

High Brightness Field Production Monitor

SVM - 130P / SVM - 183P



Operation Manual V1.0



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 interference 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.

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01 CAUTION

- Power Requirements
SVM-130P : DC 12V
SVM-183P : DC 12V
- Apply waterproof measures when using the monitor outdoors.
- 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.
For units designed to operate on batteries or another power source, refer to the operating instructions.
- 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.
- If any of the following conditions occur, immediately turn off the product and remove the V-Mount battery from the battery bracket, or disconnect the external DC power source, and request a qualified service person to perform repairs.
 - a. When the V-Mount battery, battery bracket, or power connection is damaged.
 - b. When liquid has been spilled on the product or when objects have fallen into the product.
 - c. When the product has been exposed to rain, moisture, or water.
 - d. When the product does not operate properly as described in the operating instructions.
 - e. When the product has been dropped or physically damaged.
 - f. When the product exhibits abnormal operation, smoke, unusual odor, or excessive heat.
- 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.
- 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 be sure to install the product according to the method recommended by the manufacturer.
- 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.
- Remove the V-Mount battery from the battery bracket or disconnect the external DC power source before cleaning the product. Use a damp cloth to clean the product.
Do not use liquid cleaners or aerosol cleaners.
- Remove the V-Mount battery from the battery bracket or disconnect the external DC power source if you do not use the product for considerably long time.
- Do not use the product near water, such as bath tub, washbasin, kitchen sink and laundry tub, swimming pool and in a wet basement.
- Keep the product away from direct sunlight.

01 CAUTION

- 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.
- Infrared devices can cause noise or malfunction under condition as below.
 - a. Parts of the body come into contact with the infrared transmitter or acoustic device.
 - b. Obstacles can cause electrical changes if there is a partition in the middle or in the wall.
 - c. Exposure to radio interference from medical equipment, microwave ovens, wireless LAN devices, etc. with the same frequency band.
- 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.
- When installing the product on the rack, the inside of the product would be overheated due to heat from other devices nearby and the decreased air circulation, which could damage to the monitor. To prevent the damage, please have enough space for the monitor and use fans to avoid heat and maintain the operating temperature. (Refer to the specifications 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).
- If the still image is displayed on the screen in the same position for a long period of time, the permanent burn-in on the LCD panel may occur. So, do not display characters or markers continuously. If the video signals or image patterns are continuously displayed at the maximum or high level of luminance, the image smearing or flicker may occur on the screen because of the LCD panel's structure and characteristics of materials used. When the permanent burn-in, image smearing, or other damages happen on the LCD panel due to the improper use by the end user, the warranty service is not applied.

WARNING



<Main Switch>

- | means Power on when pressing
- means Power off when pressing



<Beside critical components in circuit diagram>

To identify any terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault, or the terminal of a protective earth (ground) electrode.



<Near the main terminal block>

This mark indicates the possibility of injury or damage to property.

02 MAIN FEATURES

SVM-130P and SVM-183P contain the following features.

- **Support Various Interfaces**

- This product supports various input and output interfaces below.

- 2 x 12G-SDI Input
- 3 x YPbPr/CVBS Input
- 1 x HDMI Input
- 1 x Reference Input
- 2 x 12G-SDI Output
- 3 x YPbPr/CVBS Output
- 1 x Processed Output

- **HDR Monitoring**

- The SVM-130P / SVM-183P monitors support various HDR EOTFs, including PQ, HLG, S-LOG3, which allow the monitors to display HDR content accurately and faithfully.

- **HDR vs SDR Comparison**

- In Picture-by-Picture mode, the SVM-130P / SVM-183P monitors allow users to display the same video side by side, apply HDR on one side and SDR on the other side, and compare the images.

- **Accurate Color Reproduction with Wide Color Gamut**

- The SVM-130P / SVM-183P monitors offer exceptional color performance with a DCI-P3 color space coverage of 98% and the ability to display 1.073 billion colors.

- **Custom 3D LUT Import**

- With the SVM-130P / SVM-183P monitors, users can load and apply their own 3D LUT files, generated by color grading tools.

- **Picture-by-Picture Display**

- The SVM-130P / SVM-183P monitors support the Picture-by-Picture display, allowing two different video inputs to be displayed on a single screen simultaneously.

- Two different 12G-SDI videos can be displayed.

- **Auto Detection of SDI Payload ID**

- This function enables the SVM monitors to detect EOTF and Color Space information from the video payload ID using SMPTE ST 352 automatically when an SDI signal is connected.

- **Reference Input for Genlock**

- The SVM-130P / SVM-183P monitors are equipped with a Reference input for genlock.

- **Dual V-Mount Battery Brackets**

- Allows two batteries to be connected simultaneously, ensuring reliable performance and eliminating downtime caused by frequent battery changes.

- **Various Audio Monitoring Functions**

- The SVM-130P / SVM-183P monitors offer the various audio monitoring tools such as Audio Level Meter and Audio Phase Meter.

- **Various Scope**

- **Waveform, Vector Scope, Histogram**

- The SVM can display the input signal's Waveform, VectorScope, and Histogram. Both the Waveform and VectorScope offer multiple modes and can be shown simultaneously.

- **Fast Mode**

- This function can be used to minimize the de-interlacing processing time delay and improves the quality of fast moving and fine details under interlaced format.

- **Processed Output**

- This output port provides additional flexibility in color management and monitoring with the following modes.
 - 12G-SDI Input to 3G-SDI Down Scaling Output
 - HDMI Input to SDI Output
 - Camera LUT Applied Image Output
 - Custom 3D LUT Applied Image Output

- **Firmware Update via Ethernet**

- All SVM monitors can be connected to Ethernet, enabling convenient remote firmware updates over the network.

- **Closed Caption (CC-608, CC-708, OP47)**

- **Video Range**

- **Blue/Mono Only**

- **H/V Delay**

- **H Flip, V Flip**

- **Timecode Display**

- **Marker**

- **Luma(Y') Zone Setting**

- **Focus Assist / Range Error**

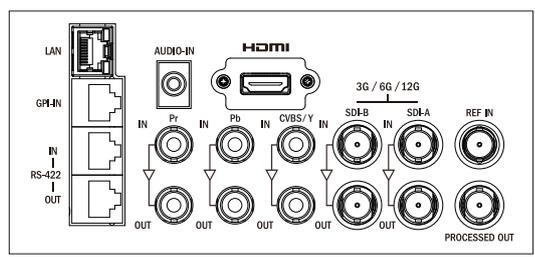
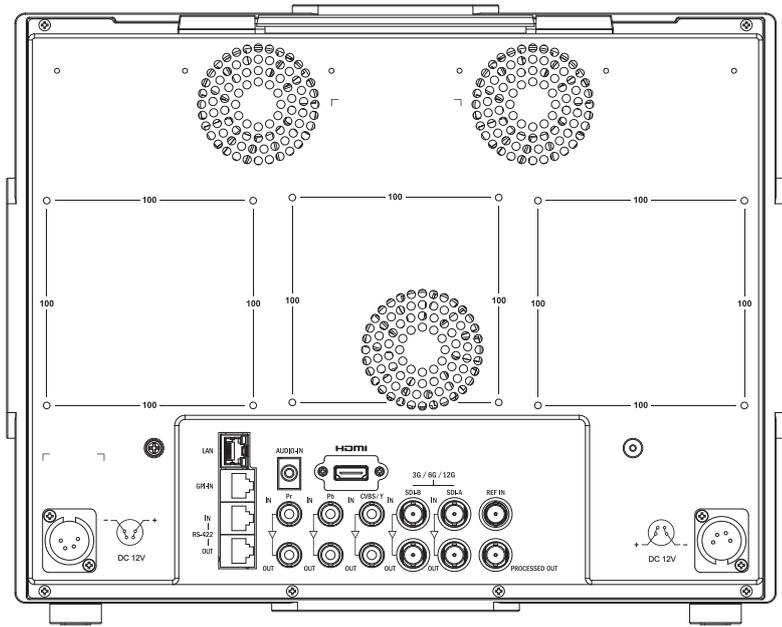
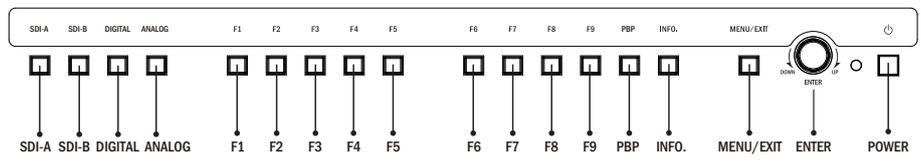
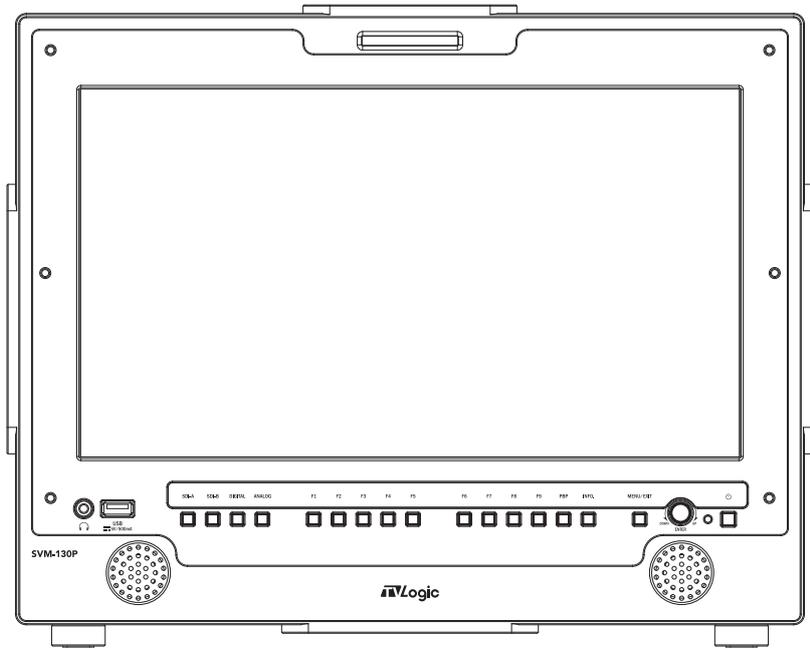
- **Scan / User Aspect**

- **Dynamic UMD / Tally**

- **Remote Control via Ethernet, RS-422, GPI**

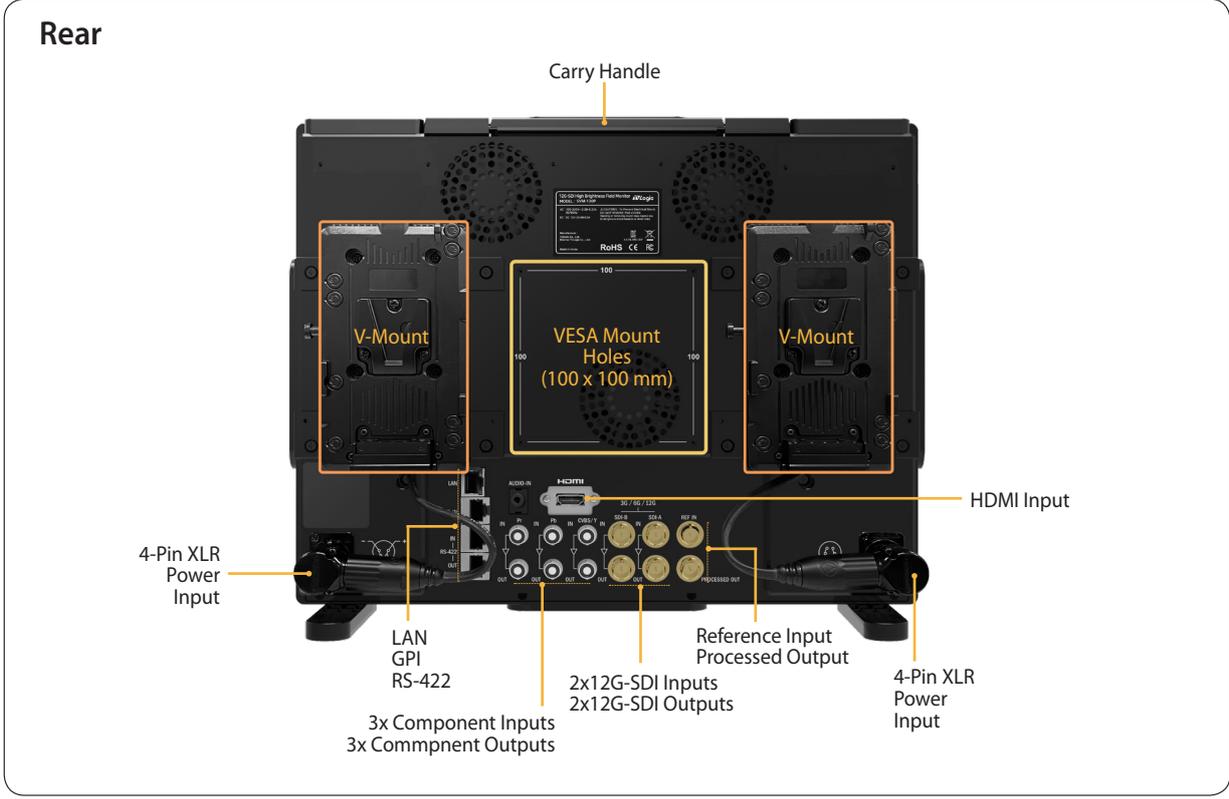
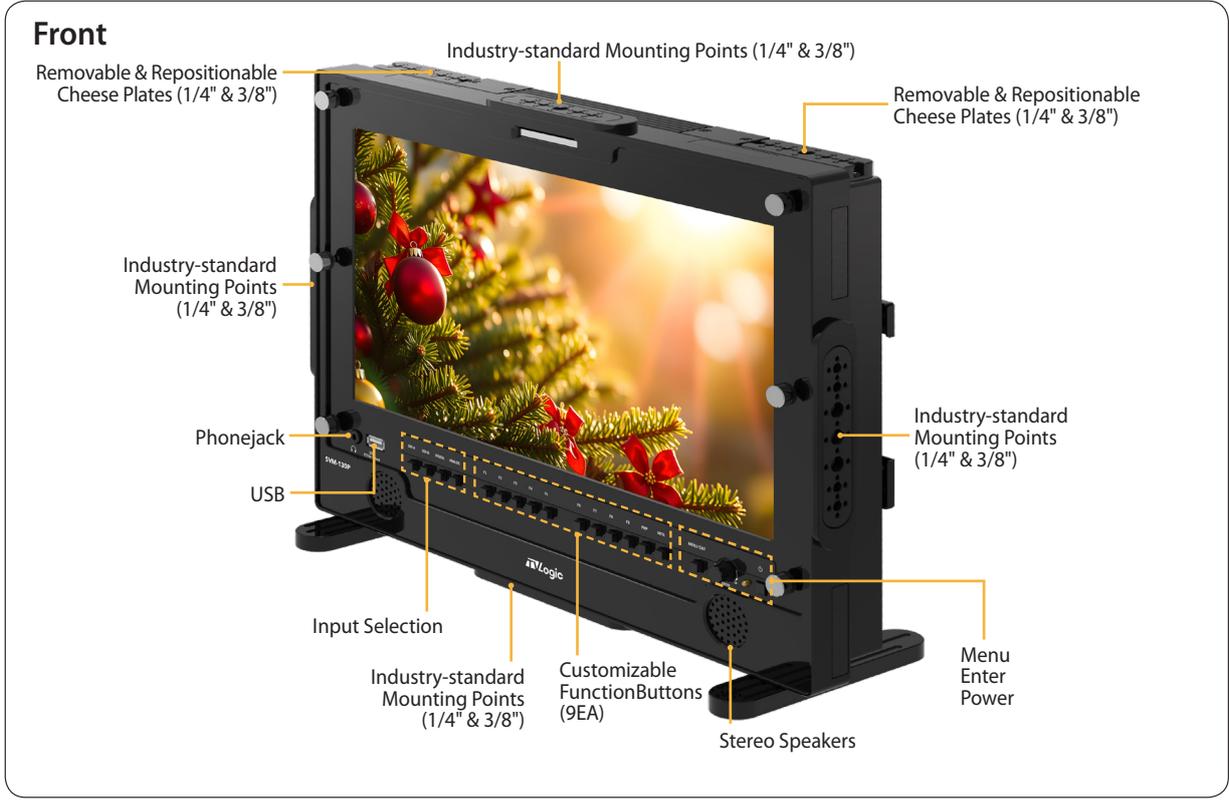
03 CONTROLS, INDICATORS, CONNECTIONS

SVM-130P : FRONT & REAR



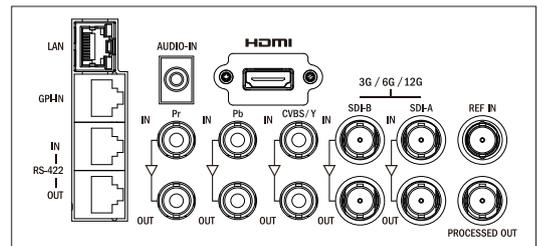
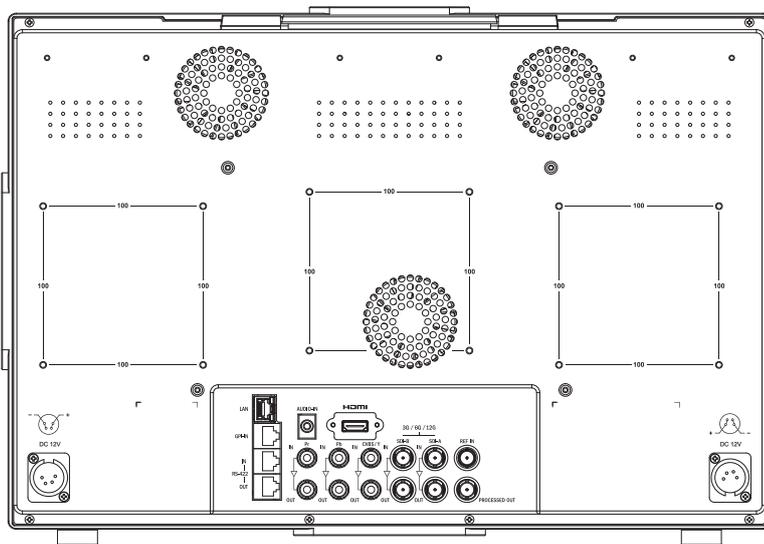
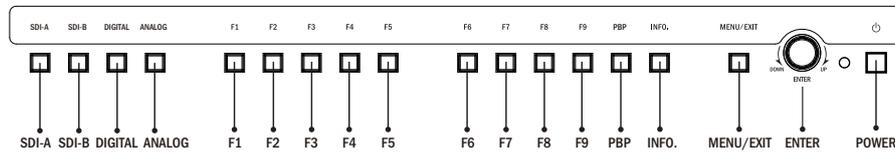
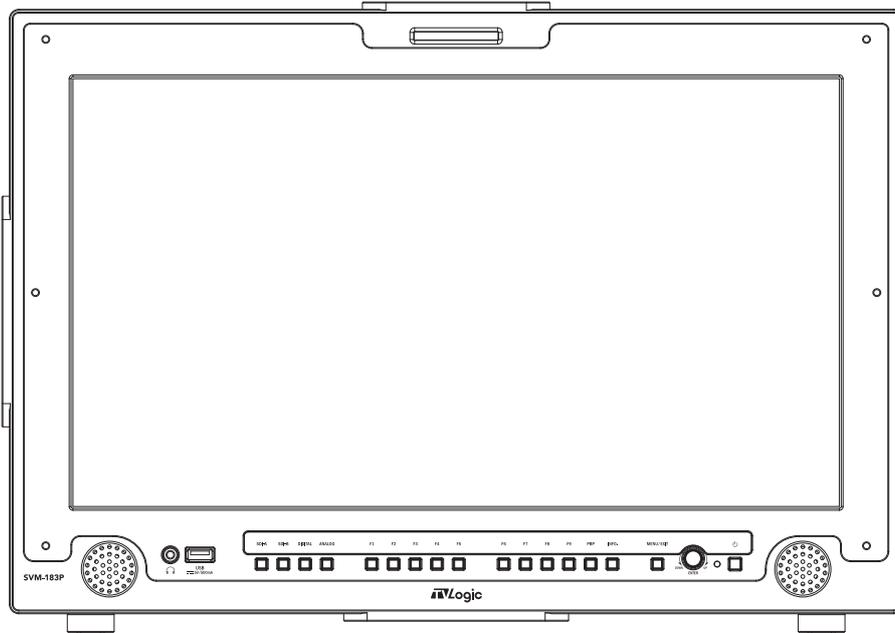
03 CONTROLS, INDICATORS, CONNECTIONS

SVM-130P : Hardware Overview



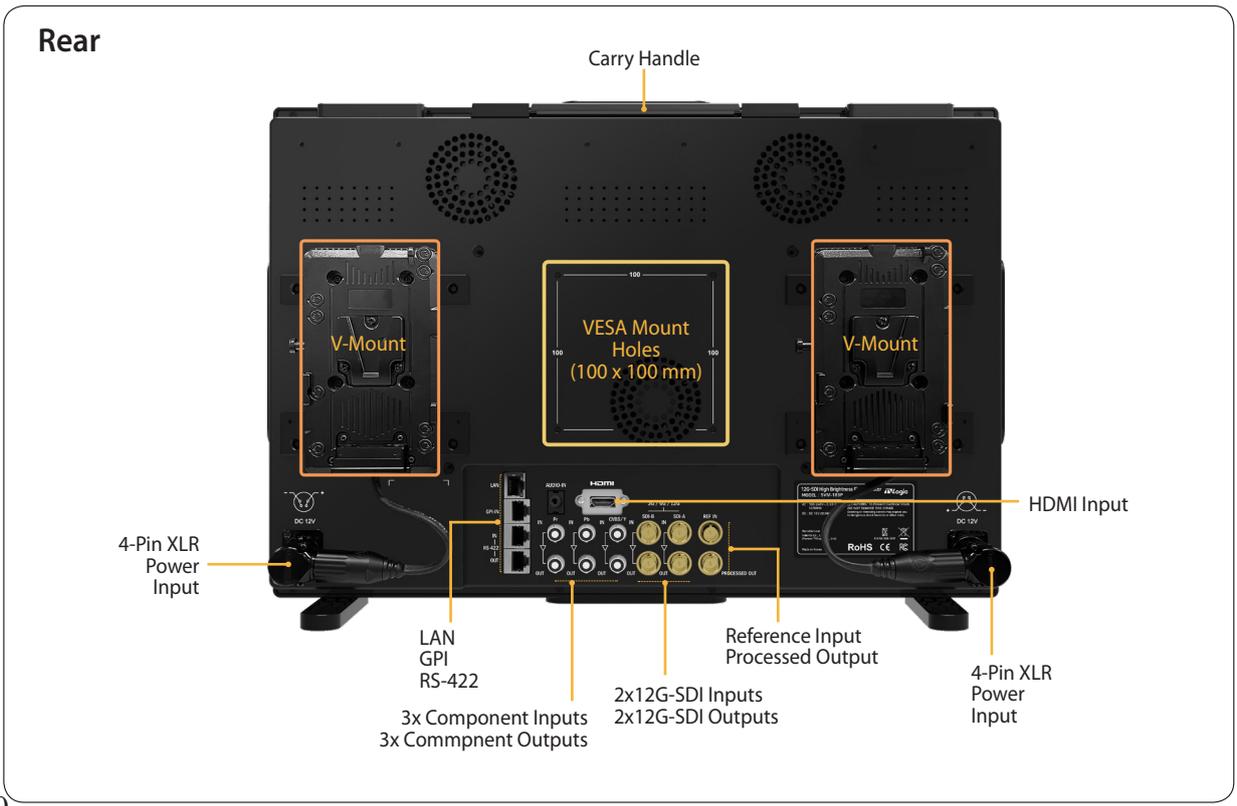
03 CONTROLS, INDICATORS, CONNECTIONS

SVM-183P : FRONT & REAR



03 CONTROLS, INDICATORS, CONNECTIONS

SVM-183P : Hardware Overview



03 CONTROLS, INDICATORS, CONNECTIONS

FRONT

- **SDI-A**
 - Select the SDI-A input.
- **SDI-B**
 - Select the SDI-B input.
- **DIGITAL**
 - Select the HDMI input
- **ANALOG**
 - Select the input between COMP(Component) and CVBS(Composite)
- **F1 to F9**
 - Shortcut buttons to activate preassigned functions immediately.
 - * For more information on these buttons, refer to "06 Function Details [2] [INFO] button & [Function] button" in page 44.
- **PBP**
 - Activate the Picture-by-Picture mode.
 - When the PBP mode is activated, pushing the F9 button allows for selecting or changing the input on each screen.
- **INFO**
 - Display the signal information window.
 - When pressing this button, the function list which shows the currently assigned function to all Function buttons also appears.
 - * For more information on these buttons, refer to "06. Function Details [2] [INFO] button & [Function] button" in page 44.
- **MENU/EXIT**
 - Display and set the OSD menu.
 - When the OSD menu is activated, press this button to exit from the menu.
- **ENTER(UP/DOWN)**
 - Move up and down through the menus during the OSD menu activation and also to increase and decrease the value of the selected feature.
 - Press the Knob to confirm a chosen value or mode.
 - When the OSD menu is not activated, pushing this knob gives the direct access to adjust the values of [VOLUME], [BRIGHT], [CONTRAST], [BACKLIGHT]. Turn the Knob to left or right to adjust the value.
- **POWER INDICATOR**
 - Indicates the condition and power status of the monitor.
 - The lamp turns off when the power is disconnected.
 - If this button is pressed shortly, the POWER LED turns red and the monitor goes into the standby mode.
In the standby mode, the backlight turns off but the main board is in operation.
 - If this button is pressed for 3 seconds, the monitor turns off.
- **USB**
 - This terminal is used to upgrade the firmware or connect the monitor to the PC for color calibration using the calibration software provided by TVLogic.
- **AUDIO OUT (Phone Jack)**
 - Stereo audio of the currently selected input signal is output.
 - The output audio can be selected in the [EM. AUDIO LEFT] and [EM. AUDIO RIGHT] menu.

03 CONTROLS, INDICATORS, CONNECTIONS

REAR

- **SDI-A/B Input (BNC)**
 - SDI signal input connector
 - Both SDI inputs support 12G/6G/3G/HD/SD-SDI signals.
- **SDI-A/B Output (BNC)**
 - SDI signal loop-out connector
 - Both SDI outputs support 12G/6G/3G/HD/SD-SDI signals.
 - *SDI Output is not activated when the monitor is turned off or in Standby mode.
- **HDMI Input**
 - Input connector for HDMI signal.
- **REF Input**
 - Reference Input for genlock
- **PROCESSED Out (SDI)**
 - The LUT applied images or the downscaled images or the format converted images are output to this PROCESSED Out port.
 - * For more information on this port, refer to "06 Function Details [4] Processed Output" in page 48.
- **LAN**
 - Control the monitor with a protocol provided by TVLogic or the TSL 5.0 protocol.
- **GPI-IN (RJ-45)**
 - Control the monitor externally. The desired functions can be assigned to each pin.
 - Functions can be changed in the GPI section of the OSD menu.

- **AUDIO-IN (Phone Jack)**
 - Input the external audio
- **AC IN**
 - Connect the supplied AC power cord.
 - AC 100 ~ 240V (50/60Hz)
- **DC IN**
 - Connect the DC power supply.
 - SVM-130P : DC 12V
 - SVM-183P : DC 12V
- **YPbPr/CVBS Input & Output (BNC)**
 - Signal input and output connector for Analog signals
 - Video Input connection method

Connector	Composite	Component	
1	CVBS1	Y	G
2	CVBS2	Pb	B
3	CVBS3	Pr	R

<WARNING!!>

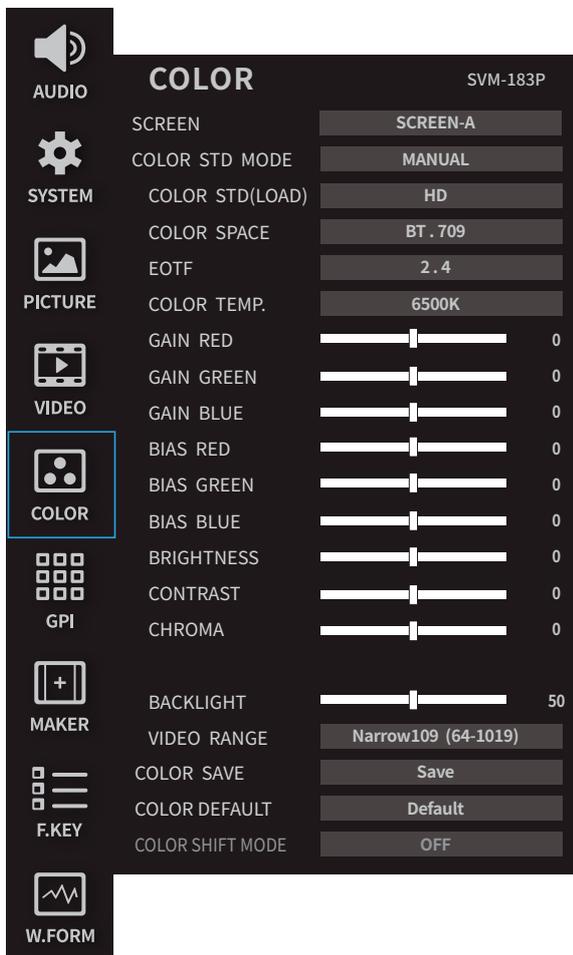
When using the product, make sure that the system is properly grounded whenever possible before connecting any input signal cables, in order to prevent potential damage to the product or connected devices. Improper grounding may cause signal noise, abnormal operation, or damage to internal components such as the main board or display panel. Connected devices, including cameras or video source equipment, may also be affected through the signal cable. When operating the product with a V-Mount battery or external DC power source, ensure that all connected equipment shares a common ground reference and that grounding is properly established through the camera system, rig, or power distribution accessories before signal connection.

04 MENU TREE & ADJUSTMENT

MENU CONSTRUCTION & MENU CONTROL & MENU CONTROL SEQUENCE & MENU TREE

[1] Menu Construction

- This product can be controlled and set system-wise through OSD displayed on the screen.
- The menu construction of this product is displayed as follows.



[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 by rotating the Knob.
 3. Press the Knob to select the menu and move to a sub menu by rotating the Knob.
 4. Press the Knob to select the desired sub menu. (The selected sub menu will be highlighted.)
 5. Press the Knob or MENU button to save the new value after adjusting the desired value by rotating the Knob.
 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.

[2] Menu Control

- You can control various functions using MENU, KNOB, and other buttons on the front of the monitor.

04 MENU TREE & ADJUSTMENT

MENU CONSTRUCTION & MENU CONTROL & MENU CONTROL SEQUENCE & MENU TREE

[4] Menu Tree

COLOR	SCREEN
	COLOR STD MODE
	COLOR STD(LOAD)
	COLOR SPACE
	EOTF
	COLOR TEMP.
	GAIN RED
	GAIN GREEN
	GAIN BLUE
	BIAS RED
	BIAS GREEN
	BIAS BLUE
	BRIGHTNESS
	CONTRAST
	CHROMA
	BACKLIGHT
	VIDEO RANGE
	COLOR SAVE
	COLOR DEFAULT
	COLOR SHIFT MODE
GPI & UMD	PIN 1
	PIN 2
	PIN 3
	PIN 4
	PIN 5
	PIN 6
	PIN 7
	PIN 8
	DHCP
	IP ADDRESS
	SUBNET MASK
	GATEWAY

GPI & UMD	PORT NO.
	SETTING APPLY
	UMD DISPLAY
	UMD POSITION
	UMD FONT SIZE
	D-UMD TALLY TYPE
	TALLY1 COLOR
	TALLY2 COLOR
	GROUP ID
	CHANNEL 1
	MONITOR ID
	UMD CHARACTER
	UMD CHAR. COLOR
	CHANNEL 2
	MONITOR ID
	UMD CHARACTER
	UMD CHAR. COLOR

04 MENU TREE & ADJUSTMENT

MENU CONSTRUCTION & MENU CONTROL & MENU CONTROL SEQUENCE & MENU TREE

[4] Menu Tree

MARKER	MARKER
	CENTER MARKER
	SAFETY AREA
	FIT MARKER
	MARKER MAT
	MARKER COLOR
	MARKER THICKNESS
	USER MARKER H1
	USER MARKER H2
	USER MARKER V1
	USER MARKER V2
FUNCTION KEY	KEY LED
	F1 KEY MAPPING
	F2 KEY MAPPING
	F3 KEY MAPPING
	F4 KEY MAPPING
	F5 KEY MAPPING
	F6 KEY MAPPING
	F7 KEY MAPPING
	F8 KEY MAPPING
	F9 KEY MAPPING

WAVEFORM	WAVEFORM DISPLAY
	WAVEFORM INTENSITY
	WAVEFORM COLOR
	LINE WAVEFORM
	SELECT LINE POSITION
	LUMA(Y') ZONE CHECK
	LUMA(Y') ZONE ADJUST
	FOCUS ASSIST
	FOCUS ASSIST COLOR
	FOCUS ASSIST LEVEL
	RANGE ERROR
	Y MAX
	Y MIN
	C MAX
	C MIN
	BLINK
	COLOR
	GRID
	HISTOGRAM

04 MENU TREE & ADJUSTMENT

MENU CONSTRUCTION & MENU CONTROL & MENU CONTROL SEQUENCE & MENU TREE

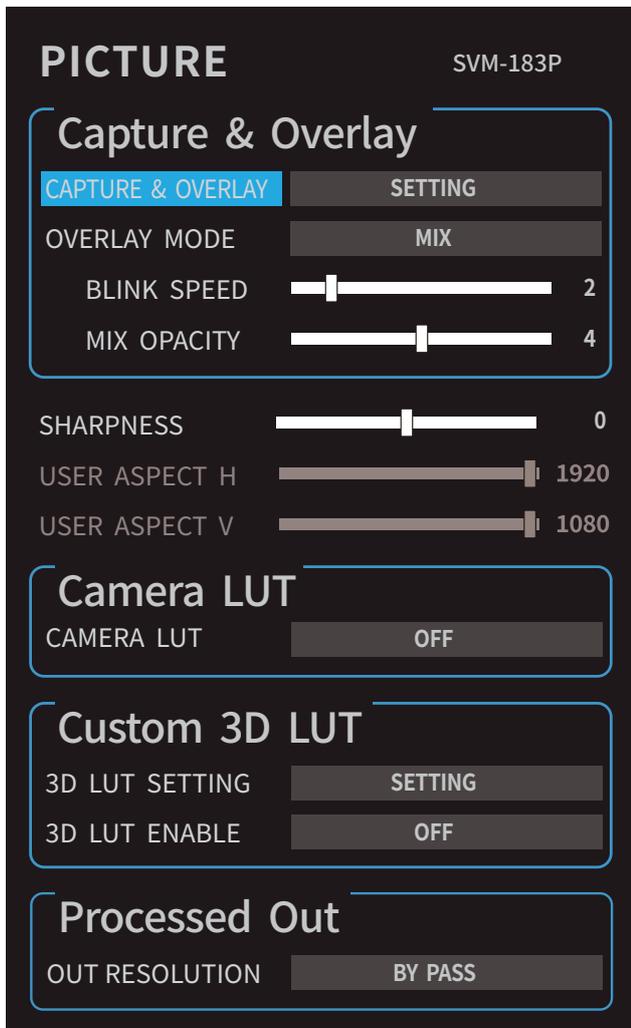
[4] Menu Tree

AUDIO	LEVEL METER ENABLE
	LEVEL METER SELECT
	LEVEL METER DISPLAY
	LEVEL METER REFERENCE
	LEVEL METER DECAY TIME
	LEVEL METER SIZE
	LEVEL METER POSITION
	VOLUME
	PBP AUDIO OUT
	EM. AUDIO LEFT
	EM. AUDIO RIGHT
	PHASE METER ENABLE
SYSTEM	KEY LOCK NUMBER
	KEY LOCK ENABLE
	OSD DISPLAY
	INTERNAL PATTERN
	ECO MODE TIMER
	ECO MODE LEVEL
	OSD BLEND
	MAX BRIGHT
	CONFIG. DATA
	COLOR DATA
	SET DEFAULT
	S/W UPGRADE
	FAN SPEED MODE
	VERSION
	SERIAL NUMBER

PICTURE	CAPTURE & OVERLAY
	OVERLAY MODE
	BLINK SPEED
	MIX OPACITY
	SHARPNESS
	USER ASPECT H
	USER ASPECT V
	CAMERA LUT
	3D LUT SETTING
	3D LUT ENABLE
	OUT RESOLUTION
	VIDEO & DISPLAY
FAST MODE	
3G FORMAT	
REFERENCE	
TIME CODE ENABLE	
BLUE ONLY	
H/V DELAY	
H/V FLIP	
CLOSED CAPTION	
CC INFO	
DECODE CHANNEL (608)	
CAPTION SERVICE (708)	
CAPTION FIELD	
TELETEXT PAGE	

05 MENU OPERATIONS

[1] PICTURE



CAPTURE & OVERLAY

- Capture the image of the video being displayed on the screen, save it to the internal memory or the USB flash drive, and then overlay it onto the live view.

● CAPTURE & OVERLAY

- Select the mode to capture and apply the images, and unload, delete, import, and export the captured images.

- **How to Capture the image:** Select [CAPTURE & OVERLAY] with the ENTER knob, access the sub menu with the MENU button, select the [CAPTURE] with the ENTER knob and push the ENTER knob.

- **How to Overlay the captured image:** Select [CAPTURE & OVERLAY] with the ENTER knob, choose the captured image from the thumbnail list, and push the ENTER knob.

- **How to unload the overlaid image:** Select the image on the thumbnail list, push the MENU button to access the sub menu, select [UNLOAD] and push the ENTER knob.

- **How to delete a captured image or all images:** Select the image on the thumbnail list, push the MENU button to access the sub menu, select [DELETE], and push the ENTER knob. To delete all captured images at once, select [DEL ALL] and push the ENTER knob.

- **How to import the image from USB:** Insert the USB flash drive to the monitor, access the sub menu, and select [IMPORT] with the ENTER knob. Choose the desired image and select it with the ENTER knob.

- **How to export the captured image to USB:** Insert the USB flash drive to the monitor, select the image on the thumbnail list, access the sub menu with the MENU button, select [EXPORT] with the ENTER knob, and push it. Select the folder to save the image, and push the ENTER knob.

05 MENU OPERATIONS

[1] PICTURE

- **SHARPNESS**

- Indicate the sharpness setting level of the current screen.
- Setting range: -50 to 50

- **USER ASPECT H**

- Adjust the aspect ratio of the displayed image by setting the size horizontally.
- Adjustable range: [960] to [1920] (Increments of 4)
- Activated only when the [SCAN] mode is set to [USER ASPECT].

- **USER ASPECT V**

- Adjust the aspect ratio of the displayed image by setting the size vertically.
- Adjustable range: [540] to [1080] (Increments of 2)
- Activated only when the [SCAN] mode is set to [USER ASPECT].

Note

- USER ASPECT function supports the 1920 x 1080 HD signals only.

- **Camera LUT**

- Apply the preloaded camera LUT for the input signal.

CAMERA LUT

- Select the desired camera LUT to apply to the input signal.
- Selectable mode:
[OFF], [LOG-C], [C-LOG], [S-LOG1], [S-LOG2], [S-LOG3], [RED GAMMA3], [RED GAMMA4]

Note

- The selected CAMERA LUT is applied to the image which is currently displayed on the screen.
- In the Picture-by-Picture mode, this function is not supported.

- **Custom 3D LUT**

- Allow users to import the 3D LUT files which are created with a color grading tool or other software to the monitor and then apply them to the input video.

Note

- The selected 3D LUT is applied to the image which is currently displayed on the screen.
- In the Picture-by-Picture mode, this function is not supported.
- Up to 10 3D LUT files can be saved from SLOT 1 to SLOT 10.
- The File System of the USB Flash Drive should be FAT32.
- Supported 3D LUT Formats: Cube
- Number of lattice points: 17 or 33

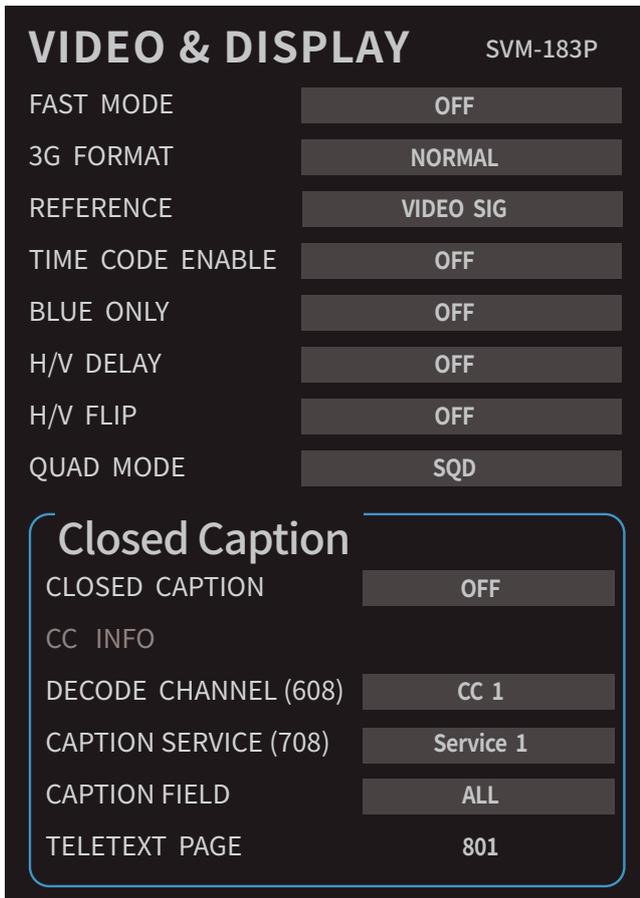
*For more information on this function, refer to "06 FUNCTION DETAILS [3] Import and Apply Custom 3D LUT" in page 45.

- **Processed Out**

- Adjust the resolution of the signal which is output to PROCESSED OUT port.
- [BY PASS]: The resolution of the output signal is the same as the input signal's.
- [12G to 3G DOWNSCALE]: When the 3840 x 2160 (60p to 23.98p) video is input, the resolution of the output signal is down scaled to the 1920 x 1080 60p.

05 MENU OPERATIONS

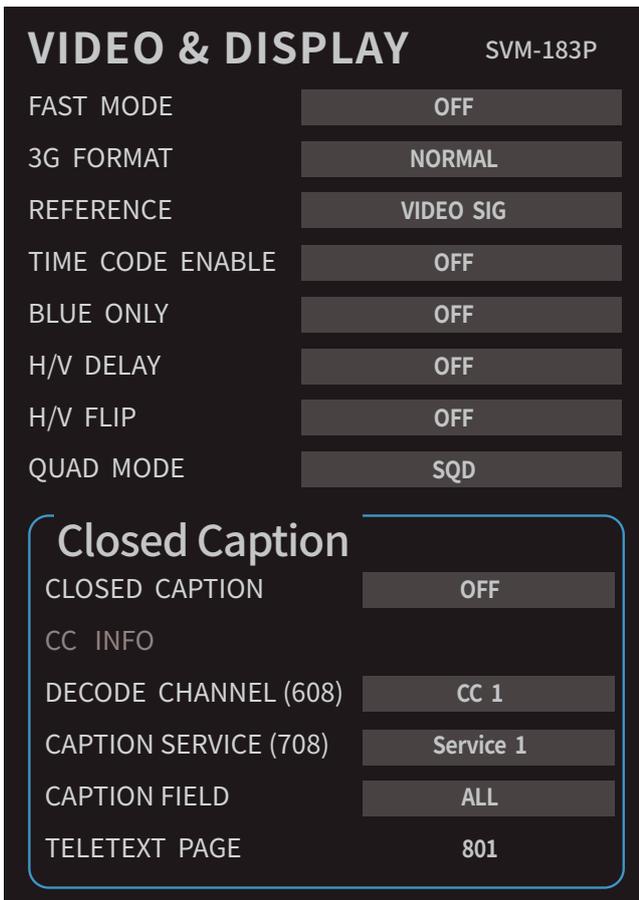
[2] VIDEO & DISPLAY



- FAST MODE**
 - This function minimizes the time delay between arrival of the serial electrical signal at the monitor input and the light output from the screen.
 - Since this function is to minimize the deinterlacing delay, it is not effective under progressive format.
 - This function is useful when the input signal is the fast moving video, and also useful to reduce the delay time between the video and the audio.
- 3G FORMAT**
 - Select the format of 3G input signal.
 - Selectable mode:
 - [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]
 - Automatically detect the signal when the payload signal appears in NORMAL mode.
- REFERENCE**
 - Synchronize the image displayed on the screen with the signal input to the REF IN(Reference Input) port (External Sync).
 - [VIDEO SIG]: Synchronize with the input SDI signal(Default setting)
 - [EXTERNAL]: Synchronize the output image with the signal input to the external REF IN(Reference Input) port.
- TIME CODE ENABLE**
 - Display the time code embedded on the SDI signal.
 - [LTC]: Display the time code in LTC format.
 - [VITC]: Display the time code in VITC format.
- BLUE ONLY**
 - [BLUE]: Remove red and green from the input signal and display only the blue signal in monochrome.
 - [MONO]: Display the input signal only in monochrome (black and white).
- H/V DELAY**
 - Check the blanking area of horizontal sync and vertical sync.
 - [H-DELAY]: Display the blanking area of horizontal sync.
 - [HV-DELAY]: Display the blanking area of horizontal and vertical sync.

05 MENU OPERATIONS

[2] VIDEO & DISPLAY



- **H/V FLIP**
 - Flip the displayed image horizontally and/ or vertically.
 - **[H-FLIP]**: The input video is flipped horizontally.
 - **[V-FLIP]**: The input video is flipped vertically.
 - **[HV-FLIP]**: The input video is flipped horizontally and vertically.

- **CLOSED CAPTION**
 - Set the closed caption function.
 - Selectable mode: **[OFF]**, **[608(Line21)]**, **[608(ANC)]**, **[608(Transcoded)]**, **[708]**, **[OP47]**.

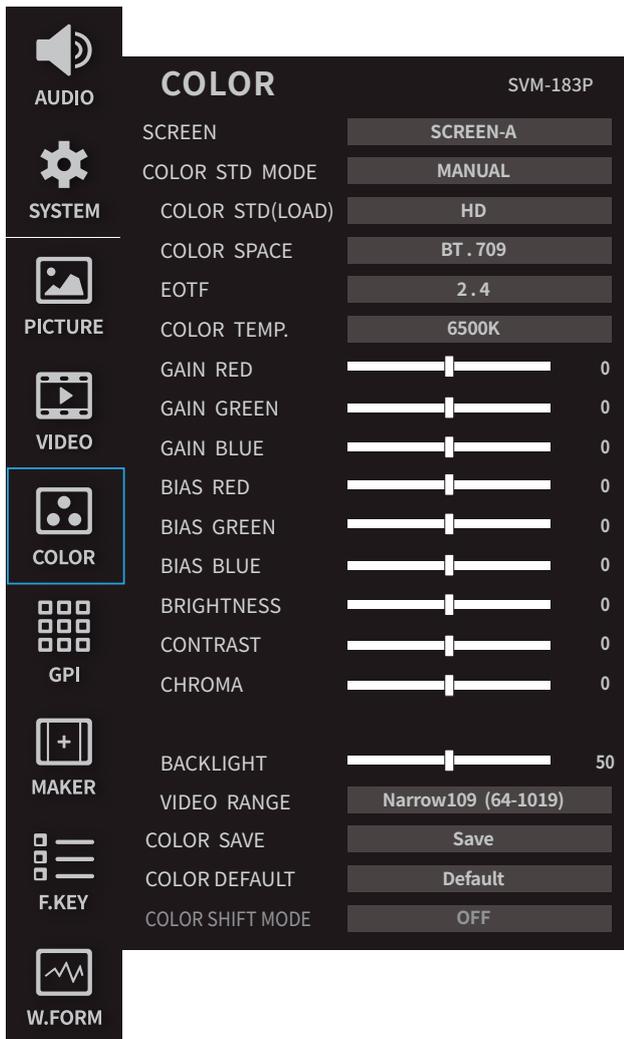
Note

- The Closed Captions which meet 608: CEA-608-B, 708: CEA-708-C, OP47 standard are only displayed on the screen.
- The following languages are supported.
 - CC708: English, Spanish, Portuguese, German, Japanese, Spanish
 - OP47: English, French, Greek

- **CC INFO (CLOSED CAPTION INFO)**
 - Displays the Closed Caption information which the monitor currently receives.
- **DECODE CHANNEL (608)**
 - Set the channel of Closed Caption 608.
 - Selectable mode: **[CC 1]**, **[CC 2]**, **[CC 3]**, **[CC4]**
- **CAPTION SERVICE (708)**
 - Set the service of Closed Caption 708.
 - Selectable mode: **[Service 1]** to **[Service 6]**
- **CAPTION FILED**
 - Adjust the field containing the Closed Caption data.
 - **[ALL]**: Display all Closed Caption data contained.
 - **[ODD]**, **[EVEN]**: If the Closed Caption data is encoded separately in Even fields and Odd fields, you can select the fields to process them. (This is not a common situation. There are cases where duplicate data is included in the Even and Odd fields.)
- **TELETEXT PAGE**
 - Set the page of OP47.
 - Selectable range: **[801]** to **[8FF]**

05 MENU OPERATIONS

[3] COLOR



● SCREEN

- Select the screen to adjust the color settings.
- In the single screen mode, SCREEN-A is only activated to select.
- In the Picture-by-Picture mode, SCREEN-A and SCREEN-B are activated to select.
- In the Picture-by-Picture mode, each SCREEN's color settings are allowed to be adjusted, and colors on each SCREEN are displayed independently.

● COLOR STD MODE

- Select the color standard mode.
- **[AUTO]**: Detect Color Space and EOTF information from the video payload ID based on SMPTE ST 352 and adjust the sub menus like **[COLOR STD(LOAD)]**, **[COLOR SPACE]**, **[EOTF]** **[COLOR Temp.]**, **[VIDOE RANGE]** automatically.

Note

- When **[COLOR STD MODE]** is set to **[AUTO]**, if the SDI input signal doesn't include the payload ID, the **[COLOR STD(LOAD)]** is set to the **[HD]** mode.
- **[MANUAL]**: When **[MANUAL]** is selected, all sub menus from **[COLOR STD(LOAD)]** to **[VIDEO RANGE]** are adjustable.

● [COLOR STD(LOAD)]

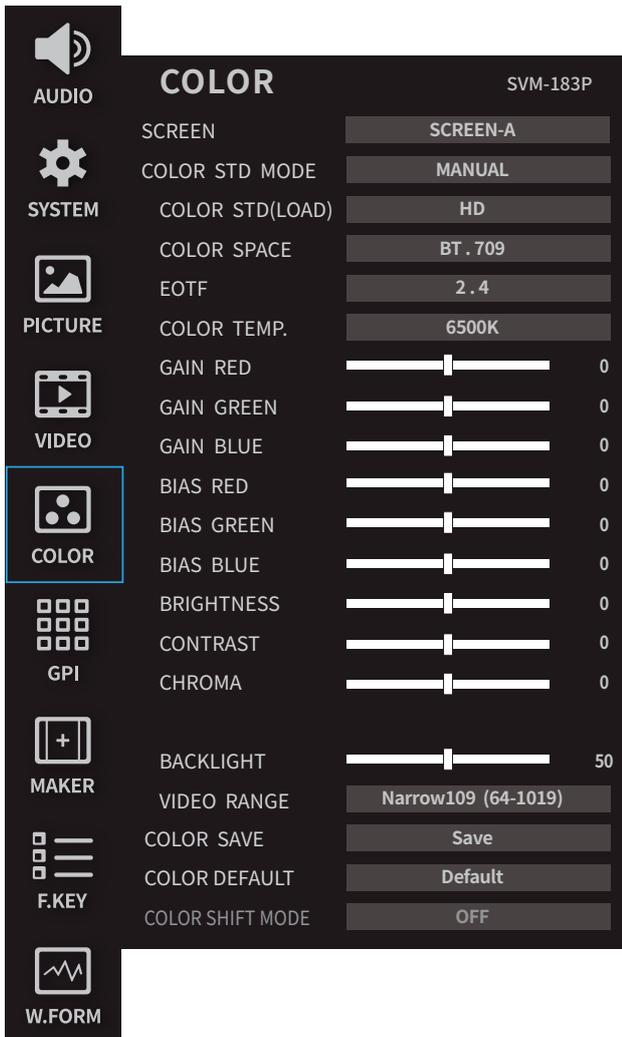
- Select the color standard for the displayed video. The standard value of **[COLOR SPACE]**, **[EOTF]**, **[COLOR TEMP.]**, **[VIDEO RANGE]** are automatically loaded based on each selected color standard.
- Selectable mode: **[HD]**, **[UHD]**, **[DCI]**, **[PQ]**, **[PQ_DCI-P3]**, **[HLG]**, **[USER 1]~[USER 10]**

Note

- After a **[COLOR STD(LOAD)]** mode is selected, the settings of the sub menus from **[Color Space]** to **[VIDEO RANGE]** can be adjusted.
- After a **[COLOR STD(LOAD)]** mode is selected, if any setting value from **[COLOR SPACE]** to **[VIDEO RANGE]** is changed from the default value, '*' mark appears next to the selected **[COLOR STD(LOAD)]** mode.
ex. **[HD]** → **[HD*]**

05 MENU OPERATIONS

[3] COLOR



Note

- After you load a color standard and change the settings in the sub menus like [EOTF], etc., you can save the changed [COLOR TEMP] settings in [USER 1] to [USER 10] and then recall it later.

● COLOR SPACE

- Select the standard color space.
- Selectable mode: [BT.709], [BT.2020], [DCI-P3], [S-GAMUT3], [NATIVE]

● EOTF

- Select the electrophotic conversion functions (Gamma or HDR curve).
- Selectable mode: [2.2], [2.4], [2.6], [PQ(ST-2084)], [HLG], [S-LOG3], [sRGB]

● COLOR TEMP

- Set the color temperature.
- Selectable mode: [3200K], [5000K], [5600K], [6000K], [6300K], [6500K], [9300K], [CUSTOM 1], [CUSTOM 2]

● GAIN RED/GREEN/BLUE Gain(or Picture, Contrast)

- Adjust Red/Green/Blue Gain (or Picture, Contrast) level.
- Selectable range: [-100] to [100]

● BIAS RED/GREEN/BLUE

- Adjust Red/Green/Blue Bias (or Offset). Bias adjustment mainly affects the black level.
- Selectable range: [-100] to [100]

● BRIGHTNESS

- Adjust the brightness(offset) setting level of the current screen.
- Selectable range: [-100] to [100]

● CONTRAST

- Adjust the contrast(gain) setting level of the current screen.
- Selectable range: [-100] to [100]

● CHROMA

- Adjust the chroma(color saturation) setting level of the current screen.
- Selectable range: [-100] to [100]

● BACKLIGHT

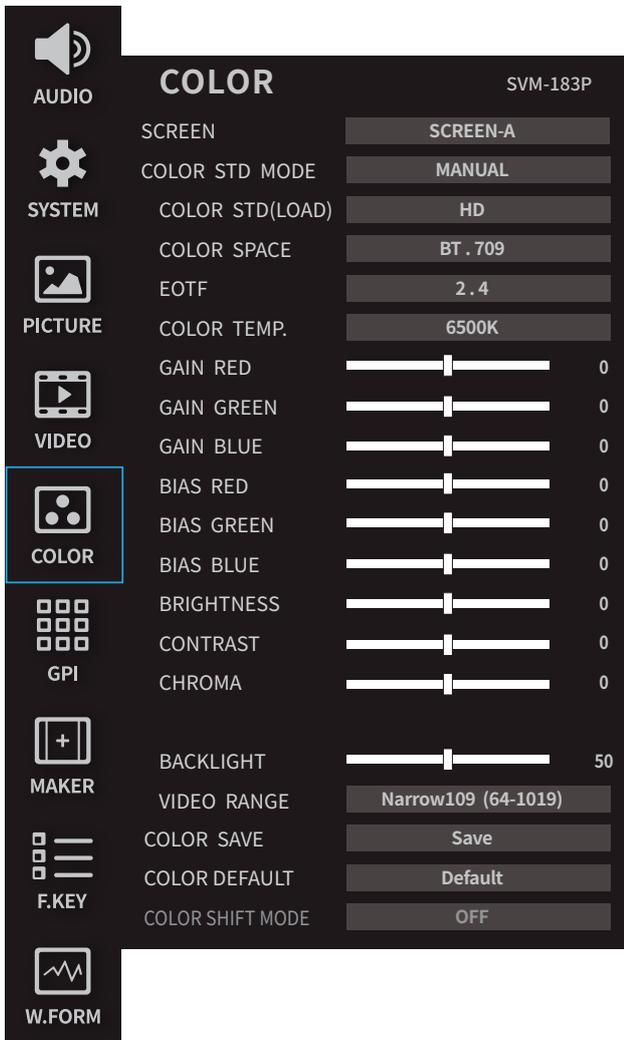
- Adjust the current value of the backlight of the LCD panel.
- Selectable range: [0] to [100]

Note

- The default backlight value is saved to the monitor after calibration.
- The backlight value is changed depending on the selected [COLOR STD(LOAD)] mode.

05 MENU OPERATIONS

[3] COLOR



• VIDEO RANGE

- Select the video range of the input signal.
- Selectable mode: [Narrow (64-940)], [Narrow109 (64-1019)], [Full (0-1023)]

Note

- The different Color settings can be adjusted for each input video: SDI-A, SDI-B, HDMI, COMPONENT, CVBS.
- The Color settings adjusted for each input video are maintained even after the monitor turns off and on.

• COLOR SAVE

- Save the changed setting values from [USER 1] to [USER 10].
- Saving range is from [COLOR STD(LOAD)] to [VIDEO RANGE]

• COLOR DEFAULT

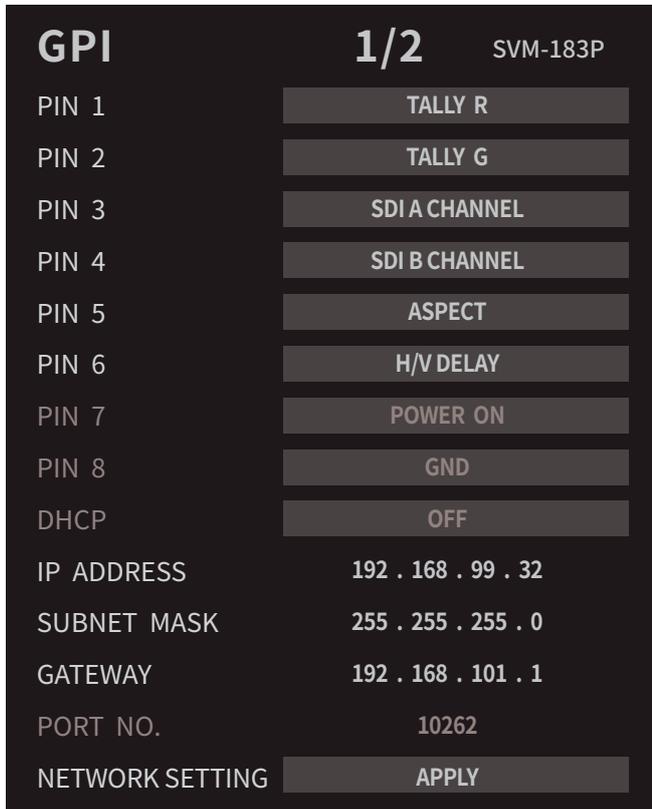
- Return the changed settings from [COLOR SPACE] to [VIDEO RANGE] to the default values.

*Default Values

Color Standard	Color Space	EOTF	COLOR Temp.	Video Range
HD	BT.709	2.4	6500K	Narrow109 (64~1019)
UHD	BT.2020	2.4	6500K	Narrow109 (64~1019)
DCI	DCI-P3	2.6	6000K	Full (0~1023)
PQ	BT.2020	PQ(ST-2084)	6500K	Narrow (64-940)
PQ_DCI-P3	DCI-P3	PQ(ST-2084)	6500K	Full (0~1023)
HLG	BT.2020	HLG	6500K	Narrow (64-940)

05 MENU OPERATIONS

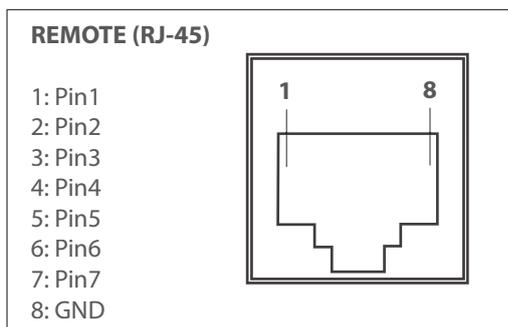
[4] GPI



- **PIN 1 ~ PIN 6**
 - Activate and deactivate the REMOTE function.
 - The user can connect an RJ-45 jack to the REMOTE terminal on the rear of the monitor and assign a function to each pin.
 - The selectable functions for PIN 1 to PIN 6 are as shown on the Right.
 - PIN 7 is fixed to POWER ON/OFF, and PIN 8 is to fixed to GND(ground).

Note

- The pin positions are as follows.

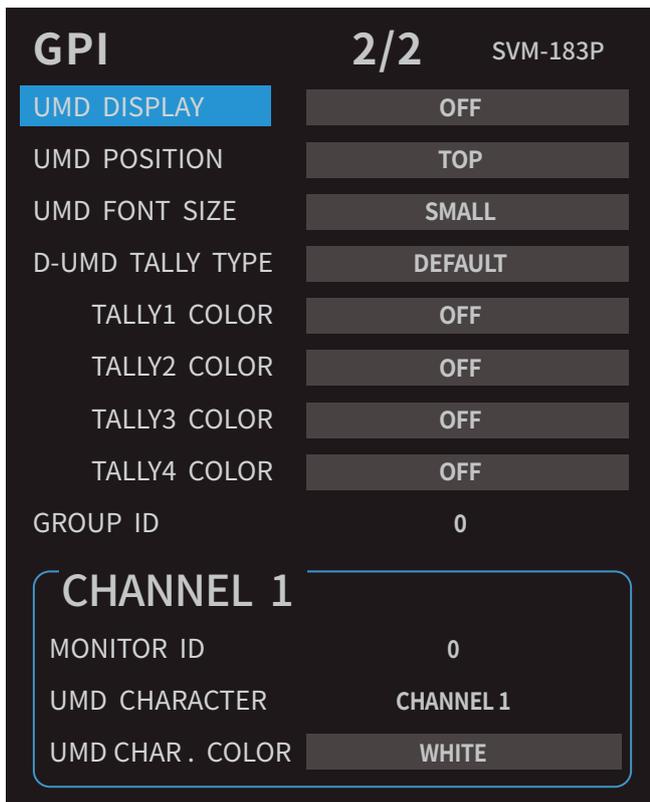


- **DHCP**
 - Activate and deactivate the DHCP mode.
 - Selectable mode: [OFF], [ON]
- **IP ADDRESS**
 - Set the IP address connected to the monitor.
- **SUBNET MASK**
 - Set the Subnet Mask connected to the monitor.
- **GATEWAY**
 - Set the Gateway number connected to the monitor.
- **PORT NO.**
 - Set the port number of the monitor.
- **NETWORK SETTING**
 - Apply the changed values of IP Address, Subnet Mask, Gateway, Port No.

PIN NO.	Assignable Functions
PIN 1 ~ 6	NONE
	SDI A CHANNEL
	SDI B CHANNEL
	HDMI CHANNEL
	COMPONENT CHANNEL
	COMPOSITE CHANNEL
	PBP CHANNEL
	1:1 SCAN, ASPECT
	H/V DELAY, BLUE ONLY, MONO
	16:9 MARKER, 4:3 MARKER
	4:3 ON AIR MARKER
	15:9 MARKER, 14:9 MARKER
	13:9 MARKER, 1.85:1 MARKER
	2.35:1 MARKER
	1.85:1_4:3 MARKER
	CENTER MARKER
	SAFETY AREA 80%
SAFETY AREA 85%	
SAFETY AREA 88%	
SAFETY AREA 90%	
SAFETY AREA 93%	
SAFETY AREA 100%	
TALLY R, TALLY G	
PIN 7	POWER ON/OFF CONTROL
PIN 8	GND

05 MENU OPERATIONS

[4] GPI



● UMD DISPLAY

- Set the UMD mode.
- **[UMD]**: Display the 8 characters which the user set in [UMD CHARACTER] menu.
- **[ANC]**: Display the characters embedded in SDI signal.
- **[D-UMD(TSL3 S-8C)]**: Display the 8 characters and the tally signal which are input by TSL protocol V3.1.
- **[D-UMD(TSL3 S-16C)]**: Display the 16 characters and the tally signal which are input by TSL protocol V3.1.
- **[D-UMD(TSL3 D-8C)]**: Display a pair of 8 characters and a pair of the tally signals which are input by TSL protocol V3.1.
- **[D-UMD(TSL5 S-8C)]**: Display the 8 characters and the tally signal which are input by TSL protocol V5.0.

- **[D-UMD(TSL5 S-16C)]**: Display the 16 characters and the tally signal which are input by TSL protocol V5.0.
- **[D-UMD(TSL5 D-8C)]**: Display a pair of 8 characters and a pair of the tally signals which are input by TSL protocol V5.0.
- **[Ember+]**: Display the characters and tally signals based on Ember+ protocol.

Note

- In Picture-by-Picture mode, [UMD], [ANC], [D-UMD(TSL3 S-8C)], [D-UMD(TSL5 S-8C)] modes are only activated.

● UMD POSITION

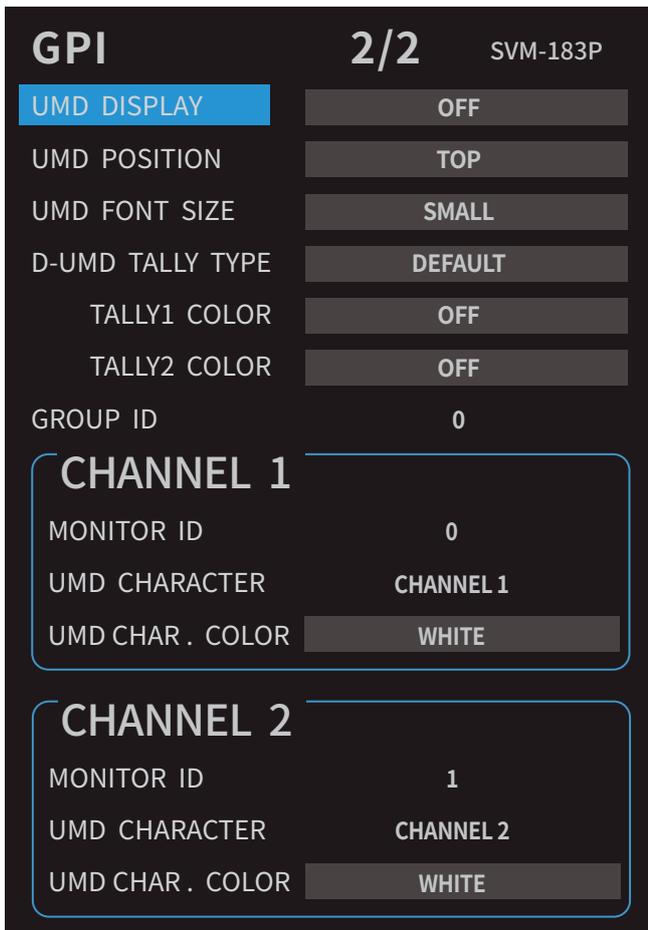
- Set the display position of the UMD.
- Selectable mode: **[TOP]**, **[BOTTOM]**

Note

- In the Picture-by-Picture mode, UMD POSITION is fixed to **BOTTOM**.

05 MENU OPERATIONS

[4] GPI



- **UMD FONT SIZE**

- Adjust the size of UMD character font.
- Selectable mode: [SMALL], [NORMAL], [LARGE]

- **D-UMD TALLY TYPE**

- Adjust the various modes of tally operation.
- The operation of sub menus varies depending on the settings in [UMD DISPLAY]
- [DEFAULT]: Original TVLogic managing method (VRT)
- [USER COLOR]: The user can set each tally color.
- [CHARACTER]: Show tally in the letter color. The operation is the same as [DEFAULT].
- [BG. COLOR]: Show tally in the letter background color. The operation is the same as [DEFAULT].
- [USER TALLY]: This mode receives the signal fed as bit0 and bit1 of TSL Protocol control byte, adjusts the color the user wants, and then shows the tally. Selectable mode: [Off], [White], [Red], [Green], [Blue], [Yellow], [Cyan]
- [USER CHAR]: Show tally in letter color. The method is the same as [USER TALLY].
- [USER BG.]: Show tally in letter background color. The method is the same as [USER TALLY].

- **TALLY1 COLOR, TALLY2 COLOR**

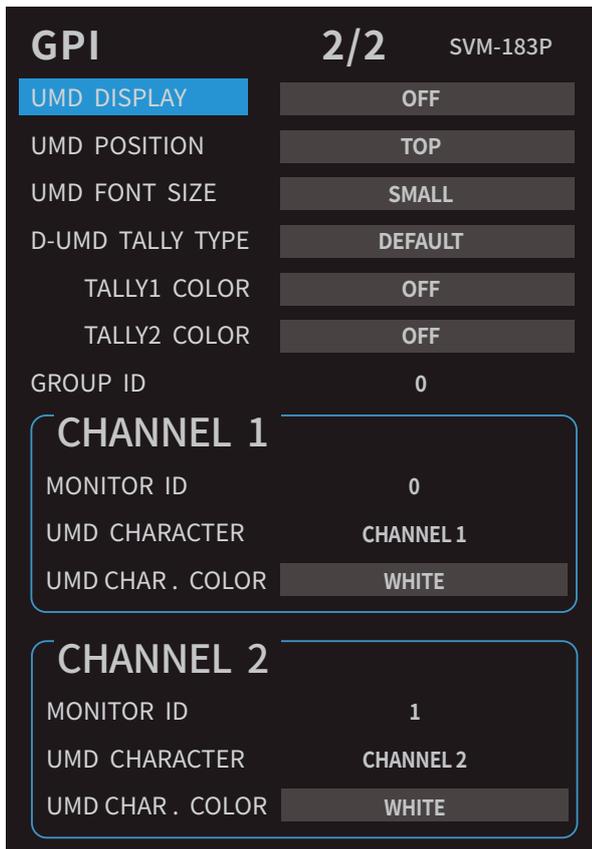
- This menu sets the color of the input condition for byte0, byte1 in TSL Protocol Control Byte.
- Selectable color: [Off], [White], [Red], [Green], [Blue], [Yellow], [Cyan]

- **GROUP ID**

- Used for grouping the monitors and controlling the monitors by group when you control the monitors with the protocol provided by TVLogic, using RS-422/485 communication or Network.
- Selectable value: [0] to [16]

05 MENU OPERATIONS

[4] GPI



● CHANNEL 1, CHANNEL 2

- Adjust UMD character and UMD character color.
- These settings are adjustable when [UMD DISPLAY] mode is selected to [UMD] and [ANC].
- In the single video mode, [CHANNEL 1] is displayed.
- In the Picture-by-Picture mode, [CHANNEL 1] and [CHANNEL 2] are displayed.

● MONITOR ID

- Set the ID of each monitor when you control monitors with TVLogic control protocol using RS-422/485 communication or Network or when you set and use Dynamic UMD mode in [UMD DISPLAY] menu.
- Selectable mode: [0] to [124]

Note

- In the Picture-by-Picture mode, make sure to assign the different ID number to each channel.

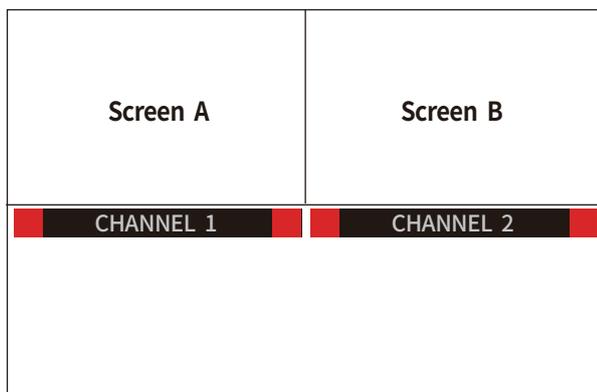
● UMD CHARACTER

- Set the characters to be displayed on the UMD.
- Available characters are lowercase and uppercase alphabet letters, numbers, and special symbols.

● UMD CHAR. COLOR (UMD Character Color)

- Set the character color of UMD.
- Selectable mode: [BLACK], [WHITE], [RED], [GREEN], [BLUE], [YELLOW], [CYAN], [MAGENTA]

[Picture-by-Picture Mode]



05 MENU OPERATIONS

[4] GPI

<Dynamic UMD Protocol (TSL V3.1)>

* Transmission (18 Byte) (PC or Device -> Monitor)

HEADER (1 BYTE)	CONTROL BYTE(1 BYTE)	DISPLAY DATA (16 BYTE)
--------------------	-------------------------	---------------------------

* [HEADER] : Display address (0~126) + 80 hex.

* [CONTROL BYTE]

- bit 0 : Tally 1 (1=on, 0=off)
- bit 1 : Tally 2 (1=on, 0=off)
- bit 2 : Tally 3 (1=on, 0=off)
- bit 3 : Tally 4 (1=on, 0=off)
- bit 4 : bright data (Not used)
- bit 5 : bright data (Not used)
- bit 6 : reserved (Not used)
- bit 7 : cleared to 0 (Not used)

* [DISPLAY DATA] : 16 displayable ASCII characters.

Tally1

CHANNEL1

Tally2

Tally3

CHANNEL1

Tally4

05 MENU OPERATIONS

[4] GPI

• Tally Type - Default

- TSL_S8C(Single 8 Characters) & TSL_S16C(Single 16 Character)

Bit 1 (Tally2)	Bit 0 (Tally1)	Operation
0	0	
0	1	
1	0	
1	1	

- TSL_D8C(Dual 8 Character)

Bit 3 (Tally4)	Bit 2 (Tally3)	Operation
0	0	
0	1	
1	0	
1	1	

• D-UMD Tally Type - USER COLOR

- Allows to set the color of TALLY1 to TALLY4.

When [UMD DISPLAY] is set to [D-UMD(TSL-D8C)] and [D-UMD TALLY TYPE] and [TALLY1 to TALLY4 COLOR] are set as follows, tallies are displayed like the image below.

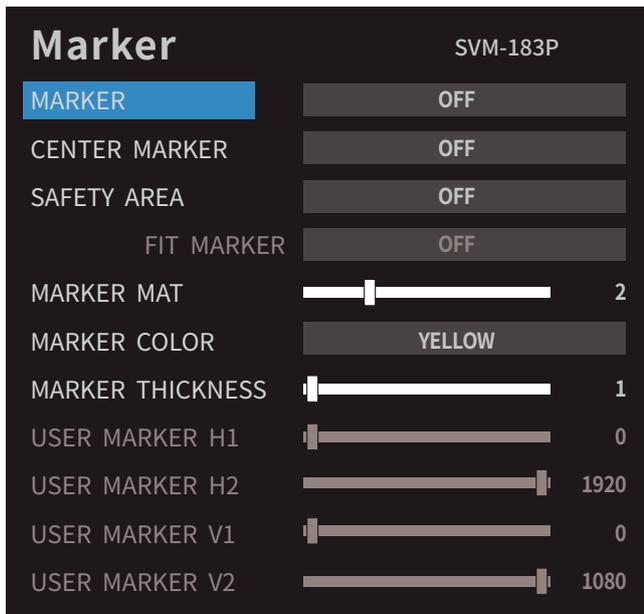
D-UMD TALLY TYPE
 TALLY1 COLOR
 TALLY2 COLOR
 TALLY3 COLOR
 TALLY4 COLOR

USER COLOR
 RED
 GREEN
 RED
 YELLOW



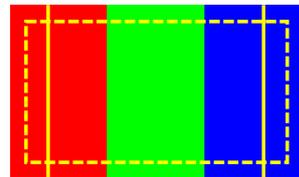
05 MENU OPERATIONS

[5] MARKER

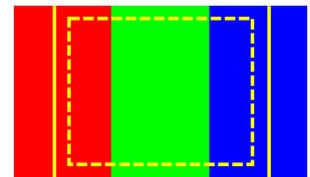


*MARKER lines are shown on the screen only when the MARKER function is assigned to one of the function buttons and then it is set ON.

- **MARKER**
 - Select the marker type when the MARKER is displayed on the screen.
 - Selectable mode: [OFF], [16:9], [4:3], [14:9], [13:9], [1.85:1], [2.35:1], [1.85:1_4:3], [USER]
- **CENTER MARKER**
 - Display the Center Marker on the screen.
 - Selectable mode: [OFF], [ON]
- **SAFETY AREA**
 - Select the size of the Safety Area.
 - When a mode is selected, the dotted line appears on the screen.
 - Selectable mode: [95%], [93%], [90%], [88%], [85%], [80%], [4:3 95%], [4:3 93%], [4:3 90%], [4:3 88%], [4:3 85%], [4:3 80%], [EBU ACTION 16:9], [EBU GRAPHIC 16:9], [EBU ACTION 14:9], [EBU GRAPHIC 14:9], [EBU ACTION 4:3], [EBU GRAPHIC 4:3]
- **FIT MARKER**
 - When the marker type is selected in the [MARKER] menu, this function activates.
 - [OFF]: The selected Safety Area is displayed in the proportion of the whole screen.
 - [ON]: The selected Safety Area is displayed inside the Marker maintaining its proportion.



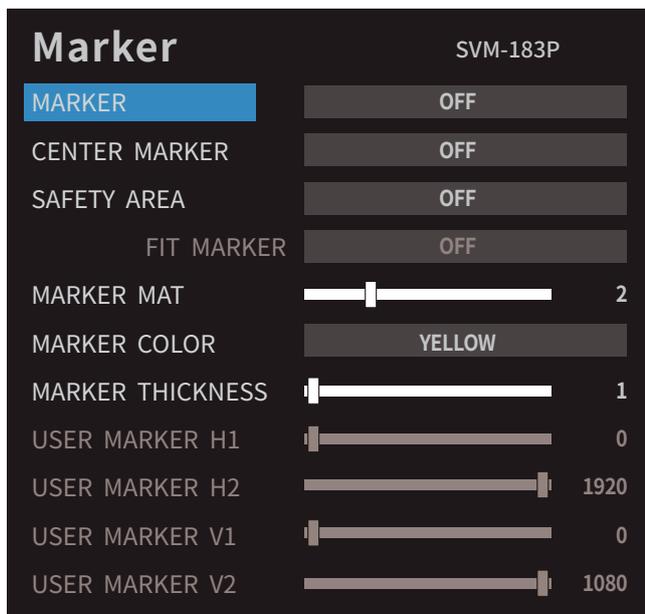
- MARKER : 4:3
- SAFETY AREA : 90%
- FIT MARKER : OFF



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

05 MENU OPERATIONS

[5] MARKER



- **USER MARKER H1**
 - Set the position of the left Marker line.
 - Adjustment range: [0] to [959] (Increments of 1)
- **USER MARKER H2**
 - Set the position of the right Marker line.
 - Adjustment range: [961] to [1920] (Increments of 1)
- **USER MARKER V1**
 - Set the position of the upper Marker line.
 - Adjustment range: [0] to [539] (Increments of 1)
- **USER MARKER V2**
 - Set the position of the lower Marker line.
 - Adjustment range: [541] to [1080] (Increments of 1)

- **MARKER MAT**
 - Set the transparency level outside of the MARKER area.
 - Adjustable level: [0] to [7] (Increments of 1)
 - The higher the level is, the darker the outside of the MARKER area is.
- **MARKER COLOR**
 - Set the color of the MARKER lines.
 - Selectable mode: [WHITE], [YELLOW], [CYAN], [GREEN], [MAGENTA], [RED], [BLUE], [BLACK]
- **MARKER THICKNESS**
 - Set the thickness of the MARKER lines.
 - Adjustable level: [1] to [7] (Increments of 1)
- **USER MARKER**
 - When the [MARKER] is set to [USER] mode, the User Marker is activated.

05 MENU OPERATIONS

[6] FUNCTION KEY

Function key		SVM-183P
KEY LED	ALWAYS ON	
F1 KEY MAPPING	SCAN	
F2 KEY MAPPING	ASPECT	
F3 KEY MAPPING	MARKER	
F4 KEY MAPPING	H/V DELAY	
F5 KEY MAPPING	BLUE ONLY	
F6 KEY MAPPING	FAST MODE	
F7 KEY MAPPING	PROC-OUT 12G-3G	
F8 KEY MAPPING	WAVE VECTOR	
F9 KEY MAPPING	LUMA ZONE	

● KEY LED

- Adjust the operation of the Key LED on the front of the monitor.
- **[OFF]**: The Key LEDs and the backlight of Key names keep turning off.
- **[ONESHOT KEY]**: When a Key is pressed, its Key LED turns on for 5 seconds and then it turns off. The backlight of Key names keeps turning off.
- **[ONESHOT KEY/NAME]**: When a Key is pressed, its Key LED and the backlight of Key names turn on for 5 seconds and then turn off.
- **[ALWAYS ON]**: The Key LEDs and the backlight of Key names keep turning off.

● FUNCTION KEY MAPPING

- Assign the desired function to [F1] to [F9] button.
- The selectable functions are listed on the right.
- The factory default settings are as follows.

- F1: SCAN
- F2: ASPECT
- F3: MARKER
- F4: H/V DELAY
- F5: BLUE ONLY
- F6: FAST MODE
- F7: PROC-OUT 12G-3G
- F8: WAVE VECTOR
- F9: LUMA ZONE

Note

- Direct access for function assignment: When the OSD window doesn't appear, if you push a Function button for about 3 seconds, the currently assigned function and the selectable function list appear.

05 MENU OPERATIONS

[6] FUNCTION KEY

Function key	SVM-183P
KEY LED	ALWAYS ON
F1 KEY MAPPING	SCAN
F2 KEY MAPPING	ASPECT
F3 KEY MAPPING	MARKER
F4 KEY MAPPING	H/V DELAY
F5 KEY MAPPING	BLUE ONLY
F6 KEY MAPPING	FAST MODE
F7 KEY MAPPING	PROC-OUT 12G-3G
F8 KEY MAPPING	WAVE VECTOR
F9 KEY MAPPING	LUMA ZONE

[SCAN]

- Change the scan mode.
- **[ZERO SCAN]**: The original video image is displayed.
- **[1:1 SCAN]**: The video image is displayed pixel to pixel on the screen.
- **[USER ASPECT]**: Allow the aspect ratio of the displayed image to be adjusted as the user wants.

[ASPECT]

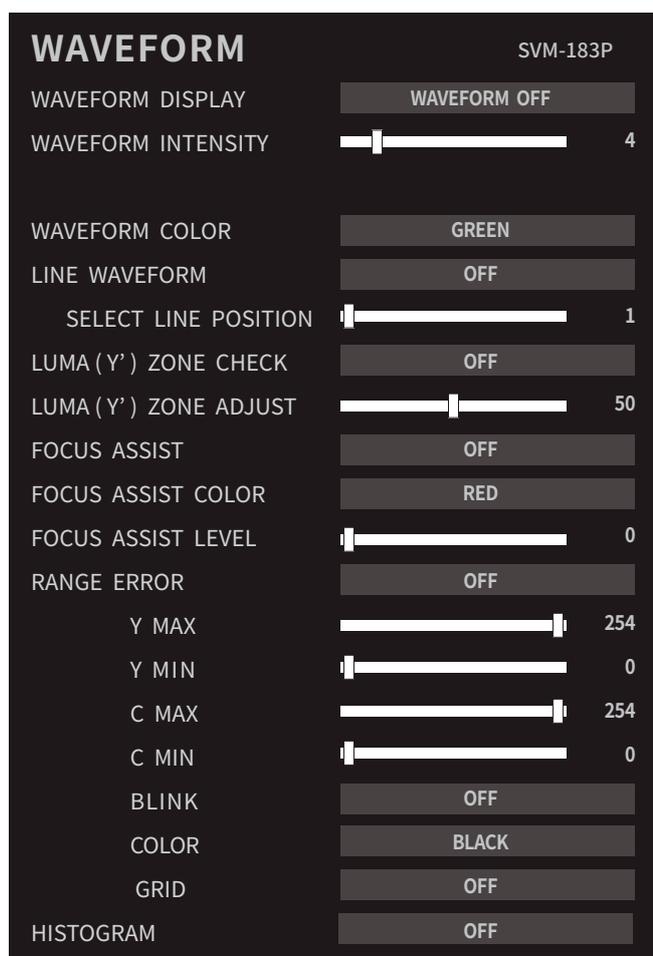
- Change the aspect ratio of the video image.
- This function is supported with the 1920 x 1080 HD video signal only.
- Selectable mode: [Auto Aspect], [Full Screen], [16 : 9], [4 : 3], [2.35 : 1], [1.85 : 1], [15 : 9], [16 : 10], [1.3 : 1], [1.65 : 1], [1.8 : 1], [2 : 1], [Anamorphic1.3x], [Anamorphic1.5x] [Anamorphic2.0x], [2.35 : 1 ZOOM]

*Function List

SCAN
 ASPECT
 MARKER
 H/V DELAY
 BLUE ONLY
 FAST MODE
 WAVE VECTOR
 LUMA ZONE
 AUD LEVEL METER
 FOCUS ASSIST
 CUSTOM LUT
 TIMECODE
 RANGE ERROR
 H FLIP
 V FLIP
 MAX BRIGHT
 PIC OVERLAY
 COLOR-HD
 COLOR-UHD
 COLOR-DCI
 COLOR-PQ
 COLOR-PQ_DCIP3
 COLOR-HLG
 COLOR-USER#1
 COLOR-USER#2
 COLOR-USER#3
 COLOR-USER#4
 COLOR-USER#5
 COLOR-USER#6
 COLOR-USER#7
 COLOR-USER#8
 COLOR-USER#9
 COLOR-USER#10

05 MENU OPERATIONS

[7] WAVEFORM



● WAVEFORM DISPLAY

- Select the mode of Waveform and Vector Scope.
- Waveform displays the shape and form of luminance level of the signal.
- Vectorscope displays the color components 'B-Y' and 'R-Y' of the input signals onto the X-Y axis. Two different types of Vectorscopes are displayed according to SD, HD or UHD/4K input signals. 100% and 75% scales are indicated on the Vectorscope.
- Selectable mode: [WAVEFORM], [VECTOR SCOPE], [WAVE VECTOR], [WAVEFORM YCbCr], [WAVEFORM RGB]

● WAVEFORM INTENSITY

- Adjust the brightness level of Waveform and Vector Scope display.
- Selectable level: [1] to [15] (Increments of 1)

● WAVEFORM COLOR

- Select the color of Waveform and Vector Scope.
- Selectable mode: [GREEN], [WHITE], [NAVY], [BROWN], [LIGHT GREEN], [VIOLET]

● LINE WAVEFORM

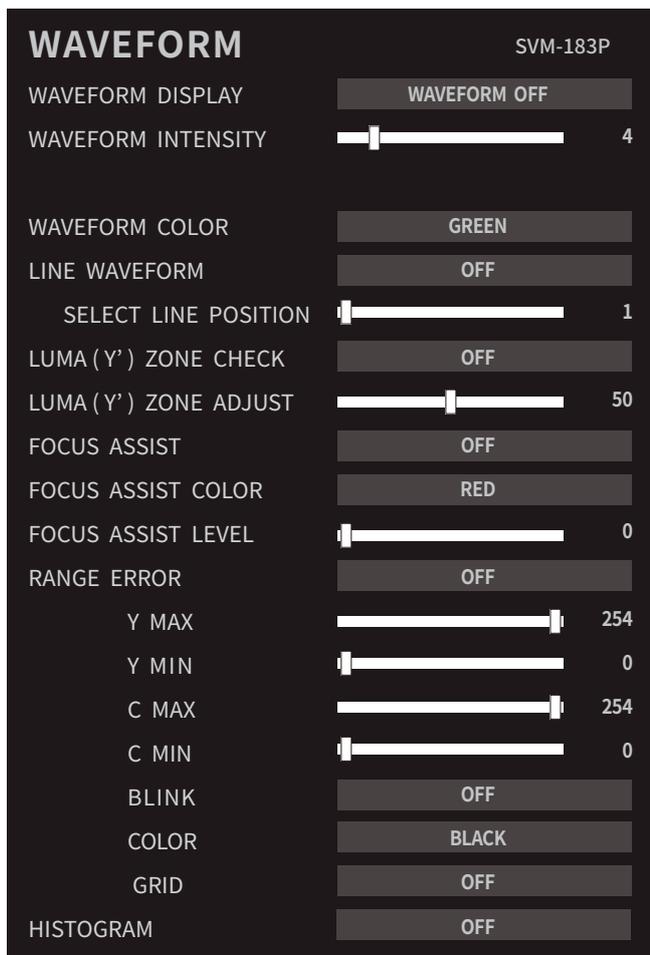
- Display the data of the specific line.
- [OFF]: The Waveform and Vector Scope for the whole screen are displayed.
- [ON]: The Waveform and Vector Scope of the specific line which is selected in [SELECT LINE POSITION] are displayed. The selected line keeps appearing on the screen.
- [ON(5sec.)]: The selected line appears on the screen for 5 seconds and then disappears. Even though the selected line disappears, the Line Waveform and the Line Vector Scope keep operating.

Note

- When the [LINE WAVEFORM] is set ON, even though the OSD window is closed, you can easily change the position of the line by rotating the [ENTER] knob.

05 MENU OPERATIONS

[7] WAVEFORM



● SELECT LINE POSITION

- Select the specific horizontal line for Waveform and Vector Scope.
- This menu is available when [LINE WAVEFORM] is activated.
- The adjustable range varies according to the resolution of the input signal. (SDI signal)
 - PAL: Min. 1, Max. 625
 - NTSC: Min. 1, Max. 525
 - 720p: Min. 1, Max. 750
 - 1080i: Min. 1, Max. 1125
 - 1080p: Min. 1, Max. 1125
 - 2160p: Min. 1, Max. 1125

● LUMA(Y') ZONE CHECK

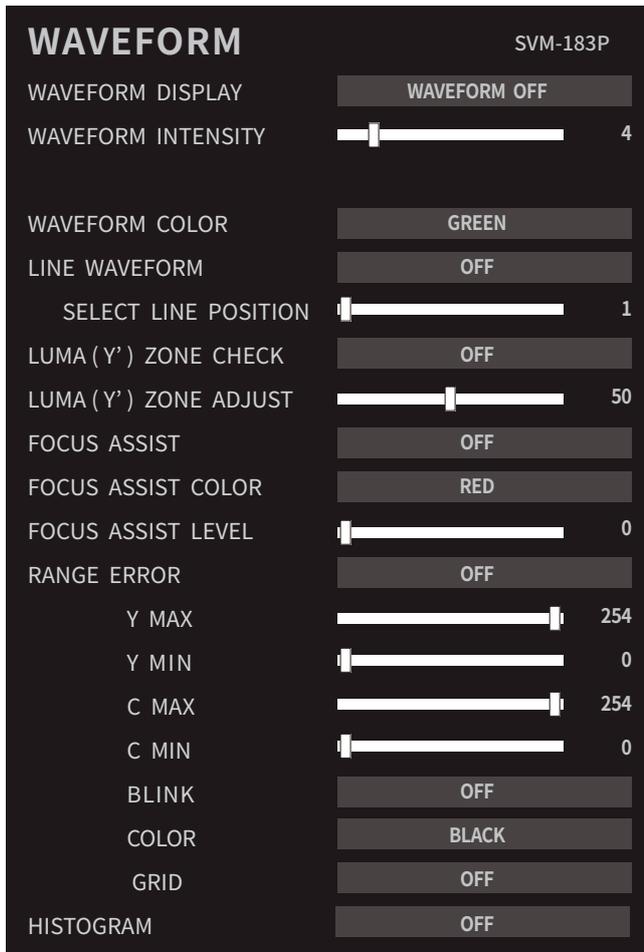
- Analyze the Luma(Y') level of the input image and displays the selected zone on the screen.
 - Selectable mode: [Color Patt. ON], [Zebra Patt. ON]
 - After each pixel's Y' level is analyzed, it is displayed as a certain color or zebra pattern according to the Index on the right side of the screen.
 - When a pixel's Y' level is under 0%(16), the pixel is displayed as green color or green diagonal lines, and over 100%(235) as red color or red diagonal lines.
 - When the Y' level of a pixel is between 0~100%, the pixel is displayed as Gray level, except for selected Luma Zone.
 - In the [Color Pattern] mode, the zone the user adjusted is displayed as Yellow (10% lower zone), Pink ($\pm 2.5\%$), Cyan (10% upper zone).
 - In the [Zebra Pattern] mode, $\pm 5\%$ of the selected Y' Level will be displayed as diagonal lines.
- *For more information on this function, refer to "06 FUNCTION DETAILS [5] LUMA(Y') ZONE CHECK" in page 49.

● LUMA(Y') ZONE ADJUST

- Set the Y' level to be colored Yellow, Pink and Cyan in [Color Patt. ON] mode, or to set Y' level zone to be displayed with diagonal lines in [Zebra Patt. ON] mode simply by scrolling with the ENTER knob.
- Selectable range: [0]% to [100]% (Increments of 1)

05 MENU OPERATIONS

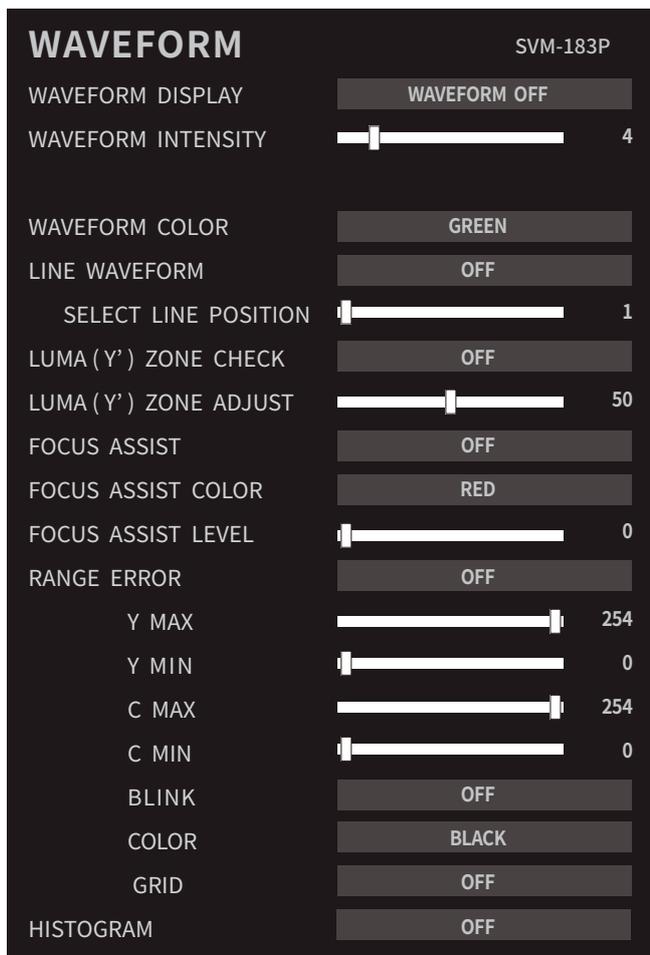
[7] WAVEFORM



- **FOCUS ASSIST**
 - This function helps the shooters to easily find out the exact area in the picture with good focus, simply by adding colors on the shape or boundaries of the object in the picture.
- **FOCUS ASSIST COLOR**
 - Select a color for Focus Assist.
 - Selectable mode: [RED], [BLUE], [WHITE], [VIOLET]
- **FOCUS ASSIST LEVEL**
 - Set the edge difference value between the edges in an image.
 - Adjustable level: [1] to [100] (Increments of 1)
The larger value means the more sophisticated detail detection.
 - The designated color is displayed on the boundaries when the difference of the edges exceeds the previously set value.
 - This feature is available only when the [FOCUS ASSIST] mode is activated.
- **RANGE ERROR**
 - Activate or inactivate Y MAX, Y MIN, C MAX, C MIN, BLINK, COLOR functions.
 - If [BLINK] is enabled, the section of image that exceeds the adjusted values of Y MAX, Y MIN, C MAX, C MIN shall blink.
- Y MAX**
 - Set the maximum Luma(Y') level.
 - Adjustable level: [0] to [254] (Increments of 1)
 - Pixels whose value exceeds the maximum luma(Y') level are displayed or blink in color set in [COLOR].
- Y MIN**
 - Set the minimum Luma(Y') level.
 - Adjustable level: [0] to [254] (Increments of 1)
 - Pixels whose value is below the minimum luma(Y') level are displayed or blink in color set in [COLOR].

05 MENU OPERATIONS

[7] WAVEFORM



C MAX

- Set the maximum chroma(C') level.
- Adjustable level: **[0] to [254]** (Increments of 1)
- Pixels whose value exceeds the maximum chroma(C') level are displayed or blink in color set in [COLOR].

C MIN

- Set the minimum chroma(C') level.
- Adjustable level: **[0] to [254]** (Increments of 1)
- Pixels whose value is below the minimum chroma(C') level are displayed or blink in color set in [COLOR].

BLINK

- Set whether or not to blink the pixels whose value is over Y MAX and C MAX or below Y MIN and C MIN.
- [OFF]: The pixels are displayed in the color set in the [COLOR] menu.
- [ON]: The pixels are displayed in the color set in the [COLOR] menu and blink every two seconds.

COLOR

- Set the blink color.
- Selectable mode: **[BLACK], [BLUE], [GREEN], [RED]**

GRID

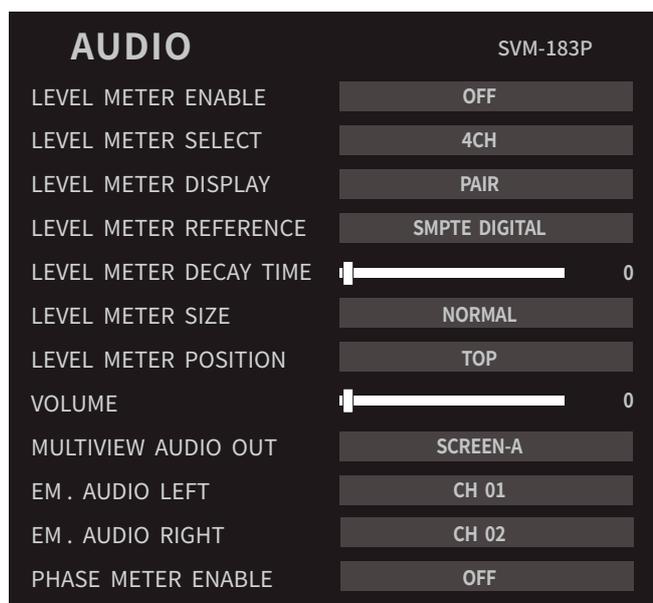
- Set whether or not to display the pixels whose value is over Y MAX and C MAX or below Y MIN and C MIN in a grid pattern.
- Selectable mode: **[OFF], [ON]**

HISTOGRAM

- Provide a graphical representation of the brightness distribution of an image.
- The X-axis represents brightness values (ranging from 0 to 255), while the Y-axis shows the number of pixels for each brightness level.
- This feature is useful for checking the exposure status of the screen, helping to prevent highlight clipping or loss of shadow details.
- TVLogic's histogram function updates the graph in real-time, allowing users to make precise exposure adjustments.

05 MENU OPERATIONS

[8] AUDIO



- **LEVEL METER ENABLE**
 - Set whether or not to display the audio level meter.
- **LEVEL METER SELET**
 - Select the number of the displayed audio channels.
 - Selectable mode: [4CH], [8CH], [16CH]

- **LEVEL METER DISPLAY**
 - Set the display method of the audio level meter.
 - [PAIR]: Odd audio channels are displayed on the left, and even audio channels are displayed on the right.
 - [GROUP]: The half audio channels are displayed on the left, and the other half channels on the right.
ex) In the 16CH mode, channel 1 to 8 are displayed on the left and channel 9 to 16 on the right.

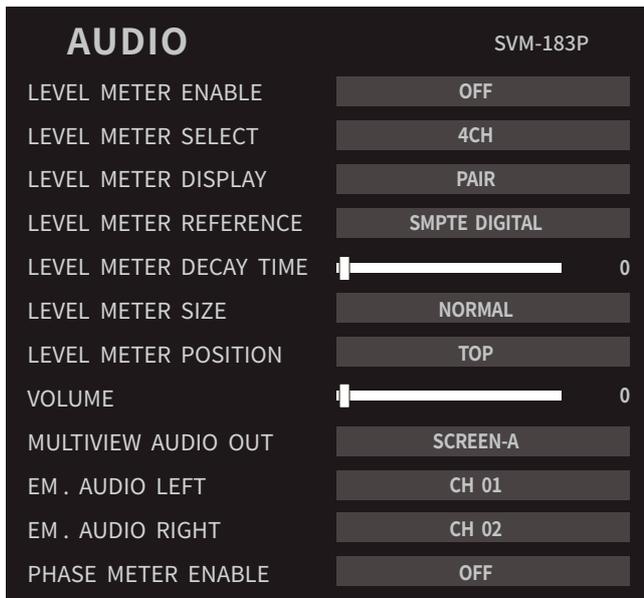
Note

- When the input signal is HDMI, the mode is fixed to [PAIR].

- **LEVEL METER REFERENCE**
 - Select the type of Audio Level Meter standard.
 - Selectable mode: [SMPTE DIGITAL], [EBU DIGITAL], [SMPTE IRT], [BBC], [EBU], [DIN], [EXP DIN], [NORDIC], [SMPTE VU]
- **LEVEL METER DECAY TIME**
 - Set the reduction time for max value indication of audio signals.
 - Selectable range: [0] to [100] (Increments of 1)
The larger number means a longer display time for max value.
- **LEVEL METER SIZE**
 - Set the size of the audio level meter.
 - Selectable mode: [NORMAL], [LARGE]

05 MENU OPERATIONS

[8] AUDIO



- **LEVEL METER POSITION**

- Set the position of the audio level meter.
- **[TOP]**: The audio level meter is horizontally displayed on the top of the screen.
- **[BOTTOM]**: The audio level meter is horizontally displayed on the bottom of the screen.

- **VOLUME**

- Adjust the audio's output volume to the internal speakers or the phone jack on the front of the monitor.
- Adjustable range: **[0]** to **[50]**

- **PBP AUDIO OUT**

- In Picture-by-Picture mode, select the screen for audio which comes out through the speakers and the phonejack.

- **EM. AUDIO LEFT** (Embedded Audio Left)

- Set the embedded audio channel for the left speaker or the left audio out of the phone jack on the front of the monitor.
- Selectable mode: **[OFF]**, **[CH 01]** to **[CH 16]**

- **EM. AUDIO RIGHT** (Embedded Audio Right)

- Set the embedded audio channel for the right speaker or the right audio out of the phone jack on the front of the monitor.
- Selectable mode: **[OFF]**, **[CH 01]** to **[CH 16]**

Note

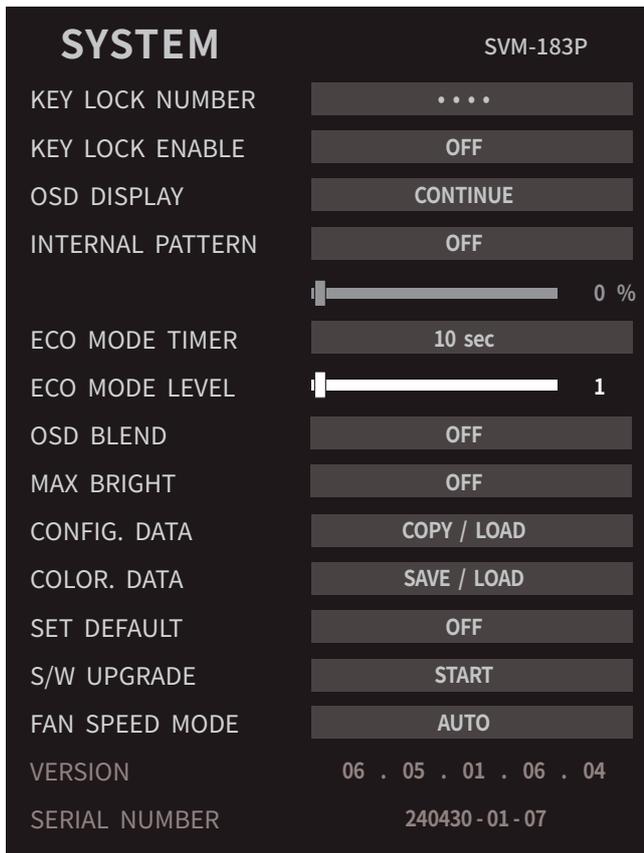
- When the input signal is HDMI, the left audio channel is fixed to **[CH 01]** and the right audio channel to **[CH 02]**.

- **PHASE METER ENABLE**

- Audio Phase Meter is a tool used to visualize the phase relationship between audio channels. It helps identify phase issues, such as signal cancellation or imbalance, which can affect audio quality.
- TVLogic's Audio Phase Meter provides real-time monitoring, ensuring accurate audio alignment for professional production environments.

05 MENU OPERATIONS

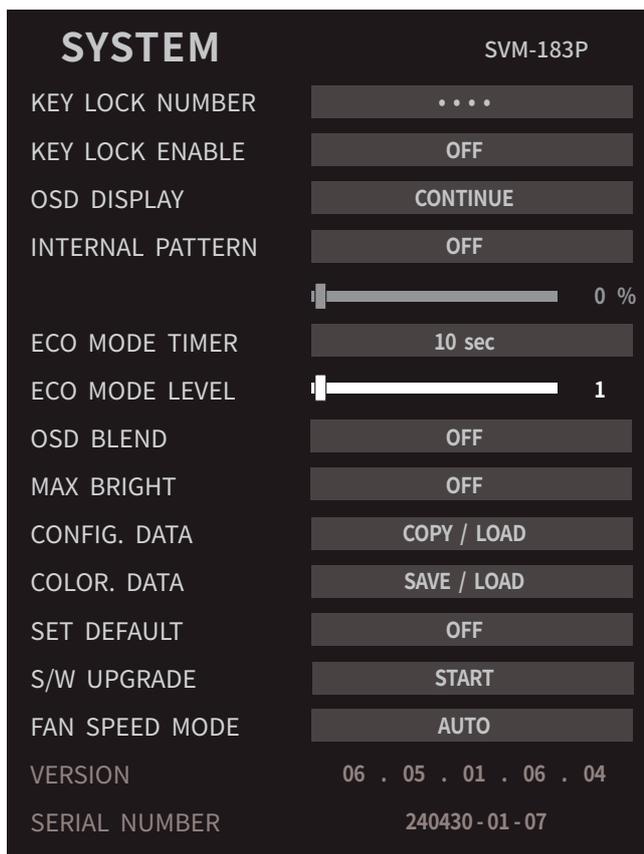
[9] SYSTEM



- **KEY LOCK NUMBER**
 - Set a password for the monitor lock function.
 - Up to 16 characters can be set using numbers(0 to 9), lowercase alphabet letters, uppercase alphabet letters.
- **KEY LOCK ENABLE**
 - Block access to the OSD menu and lock the operation of the control buttons except for the power button.
 - When the monitor is locked, if the [MENU] button is pressed, a password input window will appear.
 - Enter the password set through the [KEY LOCK NUMBER] menu to unlock.
- **OSD Display**
 - Set the display time for the OSD menu.
 - Selectable mode: [CONTINUE], [5 SEC], [10 SEC], [15 SEC], [20 SEC]
- **INTERNAL PATTERN**
 - Generate the internal WHITE pattern.
 - Selectable range: [0%] to [100%] (Increments of 5)
- **ECO MODE TIMER**
 - Decrease the brightness of the screen automatically to reduce the power consumption when there is no signal.
 - When the monitor receives the signal, the brightness of the screen maintains the adjusted level.
 - The time to trigger the ECO MODE can be set.
 - Selectable mode: [OFF], [10 sec], [30 sec]
- **ECO MODE LEVEL**
 - Set the brightness level when the ECO MODE operates.
 - Adjustable range: [1] to [5] (Increments of 1)

05 MENU OPERATIONS

[9] SYSTEM



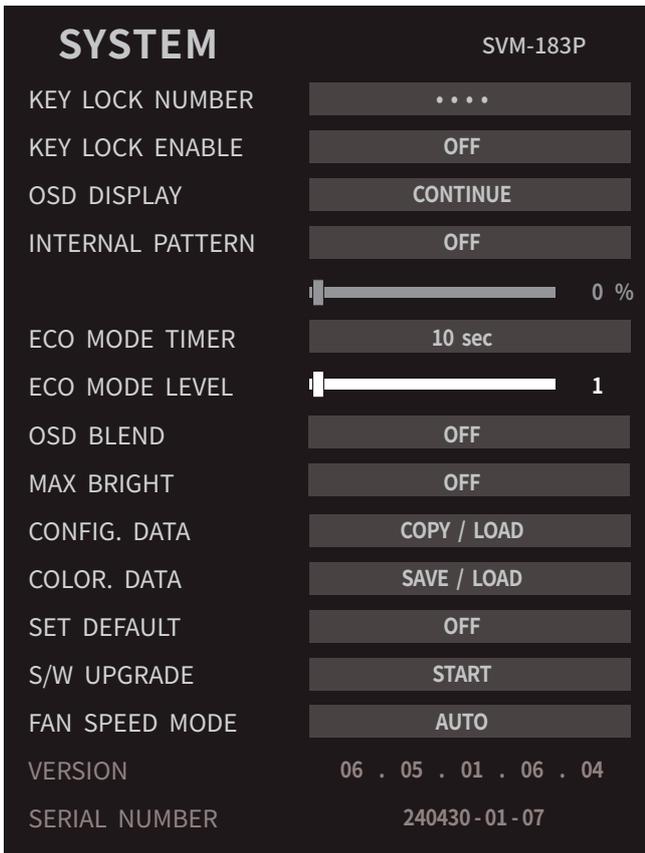
- OSD BLEND**
 - Adjust the blending level of OSD background.
 - Selectable mode: [OFF], [25%], [50%], [75%]
- MAX BRIGHT**
 - If MAX BRIGHT is set ON, the backlight of the monitor is turned up directly to its maximum level.
 - This function can be assigned to one of the Function keys, which allows for the direct access to the maximum brightness.
- CONFIG. DATA**
 - This function allows the user to save the current function settings of the monitor to the USB Flash drive and load the saved configuration data to the monitor.
 - [Copy to USB]:** Insert the USB Flash Drive, select [START], type the file name, and select [ENTER], then the configuration data is saved to the USB Flash Drive.
 - [Load From USB]:** Insert the USB Flash Drive, select [START], then the saved configuration data files show up. Select the desired file, then the configuration data is loaded to the monitor.

Note

- All the OSD settings are saved except for Back Light value, imported custom 3D LUT files, Key Lock password.

05 MENU OPERATIONS

[9] SYSTEM



- **SET DEFAULT**

- Initialize OSD setting values to the factory default except for Key Lock password.
- All the imported custom 3D LUT files are also deleted.

- **S/W UPGRADE**

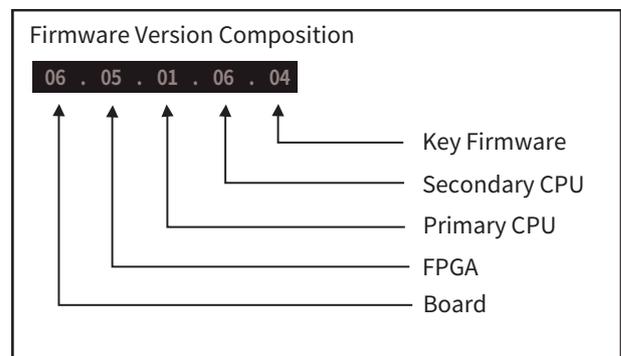
- Upgrade the firmware using the USB Flash Drive.
- *For more information on this function, refer to "06 FUNCTION DETAILS [6] FIRMWARE UPDATE" in page 50.

- **FAN SPEED MODE**

- Provide the three modes of FAN operation.
- **[AUTO]**: Automatically adjust the FAN rotation speed depending on the internal temperature.
- **[MAX SPEED]**: When using the monitor outdoors, operate the FAN speed at maximum to quickly lower the temperature. The noise may be generated in MAX SPEED mode, so it is recommended to use this mode only in high temperature environments.
- **[MID SPEED]**: This mode maintains the FAN speed at normal speed so that the FAN speed does not vary depending on the temperature.

- **VERSION**

- Display the current firmware version.



- **SERIAL NUMBER**

- Display the factory serial number.

06 FUNCTION DETAILS

[1] Picture-by-Picture View Settings

The SVM-130P and SVM-183P offer an extremely useful and advanced Picture-by-Picture Display mode.

If you push the [PBP] button, you can access the Picture-by-Picture mode.

1. Picture-by-Picture Display Mode

Any video input from SDI-A, SDI-B, HDMI, COMPONENT, CVBS can be assigned to the left and right screen. Any video format from HD, 3G, 6G, 12G can be displayed to each screen. The two different 12G-SDI videos can be displayed at the same time.

* Functions which can be activated in Picture-by-Picture Display mode: Waveform, Vector Scope, Audio Level Meter, UMD

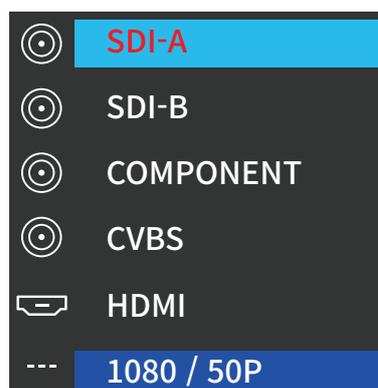
* In Picture-by-Picture Display mode, the audio which comes out through the speakers and the phonejack can be selected in the [MULTIVIEW AUDIO OUT] menu.

2. How to select the screen and assign the input

In Picture-by-Picture mode, if you push [F9] button, the first screen is selected and the input list appears.

You can choose the desired input for the selected screen by turning and pushing [ENTER] knob.

If you push [F9] button again, the next screen is selected.



Waveform, Vector Scope, Audio Level Meter(16Ch), UMD



Waveform YCbCr, Audio Level Meter(16Ch), UMD



Waveform YCbCr, Audio Level Meter(16Ch), UMD



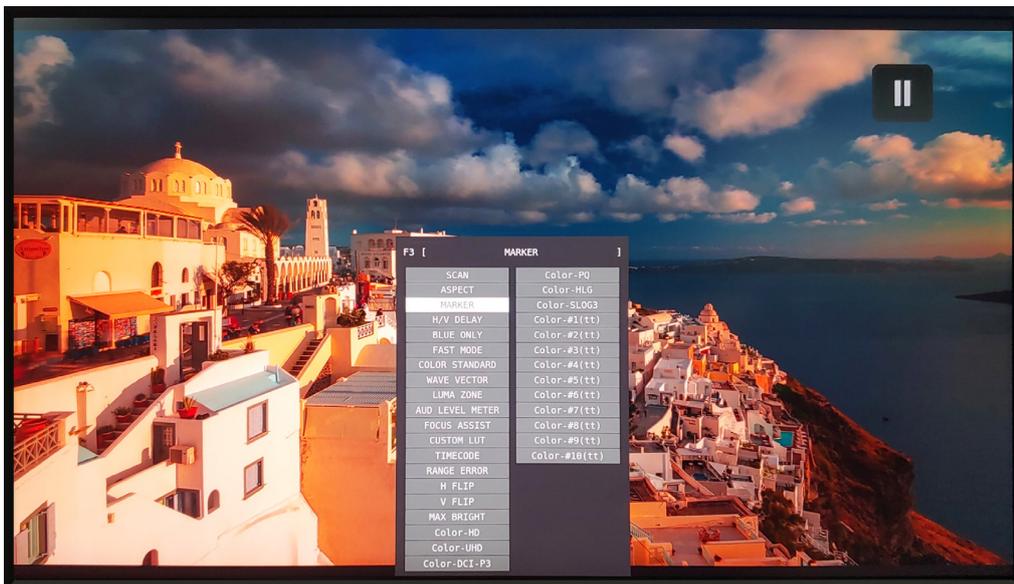
06 FUNCTION DETAILS

[2] INFO Button & Function Button

If you push [INFO] button, the Signal Information windows and the function list which is currently assigned on each FUNCTION button appear even in Picture-by-Picture mode. The Signal Information includes the input signal's format and SDI payload ID.



If you push a Function button for about 4 seconds, the currently assigned function and the selectable function list appear. You can easily select the desired function by using [ENTER] knob.



06 FUNCTION DETAILS

[3] Import and Apply 3D LUT files

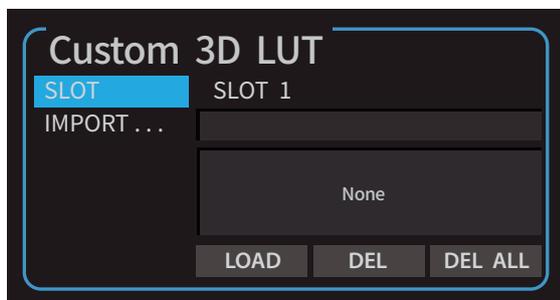
- USB Flash Drive's file system should be FAT32
- Supported 3D LUT Format: cube
- Number of lattice points: 17 or 33
- Length of 3D LUT file: up to 30 letters

1. Load 3D LUT Files

- 1) Copy the 3D LUT files to the USB Flash Drive and insert it to the monitor.
- 2) Go to MENU → PICTURE and click [3D LUT SETTING] using the [ENTER] knob.

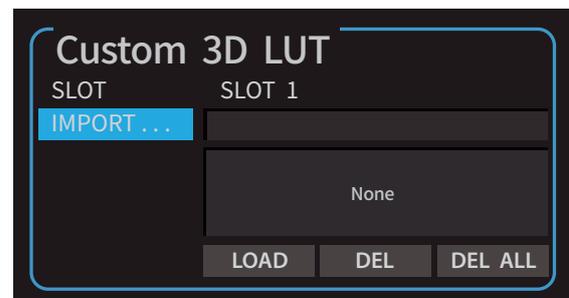
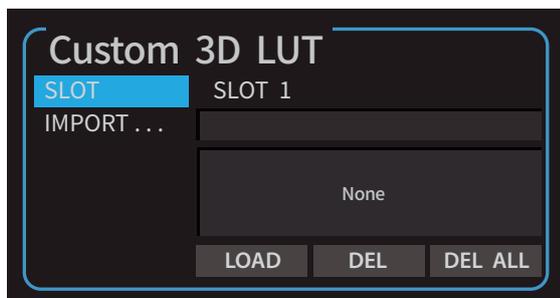


- 3) Select the slot where you would like to load a 3D LUT file.



*SLOT 1 to SLOT 10 are available.

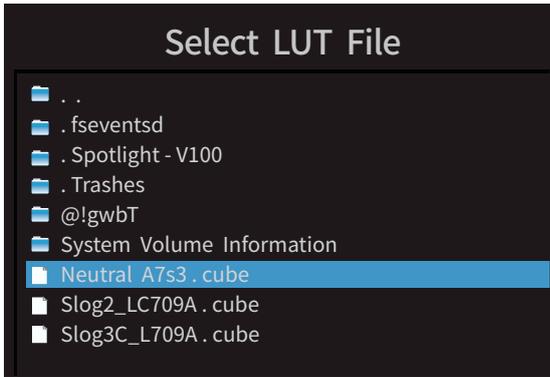
- 4) Return to [SLOT] by pressing [ENTER] knob and go to [IMPORT]



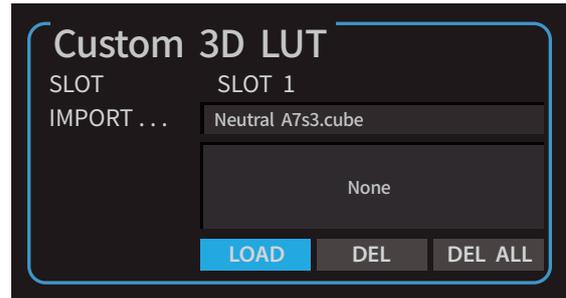
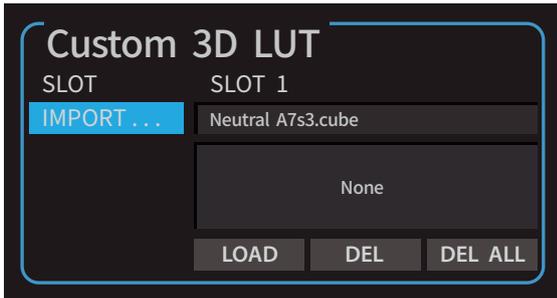
06 FUNCTION DETAILS

[3] Import and Apply 3D LUT files

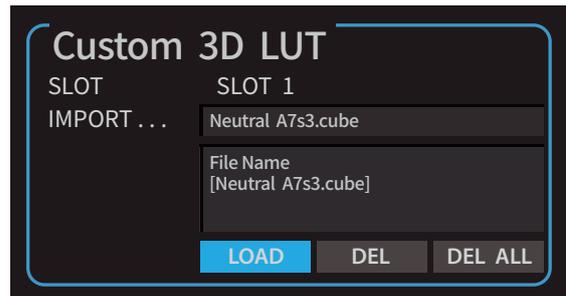
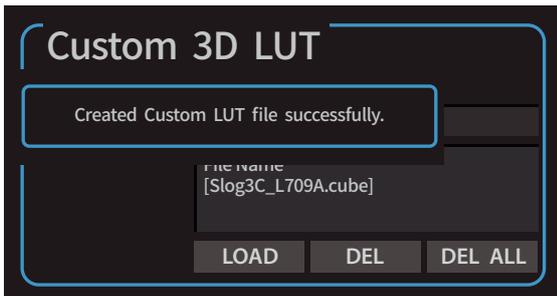
5) If you click [IMPORT], the 3D LUT file list shows up.



6) Select the 3D LUT file you would like to load, and click [LOAD] and [YES].



7) Loading of a custom 3D LUT file is finished.



8) If you would like to load other 3D LUT files to other SLOTS, repeat step 3 to step 7.

06 FUNCTION DETAILS

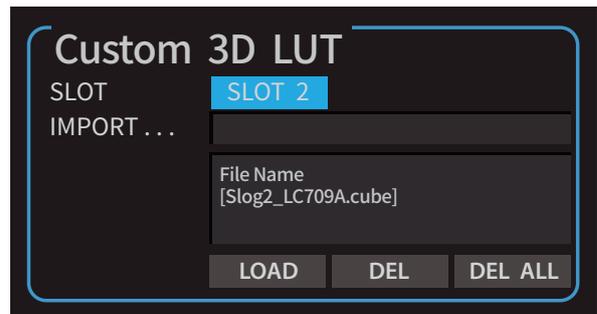
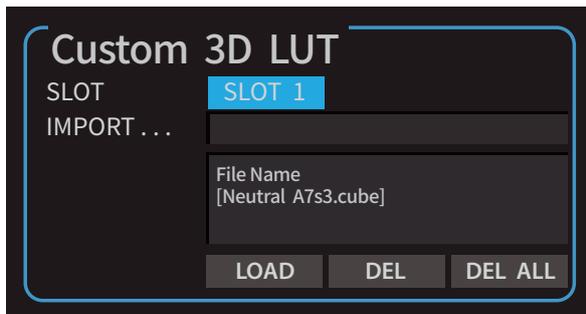
[3] Import and Apply 3D LUT files

2. Apply the loaded 3D LUT files

1) Set [3D LUT ENABLE] to [ON].

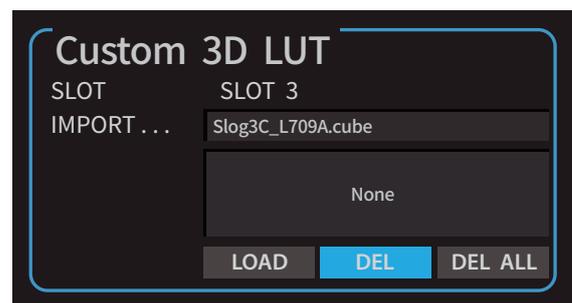
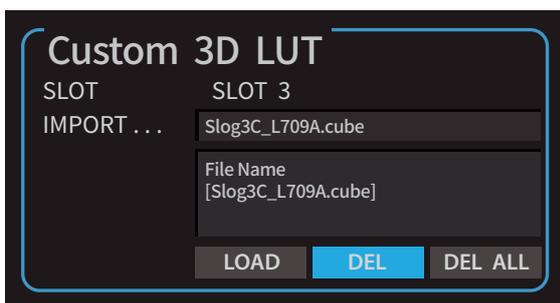


2) Go to [3D LUT SETTING] and select the SLOT you would like to apply. Then, the loaded 3D LUTs are applied on the screen instantly.

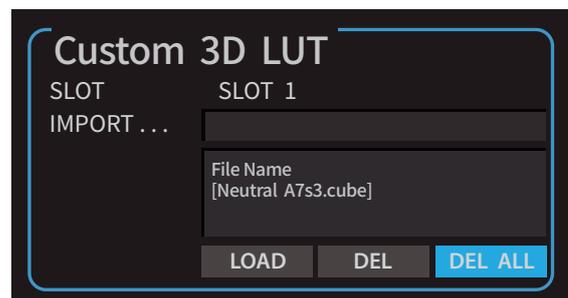


3. Delete the loaded 3D LUT files

1) Select the SLOT you would like to delete and click [DEL]. Then, the 3D LUT file loaded on the slot is deleted.



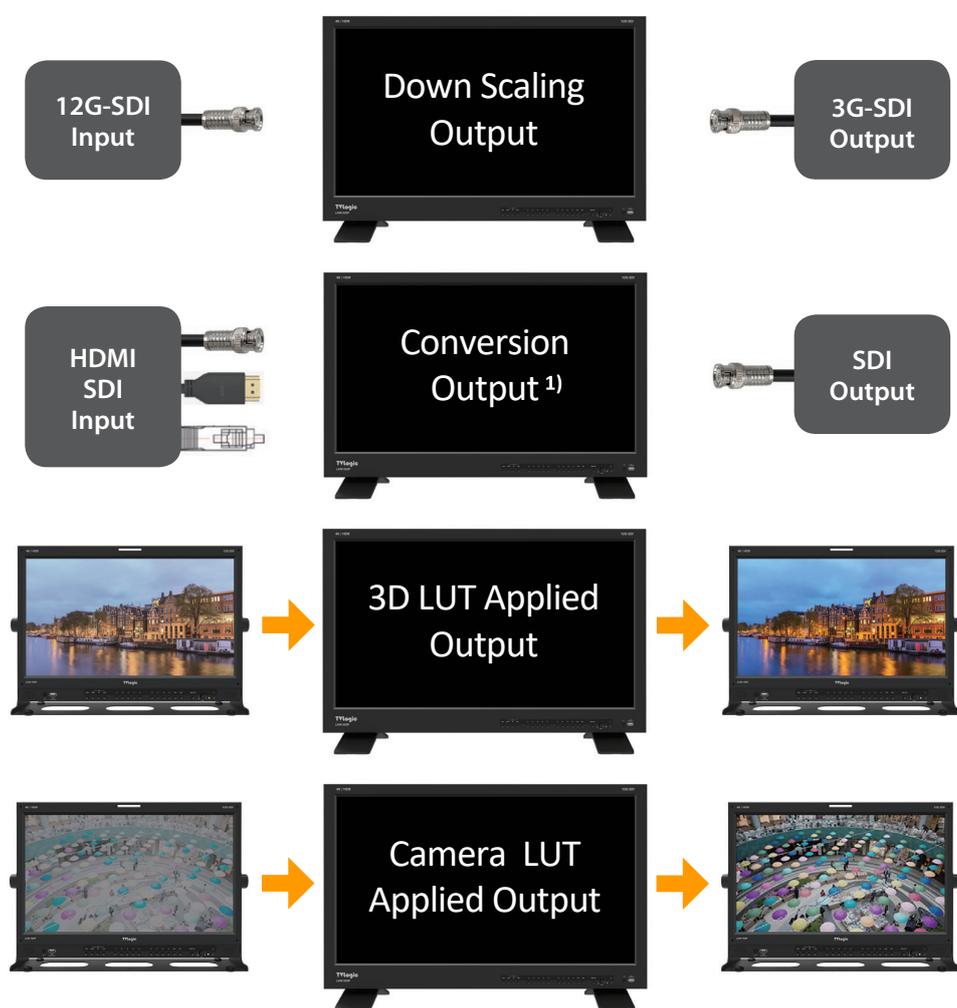
2) If you would like to delete all the loaded 3D LUT files at once, click [DEL ALL].



06 FUNCTION DETAILS

[4] Processed Output

The SVM-130P and SVM-183P have the separate PROCESSED OUTPUT connector(BNC port), which allows the 3D LUT applied signals and the Camera LUT applied signals to be output. The PROCESSED OUTPUT function enables the 12G-SDI input video to be output as the downscaled 3G-SDI. It also supports the HDMI input to SDI conversion output.



[Note]

- 1) Output Format : YCbCr 4:2:2 1080p/50,59,94,60 2160p/50,59,94,60
- 2) 3G-Level B signals and RGB signals cannot be output through the PROCESSED OUT port.

06 FUNCTION DETAILS

[5] LUMA(Y') ZONE CHECK

1) COLOR PATTERN TYPE

- Displays the pixels with the designated Luma(Y') levels of the input image in colors. Pixels whose Y' level is over 100% are displayed as Red. Pixels whose Y' level is below 0% are displayed as Green.
- Pixels with Y' levels which are designated by the user are displayed in following colors - yellow, pink, cyan.
- Factory Default Y' (Border line between pink and yellow) level is 70%. The upper 2.5% and lower 2.5% zone from the Y' level set in [LUMA(Y') ZONE ADJUST] menu is displayed in Pink.
- The upper 10% zone from the Pink zone is displayed in Yellow, and the lower 10% zone from the Pink zone is displayed in Cyan. So, 25% zone is displayed in colors and the other 75% zone is displayed mono and white.

2) LUMA(Y') ZONE CHECK function is convenient to set the exposure or the lighting so that the skin tone or the specific color tone is correctly shot.

3) ZEBRA PATTERN TYPE

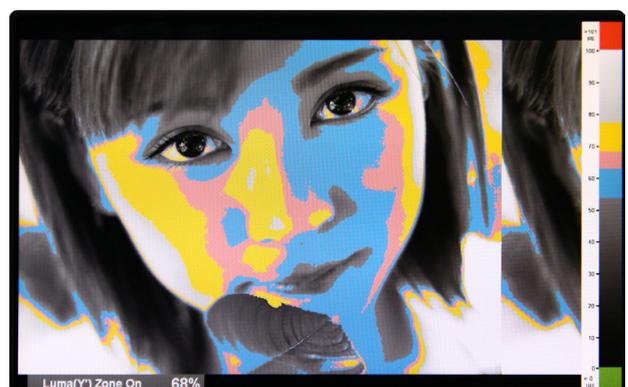
- Displays the pixels with the designated Luma(Y') levels of the input image in zebra pattern. Pixels whose Y' level is over 100% are displayed as red diagonal stripes. Pixels whose Y' level is below 0% are displayed as green diagonal stripes.
- Pixels with Y' levels which are designated by the user are displayed as black diagonal stripes.
- Factory Default Y' level is 70%. The pixels with Y' level from 65% to 75% are displayed as black zebra pattern. So, totally 10% zone is displayed as black diagonal stripes.



<Luma Zone Check OFF>



<Luma Zone Check ON_Zebra Pattern Type>

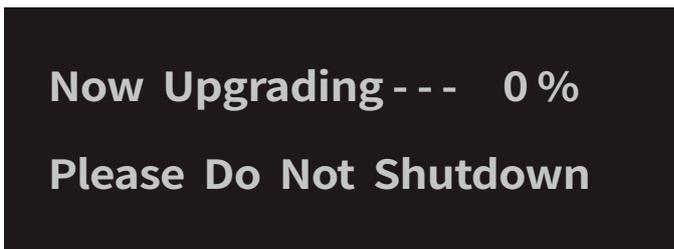


<Luma Zone Check ON_Color Pattern Type>

06 FUNCTION DETAILS

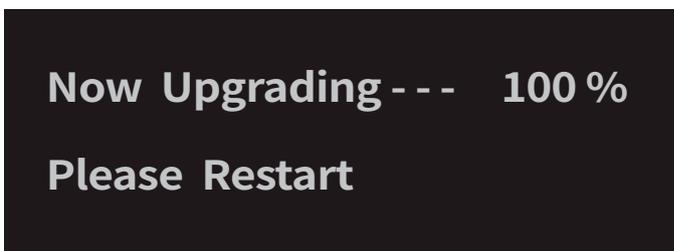
[6] FIRMWARE UPDATE

1. Receive the latest firmware file from the official TVLogic dealer or download it from TVLogic website.
*The firmware file can be used for all SVM models in common.
2. Copy the firmware file to the USB Flash Drive.
*The firmware file can be used for all SVM models in common.
3. Insert the USB Flash Drive to the monitor.
4. Go to **MENU > System > S/W UPGRADE > START**, and push the **ENTER** knob.
5. The firmware update starts with the following message.



*After the loading of the firmware file to the monitor is finished, the firmware update starts. So, when the upgrading is done by over 5%, you can remove the USB Flash Drive from the monitor.

6. When the firmware upgrade is finished, the following message appears.



7. Turn off and on the monitor using the main power switch on the rear.

07 VIDEO SUPPORT RESOLUTION

[1] SDI Input

Interface	Image Format	Signal Format	Sampling Structure	Pixel Depth	Field/Frame Rate	Standards
SD-SDI	720 x 486				59.94i, 480p	SMPTE 259
	720 x 576				50i, 576p	
HD-SDI	1280 x 720	4:2:2	YCbCr	8/10-bit	60p, 59.94p, 50p	SMPTE 292
	1920 x 1080				30p, 29.97p, 25p, 24p, 23.98p	
					30psF, 29.97psF, 25psF, 24psF, 23.98psF	
	2048 x 1080				60i, 59.94i, 50i, 48i, 47.95i	
					30p, 29.97p, 25p, 24p, 23.98p	
					30psF, 29.97psF, 25psF, 24psF, 23.98psF	
3G-SDI Level A	1280x720	4:4:4	RGB & YCbCr	10-bit	60p, 59.94p, 50p, 30p, 29.97p, 25p	
		4:4:4:4	RGBA & YCbCrA	10-bit	60p, 59.94p, 50p, 30p, 29.97p, 25p	
3G-SDI Level A & B	1920 x 1080	4:4:4	RGB & YCbCr	10/12-bit	30p, 29.97p, 25p, 24p, 23.98p	SMPTE 425-1
		4:4:4:4	RGBA & YCbCrA	10-bit	30p, 29.97p, 25p, 24p, 23.98p	
		4:4:4	RGB & YCbCr	10/12-bit	30psF, 29.97psF, 25psF, 24psF, 23.98psF	
		4:4:4:4	RGBA & YCbCrA	10-bit	30psF, 29.97psF, 25psF, 24psF, 23.98psF	
		4:4:4	RGB & YCbCr	10/12-bit	60i, 59.94i, 50i, 48i, 47.95i	
		4:4:4:4	RGBA & YCbCrA	10-bit	60i, 59.94i, 50i, 48i, 47.95i	
		4:2:2	YCbCr	8/10-bit	60p, 59.94p, 50p, 48p, 47.95p	
		4:2:2	YCbCr	12-bit	30p, 29.97p, 25p, 24p, 23.98p	
		4:2:2	YCbCr	12-bit	30psF, 29.97psF, 25psF, 24psF, 23.98psF	
		4:2:2	YCbCr	12-bit	60i, 59.94i, 50i, 48i, 47.95i	
3G-SDI Level A & B	2048 x 1080	4:4:4	RGB & YCbCr	10/12-bit	30p, 29.97p, 25p, 24p, 23.98p	SMPTE 425-1
		4:4:4:4	RGBA & YCbCrA	10-bit	30p, 29.97p, 25p, 24p, 23.98p	
		4:4:4	RGB & YCbCr	10/12-bit	30psF, 29.97psF, 25psF, 24psF, 23.98psF	
		4:4:4:4	RGBA & YCbCrA	10-bit	30psF, 29.97psF, 25psF, 24psF, 23.98psF	
		4:4:4	RGB & YCbCr	10/12-bit	60i, 59.94i, 50i, 48i, 47.95i	
		4:4:4:4	RGBA & YCbCrA	10-bit	60i, 59.94i, 50i, 48i, 47.95i	
		4:2:2	YCbCr	8/10-bit	60p, 59.94p, 50p, 48p, 47.95p	
		4:2:2	YCbCr	12-bit	30p, 29.97p, 25p, 24p, 23.98p	
		4:2:2	YCbCr	12-bit	30psF, 29.97psF, 25psF, 24psF, 23.98psF	
		4:2:2	YCbCr	12-bit	60i, 59.94i, 50i, 48i, 47.95i	

07 VIDEO SUPPORT RESOLUTION

[1] SDI Input

Interface	Image Format	Signal Format	Sampling Structure	Pixel Depth	Field/Frame Rate	Standards
6G-SDI	3840 x 2160	4:2:2	YCbCr	8/10-bit	30p, 29.97p, 25p, 24p, 23.98p	SMPTE 2081-10 Mode 1
6G-SDI	4096 x 2160	4:2:2	YCbCr	8/10-bit	30p, 29.97p, 25p, 24p, 23.98p	SMPTE 2081-10 Mode 1
12G-SDI	3840 x 2160	4:4:4	RGB & YCbCr	10/12-bit	30p, 29.97p, 25p, 24p, 23.98p	SMPTE 2082-10 Mode 1
		4:4:4:4	RGBA & YCbCrA	10-bit	30p, 29.97p, 25p, 24p, 23.98p	
		4:2:2	YCbCr	8/10-bit	60p, 59.94p, 50p, 48p, 47.95p	
		4:2:2	YCbCr	12-bit	30p, 29.97p, 25p, 24p, 23.98p	
12G-SDI	4096 x 2160	4:4:4	RGB & YCbCr	10/12-bit	30p, 29.97p, 25p, 24p, 23.98p	SMPTE 2082-10 Mode 1
		4:4:4:4	RGBA & YCbCrA	10-bit	30p, 29.97p, 25p, 24p, 23.98p	
		4:2:2	YCbCr	8/10-bit	60p, 59.94p, 50p, 48p, 47.95p	
		4:2:2	YCbCr	12-bit	30p, 29.97p, 25p, 24p, 23.98p	

07 VIDEO SUPPORT RESOLUTION

[2] HDMI Input

Interface	Image Format	Color Space		Color Depth	Field/Frame Rate	CEA-861
SD	720 x 486	4:4:4 4:2:2	RGB & YCbCr	8/10/12 bit	59.94i , 480p	HDMI 1.3
	720 x 576				50i ,576p	
HD	1280 x 720				60p, 59.94p, 50p	
FHD	1920 x 1080				60i, 59.94i, 50i	
					30p, 29.97p, 25p, 24p, 23.98p	
					60p, 59.94p, 50p	

08 PRODUCT SPECIFICATIONS

	SVM-130P	SVM-183P
LCD Panel		
Size	13.9"	18.5"
Resolution	1920 x 1080 (16:9)	1920 x 1080 (16:9)
Pixel Pitch	0.1605(H) x 0.1605(H) mm	0.2130(H) x 0.2130(V) mm
Color Depth	16.7M Colors	16.7M Colors
Viewing Angle	178°(H) / 178°(V)	178°(H) / 178°(V)
Luminance of white	1500cd/m2	1500cd/m2
Contrast Ratio	1200 : 1	1000 : 1
Display Area	308.16(H) x 173.34(V) mm	08.96(H) x 230.04(V) mm
Input		
2 X BNC	12G/6G/3G/HD/SD-SDI A/B Input	
3 X BNC	YPbPr, CVBS Input	
1 X HDMI	HDMI 1.4 Input	
1 X BNC	Reference Input	
Output		
2 X BNC	12G/6G/3G/HD/SD-SDI A/B Channel Output	
3 X BNC	YPbPr, CVBS Output	
1 X BNC	Processed Output	
SDI Input Signal Formats		
SMPTE ST 2082	3840x2160 (60/50/30/25/24p)	
SMPTE ST 2081	3840x2160 (30/25/24p)	
SMPTE ST 2036-1:2009	3840x2160 (23.98/24/25/29.97/30/50/59.94/60p)	
SMPTE-425M-A/B	1080p (60/59.94/50/30/29.97/25/24/23.98/30sF/29.97sF/25sF/24sF/23.98sF)	
	1080i (60/59.94/50)	
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)	
SMPTE ST 2048-2:2011	2048x1080 (23,98/24/25/29.97/30p/psf, 47.95/48/50/59.94/60p)	
Remote Control & Update		
1 x LAN	RJ-45 Input(Ethernet), Firmware Update & Remote Control	
1 x REMOTE	RJ-45 Input, GPI Control	
2 x RS-422	RJ-45 Input & Output, Monitor Control by TVLogic Protocol or TSL Protocol	
1 x USB	USB A type, Firmware Update	
General		
Audio In	Analog Stereo (Phone Jack)	
Audio Out	Internal Stereo Speakers, Analog Stereo (Phone Jack)	
Power	DC 12V	DC 12V
Power Consumption	24W	57W
Operating Temperature	0°C to 35°C (32°F to 95°F)	0°C to 35°C (32°F to 95°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)	-20°C to 60°C (-4°F to 140°F)
Dimensions : Main Body	372.8 x 296.0 x 54.0 mm / 14.68 x 11.65 x 2.13 inch	480.8 x 333.0 x 54.0 mm / 18.93 x 13.11 x 2.13 inch
Dimensions : With Stand	372.8 x 302.5 x 100.0 mm / 14.68 x 11.91 x 3.94 inch	480.8 x 339.5 x 100.0 mm / 18.93 x 13.37 x 3.94 inch
Dimensions : Shipping Box	550 x 460 x 300 mm / 21.65 x 18.11 x 11.81 inch	550 x 460 x 300 mm / 21.65 x 18.11 x 11.81 inch
Weight (with stand)	5.34kg / 11.77lbs	7.10kg / 15.65lbs
Basic Accessories	Dual V-Mount Plates, Dual Cheese Plates, Acrylic Protector, Panel Protector, Stand, Handle	Dual V-Mount Plates, Dual Cheese Plates, Acrylic Protector, Panel Protector, Stand, Handle
Optional Accessories	G-Mount, Carrying Case, Sun Hood	G-Mount, Carrying Case, Sun Hood

All TVLogic products are manufactured in Korea



TVLogic Always ON-AIR

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