



Multi Format Broadcast LCD Monitors

Operation Manual

24-Inch Full HD LCD Grade 1 Monitor

XVM-245W



TVlogic

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FCC (Federal Communications Commission)

This equipment has been tested and found to comply with the limits for class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interface when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential to correct the interference at his own expense

CAUTION: Change or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

Disposal of Old Electrical & Electronic Equipment

(Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packing indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequence for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources.

Caution

ALWAYS USE SET VOLTAGE. AC 100 ~ 240V (1.6A/50~60HZ), DC 24V (TYP 3.2A) [ONLY XVM-245W]

- All operating instructions must be read and understood before the product is operated.
- These safety and operating instructions must be kept in safe place for future reference.
- All warnings on the product and in the instructions must be observed closely.
- All operating instructions must be followed.
- Do not use attachments not recommended by the manufacturer. Use of inadequate attachments can result in accidents.
- This product must be operated on a power source specified on the specification label.
If you are not sure of the type of power supply used at your side, consult your dealer or local power company. For units designed to be operated on batteries or another power source, refer to the operating instructions.
- The power cords must be routed properly to prevent people from stepping on them or objects from resting on them. Check the cords at the plugs and product.
- Do not overload AC outlets or extension cords. Overloading can cause fire or electric shock.
- Never insert an object into the product through vents or openings. High voltage flows in the product, and inserting an object can cause electric shock and/or short internal parts.
For the same reason, do not spill water or liquid on the product.
- Do not attempt to service the product yourself. Removing covers can expose you to high voltage and other dangerous conditions. Request a qualified service person to perform servicing.
- If any of the following conditions occurs, unplug the power cord from the AC outlet, and request a qualified service person to perform repairs.
 - a. When the power cord or plug is damaged.
 - b. When a liquid was spilled on the product or when objects have fallen into the product.
 - c. When the product has been exposed to rain or water.
 - d. When the product does not operate properly as described in the operating instructions.
Do not touch the controls other than those described in the operating instructions.
Improper adjustment of controls not described in the instructions can cause damage, which often requires extensive adjustment work by a qualified technician.
 - e. When the product has been dropped or damaged.
 - f. When the product displays an abnormal condition. Any noticeable abnormality in the product indicates that the product needs servicing.
- In case the product needs replacement parts, make sure that the service person uses replacement parts specified by the manufacturer, or those with the same characteristics and performance as the original parts. Use of unauthorized parts can result in fire, electric shock and/or other danger.

Caution

- Upon completion of service or repair work, request the service technician to perform safety checks to ensure that the product is in proper operating condition.
- When mounting the product on a wall or ceiling, be sure to install the product according to the method recommended by the manufacturer.
- Unplug the power cord from the AC outlet before cleaning the product. Use a damp cloth to clean the product. Do not use liquid cleaners or aerosol cleaners.
- Unplug the power cord from the AC outlet if you do not use the product for considerably long time.
- Do not use the product near water, such as bathtub, washbasin, kitchen sink and laundry tub, swimming pool and in a wet basement.
- Keep the product away from direct rays of the Sun-light.
- Do not place the product on an unstable cart, stand, tripod or table. Placing the product on an unstable base can cause the product to fall, resulting in serious personal injuries as well as damage to the product. Use only a cart, stand, tripod, bracket or table recommended by the manufacturer or sold with the product. When mounting the product on a wall, be sure to follow the manufacturer's instruction. Use only the mounting hardware recommended by the manufacturer.
- When relocating the product placed on a cart, it must be moved with the utmost care. Sudden stops, excessive force and uneven floor surface can cause the product to fall from the cart.
- The vents and other openings in the cabinet are designed for ventilation. Do not cover or block these vents and openings since insufficient ventilation can cause overheating and/or shorten the life of the product. Do not place the product on a bed, sofa, rug or other similar surface, since they can block ventilation openings. This product is not designed for built-in installation; do not place the product in an enclosed place such as a bookcase or rack, unless proper ventilation is provided or the manufacturer's instructions are followed.
- The LCD panel used in this product is made of glass. Therefore, it can break when the product is dropped or applied with impact. Be careful not to be injured by broken glass pieces in case the LCD panel breaks.
- Keep the product away from heat sources such as radiators, heaters, stoves and other heatgenerating products (including amplifiers).
- The screen modes are defined as below:
 - Normal or Single Mode : One input source (including Waveform) in one display.
 - Multi Mode : Two input sources in one display(PBP).

Features

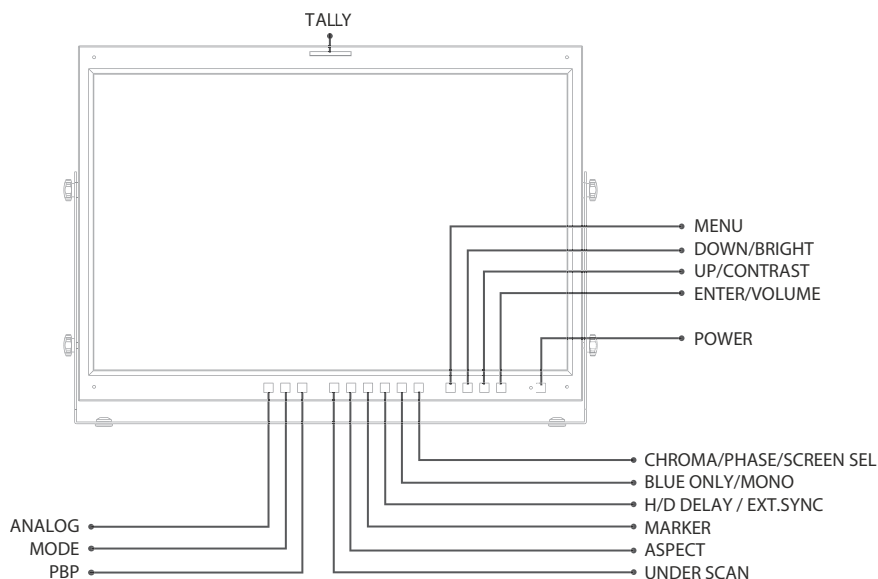
XVM SERIES HAVE THE FOLLOWING FEATURES:

- **Compatible with varied SDI signals**
 - The product is compatible with varied SDI Signals : 480i, 576i, 720p, 1080i, 1080p, 1080psF (SDI A, B 2channels are compatible)
- **Compatible with varied analog signals**
 - The product is compatible with varied analog signals : Composite, S-Video, Component, RGB, etc.
- **All-in-one type system**
 - Slim and all-in-one type monitor that requires no other accessory, for optimized space utilization.
- **Wide Screen compatible**
 - Wide Screen for easier monitoring conditions.
- **AC/DC compatible**
 - The product may be powered by normal AC source, but also 24V DC(XVM-245W)
- **Remote control function**
 - Remote-controlled simply with cable connection without additional peripheral equipment attached to unit.
- **DVI/HDMI(HDCP) function built-in**
 - DVI_I/HDMI(HDCP) Input is available without any other accessory.
- **RS422/UMD feature support**
 - Supports based on attached protocol.
- **RS232 support**
 - Supports based on ethernet program download & Calibration.
- **Ethernet & USB support**
 - Supports based on program download.

In addition, the product is compatible with Wide Viewing Angle, Through OUT (SDI), VESA Mounting Standard, 1000:1 contrast ratio(XVM-245W), 250cd brightness, User Interface and Rack-Mountable.

Name & Function of Each Part

FRONT



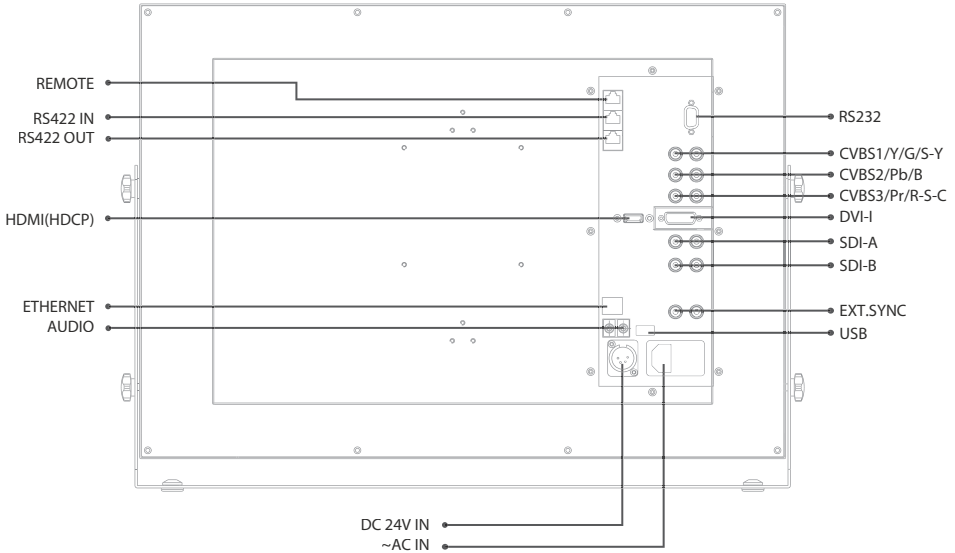
- **[ANALOG] button/lamp**
 - Used when ANALOG INPUT is selected. Sub Menu for analog input menu-selection appears.
- **[MODE] button/lamp**
 - Used when SDI INPUT A → B is selected.
- **[PICTURE BY PICTURE] button/lamp**
 - Used to choose PBP or FULL screen.
- **[UNDER SCAN] button/lamp**
 - Used when transferring from OVER SCAN mode to UNDER SCAN mode.
(Compatible up to SD 1:1 SCAN mode.)
- **[ASPECT] button/lamp**
 - Used when changing the monitor ratio on SD signal mode to 16:9.
- **[MARKER] button/lamp**
 - Used when indicating MARKER on the screen. The type of marker at work may be selected on the main menu.

Name & Function of Each Part

- **[H/V DELAY & EXT. SYNC] button/lamp**
 - Used when checking horizontal sync and vertical sync simultaneously. After applying Analog sync(CLK, H, V) check whether the SYNC is corresponding with SDI, Component, Composite modes.
- **[BLUE ONLY / MONO] button/lamp**
 - You may remove R(red) and G(green) from the input signal and play the screen only in B(blue) signal. And if the button hit twice, it will turn to MONO mode. (This mode use only luminance value.)
- **[CHROMA/PHASE/SCREEN SEL] (In Single Mode) button**
 - Used when changing the CHROMINANCE and PHASE values during menu in-activation. One time of touch of the button will turn the product to CHROMA mode, and if the button is hit twice, to automatic PHASE setting. (PHASE may be used only ANALOG mode.)
- **[CHROMA/PHASE/SCREEN SEL] (In Multi Mode) button**
 - Used to select a display in Multi Mode.
- **[MENU] button**
 - Used when OSD menu is activated.
- **[DOWN/BRIGHT] button**
 - Used when moving within the menus during OSD menu activation. It may also be used to control the BRIGHT value during OSD menu inactivation.
- **[UP/CONTRAST] button**
 - Used when moving within the menu during OSD menu activation. It may also be used to control the CONTRAST value during OSD menu inactivation.
- **[ENTER] button**
 - Used when confirming a chosen value (or mode) during OSD menu activation or inactivation.
- **[STANDBY] button**
 - It affords power supply, which may be indicated by indication lamp. The lamp is RED during power supply and GREEN during system is in operation. In case of power cut and sudden shut off of the power, the monitor keep previous setup stage.
- **[POWER] button**
 - Used when power on and off.
- **[TALLY] lamp**
 - LED indicating monitors current status.

Name & Function of Each Part

REAR



- **[REMOTE] (RJ-45)**
 - It provides connector to build connection with extra equipment for monitor control.
- **[DVI-I IN]**
 - When use our product at DVI display mode, DVI IN is input connector
- **[RS-232]**
 - Use to Firmware(Ethernet) & Calibration.
- **[CVBS1/Y/G/S-Y] (BNC)**
 - Signal input terminal used to put in COMPOSITE 1, S-VIDEO Y, COMPONENT Y, RGB G signals.
- **[CVBS2/Pb/B] (BNC)**
 - Signal input terminal used to put in COMPOSITE 2, COMPONENT Pb RGB B signals.
- **[CVBS3/Pr/R/S-C] (BNC)**
 - Signal input terminal used to put in COMPOSITE 3, S-VIDEO C, COMPONENT Pr, RGB R signals.
- **[RS422 IN/OUT] (RJ-45)**
 - Supports based on attached protocol.

Name & Function of Each Part

- **[SDI-IN A] (BNC)**
 - SDI signal input terminal that provides A signal.
- **[SDI-OUT A] (BNC)**
 - SDI signal output terminal used for SDI A output.
- **[SDI-IN B] (BNC)**
 - SDI signal input terminal that provides B signal.
- **[SDI-OUT B] (BNC)**
 - SDI signal output terminal used for SDI B output.
- **[Audio in & out]**
 - Built in Audio Disembedder and Internal Speakers Stereo Audio out using phone jack.
External Audio in for Stereo Speaker out
- **[Ethernet & USB]**
 - Supports based on program download.
- **[~ AC IN]**
 - Used to supply AC power; 100V~240V input range.
- **[DC 24V IN]**
 - Used to supply DC power 24V(XVM-245W).
- **[Information]**
 - Input VIDEO 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

Warning!!

When using the product, make sure to connect the GND first before connecting the signal line. There might be a possibility of wrong operation when the signal line is connected before GND. For example, when using RCA-to-BNC (or BNC-to-RCA) connector, if you connect the signal line first it may occur problems on equipment.

Menu Organization & Adjustment

The product may be controlled and set system-wise through OSD displayed on the screen.

[1] Menu Organization

Below is the organization of the product's menu.



[2] Menu Control

You may control various functions using MENU, UP/DOWN and ENTER buttons on the front bottom of the monitor.

[3] Menu Control Sequence

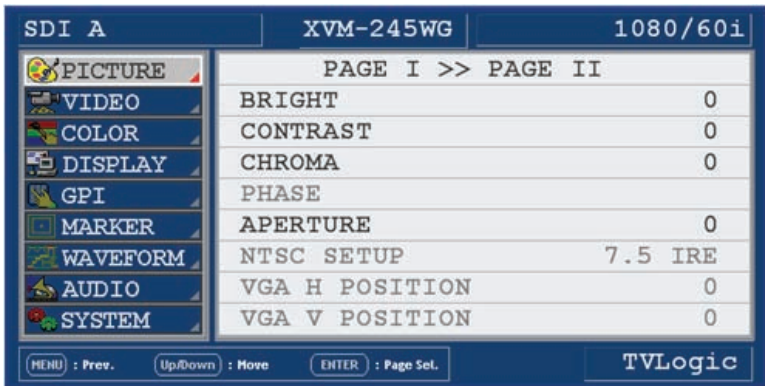
Menu control sequence follows the order below

1. Press MENU button to bring OSD menu on the screen.
2. Display the desired sub menu with the UP/DOWN button.
3. After select a sub menu, press ENTER to select an item with UP/DOWN button.
4. Press ENTER to select the desired item. (Verified by highlighted field returning to default black color.)
5. Press ENTER to save the new value (verified by highlighted field returning to default black color.)
6. Press MENU once to remove OSD menu from the screen.
7. To view next page in the sub menu, press ENTER button at PAGE I >> PAGE II.

Menu Contents

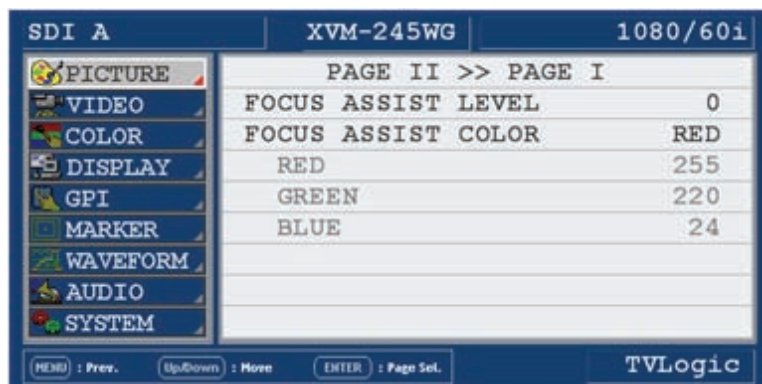
Below is the description of each function of the menu.

[1] PICTURE PART



- **BRIGHT**
 - This item controls the degree of brightness between MIN(-100) and MAX(100).
- **CONTRAST**
 - This item controls the contrast ratio between MAX(100) and MIN(-100).
- **CHROMA**
 - This item controls saturation between MAX(50) and MIN(-50).
- **PHASE**
 - This item controls PHASE value (Tone) between MAX(50) and MIN(-50). However, it is only available on COMPOSITE and S-VIDEO among ANALOG modes.
- **APERTURE**
 - This item controls the picture sharpness. Sharpness select between MIN(-1) and MAX(5).
- **NTSC SETUP**
 - This item sets the IRE value under NTSC mode between 0 IRE and 7.5 IRE.
 - Only available in COMPOSITE 1/2/3 and S-VIDEO modes containing a NTSC signal.
- **VGA H POSITION**
 - This item controls VGA H position. It is only available on DVI analog mode.
- **VGA V POSITION**
 - This item controls VGA V position. It is only available on DVI analog mode.

Menu Contents



◦ FOCUS ASSIST LEVEL

- This item controls focus assist level.
- Available values are between 0 ~ 100. Larger value means greater detail detection.
- Focus assist color is presented when the difference between the border selections exceeds the selected value.
- This features is only available when FOCUS ASSIST mode is selected. FOCUS ASSIST mode can be selected by pressing [BLUE ONLY/MONO] button.

◦ FOCUS ASSIST COLOR

- This item selects the color of FOCUS ASSIST.
- Available values are red, green and blue.

◦ RED

- Set "FOCUS ASSIST COLOR" as "USER" then, select LEVEL of RED color to adjust color value(0~255)

◦ GREEN

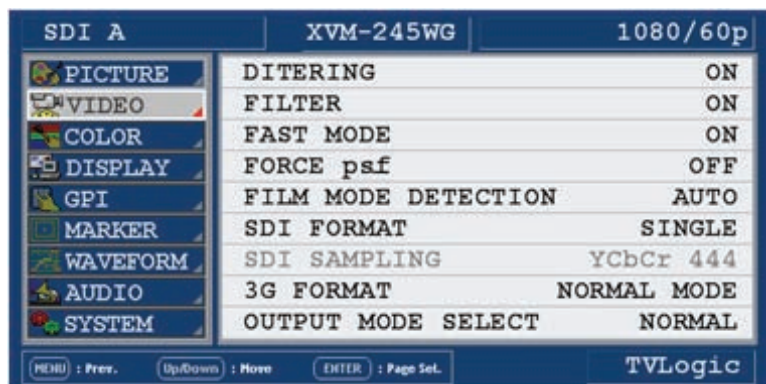
- Set "FOCUS ASSIST COLOR" as "USER" then, select LEVEL of GREEN color to adjust color value(0~255)

◦ BLUE

- Set "FOCUS ASSIST COLOR" as "USER" then, select LEVEL of BLUE color to adjust color value(0~255)

Menu Contents

[2] VIDEO PART



- **DITHERING**
 - This item enables dithering to 10 bits.
- **FILTER**
 - This item selects set the filter ON for smoother transitions between colors.
- **FAST MODE**
 - This item minimize de-interlacing processing time delay. If user want to see without 1field time delay, use this mode.
- **FORCE psf**
 - This item sets psf mode for psf signals.
- **FILM MODE DETECTION**
 - This item enables film mode or disables.
- **SDI FORMAT**
 - This item selects input SDI format between single mode and dual mode. (Use Dual mode)
- **SDI SAMPLING**
 - This item selects input SDI sampling mode between YCbCr and RGB. (Use Dual mode)
- **3G FORMAT**
 - This item selects input format of SDI 3G A/B support(NORMAL MODE, A 444 10BIT_YCbCr, A 444 10BIT_RGB, A 444 12BIT_YCbCr, A 444 12BIT_RGB, A 422 12BIT_YCbCr, B 444 10/12BIT_YCbCr, B 444 10/12BIT_RGB, B 422 12BIT_YCbCr, B 422 10BIT_YCbCr, 60P).
- **OUTPUT MODE SELECT**
 - This item selects the range of luminance for SDI MODE between FULL(255) and **NORMAL(235)**.
- **RGB INPUT MODE**
 - This item selects luminance value between RGB255 and RGB235. However, it is only available on DVI-DIGITAL and HDMI modes.

Menu Contents

[3] COLOR PART



◦ COLOR TEMP

- This item controls color temperature and allows instant access to preset color temperature settings of 3200K, 5000K, 5600K, 6500K, 9300K and CUSTOM 1/2/3.
- In CUSTOM 1/2/3 mode, user can define custom RGB GAIN and BIAS values.

◦ GAIN RED

- This item controls red color.
- The value is selectable between Min(-255) and MAX(255).
- Only available in CUSTOM 1/2/3 mode.

◦ GAIN GREEN

- This item controls green color.
- The value is selectable between Min(-255) and MAX(255).
- Only available in CUSTOM 1/2/3 mode.

◦ GAIN BLUE

- This item controls blue color.
- The value is selectable between Min(-255) and MAX(255).
- Only available in CUSTOM 1/2/3 mode.

◦ BIAS RED

- This item adjusts black level to control red color.
- The value is selectable between Min(-50) and MAX(50).
- Only available in CUSTOM 1/2/3 mode.

◦ BIAS GREEN

- This item adjusts black level to control green color.
- The value is selectable between Min(-50) and MAX(50).
- Only available in CUSTOM 1/2/3 mode.

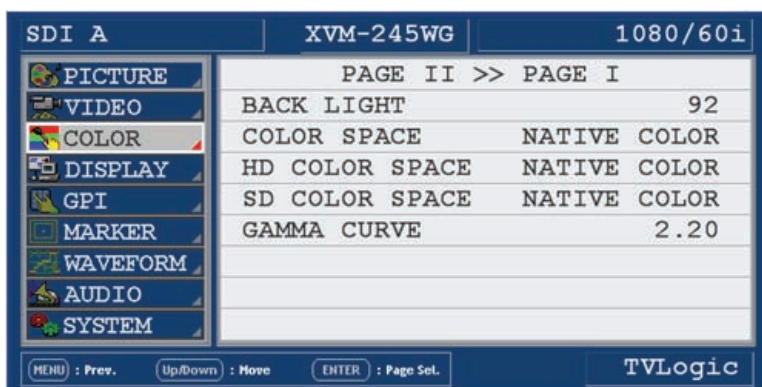
Menu Contents

◦ BIAS BLUE

- This item adjusts black level to control blue color.
- The value is selectable between Min(-50) and MAX(50).
- Only available in CUSTOM 1/2/3 mode.

◦ COLOR COPY

- This item is used to copy pre-stored color temperature settings into a CUSTOM 1/2/3 mode.
- In CUSTOM mode, find and select the color temperature to be used as a starting point of custom color temperature.
- Only available in CUSTOM 1/2/3 mode.



◦ BACK LIGHT

- This item controls LCD Panel's brightness. The value should be within range between MIN(10) and MAX(255).

◦ COLOR SPACE

- This item is used when user want to select the color displaying modes between the following modes. NATIVE COLOR -> LUT REC-709 -> LUT SMPTE-C -> LUT EBU -> LUT D-CINEMA -> LUT USER -> AUTO

◦ USER MODE

- If selected over 3.0, User mode displays with option of each R,G,B GAMMA control.

◦ HD COLOR SPACE

- Auto Color space selection mode for HD Signal input.

◦ SD COLOR SPACE

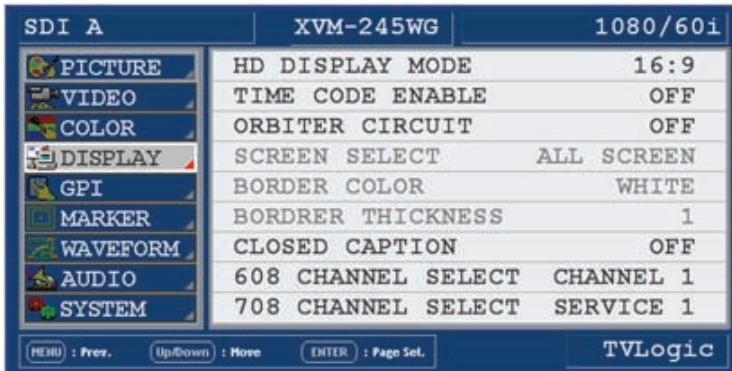
- Auto Color Space selection mode for SD signal input.

◦ GAMMA CURVE

- This item is used when user want to change the Gamma curve as he/she wishes between 1.0 and 3.0. 1.03.0 (0.1 STEP CONTROL)
- If selected over 3.0, User mode displays with option of each R,G,B GAMMA control.

Menu Contents

[4] DISPLAY PART



◦ HD DISPLAY MODE

- This item controls the display ratio of HD display. 16:9,1.85:1, 2.35:1

◦ TIME CODE ENABLE

- This item displays the time code.(VITC, LTC)

* When multi screen mode, if the same input is displayed onto 2 screens, TIME CODE will be only seen on the first screen displaying the same input. (e.x., If SDI-A input is displayed on SCREEN1 and SCREEN2 in PBP mode, TIME CODE will be only displayed on SCREEN 1)

◦ ORBITER CIRCUIT

- This item prevents image sticking effect on LCD Panels when signal input is used. The user may decide number of pixels to move. The number of pixels should be within range between MIN(0) and MAX(100). Moving speed is 10 minutes per one pixel line.

* Above function only works in Normal mode (not in PBP mode).

◦ SCREEN SELECT

- By using Chroma/Phase Hot-Key, user can select and control the individual display in Multi Mode.
ALL SCREEN -> SCREEN 1 -> SCREEN 2



◦ BORDER COLOR

- This item selects the border line color between the displays in Multi Mode.

◦ BORDER THICKNESS

- This item selects the thickness of the border lines between the displays in Multi Mode.

◦ CLOSED CAPTION

- This item controls closed caption ON/OFF.

◦ 608 CHANNEL SELECT

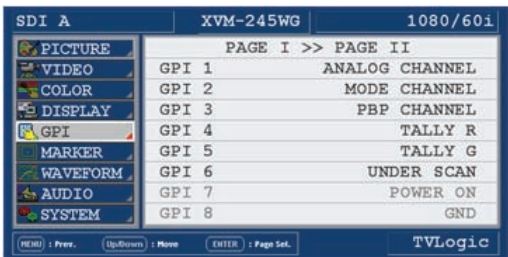
- This item selects Closed Caption 608 channel.(Supports CH1 only.)

◦ 708 CHANNEL SELECT

- This item selects Closed Caption 708 service.

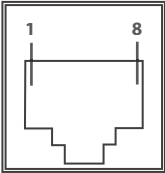
Menu Contents

[5] GPI PART



REMOTE (RJ-45)

- 1: Pin1
- 2: Pin2
- 3: Pin3
- 4: Pin4
- 5: Pin5
- 6: Pin6
- 7: Pin7
- 8: GND



This product provides a REMOTE CONTROL mode. The user may connect RJ-45 jack to the REMOTE terminal on the rear of the unit and designate a function for each pin.

The user designates function for PIN 1~PIN 6. PIN 7 is POWER ON/OFF use only. The selectable functions are as follows:

MenuClassification	SettableValues
PIN 1~6	NONE, ANALOG CHANNEL, MODE, PBP, BLUE ONLY, SD 1:1 SCAN, UNDER SCAN, ASPECT, H/V DELAY, 16:9,15:9,14:9,13:9 MARKER, 4:3, 4:3 ON AIR MARKER, 1.85:1, 2.35:1 MARKER, 1.85:1&4:3 MARKER, CENTER MARKER,SAFETY AREA 80% / 88% / 90% / 93%, TALLY RED, TALLY GREEN
PIN 7	POWER ON/OFF CONTROL
PIN 8	GND

On the pin to be used, set the function you desire with the ENTER button and UP/DOWN button. The method of setting the value is the same as that for the MENU function discussed earlier.



- MONITOR ID
 - This item sets the ID of each monitor for the TVLogic control protocol or DYNAMIC UMD using RS-422/485 communication.
 - Available values are between 0 ~ 99.

Menu Contents

◦ UMD DISPLAY

- This item is display input UMD.(UMD,ANC, D-UMD(S-8C), D-UMD(S-16C), D-UMD(D-8C), OFF)

◦ UMD CHARACTER

- This item is set input source UMD name. (Use Menu, Down, Up and Enter key.)

◦ D-UMD TALLY TYPE

- This item selects the color of tally indication for D-UMD. (RED, DEFAULT, USER COLOR)

◦ TALLY1 COLOR

- If D-UMD TALLY TYPE is set to USER COLOR, user can select the color of TALLY1.
(RED, GREEN, YELLOW)

◦ TALLY2 COLOR

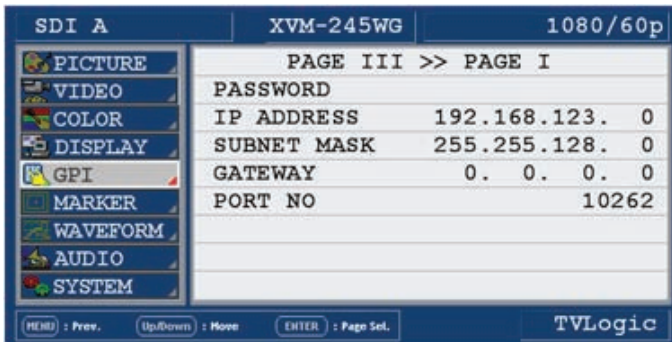
- If D-UMD TALLY TYPE is set to USER COLOR, user can select the color of TALLY2. (RED, GREEN, YELLOW)

◦ TALLY3 COLOR

- If D-UMD TALLY TYPE is set to USER COLOR, user can select the color of TALLY3. (RED, GREEN, YELLOW)

◦ TALLY4 COLOR

- If D-UMD TALLY TYPE is set to USER COLOR, user can select the color of TALLY4. (RED, GREEN, YELLOW)



◦ PASSWORD

- For download, the PASSWORD set for a monitor should be match with the PASSWORD for a download program.

◦ IP ADDRESS

- Type the IP Address connected to a Monitor.

◦ SUBNET MASK

- Type the SUBNET MASK connected to a Monitor.

◦ GATEWAY

- Type the GATEWAY number connected to a Monitor.

◦ PORT NO

- Set a Monitor number when more than 1 monitors are connected to a line sharer.

Menu Contents

[6] MARKER PART



◦ MARKER

- This selects the marker type when the MARKER is displayed on the screen. MARKER may only be activated by pressing the MARKER button on the front of the monitor. Compatible MARKER types are as follows:

MODE	MARKER CLASS
HD SD 16:9	16:9, 4:3, 4:3 ON AIR, 15:9, 14:9, 13:9, 1.85:1, 2.35:1, 1.85:1 & 4:3, 4:3 ALT 16:9, 16:9 ALT 14:9, 16:9 ALT 4:3, AFD, USER
SD 4:3	16:9, 4:3, 4:3 ON AIR, 15:9, 14:9, 13:9, 1.85:1, 2.35:1, 1.85:1 & 4:3, 4:3 ALT 16:9, 16:9 ALT 14:9, 16:9 ALT 4:3, AFD, USER

- If AFD is selected, the embedded Aspect ratio signal in the video signal will be extracted and displayed as a marker automatically.

◦ CENTER MARKER

- This item displays the CENTER MARKER on the screen. This function operates only after activating the MARKER function by pressing the MARKER button on the front of the monitor.

◦ SAFETY AREA

- This item controls the size of the SAFETY AREA among 80%, 88%, 90%, 93%, 100%, EBU ACTION 16:9, EBU GRAPHIC 16:9, EBU ACTION 14:9, EBU GRAPHIC 14:9, EBU ACTION 4:3 and EBU GRAPHIC 4:3.

◦ FIT MARKER

- This item activates the FIT MARKER function.
- With FIT MARKER On the safety area is displayed relative to the marker in use. With FIT MARKER Off the safety area is displayed relative to the incoming source.

Menu Contents



MARKER : 4:3
SAFETY AREA : 90%
FIT MARKER : OFF



MARKER : 4:3
SAFETY AREA : 90%
FIT MARKER : OFF

◦ MARKER MAT

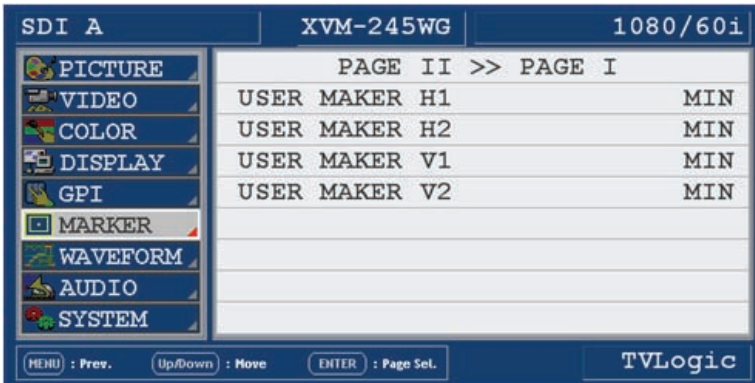
- This item darkens the area of the outside of MARKER setting area. The degrees of darkness are between OFF(0) and (7). The higher the number, the darker MARKER border becomes.

◦ MARKER COLOR

- This item controls the color of MARKER is generated. Settable colors are white, gray, black, red, green and blue.

◦ MARKER THICKNESS

- This item controls the width of marker. The degrees of width are between 1 and 7.



◦ USER MARKER H1

- This item controls the position of the first user defined horizontal marker line.
- Marker option USER needs to be selected.

◦ USER MARKER H2

- This item controls the position of the second user defined horizontal marker line.
- Marker option USER needs to be selected.

◦ USER MARKER V1

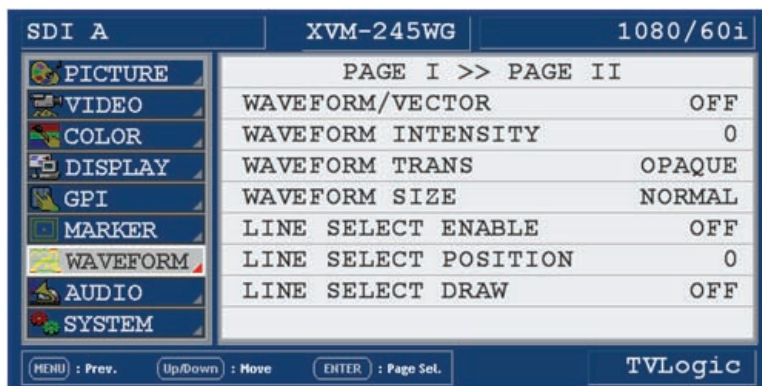
- This item controls the position of the first user defined vertical marker line.
- Marker option USER needs to be selected.

◦ USER MARKER V2

- This item controls the position of the second user defined vertical marker line.
- Marker option USER needs to be selected.

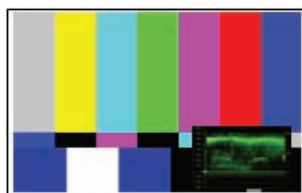
Menu Contents

[7] WAVEFORM PART



◦ WAVEFORM/VECTOR

- This function sets the Waveform and Vectorscope.
- This feature is available in SDI, COMPOSITE 1/2/3, S-VIDEO, COMPONENT modes.
- Selectable features: OFF, WAVEFORM, VECTOR, YCbCr, MODE 1(WAVEFORM + VECTORY), MODE 2(VECTOR + Y/Cb/Cr), WIDE-Y
- Displays on the bottom right of the screen and moves above the UMD, if UMD feature is selected.
- * WAVEFORM : Displays the shape and form of luminance level of signal.
- * VECTOR : Displays color components of the input signals on the XY axis
HD and SD inputs are classified into two kinds, depending on the input. 100% and 75% scales indicated on a display.
- * Y/Cb/Cr : Displays each waveform for elements of the luminance and Cb/Cr of the input signal.
- * MODE 1 : Displays waveform and vector scope simultaneously.
- * MODE 2 : Displays Vector scope and Y/Cb/Cr waveform simultaneously.
- * WIDE : Displays waveform in wide mode.



<WAVEFORM>



<VECTOR>



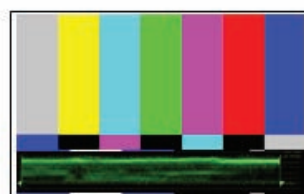
<YCbCr>



<MODE 1>



<MODE 2>



<WIDE>

Menu Contents

◦ WAVEFORM INTENSITY

- This item controls the brightness of the WAVEFORM/VECTOR display.
- Available values are between 0 ~ 30. The higher the number the brighter the waveform will be.

◦ WAVEFORM TRANS

- This item controls the transparency level of the WAVEFORM/VECTOR.
- Available values are OPAQUE and TRANS.
 - * If the option is set to OPAQUE, the main OSD will overlap with the waveform/vector. However, it will automatically display it as transparent and goes back to opaque if the main OSD disappears.

◦ WAVEFORM SIZE

- This item controls the size of WAVEFORM/VECTOR.
- Available modes are NORMAL and LARGE.

◦ LINE SELECT ENABLE

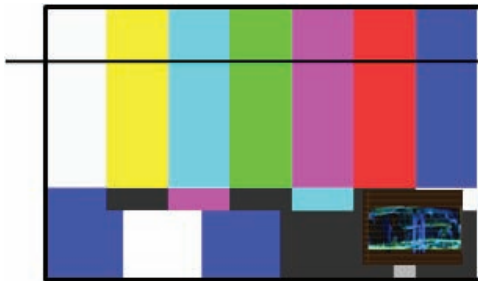
- This item enables the Vertical LINE select for Waveform/Vectorscope.

◦ LINE SELECT POSITION

- In Waveform/Vectorscope, use the Up/Down button to select User's desired line.

◦ LINE SELECT DRAW

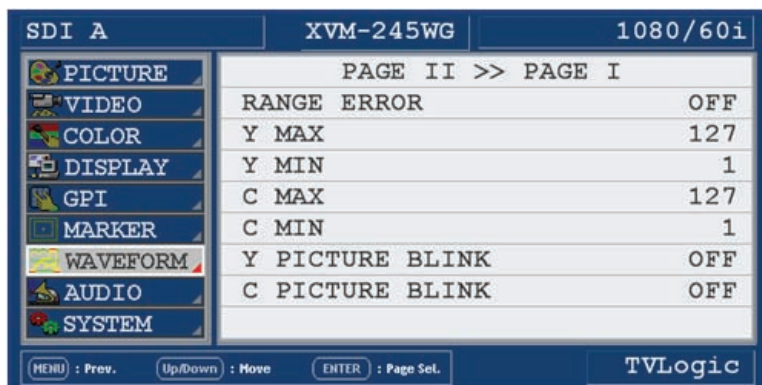
- ON/OFF the line indication for line select feature.



Position changes if the value changes in LINE SELECT option and the waveform of the selected position displays.

WAVEFORM/VECTOR : WAVEFORM
LINE WAVEFORM : ON

Menu Contents



◦ RANGE ERROR

- This item controls Y MAX, Y MIN, C MAX, C MIN, Y PICTURE BLINK, and C PICTURE BLINK.
- Selected values in Y MAX, Y MIN, C MAX and C MIN indicates in WAVEFORM/VECTOR.

◦ Y MAX

- This item sets the maximum luminance level.
- Available values are between 1 ~ 127. Exceeded selection displays on the top portion of the waveform or display.

◦ Y MIN

- This item sets the minimum luminance level.
- Available values are between 1 ~ 127. Exceeded selection displays on the top portion of the waveform or display.

◦ C MAX

- This item sets the maximum chroma level.
- Available values are between 1 ~ 127. Exceeded selection displays on the top portion of the waveform or display.

◦ C MIN

- This item sets the minimum chroma level.
- Available values are between 1 ~ 127. Exceeded selection displays on the top portion of the waveform or display.

◦ Y PICTURE BLINK

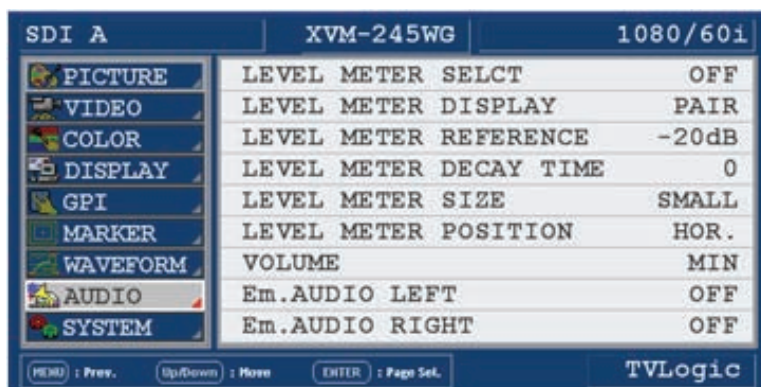
- This item sets selections of image that exceeds Y MAX and Y MIN to blink.

◦ C PICTURE BLINK

- This item sets selections of image that exceeds C MAX and C MIN to blink.

Menu Contents

[8] AUDIO PART



◦ AUDIO

- This item controls audio level meter. If user want to see embedded audio signal, use this mode.
- Audio level meter can select GROUP1 ~ GROUP4 or OFF.

* When PBP screen mode, if the same input is displayed onto 2 screens, AUDIO LEVEL METER will be only seen on the first screen displaying the same input.

(e.x., If SDI-A input is displayed on SCREEN1 and SCREEN2 in PBP mode, AUDIO LEVEL METER will be only displayed on SCREEN 1)

◦ LEVEL METER SELECT

- This item sets embedded audio group selects off, G1+G2, G2+G3, G3+G4, G1+G3, G1+G4, G2+G4, 16CH to activate audio level meter.

◦ LEVEL METER DISPLAY

- When audio level meter is activated, this item controls display method.(Pair, Group)

◦ LEVEL METER REFERENCE

- This item sets audio level default.(-18dB, -20dB)

◦ LEVEL METER DECAY TIME

- This item sets the reduction time of the maximum indication of audio signals.
- Available values are between 0 ~ 31. Larger values indicates a longer time for it to display.

◦ LEVEL METER SIZE

- This item controls the size of the audio level meters.
- Available modes are SMALL, SMALL TRANS, NORMAL, NORMAL TRANS, LARGE, LARGE TRANS.

◦ LEVEL METER POSITION

- This item selects the position of the AUDIO LEVEL METER between HOR, VER. and BOT.
- * 16 CH(HOR.) : Displays each 8 channels on top left and right horizontally.
- * 16 CH(VER.) : Displays each 8 channels on center left and right vertically.
- * 16 CH(BOT.) : Displays each 8 channels on bottom left and right vertically.

Menu Contents

- **VOLUME**

- This item controls embedded audio volume between MIN (0) and MAX (30).

- **Em. AUDIO LEFT**

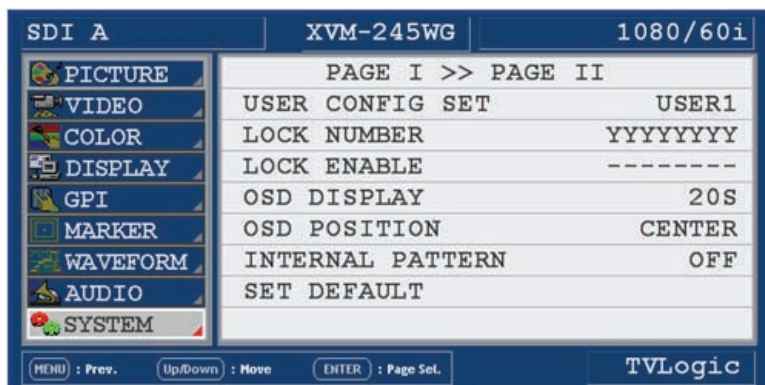
- This item controls embedded audio channel for left audio out of internal speaker and [AUDIO OUT] in the back of the monitor.
 - Available values are between CH 1 ~ CH 16.

- **Em. AUDIO RIGHT**

- This item controls embedded audio channel for right audio out of internal speaker and [AUDIO OUT] in the back of the monitor.
 - Available values are between CH 1 ~ CH 16.

Menu Contents

[9] SYSTEM PART



◦ USER CONFIG SET

- This item saves monitor configuration. If user wants to save particular circumstance, use this mode.
- This mode supports three users.

◦ LOCK NUMBER

- Lock number is product's serial number.

◦ LOCK ENABLE

- Lock enable is enable code input item to use Dual link mode. (User must know the enable code to use this function.)

◦ OSD DISPLAY

- This item controls OSD DISPLAY time. (20 sec or continue)

◦ OSD POSITION

- This item controls OSD position. (Left-Top, Left-Bottom, Right-Top, Right-Bottom and Center.)

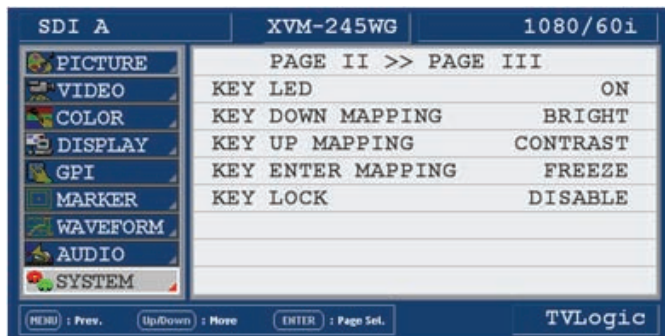
◦ INTERNAL PATTERN

- This item generates internal white pattern. The white level select between 0% and 100% (Per 5% increase or decrease)
 - * Above function only works in Normal mode (not in PBP mode).

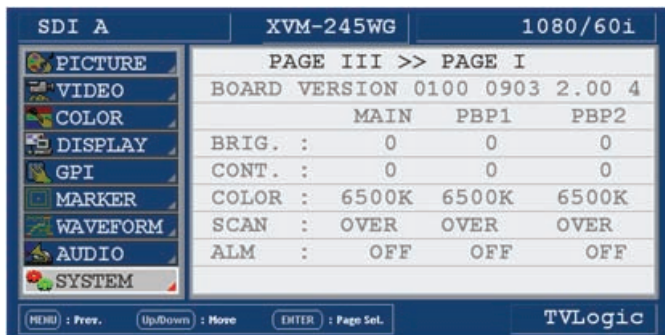
◦ SET DEFAULT

- User can use the SET DEFAULTS menu to initialize the values of BRIGHT, CONTRAST, PHASE and CHROMA of the monitor.

Menu Contents



- **KEY LED**
 - This item controls KEY LED ON/OFF.
- **KEY DOWN MAPPING**
 - User can select the function for DOWN button.
 - Selectable items: BRIGHT,VOLUME, FREEZE, WAVEFORM, TIMECODE, CC SEL, OUTPUT MODE, FAST MODE, DITHERING, FILTER,FORCE psf and UMD.
- **KEY UP MAPPING**
 - User can select the function for UP button.
 - Selectable items : CONTRAST, FREEZE, WAVEFORM, TIMECODE, CC SEL, OUTPUT MODE, FAST MODE, DITHERING, FILTER,FORCE psf and UMD.
- **KEY ENTER MAPPING**
 - User can select the function for ENTER button.
 - Selectable items : ALM SEL, OUTPUT MODE, FAST MODE, DITHERING, FILTER,FORCE psf, UMD,VOLUME,FREEZE, WAVEFORM, TIMECODE and CC SEL.
- **KEY LOCK**
 - This item locks all buttons on the front panel except Analog, SDI and Menu buttons.



INFORMATION

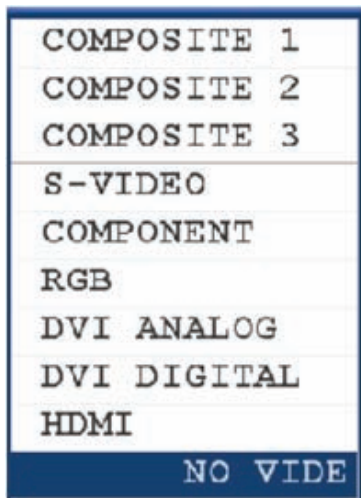
- Board version and current status information.

Other Functions

[1] ANALOG MODE USAGE

This product is capable of processing all input signals usable in ANALOG mode. The ANALOG input settings are as follows:

1. Press ANALOG button on the front of the product and activate the menu below.



2. Highlight the value you desire by using the UP/DOWN button and press the MENU button to confirm your selection. From this point the OSD menu operates identically to the MENU operations discussed above.

Warning!!

When using ANALOG mode, always check the input method and modify the setting as needed for optimized output results.

[2] SCAN MODE

This product supports various scan modes.

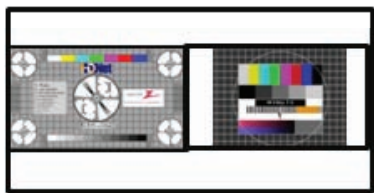
Press [SCAN] button on the front of the monitor to activate different scan modes.

1. Press [SCAN] button continuously to activate various scan modes.
OVER SCAN -> ZERO SCAN -> UNDER SCAN -> 2:1 SCAN -> 1:1 SCAN -> FIT WIDTH
2. Scan mode types are differed by connected signal.
 - SDI, COMPONENT, RGB : OVER SCAN -> ZERO SCAN -> UNDER SCAN -> 2:1 SCAN -> 1:1 SCAN -> FIT WIDTH
 - DVI ANALOG, DVI DIGITAL, HDMI : OVER SCAN -> ZERO SCAN -> 2:1 SCAN -> 1:1 SCAN
 - COMPOSITE 1/2/3, S-VIDEO : OVER SCAN -> ZERO SCAN -> 2:1 SCAN -> 1:1 SCAN

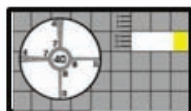
Other Functions

3. Below are the different types of scan mode.

- **OVER SCAN** : Zooms in/out of the image to 96% of its original size without changing the aspect ratio.
- **ZERO SCAN** : Zooms in/out of the image without changing the aspect ratio.
- **UNDER SCAN** : Zooms in/out of the image without changing the aspect ratio. Also, displays the data at the top of the horizontal blanking block.
- **2:1 SCAN** : Magnifies the original image two times. This feature is available only when the size of the original image is $\frac{1}{2}$ size or smaller than the screen size.
- **1:1 SCAN** : 1:1 pixel mapping of original image. This feature is available only when the size of the original image is bigger than the screen size. Press [ENTER] button to rotate the position.
CENTER -> MID LEFT -> TOP LEFT -> TOP MID -> TOP RIGHT -> MID RIGHT -> BOT RIGHT -> BOT MID -> BOT LEFT



<Original image>



<SCAN T-L>



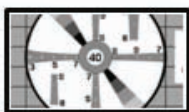
<SCAN T-C>



<SCAN T-R>



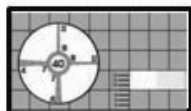
<SCAN C-L>



<SCAN C-C>



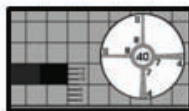
<SCAN C-R>



<SCAN B-L>



<SCAN B-C>



<SCAN B-R>

- **FIT WIDTH** : In SD mode, zooms in to fit width of the original image to the width of the screen without changing the aspect ratio.

Other Functions

[3] ASPECT BUTTON

- 1. Two different aspect modes are available. When input signal is SDI or COMPONENT:
 - 1) 4:3 mode: Cut left and right of the original image to fit to 4:3 aspect ratio.
 - 2) 16:9 mode: Stretches the image in "1) 4:3 mode" to fit to 16:9 aspect ratio.

(4) DVI SUPPORT RESOLUTION

◦ DVI ANALOG

Resolution	Frequency
640 × 480	60Hz, 75Hz
720 × 400	70Hz
800 × 600	60Hz, 72Hz, 75Hz
1024 × 768	60Hz, 70Hz, 75Hz
1366 × 768	60Hz/75Hz
1280 × 1024	60Hz/75Hz
1600 × 1200	60Hz
1920 × 1080	60 Hz

◦ DVI DIGITAL Graphic

Resolution	Frequency
640 × 480	60Hz, 75Hz
800 × 600	60Hz, 72Hz, 75Hz
1024 × 768	60Hz, 70Hz, 75Hz
1366 × 768	60Hz/75Hz
1280 × 1024	60Hz/75Hz
1600 × 1200	60Hz
1920 X 1080	60Hz
1920 x 1200	60Hz

◦ DVI DIGITAL VIDEO

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.

[5] PBP MODE USAGE

1. Use PBP key to change into PBP Screen. Then the last displayed multi screen appears.
In Normal Screen(when an individual screen is not selected in multi mode), key function and OSD function apply for all display simultaneously.



(PBP)

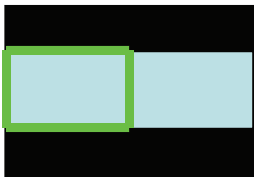


(1:1 (FULL PICTURE))

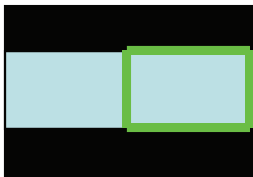
** PBP: 2Picture

TWO different multi screen formations are available and pressing the PBP key continuously changes the screen formation as shown in the above picture.

2. To control the individual display in multi screen, use the Screen Sel key to select the desired display then control the desired function. Selected display will be highlighted.



(Screen 1 selected)

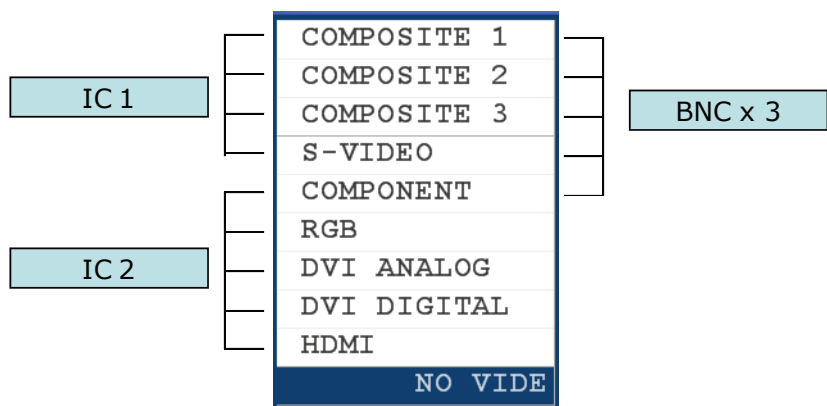


(Screen 2selected)

Other Functions

[6] INPUT LIMIT FOR ANALOG (MULTI MODE)

- 1. There is a limitation for Analog input in PBP Mode.
(No limitation for SDI signals)
- 2. There are 3x BNC for the Analog inputs. So, if the BNCs or one of the BNCs are used for an Analog already, it cannot be used for another Analog input with the same BNC.
And as you see the picture below, there are 2x IC used for the signals.
If an IC is already used, another input for the same IC cannot be inputted.



	COMPOSITE 1	COMPOSITE 2	COMPOSITE 3	S-VIDEO	COMPONENT	RGB	DVI ANALOG	DVI DIGITAL	HDMI
COMPOSITE 1	X	X	X	X	X	X	O	O	O
COMPOSITE 2	X	X	X	X	X	X	O	O	O
COMPOSITE 3	X	X	X	X	X	X	O	O	O
S-VIDEO	X	X	X	X	X	X	O	O	O
COMPONENT	X	X	X	X	X	X	X	X	X
RGB	X	X	X	X	X	X	X	X	X
DVI ANALOG	O	O	O	O	X	X	X	X	X
DVI DIGITAL	O	O	O	O	X	X	X	X	X
HDMI	O	O	O	O	X	X	X	X	X

- 3. For example, if a COMPOSITE1 is selected on SCREEN 2, and if you wish to display COMPOSITE 2 on SCREEN 1, then the COMPOSITE 1 on SCREEN 2 will be automatically changed to SDI A. Because the two COMPOSITE signals can be displayed at the same time.

Product Specification

Input	1 x DVI - I	DVI IN
	3 x BNC	Analog Input
	2 x BNC	SDI A/B Channel Input
	1 x HDMI	HDMI Input
	1 x BNC	EXT SYNC INPUT
Output	3 x BNC	Analog Output
	2 x BNC	SDI A/B Channel (Active Through Out)
	1 x BNC	EXT SYNC OUT(Active Through Out)
Input Signal	Analog	Composite / S Video / Component / RGB
	3G - SDI	2.970Gb/s
	HD - SDI	1.458Gpbs
	SD - SDI	270Mbps
	DVI	VESA/IBM Modes
	HDMI	480i/480p/720p/1080i/1080p& 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(50/59.94/600)
	SMPTE - 372M	Dual HD-SDI YPbPr (4:2:2)
		1080p (50 / 59.94 / 60)
		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)
Audio In		Embedded Audio / Analog Stereo (Phone Jack)
Audio Out		Analog Stereo (Phone Jack)
LCD	Size	24"
	Resolution	1920 x 1200 (16:10)
	Pixel Pitch	0.270(H) x 0.270(W) mm
	Color	1,073,741,824 colors (true 10bit)
	Viewing Angle	H : 178 degrees / V : 178 degrees
	Luminance of white	250 cd/m ² (Center)
	Contrast	1000:1
		Display Area
Power		24V DC / AC100~240V
Power Consumption (Approx.)		77 Watts(DC / Typ.)
Operating Temperature		0°C to 40°C(32°Fto 104°F)
Storage Temperature		-20°C to 60°C(-4°Fto 140°F)
Main Body Dimensions (mm/inch)		552.5 x 389 x 95 (21.73 x 15.31 x 3.74)
Main Body Dimensions (With Stand)		586 x 417 x 150 (23.07 x 16.41 x 5.90)
Weight		11Kg / 24.2 lb
Accessory		AC / DC Power cord
Option		Carrying Case, 19" Rack Mountable Kit, ND Filter

* Above specifications may be changed without notice

Product Lineup



LVM-071W

1. LCD Resolution : 800 x 480 (15:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 300:1
4. Viewing Angle : H (130) / V (115)
5. Weight : 1Kg (2.2 lb)



LVM-084

1. LCD Resolution : 1024 x 768 (4:3)
2. Color : 16.7M(true), 24bit
3. Contrast - 400:1
4. Viewing Angle : 170
5. Weight : 2.1Kg (4.63 lb)



LVM-091W

1. LCD Resolution : 800 x 480 (15:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 350:1
4. Viewing Angle : 170
5. Weight : 2.8Kg (6.17 lb)



LVM-172W / LVM-173W

1. LCD Resolution : 1366 x 768 (16:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 900:1
4. Viewing Angle : 178
5. Weight : 7Kg (15.4 lb)



LVM-242W / LVM-243W

1. LCD Resolution : 1920 x 1200 (16:10)
2. Color : 16.7M(true), 24bit
3. Contrast - 800:1
4. Viewing Angle : 178
5. Weight : 11Kg (24.2 lb)

Product Lineup



LVM-321W

1. LCD Resolution : 1920 x 1080 (16:9)
2. Color : 10 bit(D), 1.068 colors
3. Contrast - 1300 :1
4. Viewing Angle : 178
5. Weight : 21.45Kg (47.3 lb)



LVM-403W

1. LCD Resolution : 1920 x 1080 (16:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 1000 :1
4. Viewing Angle : 178
5. Weight : 35Kg (77.2 lb)



LVM-463W

1. LCD Resolution : 1920 x 1080 (16:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 1000 :1
4. Viewing Angle : 178
5. Weight : 42Kg (92.6 lb)



LVM-573W

1. LCD Resolution : 1920 x 1080 (16:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 1200 :1
4. Viewing Angle : 178
5. Weight : 57Kg (125.66 lb)

XVM SERIES



XVM-245W

1. LCD Resolution : 1920 x 1200 (16:10)
2. Color : 1 Billion(true), 30bit
3. Contrast - 1000 : 1
4. Viewing Angle : 178
5. Weight : 11Kg (24.2 lb)

Product Lineup

LQM SERIES



LQM-071W

1. LCD Resolution : 800 x 480
2. Color : 16.7M(true), 24bit
3. Contrast - 300 : 1
4. Viewing Angle : H (130) / V (115)
5. Weight : 1Kg (2.2 lb)



LQM-241W

1. LCD Resolution : 1920 x 1200 (16:10)
2. Color : 16.7M(true), 24bit
3. Contrast - 800 : 1
4. Viewing Angle : 178
5. Weight : 11Kg (24.2 lb)

LHM SERIES



LHM-400W

1. LCD Resolution : 1920 x 1080 (16:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 1000 : 1
4. Viewing Angle : 178
5. Weight : 35Kg (77.2 lb)



LHM-460W

1. LCD Resolution : 1920 x 1080 (16:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 1000 : 1
4. Viewing Angle : 178
5. Weight : 42Kg (92.6 lb)



LHM-570W

1. LCD Resolution : 1920 x 1080 (16:9)
2. Color : 16.7M(true), 24bit
3. Contrast - 1200 : 1
4. Viewing Angle : 178
5. Weight : 57Kg (125.6 lb)

Optional Accessory



ND Filter 17" 24" 40"
46" 57"



External Filter 7" 9"



Rack-Mountable Kit 7" 9" 17" 24"



Tripod Ball Head 7" 9"



V-Mount 17"



Hood-&-Handle 7" 9" 17"



Carrying Case 17" 24" 32" 40" 46" 57"

RACK MOUNT ANY DISPLAY UP TO 24"



7 inch



9 inch



17 inch



24 inch

Developed by

TVlogic

FOR MORE INFORMATION PLEASE VISIT : <http://www.tvlogic.co.kr>

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