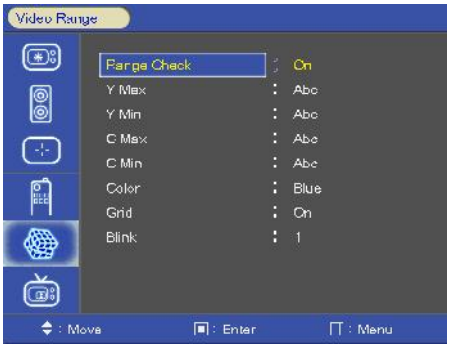
- Line #

-line select

- Line Display

-off/on/5 sec

7) Video Range



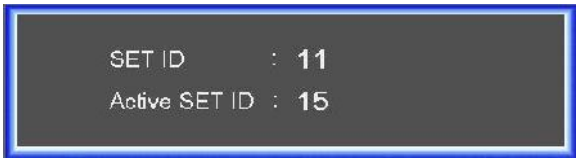
-Range Check: Range Check on/off.
-Y Max: Maximum luminance level.
-Y Min: Minimum luminance level.
-C Max: Maximum chroma level.
-C Min: Minimum chroma level.
-Color: Black/Blue/Red/Green
-Grid: Grid line on/off
-Blink: Y/C Min-Max to blink. (0~7)

8) Dual Link Mode (SDI only)

-Dual Link Mode select. (Auto/Off/RGB444/YCbCr444/YCbCr422/Progressive)

9) Set ID & Active Set ID

- To control any monitor, the monitor must have a unique ID number from (01~99).

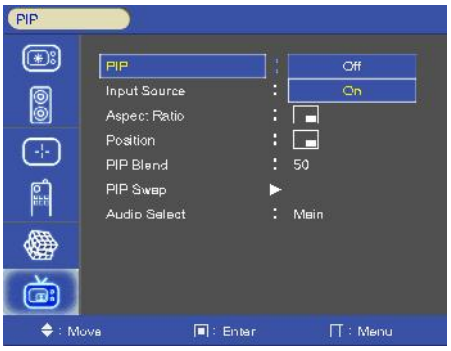


- Set Active SET ID number to allow Remote control or RS-232 access
- If controlling total of 15 monitors , Active SET ID must be set 15.

13. PIP (Picture In Picture)

- Display two programs or sources at the same time. And set up PIP size and position.
- Only Dual Link model Select

1) PIP ON/OFF

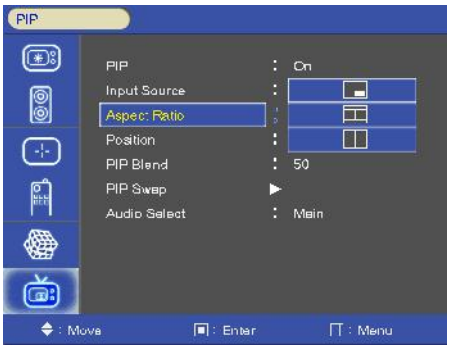


→Control PIP function On/Off.

2) Input Source

- PIP input Source can be selected from the drop down menus.
- Analog (Composite1, 2, 3, Y.Pb.Pr, GBR, PC) inputs + Digital (DVI, HDMI) + SDI (SDI1, SDI2) inputs
-SDI + SDI input PIP

3) Aspect Ratio



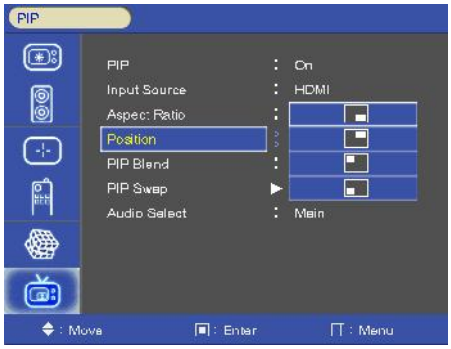
- Choose PIP size Small/POP1/POP2

PIP Small

PIP1

POP2

4) Position



- Choose the pip position on the each corner of the panel

5) PIP Blend

-Blend to PIP signal

6) PIP Swap

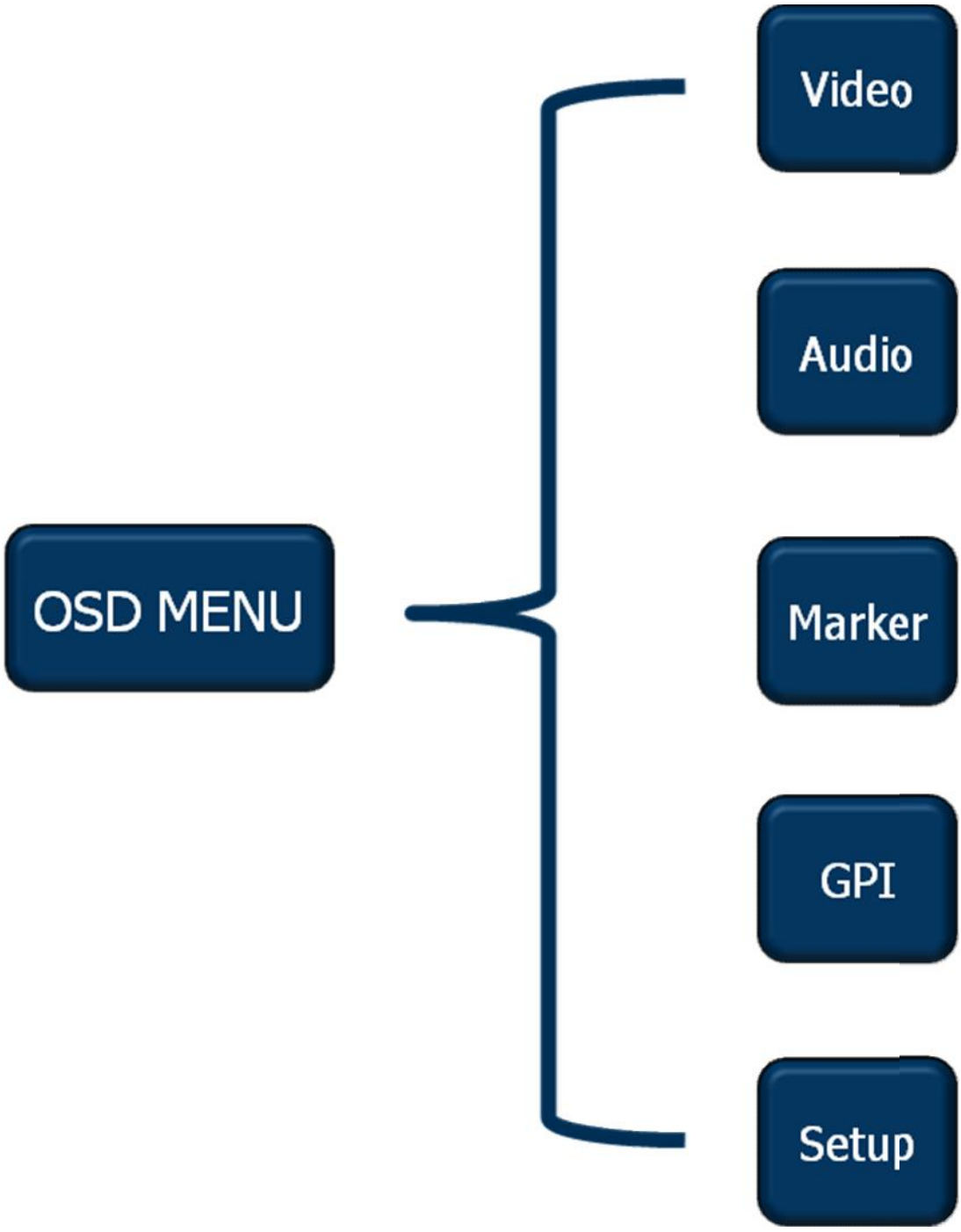
- Using Swap option, you can exchange two programs or sources with swap function.

7) Audio Select

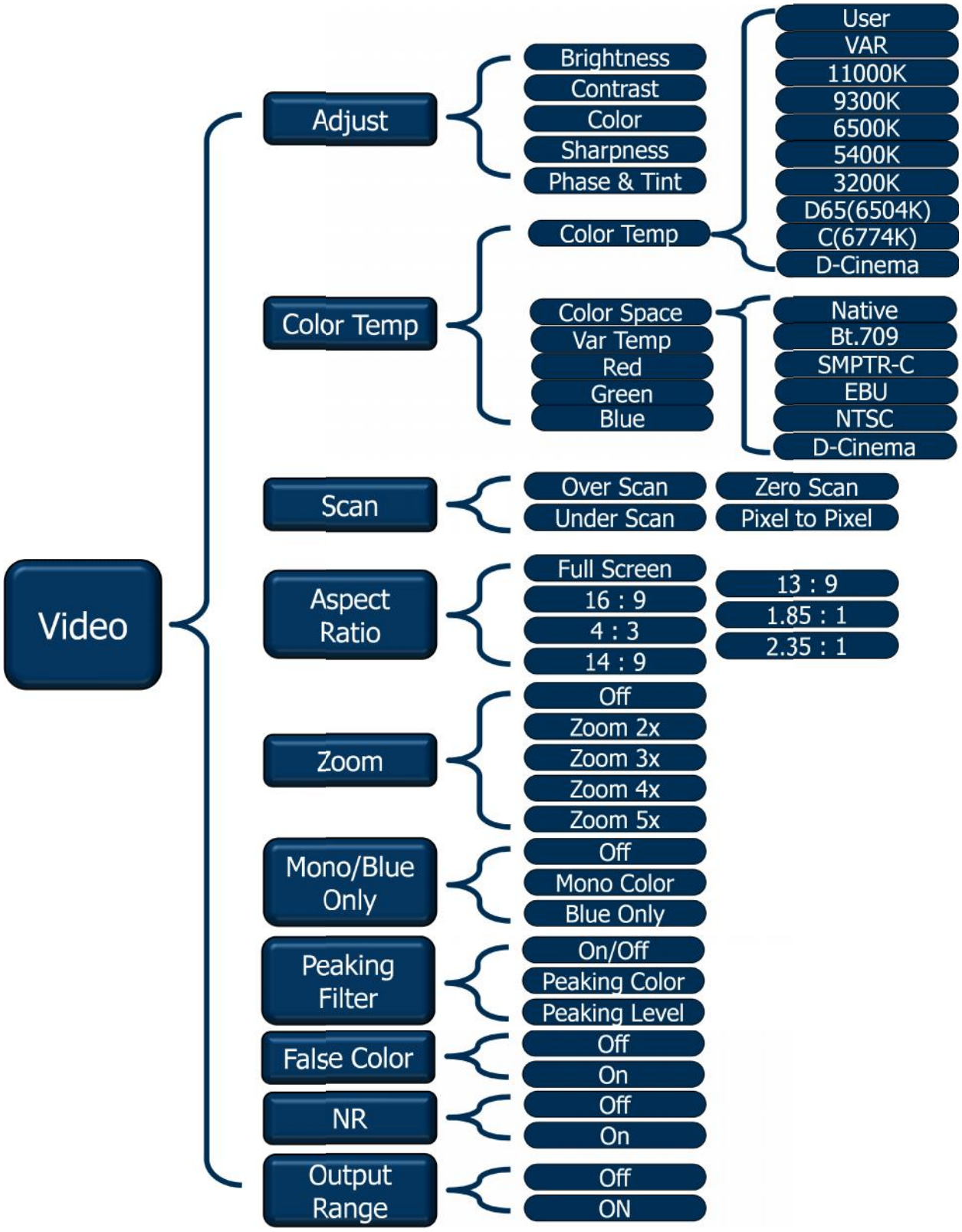
- Using Sound Swap option, you can exchange the audio to either program or source.

\

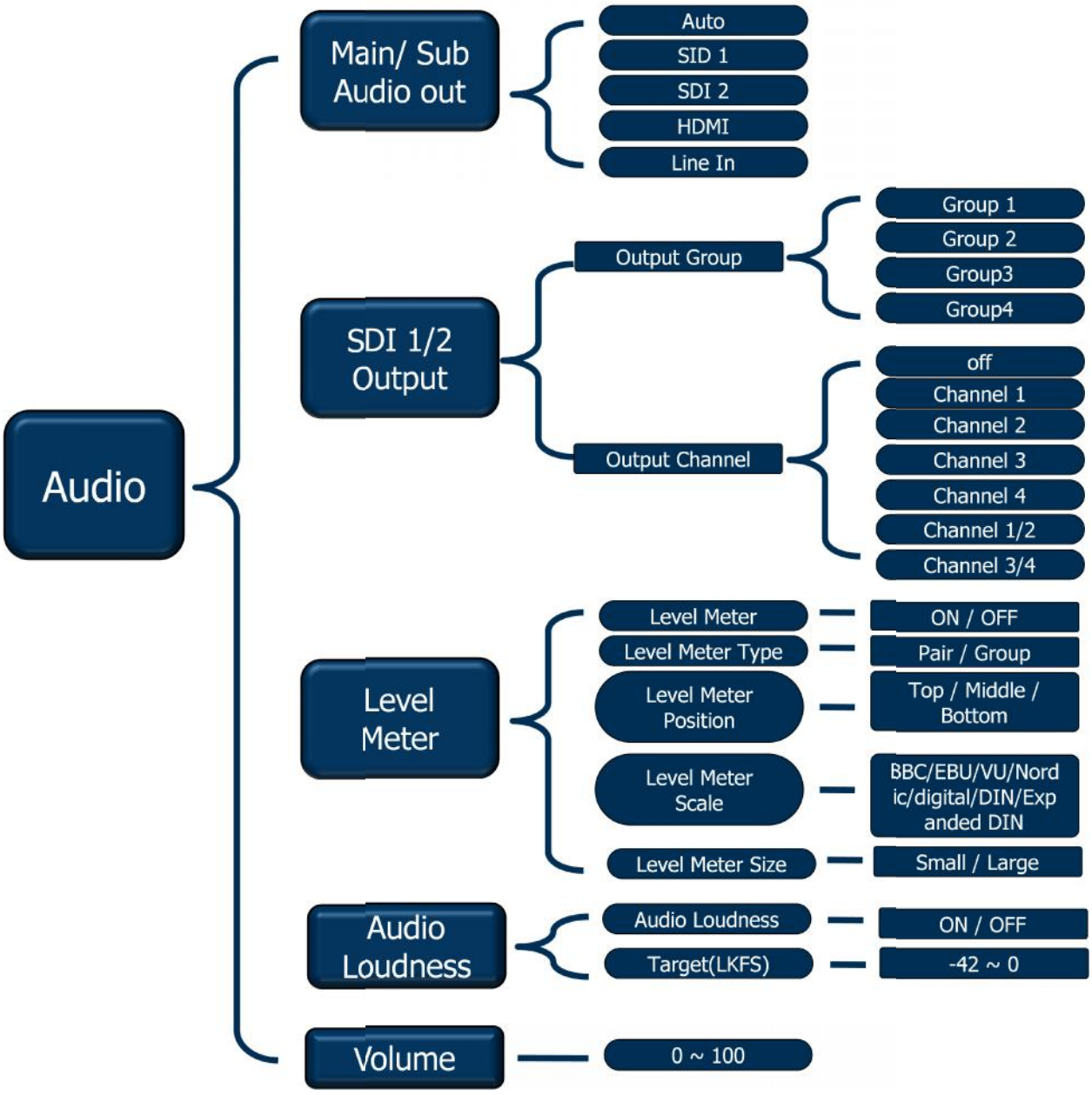
14. OSD TREE



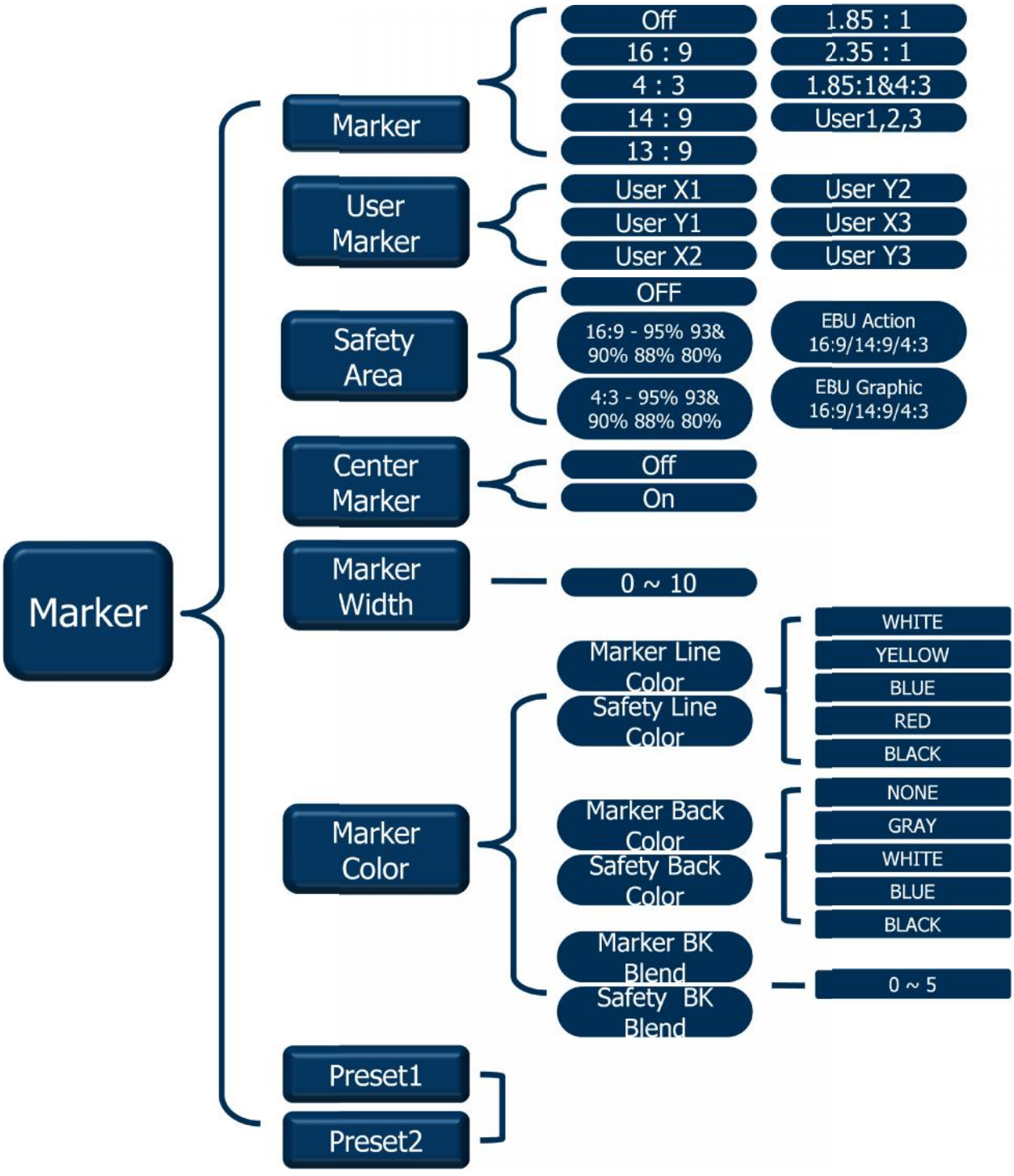
1) Video


Video
Adjust
Brightness
Contrast
Color
Sharpness
Phase & Tint
Color Temp
User
VAR
11000K
9300K
6500K
5400K
3200K
D65(6504K)
C(6774K)
D-Cinema
Color Temp
Color Space
Var Temp
Red
Green
Blue
Native
Bt.709
SMPTR-C
EBU
NTSC
D-Cinema
Scan
Over Scan
Under Scan
Zero Scan
Pixel to Pixel
Aspect Ratio
Full Screen
16 : 9
4 : 3
14 : 9
13 : 9
1.85 : 1
2.35 : 1
Zoom
Off
Zoom 2x
Zoom 3x
Zoom 4x
Zoom 5x
Mono/Blue Only
Off
Mono Color
Blue Only
Peaking Filter
On/Off
Peaking Color
Peaking Level
False Color
Off
On
NR
Off
On
Output Range
Off
ON

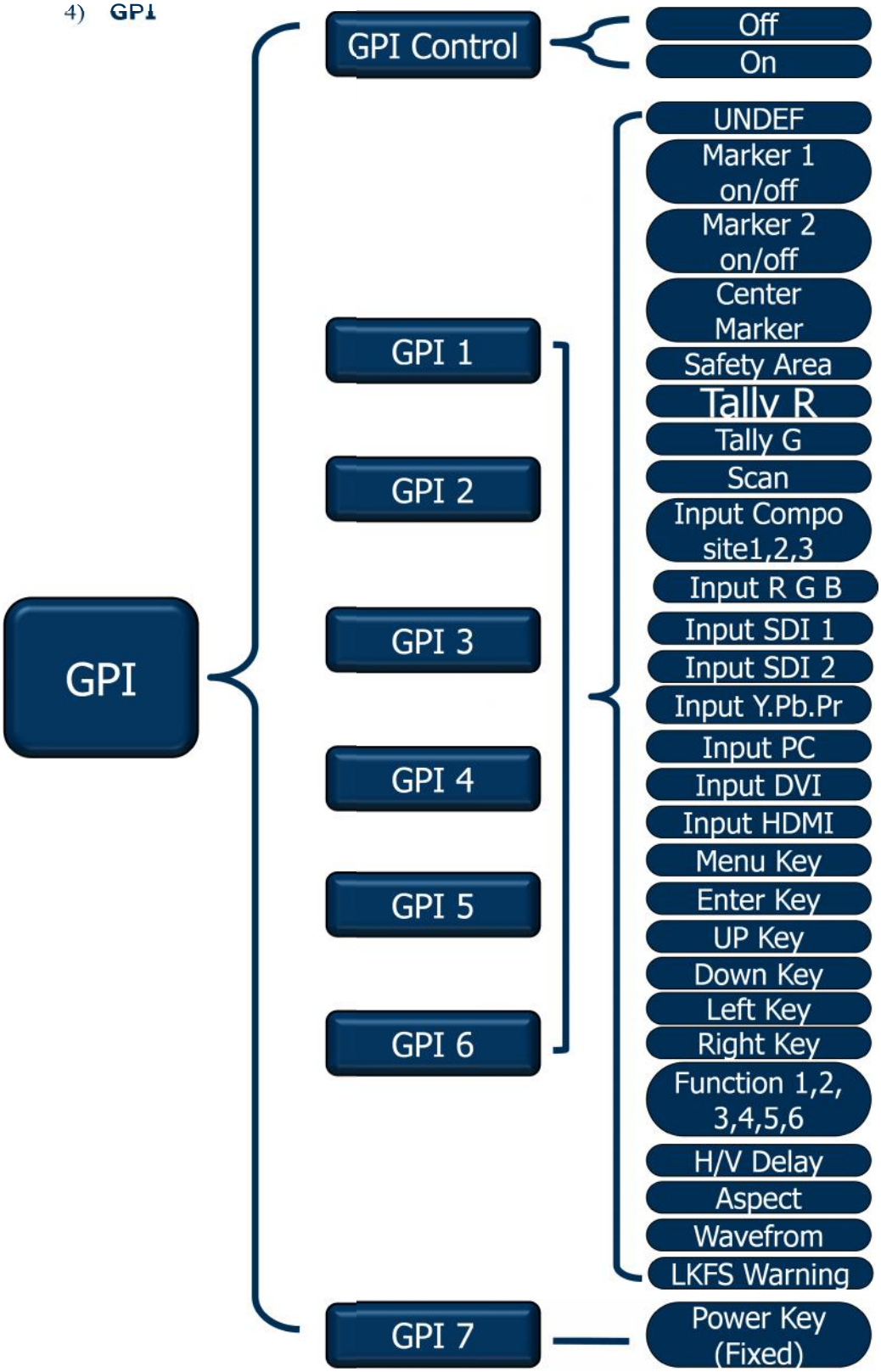
2) Audio


Audio
Main/ Sub Audio out
Auto
SID 1
SDI 2
HDMI
Line In
SDI 1/2 Output
Output Group
Group 1
Group 2
Group3
Group4
Output Channel
off
Channel 1
Channel 2
Channel 3
Channel 4
Channel 1/2
Channel 3/4
Level Meter
Level Meter
ON / OFF
Level Meter Type
Pair / Group
Level Meter Position
Top / Middle / Bottom
Level Meter Scale
BBC/EBU/VU/Nordic/digital/DIN/Expanded DIN
Level Meter Size
Small / Large
Audio Loudness
Audio Loudness
ON / OFF
Target(LKFS)
-42 ~ 0
Volume
0 ~ 100

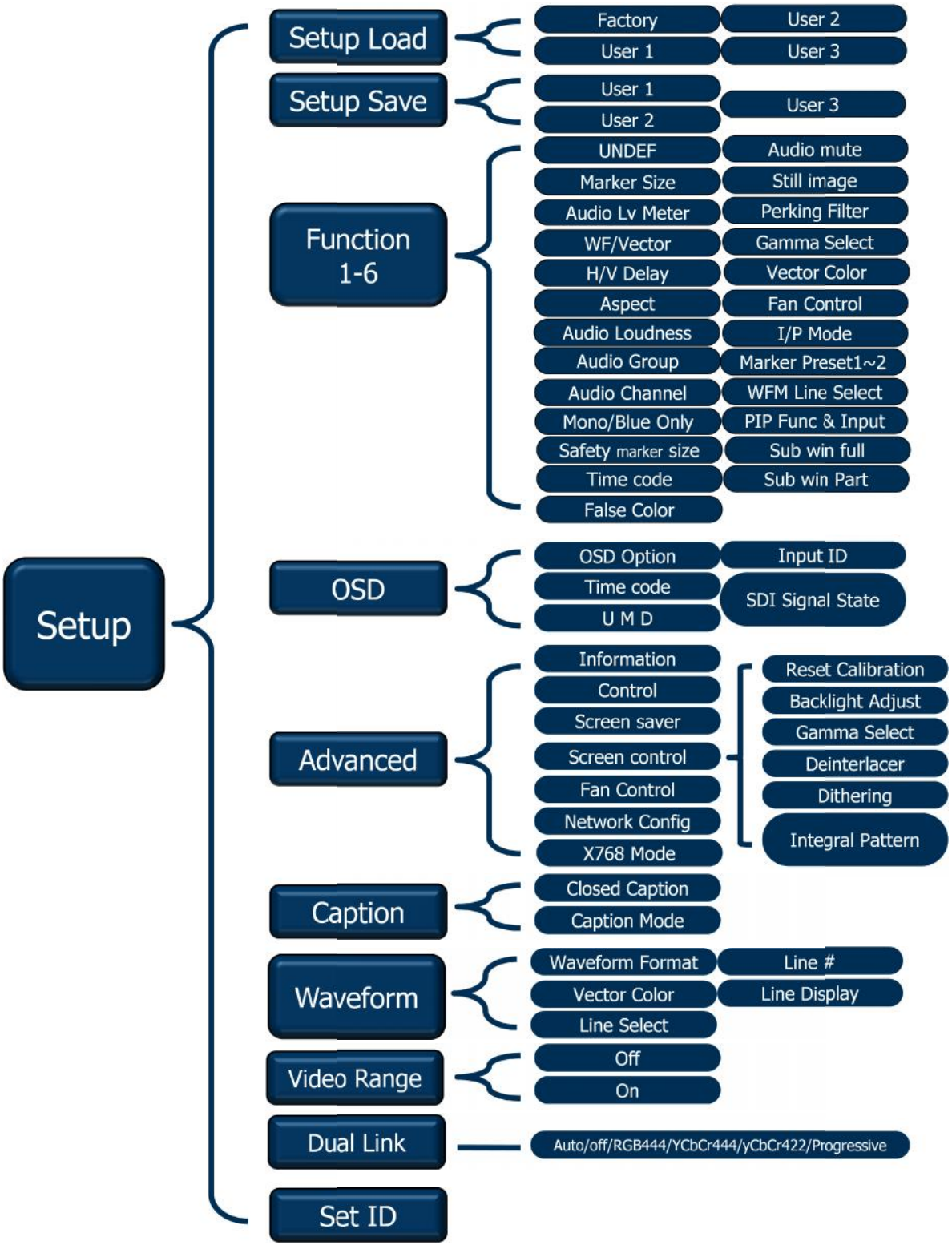
3) Marker


Marker
Marker
Off
16 : 9
4 : 3
14 : 9
13 : 9
1.85 : 1
2.35 : 1
1.85:1&4:3
User1,2,3
User Marker
User X1
User Y1
User X2
User Y2
User X3
User Y3
Safety Area
OFF
16:9 - 95% 93& 90% 88% 80%
4:3 - 95% 93& 90% 88% 80%
EBU Action 16:9/14:9/4:3
EBU Graphic 16:9/14:9/4:3
Center Marker
Off
On
Marker Width
0 ~ 10
Marker Color
Marker Line Color
Safety Line Color
WHITE
YELLOW
BLUE
RED
BLACK
Marker Back Color
Safety Back Color
NONE
GRAY
WHITE
BLUE
BLACK
Marker BK Blend
Safety BK Blend
0 ~ 5
Preset1
Preset2

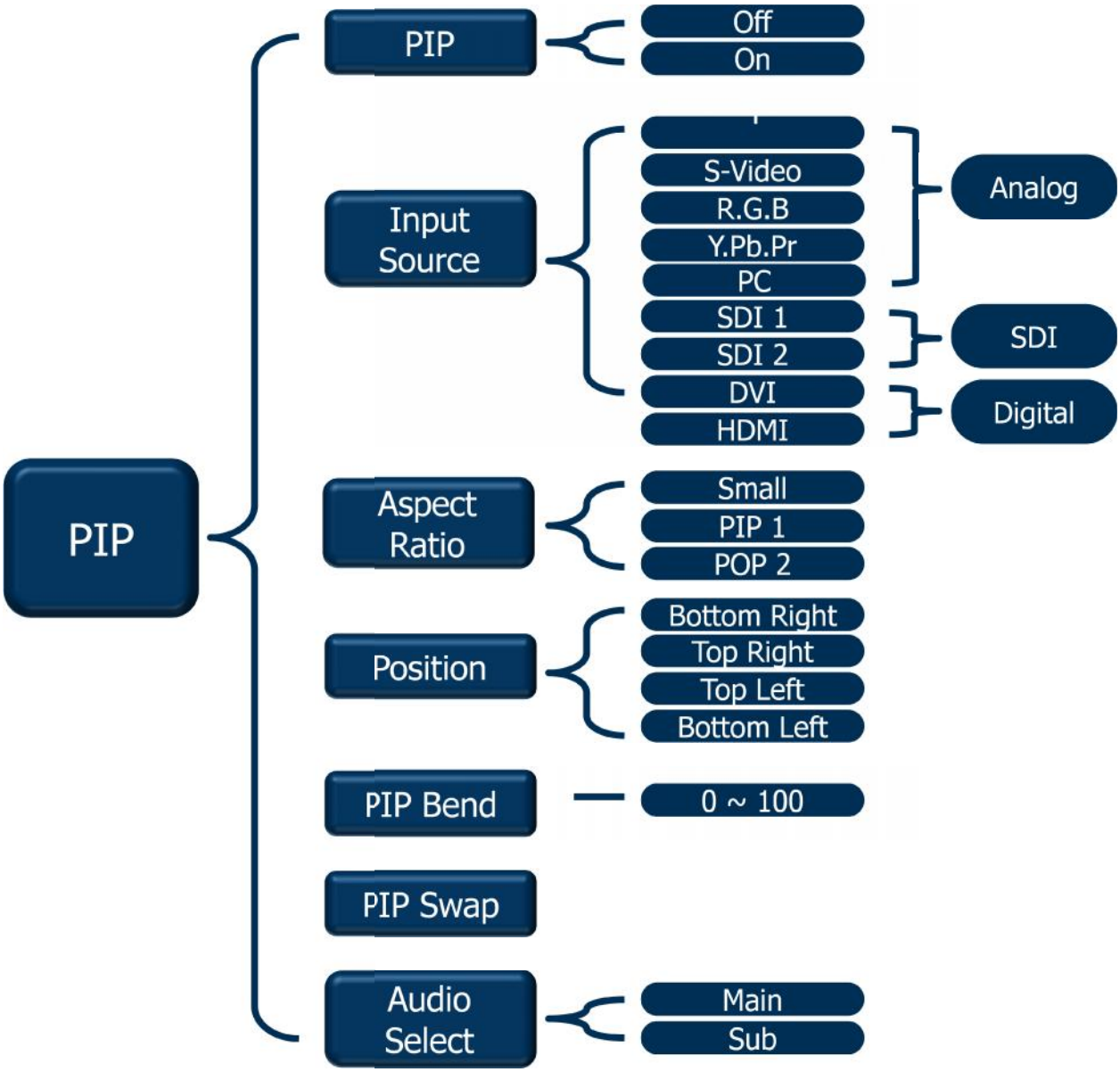
4) GPI


GPI
GPI Control
Off
On
GPI 1
GPI 2
GPI 3
GPI 4
GPI 5
GPI 6
GPI 7
UNDEF
Marker 1 on/off
Marker 2 on/off
Center Marker
Safety Area
Tally R
Tally G
Scan
Input Compo site1,2,3
Input R G B
Input SDI 1
Input SDI 2
Input Y.Pb.Pr
Input PC
Input DVI
Input HDMI
Menu Key
Enter Key
UP Key
Down Key
Left Key
Right Key
Function 1,2, 3,4,5,6
H/V Delay
Aspect
Wavefrom
LKFS Warning
Power Key (Fixed)

5) Setup

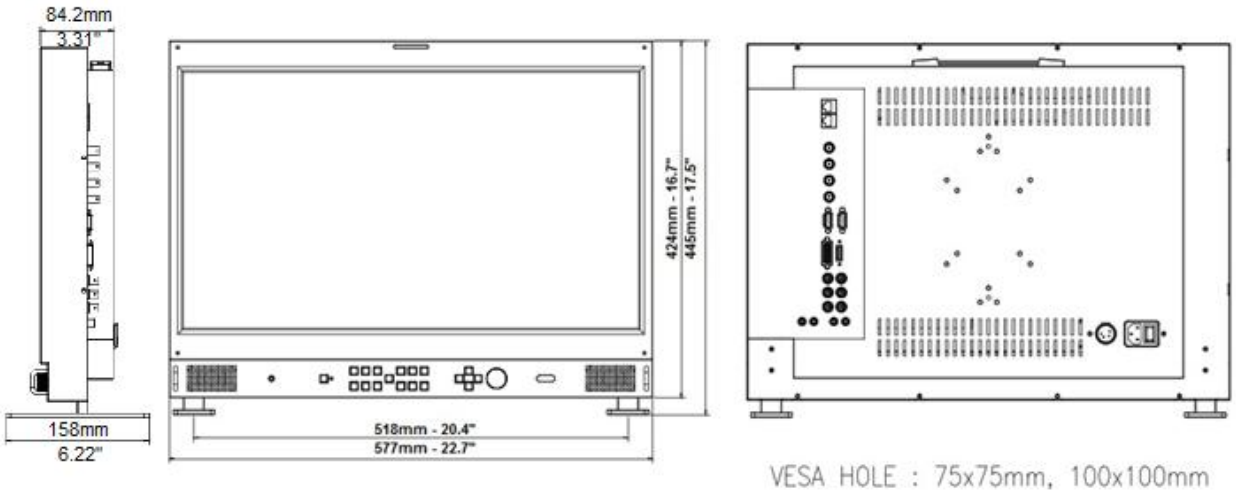

Setup
Setup Load
Factory
User 1
User 2
User 3
Setup Save
User 1
User 2
User 3
Function 1-6
UNDEF
Marker Size
Audio Lv Meter
WF/Vector
H/V Delay
Aspect
Audio Loudness
Audio Group
Audio Channel
Mono/Blue Only
Safety marker size
Time code
False Color
Audio mute
Still image
Perking Filter
Gamma Select
Vector Color
Fan Control
I/P Mode
Marker Preset1~2
WFM Line Select
PIP Func & Input
Sub win full
Sub win Part
OSD
OSD Option
Time code
U M D
Input ID
SDI Signal State
Advanced
Information
Control
Screen saver
Screen control
Fan Control
Network Config
X768 Mode
Reset Calibration
Backlight Adjust
Gamma Select
Deinterlacer
Dithering
Integral Pattern
Caption
Closed Caption
Caption Mode
Waveform
Waveform Format
Vector Color
Line Select
Line #
Line Display
Video Range
Off
On
Dual Link
Auto/off/RGB444/YCbCr444/yCbCr422/Progressive
Set ID

6) PIP


PIP
PIP
Off
On
Input Source
S-Video
R.G.B
Y.Pb.Pr
PC
SDI 1
SDI 2
DVI
HDMI
Analog
SDI
Digital
Aspect Ratio
Small
PIP 1
POP 2
Position
Bottom Right
Top Right
Top Left
Bottom Left
PIP Bend
0 ~ 100
PIP Swap
Audio Select
Main
Sub

15. Mechanical Dimension

1) PRM-224-3G-O



www.plurainc.com

U.S.A. . Germany . U.A.E. . S.Korea