Multi Format Broadcast LCD Monitor

Operation Manual_v1.1

LVM-095W

TVLogic

Always ON-AIR

MULTI

Contents

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.

1. Caution

- **Always use set voltage. (DC 12~24V)**
- **When using a DC Adapter other than the one supplied by the manufacturer, please be advised that the adapter with DC 12V/3A ~ 6A can be compatible with the monitor.**

- All operating instructions must be read and understood before the product is operated. These safety and operating instructions must be kept in a 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 in your home, consult your dealer or local power company. For units designed to operate 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.

- In case of using other 12V DC adapters instead of the standard adapter provided by the manufacturer, please check the proper load capacity (or current capacity) and use an adapter with stable voltage.

- Do not overload DC outlets or extension cords. Overloading can cause or electric shock.

- Never insert an object into the product through vents or openings. High voltage 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 repair 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 occur, unplug the power cord from the DC 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 the 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.

- 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.

1. Caution

- 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 DC 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 Sunlight.

- 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.

- In the case of installing the product on a rack, the inside of the product may be overheated due to the heat from other devices nearby and the decrease of air circulation, which could damage to the monitor. To prevent the damage, please have enough space for the monitors and use a fan to avoid overheating and maintain the operating temperature. (Refer to the specification of the product).

- 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 heat generating products (including amplifiers).

- The LCD panel used in this monitor is manufacturered with high precision technology and has more than two million pixels or more than six million sub-pixels to reproduce the high resolution images. But, some of the pixels in the LCD screen may be stuck to show either always on (red, green, blue) or always off (black or dark). TVLogic guarantees more than 99.999% of the sub-pixels are operating normally and less than 0.001% of the sub-pixels may be defective. Some sub-pixels may spontaneously become defective after long period of time, but this is not a malfunction of the monitor. Evaluation of the pixel defect is recommended to be performed in a dim condition with the illuminance of more than 100 lux, and the viewing distance should be more 30cm from the screen.
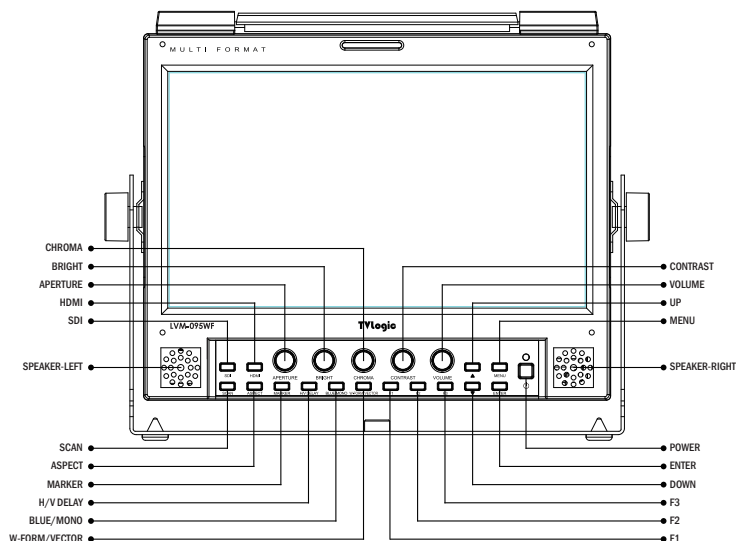
2. Main Features

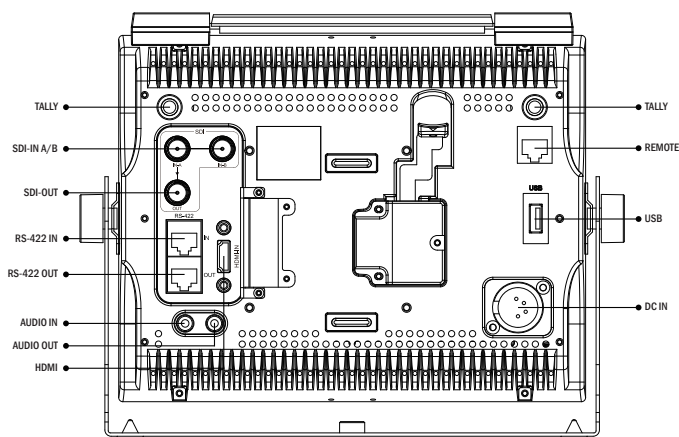## LVM-095W Monitor contains the following features:

- **Compatible with various SDI signals formats**
  - This product is compatible with various SDI signals - 480i, 576i, 720p, 1035i, 1080i, 1080p, 1080psf

- **All-in-one type system**
  - Slim and all-in-one type monitor that supports various functions that requires no other accessories.

- **Wide Screen / 24Bit RGB FHD Panel**

- **Waveform/Vector Scope/Audio Level Meter Function**
  - Waveform & Vector Scope
  - Embedded Audio Level Meter

- **Audio In/Out**
  - Internal Speaker(Embedded audio & External Audio Input)
  - Stereo Audio Out through phone Jack & External Audio Input

- **Knob Control**
  - Easy to adjust user configuration using the control knob on the front of the monitor.

- **BLUE ONLY/MONO Function**

- **H/V delay Function**

- **Markers & Safety Areas**
  - Center Marker, Safety Area Marker, Aspect Marker, Display Size(Scan)

- **Pixel To Pixel Function**
  - Used to display the original image resolution without scaling.

- **External control function**
  - This product can be controlled by using parallel switch, RS-422 and Network simply with cable connection without additional peripheral equipment attached to the unit.

- **RS422/UMD feature support**
  - This product supports protocols provided by TVLogic or a TSL protocol.

- **Power**
  - Basically, the product is powered by a normal DC source.
  - The product can be battery-powered.
  * LVM-095W : DC12V/24V
  * When using a DC Adapter other than the one supplied by the manufacturer, please be advised that the adapter with DC 12V/3A ~ 6A can be compatible with the monitor.

- **Additional features**
  - Loop Through (SDI), VESA Mounting Standard, 400cd/m^2 Luminance, 750 : 1 Contrast, OSD user interface and Rack Mountable.

3. Controls & Functions

LVM-095W : FRONT

CHROMA
BRIGHT
APERTURE
HDMI
SDI
SPEAKER-LEFT

CONTRAST
VOLUME
UP
MENU
SPEAKER-RIGHT

SCAN
ASPECT
MARKER
H/V DELAY
BLUE/MONO
W-FORM/VECTOR

POWER
ENTER
DOWN
F3
F2
F1

MULTI FORMAT

LVM-095WF

TVLogic

LVM-095W : REAR

TALLY
SDI-IN A/B
SDI-OUT
RS-422 IN
RS-422 OUT
AUDIO IN
AUDIO OUT
HDMI

TALLY
REMOTE
USB
DC IN

SDI
RS-422
OUT
IN
OUT
USB

3. Controls & Functions

LVM-095W : FRONT

- **[SDI] Button/Lamp**
  - Used to select SDI-A/B input.

- **[HDMI] Button/Lamp**
  - Used to select HDMI input.

- **[SCAN] Button/Lamp**
  - Used to change the scan mode.
  - Press the button to activate through the scan modes: [ZEROSCAN] -> [OVERSCAN] -> [PIXEL TO PIXEL] -> [USER ASPECT] -> [ZEROSCAN]
  * PIXEL TO PIXEL mode is not available in graphic mode.
  * [USER ASPECT]: User can adjust width and height of the display.
  * Check "7. Other Functions [1] User Aspect" for more information.

- **[ASPECT] Button/Lamp**
  - Used to change the various display ratio. Activates in order of [16:9] – [4:3] – [2.35:1] - [1.85:1] – [15:9] – [16:10] – [AUTO] – [16:9].

- **[MARKER] Button/Lamp**
  - Used to activate/deactivate the Marker. The type of marker at work can be selected on the main menu.

- **[HVDELAY] Button/Lamp**
  - Used to check horizontal sync and vertical sync simultaneously by moving the display left, right, up and down.
  - In this mode, the brightness of the image automatically increase for easy verification of synchronized signals.

- **[BLUE]/[MONO] Button/Lamp**
  - Activates in the order of [Off]-[Blue Only]-[Mono]-[Off]
  - Press the button to remove red and green from the input signal and display the screen only under a blue signal. Press the button again to activate mono mode.

- **[Waveform/VECTOR] Button/Lamp**
  - Used to activate/deactivate the Waveform.
  - The type of Waveform at work can be selected on the main menu.

- **[F1][F2][F3] Button/Lamp**
  - Used to activate the [F1]~[F3] function.

3. Controls & Functions

LVM-095W : FRONT

- **[MENU] Button**
  - Used to activate the OSD menu.
  - When the OSD menu is activated, press this button to exit from the menu.

- **[UP] / [DOWN] Button**
  - Used to move within the menu when the OSD menu is activated and is also used to increase or decrease the value of selected feature.

- **[ENTER] Button**
  - Used to select the feature of main menu and the sub menus.

- **[POWER] Switch**
  - Used to turn the power on and off. If the signal is normal, Green LED light is indicates. If the signal is unsupported or disconnected, LED light flashes in Yellow.

- **[STANDBY] lamp**
  - Used to indicate the power supply status. 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, our monitor keep previous setup stage.

- **[TALLY] Lamp**
  - Tally lamp that can be toggled in green or red using the REMOTE(RJ-45) port or RS-422 serial communication.

- **[APERTURE] Knob**
  - Used to adjust the picture sharpness.
  - The value is selectable between -12 ~ 12.

- **[BRIGHT] Knob**
  - Used to adjust the degree of brightness.
  - The value is selectable between -100 ~ 100.

- **[CHROMA] Knob**
  - Used to adjust the saturation of the image.
  - The value is selectable between -50 ~ 50.

- **[CONTRAST] Knob**
  - Used to adjust the contrast.
  - The value is selectable between -100 ~ 100.

- **[VOLUME] Knob**
  - Used to adjust the volume for internal speaker and external output.
  - The value is selectable between 0 ~ 30.

3. Controls & Functions

LVM-095W : REAR

- **TALLY(LAMP)**
  - Interlocks with front tally lamp.

- **SDI-A/SDI-B (BNC)**
  - HD/SD SDI signal input terminal for SDI A/ SDI B signal.

- **SDI-OUT (BNC)**
  - HD/SD-SDI signal output terminal for SDI signal.

- **AUDIO IN (Phone jack)**
  - Internal speakers stereo audio input terminal.

- **AUDIO OUT (phone jack)**
  - Built in audio disembedder and internal speakers stereo audio output.

- **USB**
  - This terminal is used to upgrade the firmware or color calibration made by TVLogic.

- **REMOTE (RJ-45)**
  - Provides connection to control equipment for external monitor control.
  - Features can be changed in the REMOTE section of OSD menu.

- **DC IN (XLR, 4 pins)**
  - DC power input terminal for DC 12V/24V.
  - ∗ When using a DC Adapter other than the one supplied by the manufacturer, please be advised that the adapter with DC 12V/3A ~ 6A can be compatible with the monitor.

DC IN
socket
1: GND
4: +12V/
   +24V

4
3
2
1
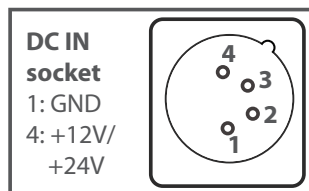
When using the product make sure to ground, whenever possible, before connecting the input signal cable in order to prevent any possible damage to the product or connected devices. The damage may include signal noise, malfunction of main board or display panel. And the connected devices such as camera or video source player may also be influenced through signal cable. Please check if the AC power source and the power extender or power distributor is grounded.

4. Menu Tree & Adjustment

[1] Menu Tree

- **OSD(On-Screen Display) Menu helps you use various functions.**
- **This Picture is the menu structure for LVM-095W**
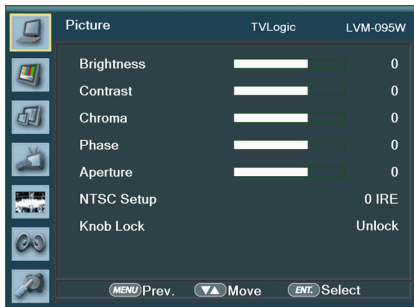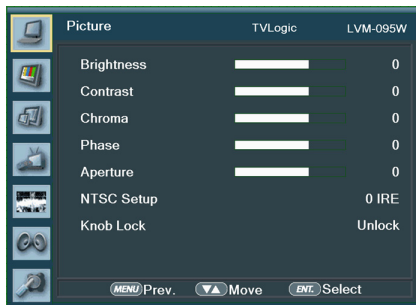

[2] Menu Control

- **User may control various functions using the MENU, UP, DOWN, ENTER buttons on the bottom front of the monitor.**

[3] Menu Control Sequence

- **Menu Control sequence follows the order below:**

  1. Press the MENU button to activate the OSD menu.
  2. Move to a desired menu with the UP/DOWN button.
  3. Press the ENTER button to select a menu and move to a sub-menu with the UP/DOWN button.
  4. Press the ENTER button to select the desired sub-menu. (The selected sub-menu will be highlighted)
  5. Press the ENTER button or the MENU button to save the new value after adjusting the value with the UP/DOWN button.
  6. Press the MENU button to return to the previous menu and if there is no previous menu, the OSD menu will be removed from the screen.

5. Menu Operations

[1] Picture

- **Brightness**
  - Used to set the brightness(=offset) level from -100 to 100.
  - * Brightness can be adjusted by using [BRIGHT] control knob on the front of the monitor.

- **Contrast**
  - Used to set the contrast(gain) level from -100 to 100.
  - * Contrast can be adjusted by using [CONTRAST] control knob on the front of the monitor.

- **Chroma**
  - Used to set the saturation level from -50 to 50.
  - * Chroma can be adjusted by using [CHROMA] control knob on the front of the monitor.

- **Phase**
  - This function is not supported since the LVM-095W doesn't support Analog input signal.

- **Aperture**
  - Used to set the sharpness level from -12 to 12.
  - * Aperture can be adjusted by using [Aperture] control knob on the front of the monitor.

- **NTSC Setup**
  - This function is not supported since the LVM-095W doesn't support Analog input signal.

- **Knob Lock**
  - Locks the Knob control Knob(Aperture, Bright, Chroma, Contrast, Volume).

5. Menu Operations

[2] Color

Color	TVLogic	LVM-095W
Color Temp.		3200K
Gain Red		0
Gain Green		0
Gain Blue		0
Bias Red		0
Bias Green		0
Bias Blue		0
ColorCopy		3200K
Temp. Adaptive Color		Off

MENU Prev.   (▼▲) Move   *ENT.* Select

• **Color Temp.**
  - Used to select the among preset color temperatures or adjust the customized color temperature of the monitor.
  - Preset color temperatures are 5600K, 6500K, 9300K and User1/2/3.
  - In User 1/2/3 modes, user can define custom RGB GAIN, BIAS (=Offset) and ColorCopy values.

• **Gain Red**
  - Used to set Red Gain(or Picture, Contrast) level from -256 to 255.
  * Only available in User 1/2/3 mode.

• **Gain Green**
  - Used to set Green Gain(or Picture, Contrast) level from -256 to 255.
  * Only available in User 1/2/3 mode.

• **Gain Blue**
  - Used to set Blue Gain(or Picture, Contrast) level from -256 to 255.
  * Only available in User 1/2/3 mode.

• **Bias Red**
  - Used to set Red Bias(or Offset, mainly affects on Black level) from -100 to 100.
  * Only available in User 1/2/3 mode.

• **Bias Green**
  - Used to set Green Bias(or Offset, mainly affects on Black level) from -100 to 100.
  * Only available in User 1/2/3 mode.

• **Bias Blue**
  - Used to set Blue Bias(or Offset, mainly affects on Black level) from -100 to 100.
  * Only available in User 1/2/3 mode.

• **Color Copy**
  - Used to copy the R/G/B Gain value of pre-stored color temperature settings.
  - In User mode, find and select the color temperature and press the Enter button to copy and apply the Gain value to Gain Red, Gain Green, Gain Blue.
  * Only available in User 1/2/3 mode.

5. Menu Operations

[3] Marker

Marker	1/2	TVLogic	LVM-095W
Marker			Off
Center Marker			Off
Safety Area			Off
Fit Marker			Off
Marker Mat			Off
Marker Color			White
Thickness			1

MENU Prev. (▼▲) Move *ENT.* Select

- **Marker**
  - Used to activate the Marker function.
  - Available marker types are Off, 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 and User.
  * This function operates only after activating the Marker function by pressing the MARKER button on the front of the monitor.

- **Center Marker**
  - 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.
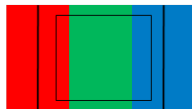
- **Safety Area**
  - Used to select to display and control the size and availability of the Safety Area.
  - Available sizes are 80%, 85%, 88%, 90%, 93%, 100%, EBU ACTION 16:9, EBU GRAPHIC 16:9, EBU ACTION 14:9, EBU GRAPHIC 14:9, EBU ACTION 4:3 and EBU GRAPHIC 4:3.
  * This function operates only after activating the Marker function by pressing the MARKER button on the front of the monitor.

- **Fit Marker**
  - Used to activate or inactivate the Fit Marker function.
  - When the Marker type is selected in the Marker menu, a border line of the Safety Area will be displayed inside the Marker. Images below show the difference between Fit Marker On and Off.
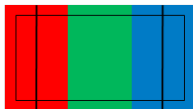
MARKER	: 4:3
SAFETY AREA	: 90%
FIT MARKER	: OFF

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

- **Marker Mat**
  - Used to set the darkness level outside of the Marker area from Off(transparent) to 7(Black).
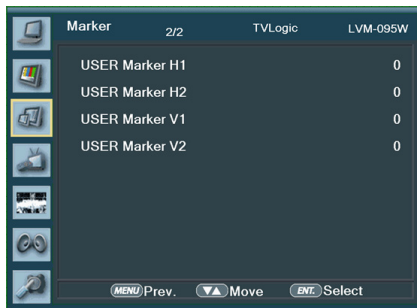 - The bigger the value, the darker the color.

- **Marker Color**
  - Used to set the color of the Marker lines. Available colors are White, Gray, Black, Red, Green and Blue.

- **Thickness**
  - Used to set the thickness of the Makrer lines.
  - Thickness level is from 1 to 7 by the pixel unit.

5. Menu Operations

[3] Marker

- **User Marker H1**
  - Used to set the position of the first horizontal marker line.
  - Displayed when Marker menu is set to User.

- **User Marker H2**
  - Used to set the position of the second horizontal marker line.
  - Displayed when Marker menu is set to User.

- **User Marker V1**
  - Used to set the position of the first vertical marker line.
  - Displayed when Marker menu is set to User.

- **User Marker V1**
  - Used to set the position of the second vertical marker line.
  - Displayed when Marker menu is set to User.

5. Menu Operations

[4] GPI / UMD

GPI / UMD	1/2	TVLogic	LVM-095W
PIN 1			HDMI Channel
PIN 2			SDI-A Channel
PIN 3			SDI-B Channel
PIN 4			TALLY R
PIN 5			TALLY G
PIN 6			Blue Only
PIN 7			Power On/Off
PIN 8			GND

(MENU) Prev.   (▼▲) Move   (ENT.) Select

- **This item activates/ deactivates the REMOTE function.**
  - The user may connect an RJ-45 jack to the REMOTE terminal on the rear of the unit and designate a function for each pin.
    PIN 1 : HDMI Channel
    PIN 2 : SDI-A Channel
    PIN 3 : SDI-B Channel
    PIN 4 : Tally R
    PIN 5 : Tally G
    PIN 6 : Blue Only
    PIN 7 is POWER ON/OFF use only, PIN 8 is GND.

  - The selectable values are as follows :
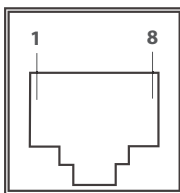
REMOTE (RJ-45)

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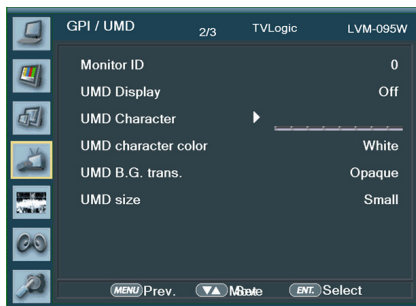2: Pin2
3: Pin3
4: Pin4
5: Pin5
6: Pin6
7: Pin7
8: GND

1   8

- The selectable values are as follows :

Menu Classifi-cation	Settable Values
PIN 1~6	None, HDMI CHANNEL, SDI-A CHANNEL, SDI-B CHANNEL TALLY RED, TALLY GREEN BLUE ONLY UNDERSCAN ASPECT HVDELAY 16:9 MARKER, 15:9 MARKER, 14:9 MARKER 13:9 MARKER, 4:3 MARKER, 4:3 ON AIR MARKER 1.85:1 MARKER, 2.35:1 MARKER, 1.85:1 & 4:3 MARKER CENTER MARKER SAFETY AREA 80%, SAFETY AREA 88%, SAFETY AREA 90% SAFETY AREA 93%, SAFETY AREA 100%

5. Menu Operations

[4] GPI / UMD

Monitor ID   0
UMD Display   Off
UMD Character   ▶
UMD character color   White
UMD B.G. trans.   Opaque
UMD size   Small

MENU Prev.   ▼▲ Move   ENT. Select

• **Monitor ID**
  - Sets the ID of each monitor for the TVLogic control protocol or DYNAMIC UMD using RS-422 communication.
  - Available values are between 0 ~ 125.

• **UMD Display**
  - This item sets UMD, ANC and DYNAMIC UMD.
  * UMD : Displays user customized characters on screen.
  * ANC: Displays characters embedded in SDI signal.
  * D-UMD(TVL S8C) : Displays incoming data of 8 characters and tally signal from TVLogic remote control program.
  * D-UMD(TVL S16C) : Displays incoming data of 16 characters and tally signal from TVLogic remote control program.
  * D-UMD(TVL D8C) : Displays incoming data of two pairs of 8 character strings and tally signals from TVLogic remote control program.
  * D-UMD(TSL S8C) : Displays incoming data of 8 characters and tally signal from TSL protocol.
  * D-UMD(TSL S16C) : Displays incoming data of 16 characters and tally signal from TSL protocol (V3.1).
  * D-UMD(TSL D8C) : Displays incoming data of two pairs of 8 character strings and tally signals from TSL protocol.

• **UMD Character**
  - Customizes the characters for Under Monitor Display.
  - Alphabets, numbers and special symbols are available.
  - Maximum of 5 characters can be used.

• **UMD Character Color**
  - Used to set the character color of UMD.
  - Available colors are White, Red, Green, Blue, Yellow, Cyan and Magenta.
  - This function is activated when the [D-UMD tally type] is in the [Default], [User color], [BG. Color], [User tally] and [User BG] modes.

• **UMD BG. Trans**
  - Used to set the transparency of the UMD background.
  - Available values are [Opaque], [50%], [85%] and [100%].

• **UMD Size**
  - This function adjusts the size of UMD font and UMD background.
  - Available modes are Small and Large.

5. Menu Operations

[4] GPI / UMD

	GPI / UMD	3/3	TVLogic	LVM-095W
	D-UMD tally type			Default
	Tally1 color			Red
	Tally2 color			Green
	Tally3 color			Yellow
	Tally4 color			Blue

MENU Prev. ▼▲ Move ENT. Select

- **D-UMD Tally Type**
  - Tally type configuration setting in D-UMD(D-8C), UMD Display.
  - Configuration values are Default, User Color, Character, BG. Color, User Tally, User Char and User BG.
  - ∗ Default : Existing TV Logic operating system (VRT)
  - ∗ User Color : User configuration settings on each Tally color type.
  - Tally1 Color ~ Tally4 Color are activated when USER COLOR is selected.
  - ∗ Character : Tally displays with the character color. Activates the same as Default model.
  - ∗ BG. Color : Tally is displayed as the background of character. Activate the same as Default mode.
  - ∗ User Tally : The bit0 & bit 1 of TSL Protocol Control Byte receives the input signal and displays Tally by user's set (Off, White, Red, Green, Blue, Yellow Cyan, Magenta)
  - ∗ User Char : This function activates in the same way as User Tally and Tally is displays by the Character color.
  - ∗ USER BG. : This function activates in the same way as User Tally and Tally is displays in the background of the character.

- **Tally1 ~ Tally4 Color**
  - Used to set the color of each Tally 1, Tally 2, Tally 3 and Tally 4.
  - Available colors are Red, Green and Yellow.

- **B0:0 B1:0 ~ B0:1 B0:1**
  - The Byte0, Byte1 of TSL Protocol Control Byte sets the color of the input conditions.
  - Available colors are Off, White, Red, Green, Blue, Yellow, Cyan and Magenta.

[5] Waveform

	Waveform	1/2	TVLogic	LVM-095W
	Waveform/Vector			Waveform
	Waveform Intensity			0
	Waveform Trans.			Opaque
	Waveform Size			Small
	Line Waveform			Off
	Select Line Position			0
	Luma(Y') Zone Check			Off
	Luma(Y') Zone Adjust			▶

MENU Prev. ▼▲ Move ENT. Select

- **Press [W-FORM/VECTOR] Button to activate the Waveform.**

- **Waveform/Vector**
  - This function sets the Waveform and Vectorscope. Available options are different according to the Input signal.
  - Activates in the order:
  - YCbCr: Off - Waveform - VectorScope - Waveform Wide - Waveform YCbCr - Wave_ Vector - Vector_YCbCr - Full Waveform(Y) - Full VectorScope.
  - RGB : Off - RGB.

- **Waveform Intensity**
  - Controls the brightness of the Waveform/ Vector display.
  - Available values are between 1 ~ 63. The higher the number the brighter the waveform will be.

- **Waveform Trans.**
  - Controls the transparency level of the Waveform/Vector.
  - Available values are OPAQUE and TRANS.
  - * If the main OSD overlaps with the Waveform/ Vector when the option us set to OPAQUE, it will automatically display it as transparent and change back to opaque when the main OSD disappears.

- **Waveform Size**
  - Controls the size of Waveform/Vector
  - Available modes are Normal and Large.

5. Menu Operations

[5] Waveform


```
Waveform        1/2    TVLogic      LVM-095W

   Waveform/Vector              Waveform
   Waveform Intensity                  0
   Waveform Trans.                Opaque
   Waveform Size                   Small
   Line Waveform                     Off
   Select Line Position                0
   Luma(Y') Zone Check               Off
   Luma(Y') Zone Adjust                ▶

   (MENU) Prev.   (▼▲) Move   (ENT.) Select
```

- **Line Select Enable**
  - Used to select specific Vertical Line for Waveform/Vectorscope.
  - It is available when LINE Waveform is activated.
  - To activate this feature, press the [W-FORM/VECTOR] Button, then use the [UP]/[DOWN] Button to select a desired vertical line.
  - Control range varies according to the resolution of the input SDI signal.
    * 576i : Min. 1, Max. 625
    * 480i : Min. 1, Max. 525
    * 720p : Min. 1, Max. 750
    * 1080i : Min. 1, Max. 1125
    * 1080p : Min. 1, Max. 1125

- **Luma(Y') Zone Check**
  - Displays the Luma(Y') level of the input image in colors.
  - May select between [Color Pattern] or [Zebra Pattern].
  - Each pixel's Y' analized and changed to a certain color or zebra pattern according to the Index on the right side of the screen.
  - When a pixel's Y' level is under 0%(16), the color / diagonal line will be colored Green.
  - When the pixel's Y' level is over 100%(235), the color / diagonal line will be colored Red.
  - When the Y' level of a pixel is between 0~100%, the pixel is displayed with Gray, except for selected Luma Zone.
  - In the [Color Pattern] mode, a 5% zone of the selected Y' level will be colored Pink(5%) and ±10% will be colored Yellow(-10% from Pink) and Cyan(+10% from Pink).
  - In the [Zebra Pattern] mode, ± 5% of the selected Y' Level will be displayed with diagonal lines.

- **Luma(Y') Zone Adjust**
  - Used to set the Y' level to be colored Yellow, Pink and Cyan in [Color Pattern] mode, or to set Y' level zone to be displayed with diagonal lines in [Zebra Pattern] mode.
  - Available values are 0 ~ 100%.
  * See section "7. Other Functions -> [5] Luma(Y') Zone Check" for more information.

5. Menu Operations

[5] Waveform

Waveform	2/2	TVLogic	LVM-095W
Range Error			Off
Y Max			0
Y Min			0
C Max			0
C Min			0
Y Picture Blink			Off
C Picture Blink			Off

MENU Prev.   ▼▲ Move   ENT. Select

• **Range Error**
  - Used to set whether or not to activate Y MAX, Y MIN, C MAX, C MIN, Y PICTURE BLINK and C PICTURE BLINK functions.
  - The values of Y MAX, Y MIN, C MAX, C MIN are indicated in Waveform/Vectorscope.
  - If [Y PICTURE BLINK] or [C PICTURE BLINK] is enabled, the section of image that exceeds the selected values of Y MAX, Y MIN, C MAX and C MIN shall blink.
  * In the case of RGB input, Range Error is not supported.
  * See section "7. Other Functions -> [7] Range Error" for more information.

• **Y Max**
  - Used to set the maximum luma(Y') level from 0 to 255.
  - Pixels with values exceeding the max Y' level will blink in the screen, and display in red on the Waveform.

• **Y Min**
  - Used to set the minimum luma(Y') level from 0 to 255.
  - Pixels with values exceeding the min Y' level will blink in the screen, and display in red on the Waveform.

• **C Max**
  - Used to set the maximum chroma(C') level from 0 to 255.
  - Pixels with values exceeding the min C' level will blink in the screen, and display in red on the Waveform.

• **C Min**
  - Used to set the minimum chroma(C') level from 0 to 255.
  - Pixels with values exceeding the min C' level will blink in the screen, and display in red on the Waveform.

• **Y Picture Blink**
  - Used to set whether or not to blink pixels for values exceeding Y MAX and Y MIN.

• **C Picture Blink**
  - Used to set whether or not to blink pixels for values exceeding C MAX and C MIN.

5. Menu Operations

[6] Audio

Audio	TVLogic	LVM-095W
Volume		0
Em. Audio Left		CH1
Em. Audio Right		CH2
Level Meter		Off
Level Meter Display		Pair
Level Meter Reference		-18dB
Level Meter Size		Small
Peak Decay Time		0

(MENU) Prev.　(▼▲) Move　(ENT.) Select

• **Volume**
  - Used to control the output volume of the internal speakers or [AUDIO OUT] on the back of the monitor.
  - Control range is from 0 to 30.

• **Em. Audio Left**
  - Used to set embedded audio channel for left audio out of internal speaker or [AUDIO OUT] terminal on the back of the monitor.
  - Available values are between CH1~CH16 and Ext..
  * In the HDMI mode, Left is set to CH1.

• **Em. Audio Right**
  - Used to set embedded audio channel for right audio out of internal speaker or [AUDIO OUT] terminal on the back of the monitor.
  - Available values are between CH1~CH16 and Ext..
  * In the HDMI mode, Right is set to CH2.

• **Level Meter**
  - Used to set the Level Meter for the embedded audio.
  - Available options are OFF,16 CH(HOR.) and 16 CH(VER.)
  * 16 CH(HOR.) : Displays 8 channels on top left and 8 channels on top right of the screen horizontally.
  * 16 CH(VER.) : Displays 8 channels on center left and 8 channels on top right of the screen vertically.
  * In the HDMI mode, only 2 channels may be displayed.

• **Level Meter Display**
  - Used to set the display method for audio level meter.
  - Available modes are Group and Pair.
  * In the HDMI mode, the mode is set to Pair.

• **Level Meter Reference**
  - Display the default audio level meter value.
  - Available options are -18dB and -20dB.
  - Audio level meter within selected value turns to green and exceeded audio level is displayed in yellow.
  - Audio level exceeding -4dB is displayed in red.

• **Level Meter Size**
  - Used to control the size of the audio level meters.
  - Available options are NORMAL and LARGE.

• **Peak Decay Time**
  - Sets the reduction time for the max value indication of audio signals.
  - Control range is from 0 to 100. Bigger number means a longer display time for max value.

5. Menu Operations

[7] Display & Set

Display&Set	1/3	TVLogic	LVM-095W
System Default			No
Back Light			0
Internal Pattern			Off
H/V Flip			Off
3G Format			Normal Mode
Firmware Version			Gen_V 0 . 0 . 0 . 0 U
			FPGA_V 0 . 0 . 0 . 0
Serial Number :			

(MENU)Prev.   (▼▲)Move   (ENT.)Select

• **System Default**
  - Used to initialize OSD values to factory default.

• **Back Light**
  - Used to indicate the backlight level.
  - In the case of System Default, the value returns to factory default(after color calibration).
  - Available values are from 0 to 50.

• **Internal Pattern**
  - Generates ColorBar and Grayscale Pattern internally.
  - Selectable range for Gray Pattern is from 0% to 100% with 5% increment.
  - * See section "7. Other Function -> [10] Internal Pattern" for more information.

• **H/V Flip**
  - Allows the displayed image to be flipped horizontally or vertically.
  - This feature provides flexible mounting options for camera operators.
  - Activates in the order : [Off] – [H Flip] – [V Flip] – [H/V Flip].
  - * This function is not supported when the HDMI input signal's resolution is over 1920 x 1080 50p.

• **3G Format**
  - Used to select 3G-SDI A/B input format among Normal Mode (Auto : A422 10Bit_YCbCr. 50/60p), A 444 10/12Bit_YCbCr, A 444 10/12Bit_RGB, A 422 12Bit_YCbCr, B 444 10/12Bit_YCbCr, B 444 10/12Bit_RGB, B 422 12Bit_YCbCr, B 422 10Bit_YCbCr 50/60p.
  - In NORMAL MODE, the signal is automatically detected when Payload signal is contained.
  - * In the HDMI mode, this function is not supported.

• **Firmware Version**
  - Displays current firmware version.

• **Serial Number**
  - Displays Serieal Number.

5. Menu Operations

[7] SDisplay & Set

Display&Set   2/3   TVLogic   LVM-095W

Zoom	Off
Zoom H/V Scroll	▶
DSLR Camera Sel.	CANON 5D/7D
DSLR Scale	Playback
Closed Caption	Off
TimeCode Enable	Off
Focus Assist	Off
Focus Assist Color	Red
Focus Assist Level	0%

MENU Prev.   ▼▲ Move   *ENT.* Select
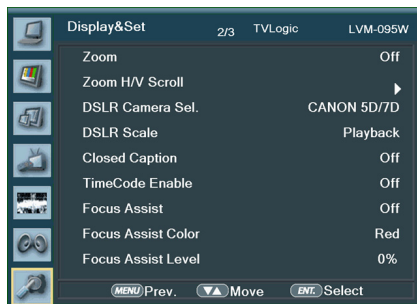
• **Zoom**
  - Used to magnify the image up to 90% on a pixel basis and display on full screen.
  * See section "7. Other Functions -> [4] Zoom" for more information.

• **Zoom H/V Scroll**
  - Activated when [Zoom] mode is selected.
  - Used to move the enlarged image to the left/right or Up/Down by controlling with the Knob.

• **DSLR Camera Sel.**
  - Select the DSLR camera to be used with LVM-095W. Available models are [CANON 5D/7D], [SONY A77] and [NIKON D7000].
  * DSLR cameras' screen size and aspect ratio of Live / Record / Playback modes vary depending to their manufacturer.

• **DSLR Camera Scale (HDMI Format Only)).**
  - This is a special function for CANON/ NIKON/ SONY DSLR cameras.
  - Used to scale the image with different resolution as to the operation mode(Live View/ Record/ PlayBack) of the camera to fill the full screen.
  * See section "7. Other Functions [8] DSLR Scale" for more information.

• **Closed Caption**
  - This item selects Closed Caption.
  - Available modes are OFF, 708, 608(LINE21) and 608(ANC).
  * 608 : CEA-608-B, 708 : CEA-708-C standard display only.

• **TimeCode Enable**
  - Used to set the time code among Off, VITC and LTC.

• **Focus Assist**
  - Focus Assist helps the shooters to easily find out the exact area in the picture that is in focus, simply by adding colors on the boundaries of the subject in the picture.
  - Activates in the order of [Off] - [Mono On] – [Color On].
  * (Mono) On : The boundary of the area with good focus is colored with the designated color, while the rest of the areas(pixels) receive only Y'(Luma) signals and become black & white image.
  * (Color) On : Only the boundary of the area with good focus is displayed with the designated color.
  * See section "7. Other Functions [6] Focus Assist" for more information.

• **Focus Assist Color**
  - Used to select a color for Focus Assist among red, green and blue.
  - This feature is available only when the Focus Assist mode is activated.

• **Focus Assist Level**
  - Used to set the edge difference value between the edges in an image.
  - Available values are from 0 to 100. Larger value means more sophisticated detail detection.
  - Designated color is displayed when the difference of the edges exceeds the previously set value.
  - This feature is available only when the Focus Assist mode is activated.

5. Menu Operations

[7] Display & Set

Display&Set 3/3 TVLogic LVM-095W

KeyLed Indication On
S/W upgrade Off
 S/W upgrade start ▶

MENU Prev. ▼▲ Move ENT. Select
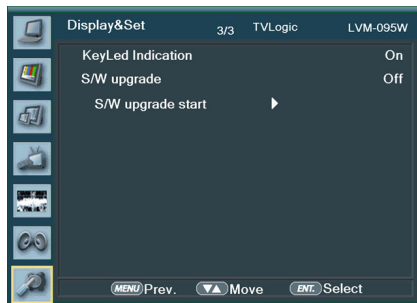
• **KeyLed Indication**
  - Used to control the Key Lamp on the front of the monitor.
  - If the button with LED is pressed with the KEY LED Off, LED comes on but turns off after 3 seconds later.

• **S/W upgrade**
  - Used to upgrade the firmware using USB (Thumb drive).
  * See section "7. Other Functions -> [11] Firmware Upgrade" for more information.

• **S/W upgrade start**
  - Used to start S/W upgrade. If USB drive is detected, the firmware upgrade becomes activated.
  * See section "7. Other Functions -> [11] Firmware Upgrade" for more information.

6. Button Functions

[1] SDI Button

- **LVM-095W unit is capable of processing dual SDI Input signal.**

  1. Press the[SDI] button on the front of the monitor and activate the OSD menu as shown on the below.

  2. Input resolution displays on the bottom of the OSD screen.

  3. Press the [SDI] button again to remove the OSD menu from display.

  * If no image displays after selecting the desired input mode, check and make sure that your connection is not lose or disconnected.
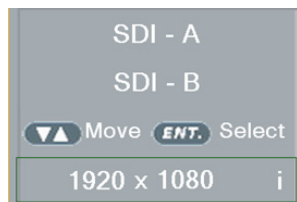
[2] HDMI Button

- **LVM-095W unit is capable of processing Single HDMI Input signal.**

  1. Press the [HDMI] button on the front of the monitor and activate the OSD menu as shown on the below.

  2. Input resolution displays on the bottom of the OSD screen.

  * If no image displays after selecting the desired input mode, check and make sure that your connection is not lose or disconnected.

6. Button Functions

[3] SCAN Button

- **LVM-095W supports various scan modes.**

  1. Press [SCAN] button continuously to activate various scan modes: OVER SCAN -> Pixel to Pixel -> User Aspect -> ZERO SCAN

  2. The following represents the different types of scan mode. When a scan mode is selected, display skips the next mode if its required condition is not met.
     - OVER SCAN : Zooms in/out of the image to 96% of its original size without changing the aspect ratio of.
     - ZERO SCAN : Zooms in/out of the image without changing the aspect ratio.
     - Pixel to Pixel : 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.

[4] ASPECT Button

- **LVM-095W supports various aspect ratio.**

  1. Press [ASPECT] button on the front of the monitor to activate various aspect ratio.

  2. Press [ASPECT] button continuously to activate various aspect ratio: 4:3 -> 2.35:1 -> 1.85:1 -> 15:9 -> 16:10 -> AUTO -> 16:9

[5] Function Key Set Button

- **Used to make a quick setting of the Function Key.**

  1. Press the function button(F1~F3) on the front of the monitor for more than 2 seconds and activate the OSD menu as follows.

  2. Move to a desired function with the[UP/DOWN] button and press the [ENTER] button to select.

  3. Once the function is set, press the Function button(F1~F3) to activate the function.

7. Other Functions

[1] User Aspect

- **Used to adjust the Width /Height display ratio.**

    1. Press the [Aspect] button on the front of the monitor to activate the [USER ASPECT] mode.

    2. After the activation, press the [ENTER] button to begin controlling. Adjust the ratio using the [UP]/[DOWN] button.

User Aspect   Width :   1920
(ENT.) Sel. (▼▲) Adj. Height :   1080

User Aspect   Width :   800
(ENT.) Sel. (▼▲) Adj. Height :   1080

User Aspect   Width :   1920
(ENT.) Sel. (▼▲) Adj. Height :   900
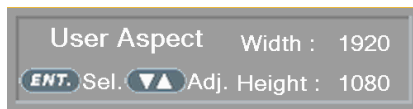
- Adjust the ratio using the [UP]/[DOWN] button.

- Control range for width : Min. 0~ Max. 1920.
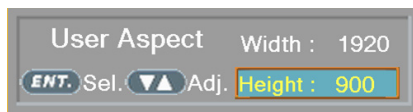
- Control range for height : Min. 0~ Max. 1080.

- The size-adjusted picture always stays in the center of the screen.

- The size can be adjustable with 2 increment and decrement.

7. Other Functions

[2] Waveform / Vectorscope

• Waveform Y
- Displays the Luma(Y') component of the input signal into waveform.
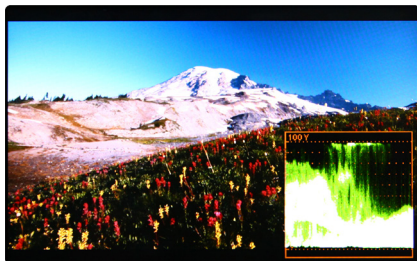
• Waveform Cb, Cr
- Displays the Cb, Cr components of the input signal into waveform.
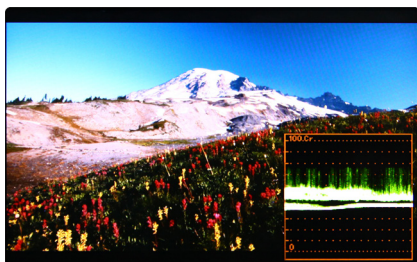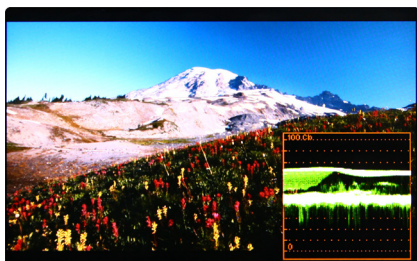
• Vectorscope
- Displays the color components 'B-Y' and 'R-Y'of the input signals onto the X-Y axis.
- Two different types of Vetorscopes are displayed according to SD or HD input signals.
- 100% and 75% scales are indicated on the Vetorscope.

100%

75%
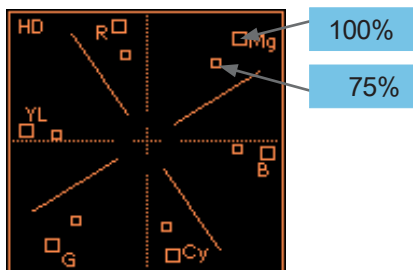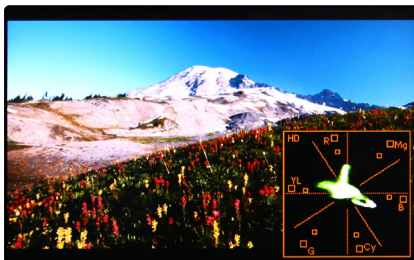
• The Waveform/ Vectorscope function can be used only when the input signal is YUV.

• In the case of RGB input, Waveform RGB is supported.

• Available modes in the YUV signal:
- Waveform Y
- Vectorscope
- Waveform Wide
- Waveform Y Cb Cr
- Wave_Vector
- Vector_YCbCr
- Full Waveform(Y)
- Full Vectorscope

7. Other Functions

[3] Line Select (Waveform/Vectorscope)

- **Used to select specific Vertical Line for Waveform / Vector.**

  - It is available when the Line Waveform is activated.
  - To activate this feature, go to [Waveform]-[Waveform/Vector]-[Line Waveform]-[Select Line Position] and use the [UP]/[DOWN] button to select a vertical line.
  - Selected line is indicated in White on the screen.
  - Control range varies according to the resolution of the input SDI signal.
    * PAL : 0~625
    * NTSC : 0~525
    * 720p : 0~750
    * 1080 i/p : 0~1125

  - Control range for HDMI signal varies according to the output resolution of the signal.

  - Selected line is indicated on the screen.
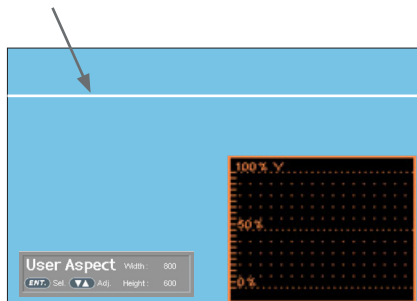
[4] Zoom

- **Used to magnify the input signal from 0% to 90%.**

- **Supports Zoom Width Scroll / Zoom Height Scroll function.**

- **Zooms IN/OUT focused on the scrolled area.**

<ZOOM OFF>

<ZOOM 50%>

<ZOOM 75%>
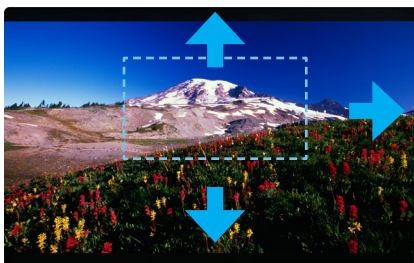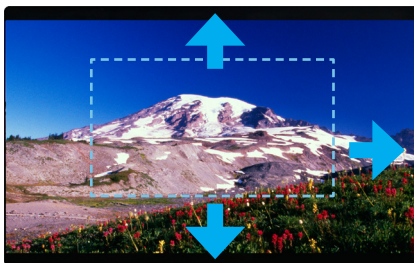
7. Other Functions

[5] Luma(Y') Zone Check

- **Color Pattern Type.**

  - Displays the Luma(Y') level of the input image in colors.
  - Y' ≥ 100% : Pixels with higher Y' level than 100 turn red.
  - Y' ≤ 0% : Pixels with lower Y' level than 0 turn green.
  - Pixels with Y' levels designated by the user are displayed in following colors - yellow, pink, cyan.
  - Factory Default Y' (Border line between pink and yellow) level is 75% and pink color is assigned to pixels with Y' level from 70% to 75%.
  - Yellow color is assigned to pixels with Y' level from 75% to 85%, and Cyan from 60% to 70%. This function is designed for a better performance in setting the exposure of lighting when shooting with vDSLR cameras.

- **Zebra Pattern Type**

  - Displays the pixels with designated Luma(Y') levels with zebra pattern.
  - Y' ≥ 100%: Pixels with Y' level over 100% turn into red diagonal stripes.
  - Y' ≤ 0% : Pixels with Y' level under 0% turn into green diagonal stripes.
  - User defined Y' levels are displayed as black diagonal stripes.
  - Factory Default Y' level is 70% and the pixels with Y' level from 65% to 75% is displayed with zebra pattern.
 - Pixels with 10% of Y' level is displayed as black diagonal stripes.

<Luma Zone Check OFF>

<Luma Zone Check ON_Zebra Pattern Type>

<Luma Zone Check ON_Color Pattern Type>
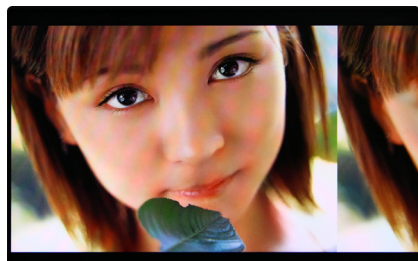
7. Other Functions

[6] Focus Assist

- **Focus Assist function assigns a color to the pixels on the boundaries of the image to inform the user to achieve the best focus.**

  - With this function, user can easily differentiate the focused area from out-focused area especially when shooting with a shallow depth of field.
  - Available types are [Mono] and [Color] types.
  - * [Mono] : Background image is mono type.
   [Color] : Background image is original color type.

<Focus Assist ON>

<Focus Assist ON>
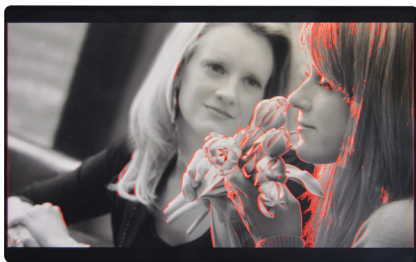
[7] Range Error

- **Pixels with Y′ or C′ levels exceeding the designated levels of Y MAX, Y MIN, C MAX and C MIN shall blink.**

  - Analyzes the input signal's Luma(Y′) and chroma information(C′) and if the input signal exceeds the designated minimum value and maximum value, the pixel shall blink. This function is to help the user to easily find out any unwanted levels of signals and for a better exposure setting.
  - * In the case of RGB input, Range Error is not supported.

<Range Error OFF>

<Range Error ON>
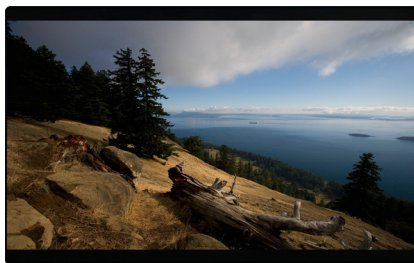
7. Other Functions

[8] DSLR Scale

- **This function is designed for some DSLR cameras(Canon 5D, 550D, SONY A77 and Nikon D7000) that output different resolution from the operation mode (preview, recording, playback).**
- **Select the Camera model in the [Display/Vide]- [DSLR Camera Sel.] menu.**

- **CANON**
  - In StandBy mode of Canon 5D Mark II, 1080i of HD resolution is indicated. However, the real output resolution is 1620x1080, so a blank area is displayed on the screen because the 16:9 aspect ratio is not realized.
  - In this case, use the DSLR SCALE function to enlarge the 1620x1080 image and display full screen. In Recording mode of CANON 5D Mark II, the output resolution is SD(480p).
  - Although it is SD, the real output resolution is 640x390 not 720x480.
  - DSLR SCALE function scales the 640×390 image to 1280x800(panel resolution) and displays it full screen.

  ※ Note
  1. When you compare the circle chart or the camera shooting chart with DSLR connected monitor(HDMI) and HDMI to SDI Conversion connected monitor, The function of Live/Rec 16:9 mode should be selected to compare circle and it is equal to its actual ratio. If the circle is compared in Live/Rec Full mode, the output of the circle is deformed.
  2. Both LVM-095W connected DSLR and LVM-095W connected HDMI to SDI Conversion should be compared to cirlce in Zeroscan mode. It is deformed if user selects in Overscan and Underscan mode.

- **SONY**
  - In StandBy/Record mode of SONY, actual resolution of the output signal from HDMI terminal is 1440x1080, failing to display 16:9 aspect ratio and making marginal blank area. Activating DSLR SCALE function will scale the 1440x1080 raster image to fill the full screen.

- **NIKON**
  - In StandBy/Record mode of NIKON, actual resolution of the output signal from HDMI terminal is 952x634, failing to display 16:9 aspect ratio and making marginal blank area. Activating DSLR SCALE function will scale the 952x634 raster image to fill the full screen.

<DSLR Scale OFF>

<DSLR Scale ON>

7. Other Functions

[9] HDMI To SDI Conversion-Out

- **Video source from 'HDMI input' terminal can be output through 'SDI throughout' terminal.**

  ※Note: HDSLR camera manufacturers usually specify the resolution and frame rate for the recording. The signal format that is output through the HDMI terminal of cameras may differ from maker to maker. The signal format for HDMI output and playback function of Canon HDSLRs is 59.94i. And even though 60i or 60p is specified in the specification of the cameras, the actual recording or HDMI output format would be 59.94i or 59.94p.

  - SDI Input formats are output as below :

Input (HDMI)	Output(SDI)
480 59.94i/p 576 50i/p	480i(59.94)(SMPTE-125M) 576i(50) (ITU-R BT656)

  - In HDMI Color format, RGB mode is not available.

[10] Internal Pattern

- **Displays internally generated test patterns.**

  - The pattern consists of ColorBar and Pluge+Grayscale Patterns. Full screen colors of various gray levels(0~100%) are also embedded.
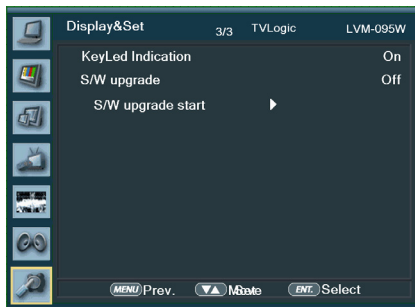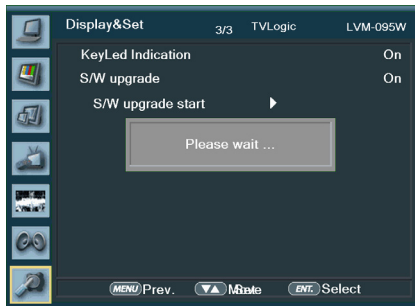

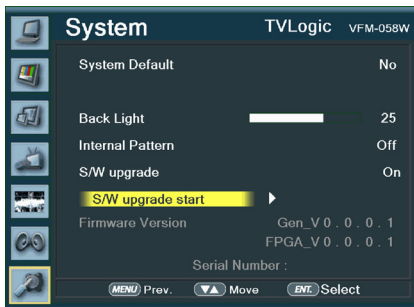<Color Bar + Pluge Pattern>

<Gray Pattern>
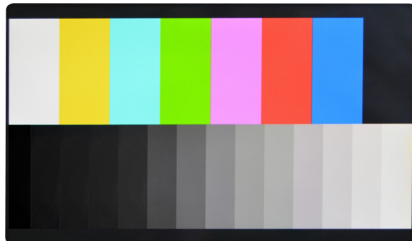
7. Other Functions

[11] Firmware Upgrade

- **USB memory stick(Thumb drive) that has F/W is necessary.**

- **Select Display&Set menu**

  - Connect USB memory stick to USB slot in front of the monitor.
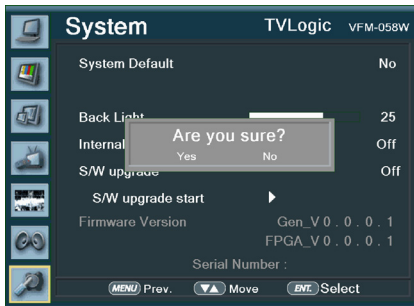
  - Set [S/W upgrade] as [On].

  - The monitor searchs USB memory stick.

- If USB memory stick is connected correctly, [S/W upgrade start] is activated.

* if the item is not activated, please disconnect and connect the USB memory stick again. After 5 sec. do the same procedure.

- Select [Yes] in [S/W upgrade start] and proceed the firmware update.

* During the update, the monitor screen is off, and nothing functions.
* After the update, TVLogic logo shows up on the screen, and the monitor initializes.
* Update can take 10~20min. depending on firmware kind.

8. Product Specifications

		LVM-095W
LCD	Size	9"
	Resolution	1920 x 1080 (16:9)
	Pixel Pitch	0.1035 x 0. 1035 mm
	Color Depth	16.7M (Dithered 8bit)
	Viewing Angle	H : 176 degrees / V : 176 degrees
	Luminance of white	400 cd/ m² (Center)
	Contrast Ratio	750 : 1
	Display Area	199(H) X 112(V) mm
Input Connector	1 X HDMI	HDMI Input
	2 X BNC	SDI 2 Channel Input
Output	1 X BNC	SDI Channel Output (Active Loop Through)
Input Signal	3G-SDI	2.970Gbps
	HD-SDI	1.485Gbps
	SD-SDI	270Mbps
	HDMI	1080p (23.98/24/25/30/50/59.94/60)/1080i(50/59.94/60)/720p(50/60) 480i(60)/480p(60)/576i(50)/576p(50) 640x480/720x400/800x600/1024x768/ 1280x768/1280x1024/1366x768
SDI Input Signal Formats	SMPTE-425M-A/B	1080p (60/59.94/50/30/29.97/25/24/23.98/30sF/29.97sF/25sF/24sF/23.98sF)
	SMPTE-274M	1080p (30/29.97/25/24/24sF/23.98/23.98sF/ 50/59.94/60)
		1080i (60/59.94/50)
	SMPTE-296M	720p (60/59.94/50)
	SMPTE-260M	1035i (60/59.94)
	SMPTE-125M	480i (59.94)
	ITU-R BT.656	576i (50)
	2K Format	2048 x 1080p (24/24sF/23.98/23.98sF)
Audio In		Embedded Audio / Analog Stereo (Phone Jack)
Audio Out		Analog Stereo (Phone Jack), Internal speaker (Stereo)
Power		DC 12/24V (XLR-4pin (male) connector)
Power Consumption (Approx.)		24 Watts(DC)/Max 2A
Operating Temperature		0℃ to 40℃ (32°F to 104°F)
Storage Temperature		-30 °C to 50 °C (-22 °F to 122 °F)
Main Body Dimensions (mm/inch)		223 X 175 X 60 (8.78 X 6.89 X 2.36)
Main Body Dimensions with stand (mm/inch)		260 X 194.2 X 90 (10.24 X 7.65 X 3.54)
Box Dimensions (mm/inch)		330 X 250 X 180 (12.99 X 13.78 X 7.09)
Weight		2.1kg / 4.63 lbs
Basic Accessories		DC Power adapter, AC Power Cord, Camera Mount, Handle, Stand
Optional Accessories		Acylic Protector, Rack Mountable Kit, HDMI Bracket, Camera Mount Ball Head, Sun-Hood, Carrying Bag With Hood

＊The specification above may be changed without notice.
＊When using a DC Adapter other than the one supplied by the manufacturer, please be advised that the adapter with DC 12V/3A ~ 6A can be compatible with the monitor.

9. Optional Accessories
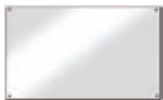
Acrylic Protector 9"

Rack-Mountable Kit 9"

HDMI Bracket 9"

Camera Mount Ball Head 9"

Sun Hood 9"

Carryng Bag with Hood 9"

MEMO

MEMO

TVLogic

Always ON-AIR