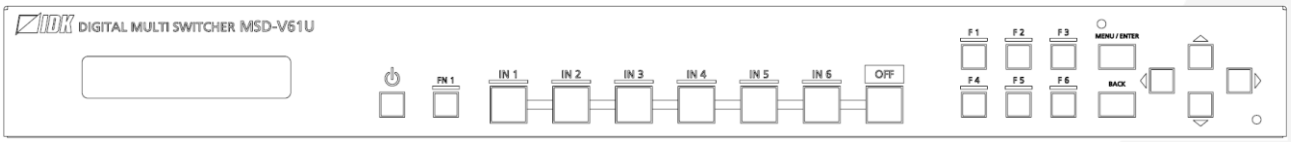
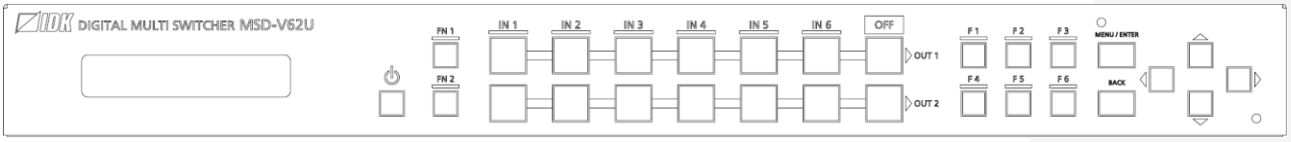
Digital Multi Switcher

MSD-V6 Series

MSD-V61U/MSD-V62U

Operation Guide
Ver.1.0.0





Thank you for choosing our product.
To ensure the best performance of this product, please read this user guide fully and carefully before using it and keep this manual together with the product for future reference as needed.

IDK Corporation

- Some information contained in this guide such as exact product appearance, communication commands, and so on may differ depending on the product version.
- This guide is subject to change without notice. You can download the latest version from IDK's website at: www.idkav.com

About technical documentation

■ **Please read the following guides before connecting the product to the power source.**

1. Safety Instructions Contains important safety instructions for the product to help ensure your own personal safety and protect the product and working environment from potential damage.	Provided with the product.
2. Setup Guide Contains setup information and precautions for installing the product and connecting cables.	Download from www.idkav.com

■ **Please refer to the following guides as needed.**

3. Operation Guide Describes how to configure and use the product.	Download from www.idkav.com
4. User Guide Contains detailed explanation of functions, setting values, and restrictions.	
5. Command Guide Contains information on controlling the product using communication commands through RS-232C or LAN communication.	

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FCC STATEMENT

This equipment has been tested and found to comply with the limits for a 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 area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

CE MARKING

This equipment complies with the essential requirements of the relevant European health, safety and environmental protection legislation.

WEEE MARKING

Waste Electrical and Electronic Equipment (WEEE), Directive 2002/96/EC
(This directive is only valid in the EU.)
This equipment complies with the WEEE Directive (2002/96/EC) marking requirement.
The left marking indicates that you must not discard this electrical/electronic equipment in domestic household waste.

Safety Instructions

Read all safety and operating instructions before using this product. Follow instructions and heed warnings/cautions.
Instructions and warnings/cautions for all products are provided. Some of them may not be applicable to your product.

Warning	Indicates the presence of a hazard that may result in death or serious personal injury if the warning is ignored or the product is handled incorrectly.
Caution	Indicates the presence of a hazard that may cause minor personal injury or property damage if the caution is ignored or the product is handled incorrectly.

Symbol	Description	Example
Caution	This symbol is intended to alert the user. (Warning and caution)	**Hot surfaces Caution**
Prohibited	This symbol is intended to prohibit the user from specified actions.	**Do not disassemble**
Instruction	This symbol is intended to instruct the user.	**Unplug**

Warning

For lifting heavy products:

Instruction	**● Lifting must be done by two or more personnel.** To avoid injury: When lifting the product, bend your knees, keep your back straight and get close to it with two or more persons.

For installing and connecting products:

Prohibited	**● Do not place the product in unstable place.** Install the product in a horizontal and stable place, as this may fall or tip over and cause injury. **● Secure the product if installing in the locations with vibration.** Vibration may move or tip over the product unexpectedly, resulting in injury.

⚠ Warning

 Instruction	**● Installation work must be performed by professionals.** The product is intended to be installed by skilled technicians. For installation, please contact a system integrator or IDK. Improper installation may lead to the risk of fire, electric shock, injury, or property damage. **● Insert the power plug into an outlet that is unobstructed.** Unobstructed access to the plug enables unplugging the product in case of any extraordinary failure, abnormal situation or for easy disconnection during extended periods of non-use. **● Insert the power plug into an appropriate outlet completely.** If the plug is partially inserted, arching may cause the connection to overheat, increasing the risk of electric shock or fire. Do not use a damaged plug or connect to a loose outlet. **● Unplug the product from an AC power source during installation or service.** When connecting peripheral devices to this product, unplug all involved devices from outlets. Ground potential differences may cause fire or other difficulties. **● The product must be earthed.** To reduce the risk of electric shock, ensure the product is connected to a mains socket outlet with a protective earthing connection. **● For PoE/PoH, use category cables meeting IEEE802.3af/at.** Otherwise, it may cause problems or a fire.

For operating products:

 Prohibited	**● Keep out any foreign objects.** To avoid fire or electric shock, do not permit foreign objects, such as metal and paper, to enter the product from vent holes or other apertures. **● For power cable/plug and Category cable,** **・ Do not scratch, heat, or modify, including splicing or lengthening them.** **・ Do not pull, place heavy objects on them, or pinch them.** **・ Do not bend, twist, tie or clamp them together forcefully.** Misuse of the power cable and plug may cause fire or electric shock. If power cables/plugs become damaged, contact your IDK representative.
 Do not disassemble	**● Do not repair, modify or disassemble.** Since the product includes circuitry that uses potentially lethal, high voltage levels, disassembly by unauthorized personnel may lead to the risk of fire or electric shock. For internal inspection or repair, contact your IDK representative.
 Do not touch	**● Do not touch the product and connected cables during electric storms.** Contact may cause electric shock.
 Instruction	**● Clean the power plug regularly.** If the plug is covered in dust, it may increase the risk of fire.

If the following problem occurs:

 Unplug	**● Unplug immediately if the product smokes, makes unusual noise, or produces a burning odor.** **● Unplug immediately if the product is damaged by falling or having been dropped.** **● Unplug immediately if water or other objects are directed inside.** If you continue to use the product under these conditions, it may increase the risk of electric shock or fire. For maintenance and repair, contact your IDK representative.

⚠ Caution

For installing and connecting products:

 **Prohibited**	**● Do not place the product in a location where it will be subjected to high temperatures.** If the product is subjected to direct sunlight or high temperatures while under operation, it may affect the product's performance and reliability and may increase the risk of fire. **● Do not store or operate the product in dusty, oil smoke filled, or humid place.** Placing the product in such environment may increase the risk of fire or electric shock. **● Do not block the vent holes.** If ventilation slots are blocked, it may cause the product to overheat, affecting performance and reliability and may increase the risk of fire. **● Do not place or stack heavy items on the product.** Failure to observe this precaution may result in damage to the product itself as well as other property and may lead to the risk of personal injury. **● Do not exceed ratings of outlet and wiring devices.** Exceeding the rating of an outlet may increase the risk of fire and electric shock.
 **No wet hands**	**● Do not handle power plug with wet hands.** Failure to observe this precaution may increase the risk of electric shock.
 **Instruction**	**● Use and store the product within the specified temperature/humidity range.** If the product is used outside the specified range of temperature and humidity continuously, it may increase the risk of fire or electric shock. **● Do not place the product at elevations of 1.24 mi. (2,000 m) or higher above sea level.** Failure to do so may shorten the life of the internal parts and result in malfunctions. **● When mounting the product into the rack, provide sufficient cooling space.** Mount the product in a rack meeting EIA standards, and maintain spaces above and below for air circulation. For your safety as required, attach an L-shaped bracket in addition to the panel mount bracket kit to improve mechanical stability. **● Never insert screws without the rubber feet into the threaded holes on the bottom of the product.** Never insert screws alone into the threaded holes on the bottom of the product. Doing so may lead to damage when the screws contact electric circuitry or components inside the product. Reinstall the originally supplied rubber feet using the originally supplied screws only.

For operating products:

 **Hot surfaces Caution**	**For products with the hot surfaces caution label only:** **● Do not touch the product's hot surface.** If the product is installed without enough space, it may cause malfunction of other products. If you touch product's hot surface, it may cause burns.
 **Prohibited**	**● Use only the supplied power cable and AC adapter.** **● Do not use the supplied power cable and AC adapter with other products.** If non-compliant adapter or power cables are used, it may increase the risk of fire or electric shock.
 **Unplug**	**● If the product won't be used for an extended period of time, unplug it.** Failure to observe this precaution may increase the risk of fire. **● Unplug the product before cleaning.** To prevent electric shock.
 **Instruction**	**● Do not prevent heat release.** If cooling fan stops, power off the product and contact us. Failure to do so may raise internal temperature and increase the risk of malfunction, fire, or electric shock. **● Keep vents clear of dust.** If the vent holes near the cooling fan or near the fan are covered with dust, internal temperature rises and it may increase the risk of malfunction. Clean the vent holes and near the fan as needed. If dust accumulates inside of the product, it may increase the risk of fire or electric shock. Periodic internal cleaning, especially before humid rainy season, is recommended. For internal cleaning, contact your IDK representative.

Contents

About this Guide

This guide describes how to configure and use the MSD-V6 Digital Multi Switcher.

In this guide, all operations and configurations are provided based on MSD-V62UC/V62UF/V62UT. The available menus and settings depend on the switcher model.
Operations are described based on the front panel operation, and information of WEB GUI is also included for each operation.

Conventions

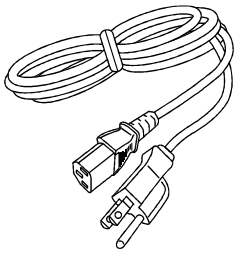
- The following terms are used in this guide.
  - PC : Personal computer
  - WEB GUI : Graphic User Interface (GUI) displayed through a WEB browser.
  - OUT A : OUT 1A connector or OUT 2A connector
  - OUT B : OUT 1B connector or OUT 2B connector
  - OUT 1 : Output channel for simultaneous distribution of a single source signal to OUT 1A and OUT 1B
  - OUT 2 : Output channel for simultaneous distribution of a single source signal to OUT 2A and OUT 2B
  - IN6B : Modular input connector
- The following symbols are used in this guide.
  - [ ] : Menus and messages displayed on the front display and a WEB GUI.
  - “ ” : Reference
- The following notifications are used in this guide.
  - ***Note*** : Addresses practices not related to personal injury, such as restrictions and attention.
  - ***Tip*** : Provides supplemental remarks and a suggestions.

About this Product

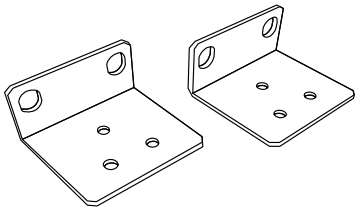
The MSD-V6 series digital presentation switcher with built-in scalers and scan converters can send and receiving UHD video resolutions in a variety of protocols including AV over IP (SDVoE) and HDBaseT.
With six (6) HDMI/DVI video inputs, this MSD-V6 can accept a wide variety of video formats, including HDCP content. Input video signals are output as HDMI signals at up to 4K@60, and these signals can be output simultaneously to optional 10GbE CAT(SDVoE)/10GbE FIBER(SDVoE)/HDBaseT for video extension.
The MSD-V6 includes six (6) HDMI and two (2) analog audio inputs. For audio output, both digital and analog audio are supported and can be distributed simultaneously as well as embedded/de-embedded for breakaway audio routing.
The MSD-V6 can be configured and controlled remotely using RS-232C or LAN.
External devices can be controlled via RS-232C, LAN, CEC, or contact closure by registering control commands.

Provided items

Ensure that all items illustrated below are included in the package.
If any items are missing or damaged, please contact IDK.

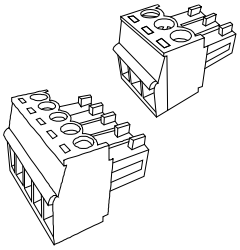


One (1) power cord, 6 ft. (1.8 m)

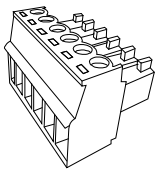


Two (2) rack mounting brackets

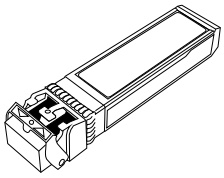
Six (6) M4 screws



One (1) 3-pin captive screw connector
Four (4) 5-pin captive screw connectors



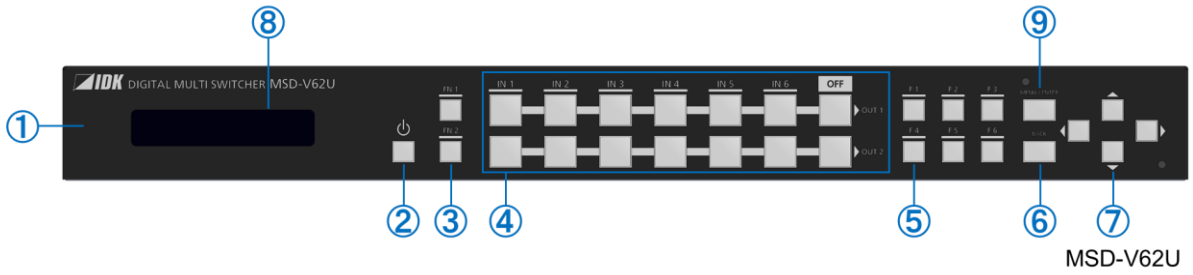
Two (2) 6-pin captive screw connectors



SFP+ optical transceivers:
One (1) for MSD-V61UF
Two (2) for MSD-V62UF
(MM/SM model only)

Panel overview

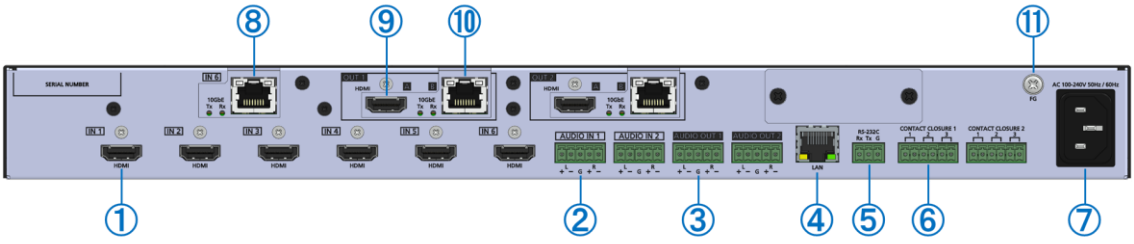
Front panel



MSD-V62U

①	Front panel	Contains the front display and buttons.
②	Standby button	Powers on the MSD-V6 or switches to stand by status.
③	Function button (F button)	Executes the assigned function.
④	Input selection buttons	Selects an input.
⑤	Function button (FN button)	Executes the assigned function.
⑥	BACK button	Returns to the previous page. (When a menu is displayed.)
⑦	Navigation buttons (△▽◁▷)	Switches menus. (When a menu is displayed.) Moves a cursor. Specifies a value.
⑧	Front display	Displays a menu, parameter, or setting value.
⑨	MENU/ENTER button	Displays a menu or submenu. Selects menu or accepts a new setting.

Rear panel



MSD-V62UC with MSD-VIV1UC (Option)

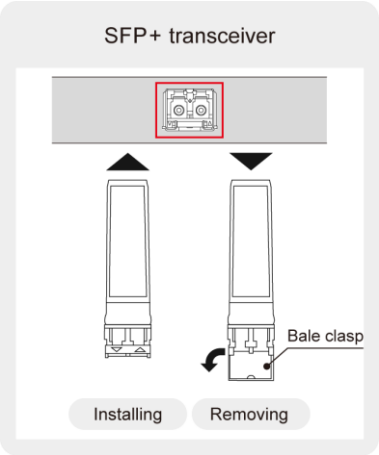
①	HDMI input	⑧	Modular input (Factory-installed option) MSD-VIV1UC : 10GbE CAT input MSD-VIV1UF : 10GbE FIBER input MSD-VIV1UT : HDBaseT input
②	Analog audio input		
③	Analog audio output		
④	LAN		
⑤	RS-232C	⑨	HDMI output
⑥	CONTACT CLOSURE	⑩	MSD-V61UC/V62UC : 10GbE CAT output MSD-V61UF/V62UF : 10GbE FIBER output MSD-V61UT/V62UT : HDBaseT output
⑦	AC input	⑪	Frame ground (M4 screw)

Precautions for Installation

- Grounding (Earthing) is required. Connect the FG (Frame Ground) connector to a local electrical ground bonding point.
- When installing the MSD-V6, observe the following precautions; otherwise, the internal temperature increases and it may affect the product lifetime and operation.
  - Do not stack or place one MSD-V6 directly on top of another MSD-V6.
  - Do not block vent holes.
  - Maintain sufficient clearances around the MSD-V6 (1.2 in. (30 mm) or more) to provide adequate ventilation.
  - Consider installing the MSD-V6 in an environment compatible with the maximum temperature indicated in the specification sheet 32°F to 104°F (0°C to +40°C).
- After connecting all cables, power on the MSD-V6.

SFP+ transceiver

- Make sure the bale clasp is closed.
- Line up the transceiver with the port and slide it into the port until you hear a click.
- When installing the SFP+ transceiver, push it firmly and ensure that it is completely seated and the bale clasp is locked. Do not open the bale clasp except for removing the transceiver.
- Open the bale clasp and pull the transceiver out of the port.



- If, for any reason, you need to ship the device, remove the transceiver from the device and plug the dust cap into the transceiver and the connector. Put the removed transceiver in an electrostatic bag with enough cushion and keep the bag and device together in the same box.
- Refer to the Technical guide for more precautions for SFP+ transceiver.

Connection Details

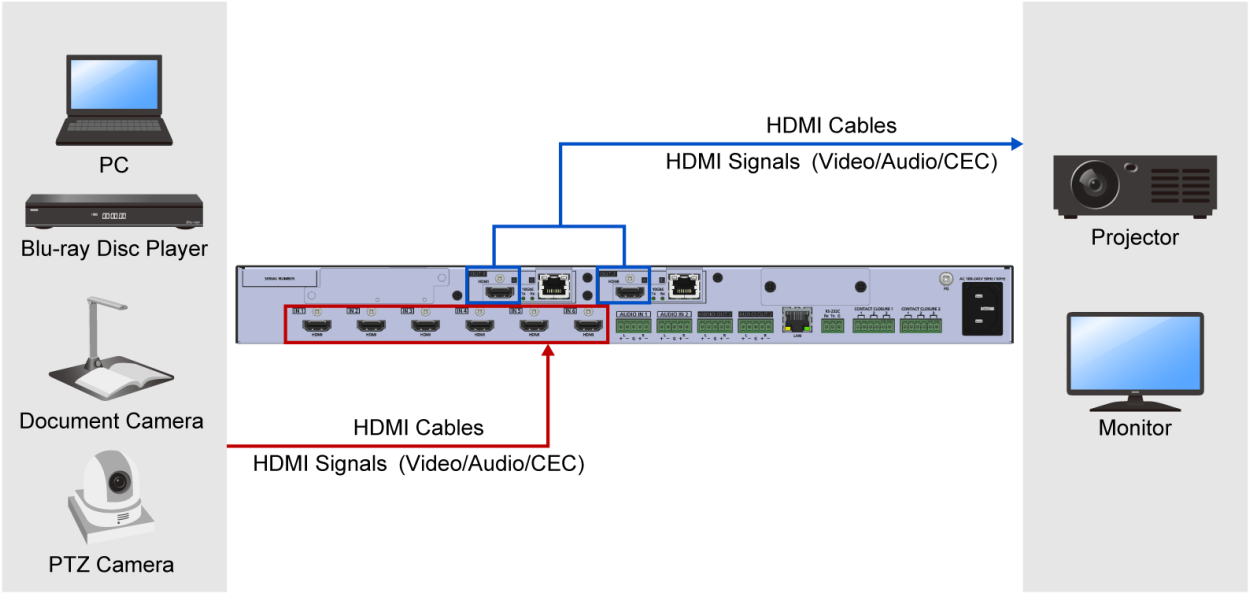
When connecting the MSD-V6 to external devices, observe the following precautions.

Notes

- Before connecting cables to the MSD-V6 or an external device, dissipate static electricity by touching grounded metal such as equipment racks before handling signal cables. Failure to observe this precaution may result in ESD (electrostatic discharge) damage.
- Power off or disconnect all related devices before connecting cables.
- Be sure to fully seat all plugs and connections and dress cables to reduce stress on connectors.

Connecting HDMI devices

Connect the MSD-V6 to HDMI devices over HDMI cables.

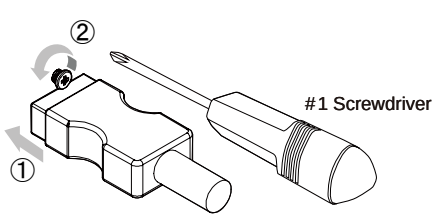


Notes

- Video may be interrupted or may not be output depending on cable type, cable quality, cabling condition, connecting devices, and installation environment.
- A problem may occur if a cable joint is used for HDMI cable extension.

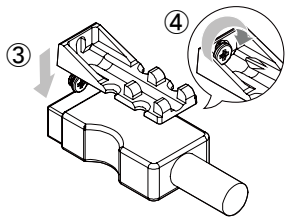
Cable Lacing Bracket (FB-01 For IDK products only)

Use the cable lacing bracket to secure a standard HDMI cable as shown.



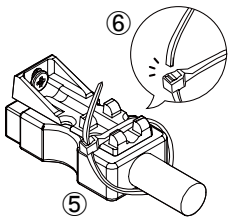
① Plug the HDMI cable into the HDMI connector.

② Loosen the HDMI connector screw (about six turns).
The screw does not need to be removed.



③ Place the bracket on the screw.

④ Tighten the screw to secure the bracket.

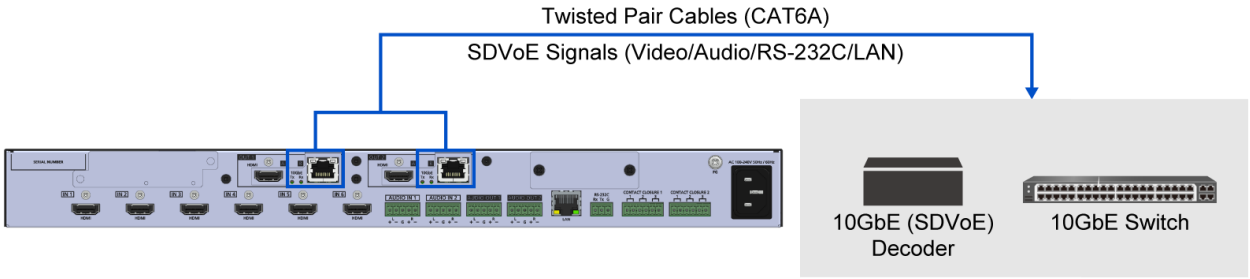


⑤ Place the tie wrap around the cable and tighten the tie wrap as above.

⑥ Cut excess length.

Connecting 10GbE devices

Connect the MSD-V6 to 10GbE (SDVoE) devices or network devices over twisted pair cables (CAT6A) or fiber optic cables.



Notes

- For transmission over 10GbE, use the MSD-V6 in combination with IDK's SDVoE-supported products.
- If SDVoE signal is sent via a network with a 10GbE switch connected, control from the IP-NINJAR management platform is needed.
- Up to two CAT6A (10GBase-T) cable joiners can be used, but the maximum transmission distance may be shortened by about 10%.

For twisted pair cable (CAT6A)

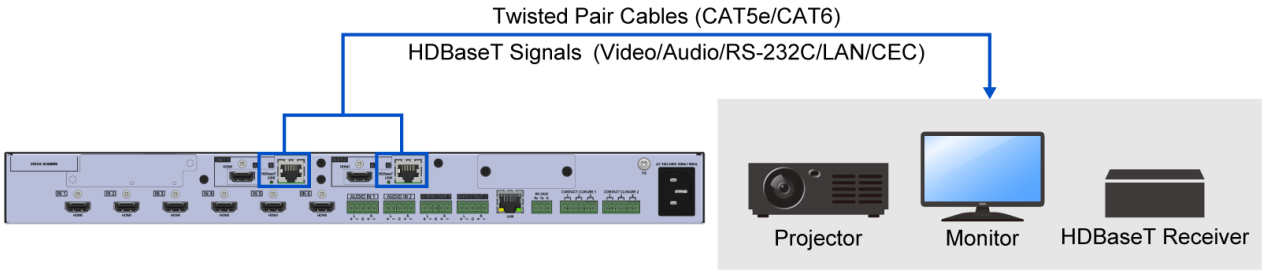
- To achieve full transmission distances and reduce transmission errors, select a high-quality twisted pair cable type, ensuring that proper pinning and pairing requirements are observed.
  - Use STP cables fully shielded connector.
  - Connect the FG connector of the MSD-V6 to a local electrical ground bonding point.
  - Connect the FG connector of the connected devices to a local electrical ground bonding point.
- Determine which wiring scheme, straight T568A or T568B to use.
- Do not pull the cable hard.
- Do not bend the cable at a sharp angle. Keep the bend radius four times of the cable diameter or larger.
- Do not clamp or tie the cable tightly; leave some space allowing the cable to move slightly.
- If you use multiple twisted pair cables, keep a distance between the cables and do not place the cables closely in parallel.
- Keep the twisted pair cable running as straight as possible. Looping or coiling the cable causes it to be more easily affected by noise; especially when using longer cable run lengths.

For fiber optic cable

- To polish connectors:
  For SFP+ optical transceiver for multimode : PC polishing is recommended.
  For SFP+ optical transceiver for singlemode : UPC polishing is recommended.
  Note
  APC polishing is not supported.
- Transmission distance varies depending on attenuation of the fiber, connector and other contact portions.
- Make sure not to exceed the allowable tension and bend radius of fiber optic cable or the performance of the product and the life of the fiber optic cable may be affected.
- Plug the dust caps to both faces of the fiber optic cable when connecting the fiber optic cable and when not in use.
- Before inserting a fiber optic cable, make sure there is no damage or dirt on the end-face of the optical connector. Clean up it or MSD-V6 may not operate correctly.

Connecting HDBaseT devices

Connect the MSD-V6 to HDBaseT devices over twisted pair cables (CAT5e/CAT6).



Notes

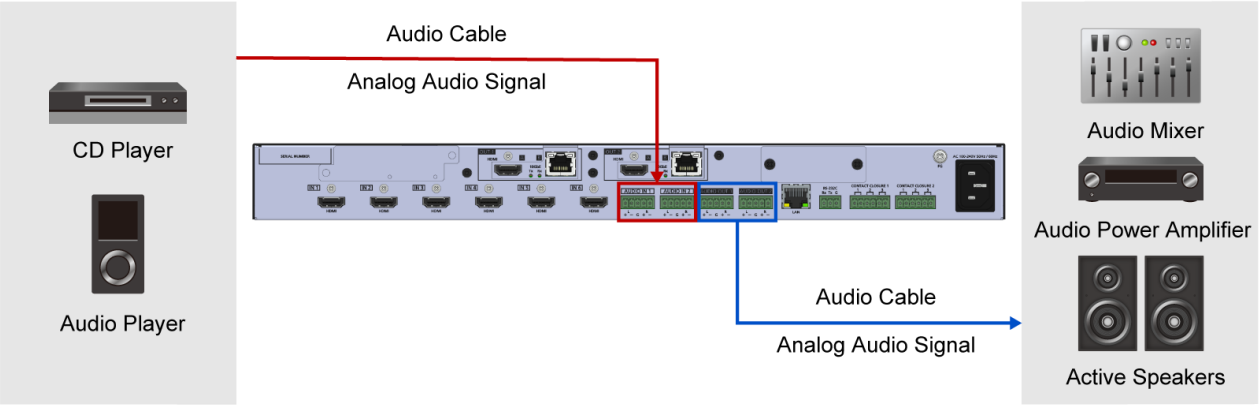
- The shape of HDBaseT connectors is the same as that of RJ-45 connectors. However, the MSD-V6 cannot be connected to an Ethernet device since the transmission method is not the same.
- Up to two CAT6A (10GBase-T) cable joiners can be used, but the maximum transmission distance may be shortened by about 10%.

For twisted pair cable (CAT5e/CAT6)

- To achieve full transmission distances and reduce transmission errors, select a high-quality twisted pair cable type, ensuring that proper pinning and pairing requirements are observed.
  - Use STP cables fully shielded connector.
  - Connect the FG connector of the MSD-V6 to a local electrical ground bonding point.
  - Connect the FG connector of the connected devices to a local electrical ground bonding point.
- Determine which wiring scheme, straight T568A or T568B to use.
- Do not pull the cable hard.
- Do not bend the cable at a sharp angle. Keep the bend radius four times of the cable diameter or larger.
- Do not clamp or tie the cable tightly; leave some space allowing the cable to move slightly.
- If you use multiple twisted pair cables, keep a distance between the cables or and do not place the cables closely in parallel.
- Keep the twisted pair cable running as straight as possible. Looping or coiling the cable causes it to be more easily affected by noise; especially when using longer cable run lengths.

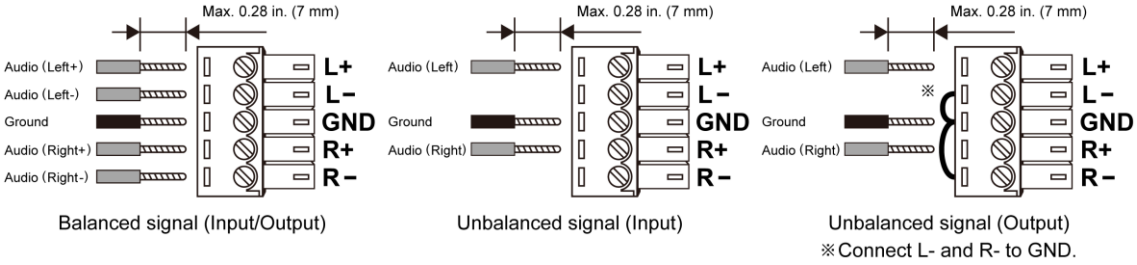
Connecting analog devices

Connect the MSD-V6 to analog audio devices over audio cables.



Tip

Connect the captive screw to audio cable as follows:

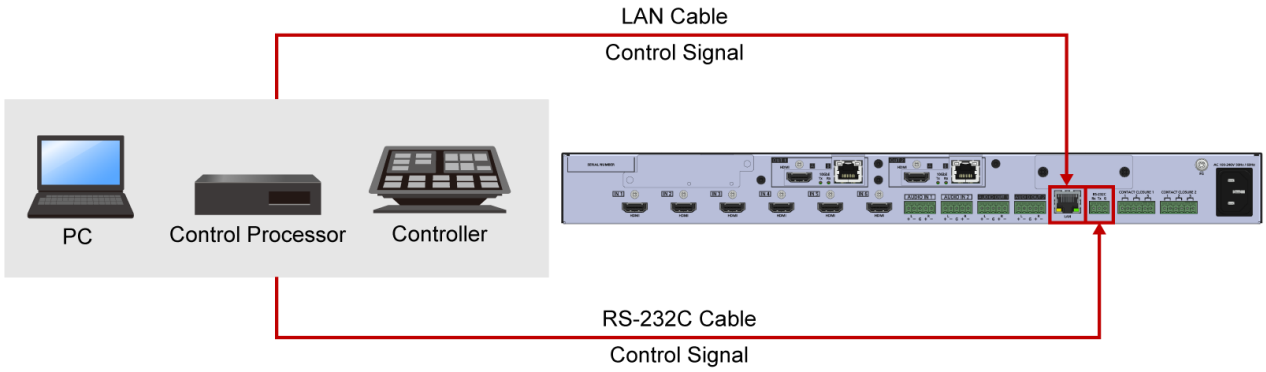


28 AWG to 16 AWG conductor gauge is recommended.

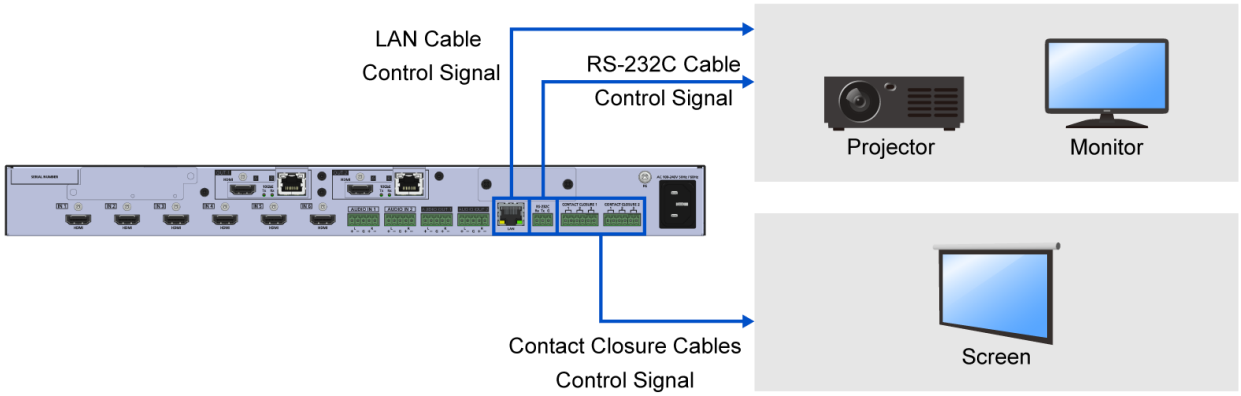
The length of the exposed wire in the stripping is 0.28 in. (7 mm) at maximum.

Connecting control devices

Connect the MSD-V6 to external devices over LAN/RS-232C to control the MSD-V6 from external devices.



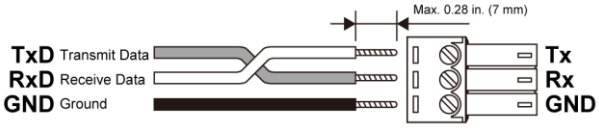
Connect the MSD-V6 to external devices over LAN/RS-232C to control external devices from the MSD-V6.



Tip

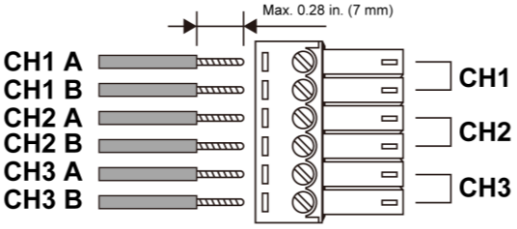
Connect the captive screw to LAN/RS-232C cables as follows:

RS-232C cable



28 AWG to 16 AWG conductor gauge is recommended.
The length of the exposed wire in the stripping is 0.28 in. (7 mm) at maximum.

Contact closure connector cable



28 AWG to 16 AWG conductor gauge is recommended.
The length of the exposed wire in the stripping is 0.28 in. (7 mm) at maximum.

Advanced menu

Menu consists of frequently used menus (basic menu) and advanced menus, and only basic menus are displayed by default.
This section describes how to display both basic and advanced menus.

For sections that describe an advanced menu, the marking below is included at the lower right of the section title.

Advanced

Front Panel

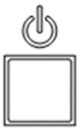
1. Select [SYSTEM SETTINGS]→[ADVANCED MENU].
2. Select [ON].

WEB GUI

Front Panel Operations

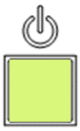
This chapter contains information on the front panel operation and security lock.

The color of the standby button LED indicates the power state of the MSD-V6.



Does not light: No power

Amber: Standby



Green: Powered on

Note

Power on the MSD-V6 after connecting all cables.

Powering up

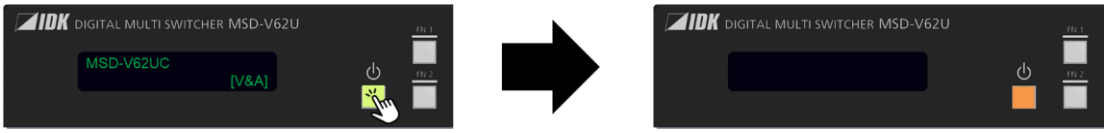
1. Press the standby button.
   When boot-up is complete, the standby button LED turns green.

Notes

- It takes 12 seconds at maximum to be ready for normal operation after powering up.
- If the standby button does not light, power is not supplied. Connect the supplied AC power cable to power it up.

Switching power state to standby

1. Press and hold the standby button for one second.
   When the MSD-V6 becomes standby state, the standby button LED turns amber.

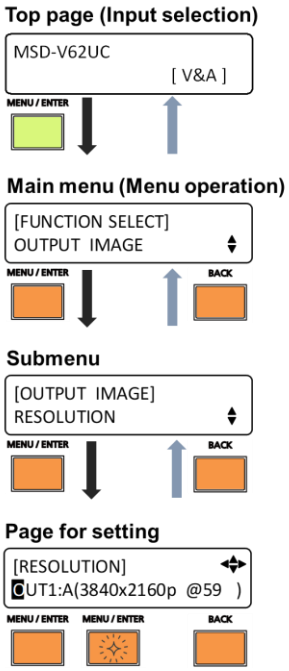


Selecting menu

Use the following buttons (Only buttons whose LEDs light are available):

MENU/ENTER button : Accesses currently selected submenus or submenu items.
BACK button : Exits currently selected submenus or submenu items.
Navigation buttons : Changes values of adjustable features or navigates the menus/submenus.

If the MENU/ENTER button blinks, press the MENU/ENTER button to accept the new value(s).

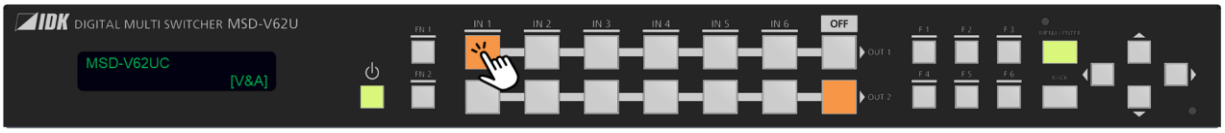


Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Switching video/audio

1. Press the input selection button.
   The values displayed in the lower-right corner of the front display indicates which source is switched.
   [V&A] : Switches video and audio simultaneously.
   [VIDEO] : Switches video only.
   [AUDIO] : Switches audio only.



The color of the input selection button LEDs indicate which signal is currently selected.
Lights steadily (Amber) : Video and audio are selected.
Lights steadily (Green) : Only video is selected.
Lights steadily (Red) : Only audio is selected.

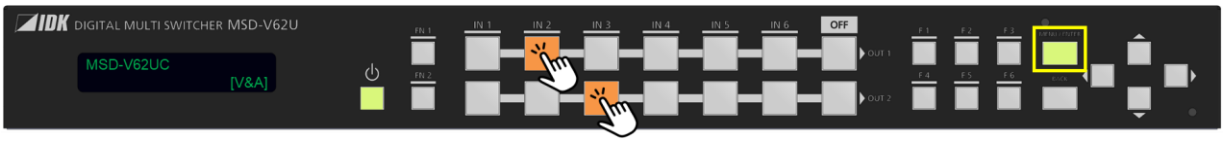
Switching video and audio simultaneously

1. Select [SYSTEM SETTING]→[SWITCHING MODE].
2. Select [V&A].
3. Press the input selection button.

Example:

The front panel below shows:

- IN2 is selected to OUT1 and IN3 is selected to OUT2.
- Video and audio are switched simultaneously.



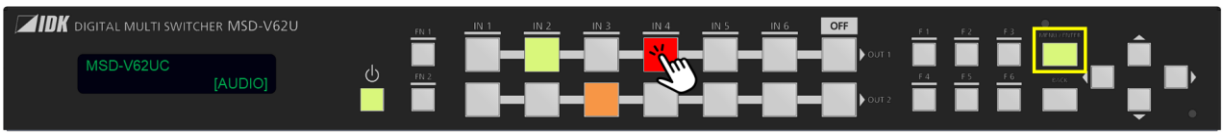
Switching video and audio separately

1. Select [SYSTEM SETTING]→[SWITCHING MODE].
2. Select the signal to switch.
   [VIDEO] : Switches video only.
   [AUDIO] : Switches audio only.
3. Press the input selection button to switch the signal selected in step 2.

Example:

The front panel below shows:

- IN4 is selected to OUT1.
- Only audio is switched.



Setting function button mode

1. Select [SYSTEM SETTING]→[FUNCTION ASSIGNMENT].
2. Select the function button.
3. Select the function mode.

   [COMMAND] : Executes assigned control commands.
   [DISPLAY POWER] : Executes control commands assigned to buttons for controlling power of sink devices.
   [PATTERN] : Recalls the saved pattern memory in order.
   [WINDOW SELECT] : Switches main window or PinP window that is changed when an input selection button is pressed.
   [CROSSPOINT] : Recalls the saved crosspoint memory.
   [PRESET MEMORY] : Recalls the saved preset memory.

Notes

- If [COMMAND] is selected, front buttons are disabled during the command execution.
- If [DISPLAY POWER] is selected, function buttons to which [DISPLAY POWER] is assigned are activated even during the command execution.

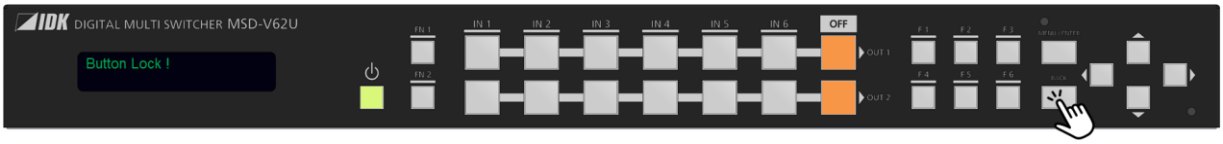
Tips

- To control projector power supply using a function button, perform the procedure in “**Projector Power Control (P.65)**”.
- To control screens using a function button, perform the procedure in “**Screen Control (P.74)**”.
- For details of pattern memory, crosspoint memory, and preset memory, see “**Saving and Recalling Presets (P.80)**”.
- For details of control command assignment, refer to the User Guide.

Setting front panel security lockout

Enabling front panel security lockout

1. Press and hold the BACK button for two seconds.
   When the lockout is enabled, a message, [Button Lock !] is displayed on the front display.

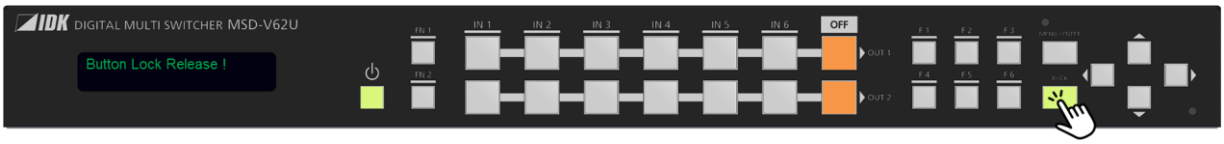


Tip

LEDs of locked buttons other than the standby button and input selection buttons turn off.

Disabling front panel security lockout

1. Press and hold the BACK button for two seconds.
   When the lockout is disabled, a message, [Button Lock Release !] is displayed on the front display.



Selecting button lock target

1. Select [SYSTEM SETTINGS]→[BUTTON LOCK TARGET].
2. Select the button groups to be locked.
   [STANDBY] : Standby button
   [F BUTTON] : Function button
   [FN BUTTON] : Function button
   [CHANNEL] : Input selection buttons
   [MENU] : MENU/ENTER button

Tip

For function buttons, the press-and-hold time can also be set manually to prevent accidental operation. For details, refer to the User Guide.

WEB Browser Operation

This chapter describes how to control the MSD-V6 via a WEB browser of the connected PC.

Displaying WEB GUI

1. Set the network of the PC connected to the MSD-V6.
   If the MSD-V6's IP address is set to its default, set the internet protocol version 4 (TCP/IPv4) of the PC as follows:

IP address	192.168.1.100
Subnet mask	255.255.255.0
Default gateway	No character

2. Connect the MSD-V6's LAN connector to the PC.
3. Open a WEB browser on the connected PC.
4. Enter the IP address of the MSD-V6 into the address bar of the WEB browser.
   Note that the default IP address is 192.168.1.199.

Note

JavaScript of WEB browser needs to be activated to display the WEB GUI.

Tip

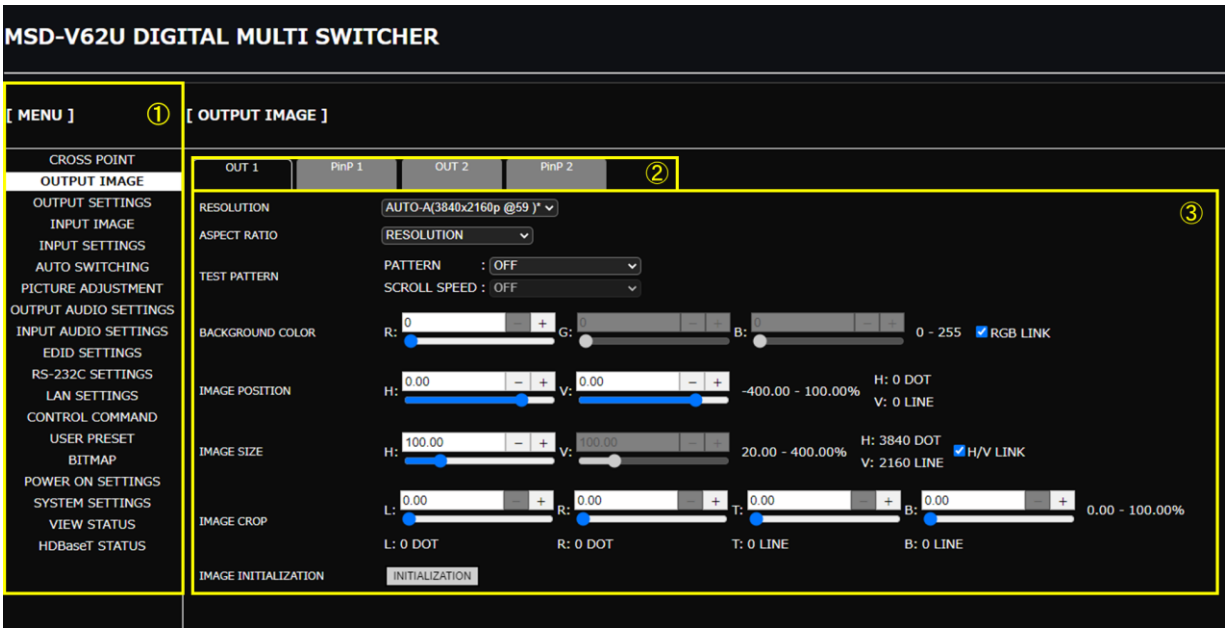
See "**Configuring LAN communication (P.64)**" for setting or viewing the MSD-V6's IP address.

Changing settings via WEB browser

Advanced

Front Panel

1. Select the main menu (①).
2. Select the output window (②).
3. Select or specify the desired values (③).
   To initialize the image settings, click the [INITIALIZATION] button.

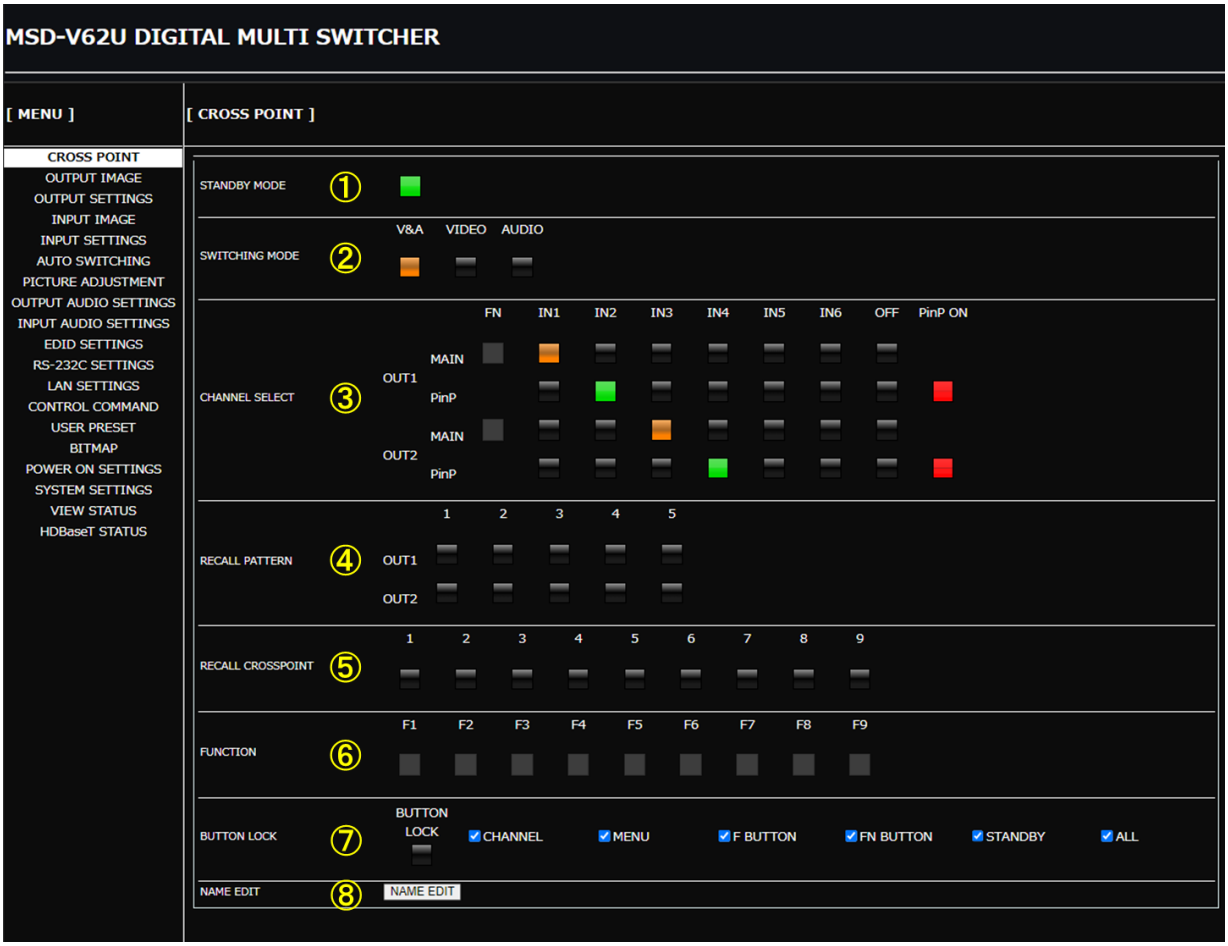


Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Controlling MSD-V6 via WEB browser

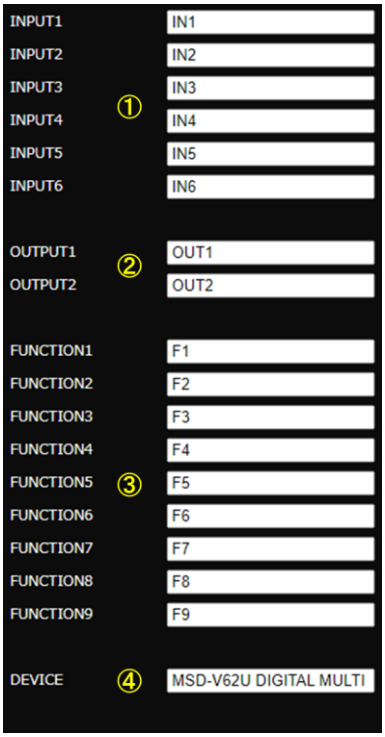
1. Select [MENU]→[CROSS POINT].
2. Select or specify the desired values.



①	[STANDBY MODE]	Switches the power state.
②	[SWITCHING MODE]	Selects the signal to be switched when an input is selected.
③	[CHANNEL SELECT]	Selects input video and audio signals. Enables/disables PinP window display.
④	[RECALL PATTERN]	Recalls patterns saved in the MSD-V6.
⑤	[RECALL CROSSPOINT]	Recalls crosspoint settings saved in the MSD-V6.
⑥	[FUNCTION]	Executes the functions assigned to the function button.
⑦	[BUTTON LOCK]	Selects button group(s) to be locked/unlocked. Enables/disables button lock.
⑧	[NAME EDIT]	Edits input names and other items displayed on WEB GUI.

Editing crosspoint name

1. Select [MENU]→[CROSS POINT].
2. Click the [NAME EDIT] button from [CROSSPOINT] to open the [NAME EDIT] window.
3. Enter the desired name(s).



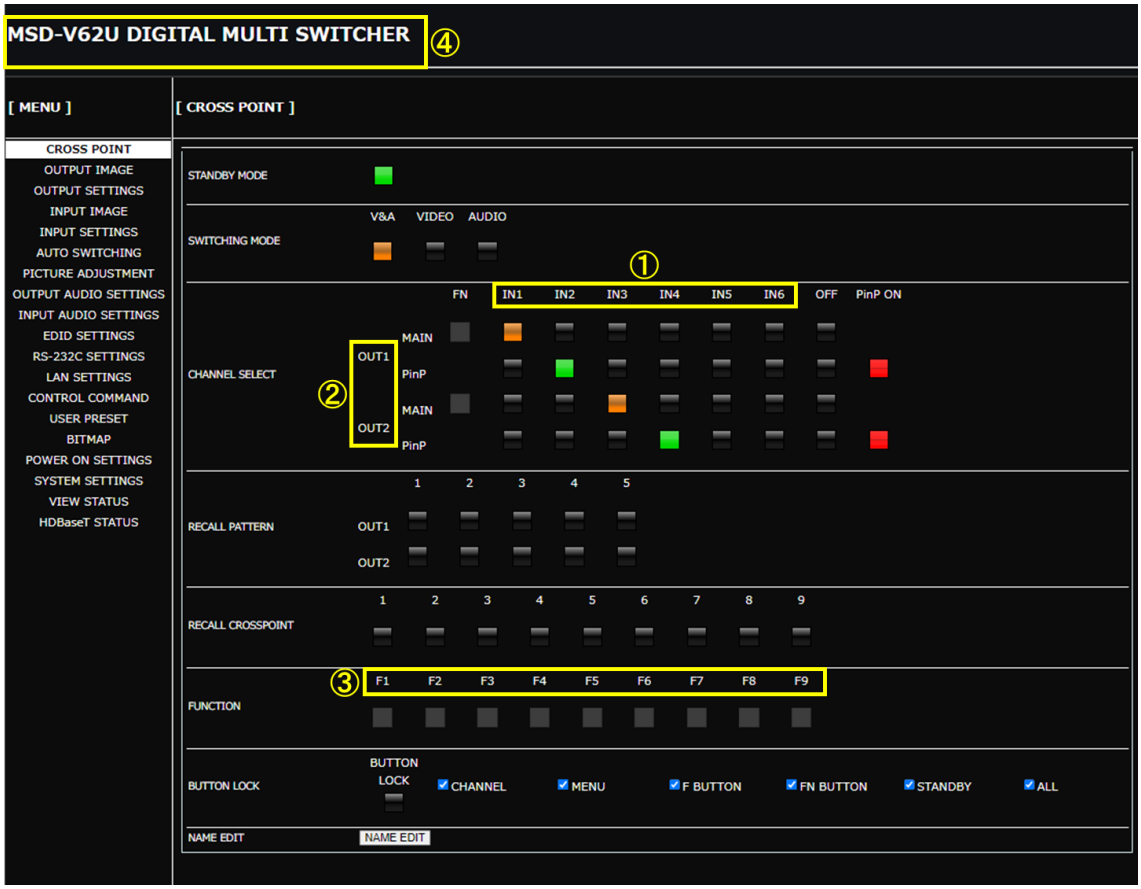
①Input channel names:
Up to 10 one-byte characters.

②Output channel names:
Up to 10 one-byte characters.

③Function button name:
Up to 10 one-byte characters.

④Device name:
Up to 40 one-byte characters.

4. Click the [×] button to close the [NAME EDIT] window.



Selecting input connector (if modular input is installed)

Front Panel

1. Select [INPUT SETTINGS]→[INPUT CONNECTOR].
2. Select the connector. (Default: HDMI)
3. Press the MENU/ENTER button to accept the new value.

WEB GUI

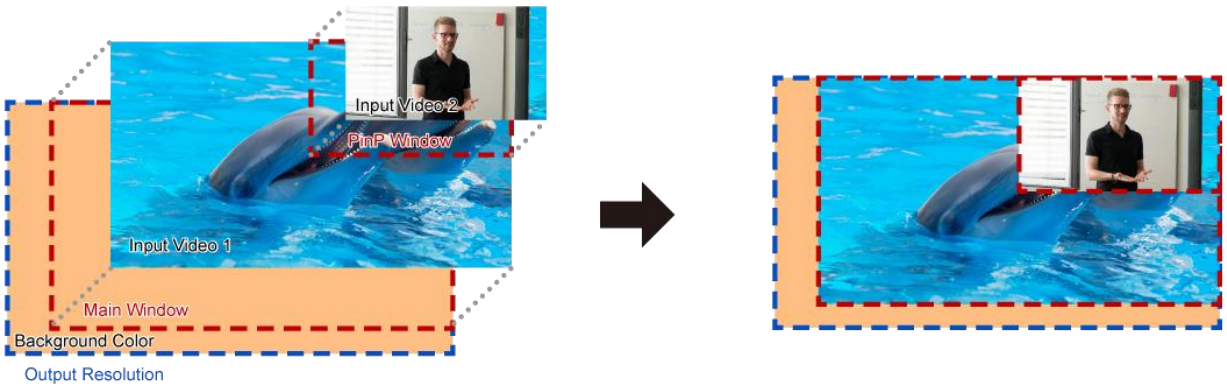
Setting Video

This section describes how to set input video or output video, such as resolution, image size, image position, and so on.

Video signals are output in the following order:

Background color→Main window→Input video 1→PinP window→Input video 2

If a window size is reduced, the background image is displayed.



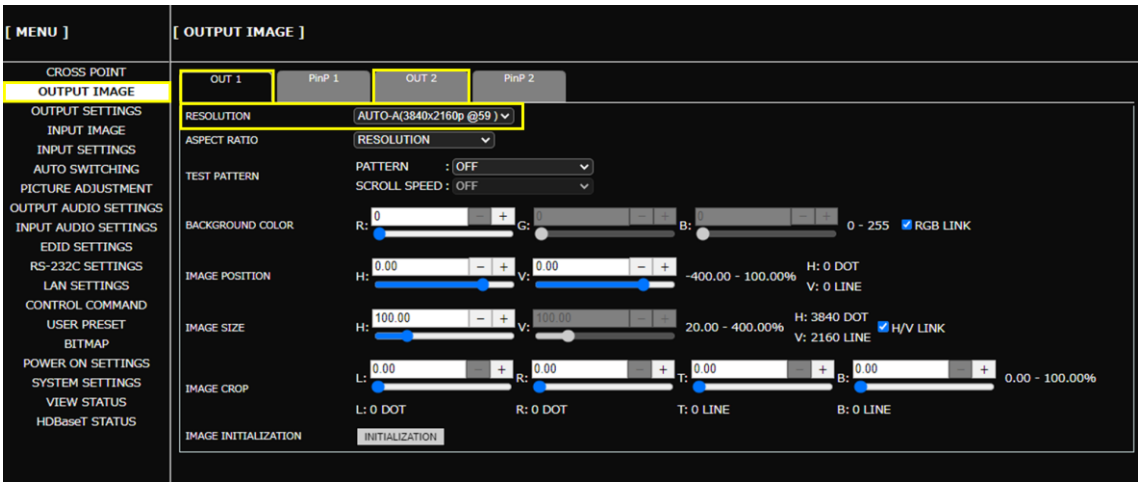
Changing output resolution

By default, the optimal resolution is selected automatically from EDID of the connected sink device and output.
This section describes how to manually select a resolution you want to output.

Front Panel

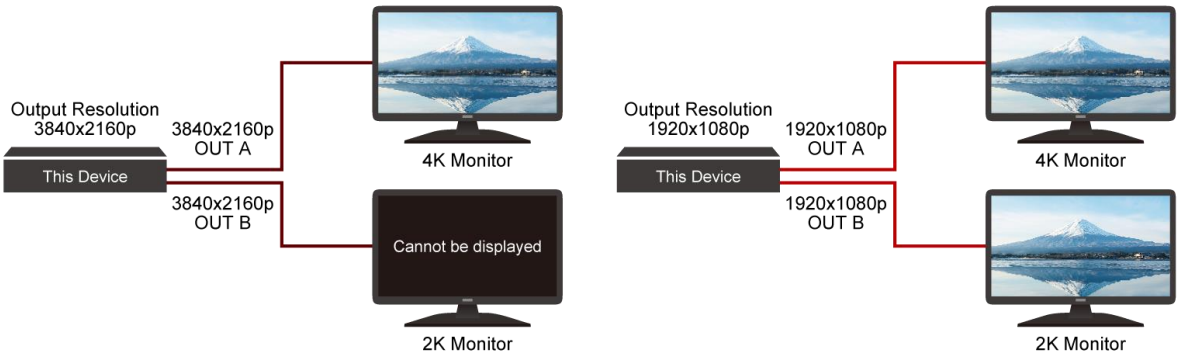
1. Select [OUTPUT IMAGE]→[RESOLUTION].
2. Select the output.
3. Select the resolution. (Default: A (AUTO-A))
4. Press the MENU/ENTER button to accept the new value.

WEB GUI



Note

The same single source is distributed to OUT A and OUT B at the same resolution. If sink devices having different resolution are connected to OUT A and OUT B, video may not be displayed on one of sink devices. In this case, change the resolution to the value that is supported by both sink devices to display video on both sink devices.

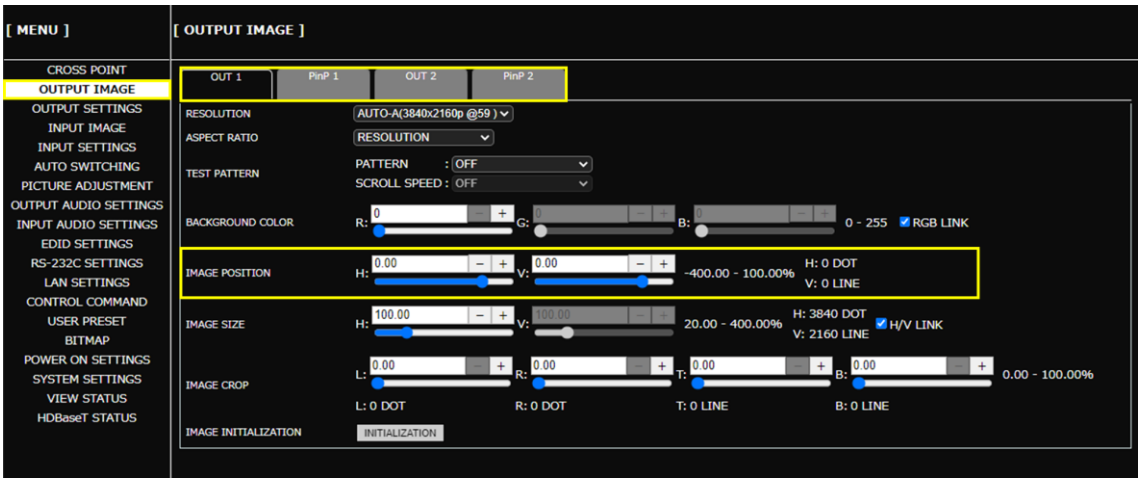


Adjusting image position

Front Panel

1. Select [OUTPUT IMAGE]→[IMAGE POSITION].
2. Select the window.
3. Set the desired values of [H] (Horizontal) or [V] (Vertical).
4. Set the image position. (Default: 0.0%)

WEB GUI

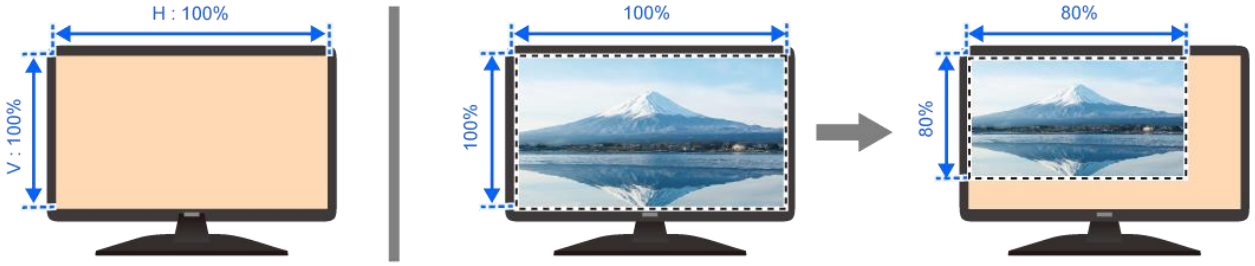


Adjusting image size

Front Panel

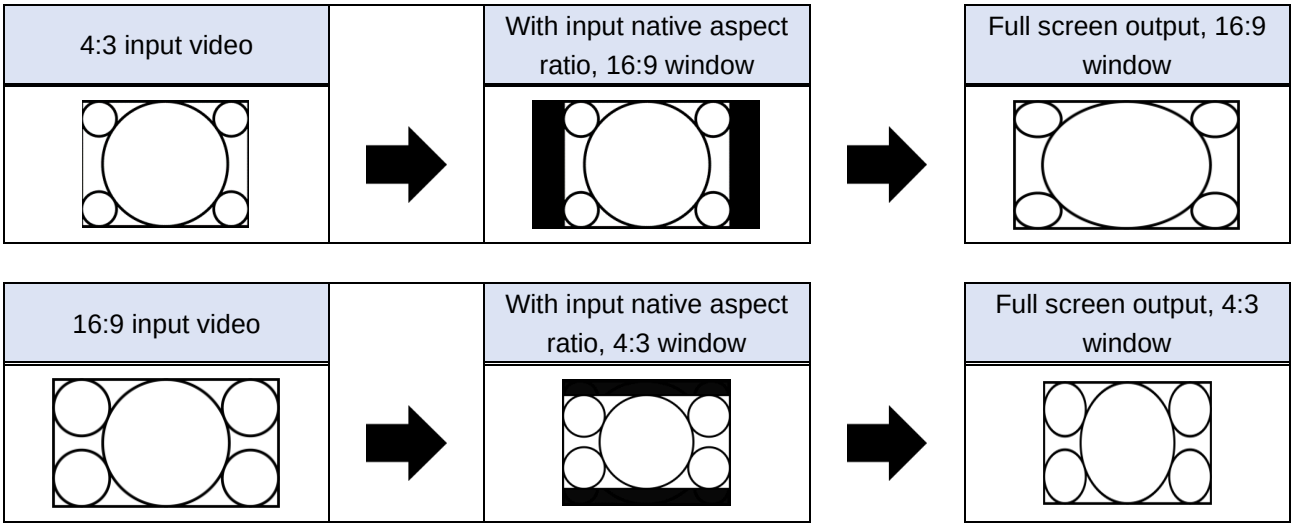
1. Select [OUTPUT IMAGE]→[IMAGE SIZE].
2. Select the output window.
3. Set the desired values of [HV] (Horizontal and vertical properly), [H] (Horizontal), or [V] (Vertical).
4. Set the image size. (Default: 100%)

WEB GUI



Displaying input video on full screen

The figures below show how a full input video is displayed on a full screen.



Displaying desired input video to all outputs on full screen

Advanced

Front Panel

1. Select [INPUT IMAGE]→[ASPECT RATIO].
2. Select the input.
3. Select [FULL]. (Default: AUTO-1)

WEB GUI

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Displaying all input video to desired output on full screen

Advanced

Front Panel

1. Select [OUTPUT IMAGE]→[ASPECT RATIO].
2. Select the output.
3. Select [FULL]. (Default: RESOLUTION)

WEB GUI

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Displaying input video dot-by-dot

Advanced

The figures below show how input video is displayed dot-by-dot.

1920x1080 input video		Dot-by-dot, 3840x2160 window
	➡	

3840x2160 input video		Dot-by-dot, 1920x1080 window
	➡	

Front Panel

1. Select [INPUT IMAGE]→[ASPECT RATIO].
2. Select the input.
3. Select [THROUGH]. (Default: AUTO-1)

WEB GUI

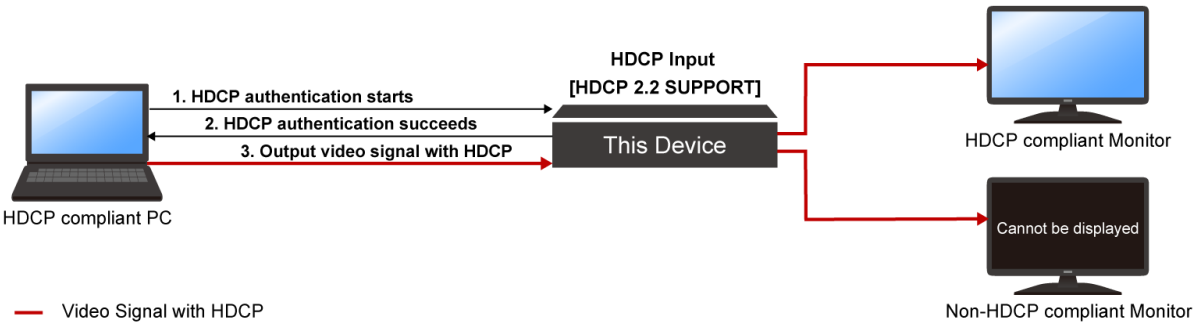
Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

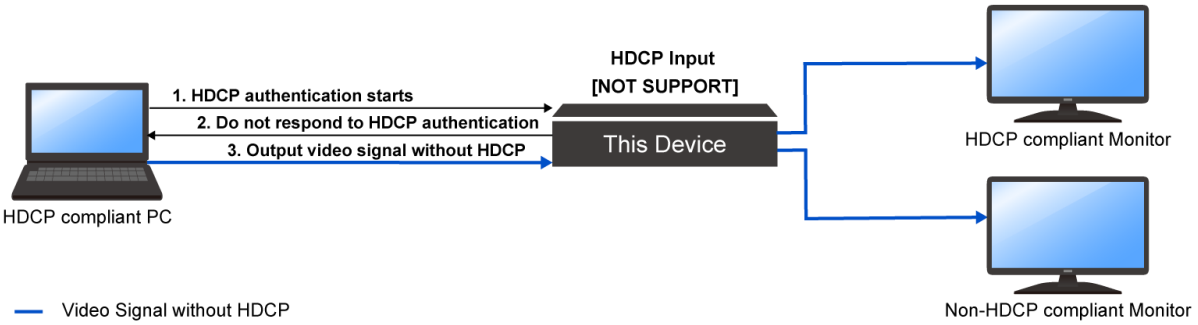
Displaying video to non-HDCP compliant sink device

Advanced

By default, the MSD-V6 operates as an HDCP 2.2-compliant device.
If a source device that automatically determines and encrypts HDCP is connected, HDCP-encrypted video signals cannot be displayed on a non-HDCP compliant sink device.



To display video signals on a non-HDCP compliant sink device, set the MSD-V6's input connector to Non-HDCP mode.



Front Panel

1. Select [INPUT SETTINGS]→[HDCP INPUT].
2. Select the input connector.
3. Select [NOT SUPPORT]. (Default: HDCP 2.2 SUPPORT)

WEB GUI

Notes

- For source devices that require HDCP encryption (for example, a Blu-ray player), video or audio cannot be output.
- Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".
- HDCP input of SDVoE input connector cannot be set. Set the HDCP input in the encoder side.

Enabling Deep Color input

Advanced

Front Panel

1. Select [EDID SETTINGS].
2. Set the input connector as follows:

Submenu	Setting value	Default
[EDID SELECTION]	BUILT-IN EDID	BUILT-IN EDID
[SIGNAL FORMAT]	HDMI	HDMI
[DEEP COLOR]	30-BIT COLOR	24-BIT COLOR

Note

After selecting desired values, press the MENU/ENTER button to accept the new values.

WEB GUI

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Enabling Deep Color output

Advanced

Front Panel

1. Select [OUTPUT SETTINGS]→[DEEP COLOR].
2. Select the output connector.
3. Select [30-BIT COLOR]. (Default: 24-BIT COLOR)

WEB GUI

Notes

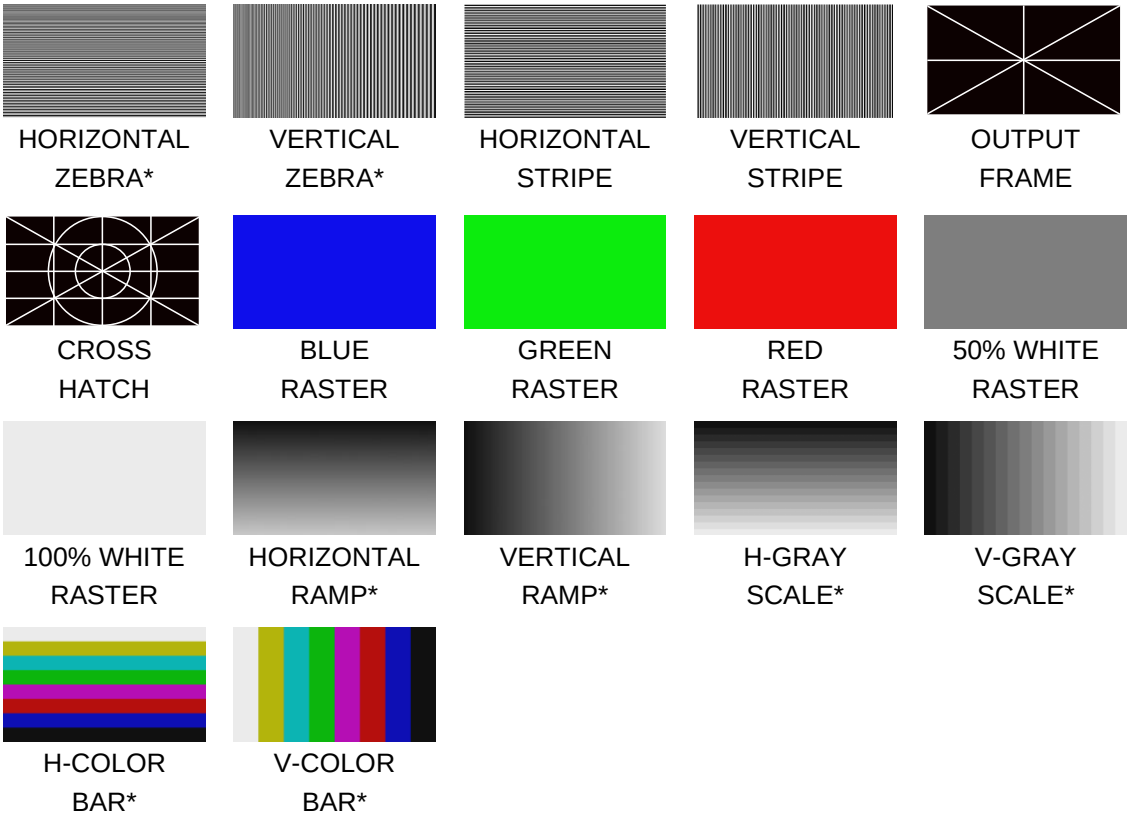
- Even with [30-BIT COLOR] selected, video signals are output at 24-BIT COLOR if the sink device does not support Deep Color.
- If [30-BIT COLOR] is selected and the output resolution is 4K@50/59.94/60, video signals are output at 30-BIT COLOR of HDMI YCbCr 4:2:2 or HDMI YCbCr 4:2:0.
- Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in “**Advanced menu (P.18)**”.

Outputting test patterns

Front Panel

1. Select [OUTPUT IMAGE]→[TEST PATTERN].
2. Select the output.
3. Select the test patten.
4. If the selected test pattern can be scrolled, select the scroll speed.

WEB GUI



*Can be scrolled.

Setting Audio

This chapter describes how to configure and adjust input and output audio of the MSD-V6.
By default, digital audio input connector supports 2-channel LPCM signal. 2-channel LPCM signal is output from an HDMI/10GbE/HDBaseT output connector while 2-channel analog audio is output from an analog audio output.

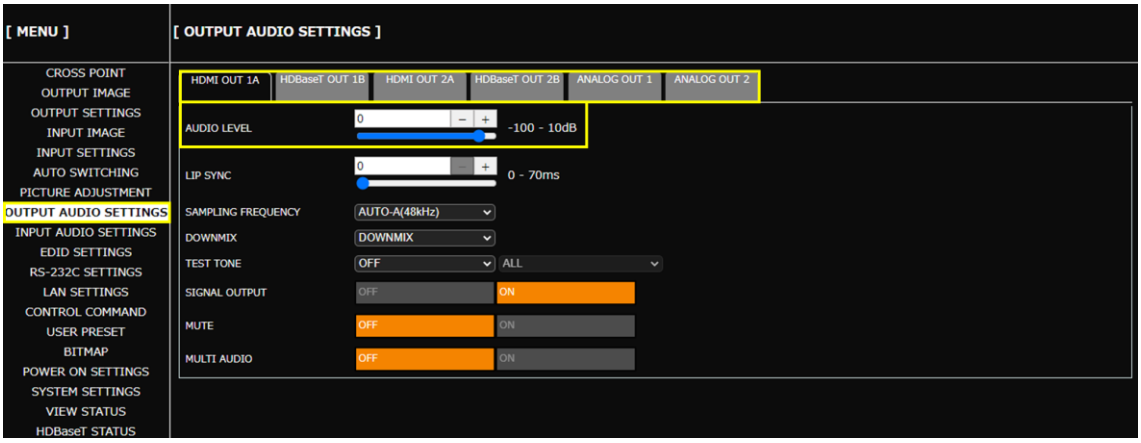
Adjusting Audio Level

1. Adjust the level gap between inputs audio:
   Front Panel
   a) Select [INPUT AUDIO SETTINGS]→[AUDIO LEVEL].
   b) Select the input connector.
   c) Set the input audio level. (Default: 0dB)

   WEB GUI

2. Adjust the audio level for each output audio:
   Front Panel
   a) Select [OUTPUT AUDIO SETTINGS]→[AUDIO LEVEL].
   b) Select the output connector.
   c) Set the output audio level. (Default: 0dB)

   WEB GUI



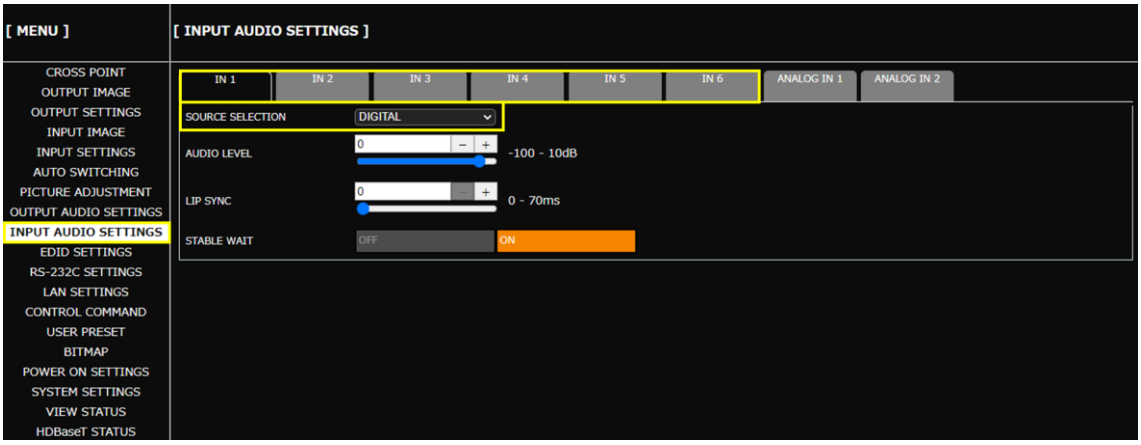
Embedding analog input audio

Analog audio can be embedded to a desired input video.

Front Panel

1. Select [INPUT AUDIO SETTINGS]→[SOURCE SELECTION].
2. Select the input.
3. Select [ANALOG1] or [ANALOG2]. (Default: DIGITAL)
4. Press the selected input selection button.

WEB GUI



De-embedding audio

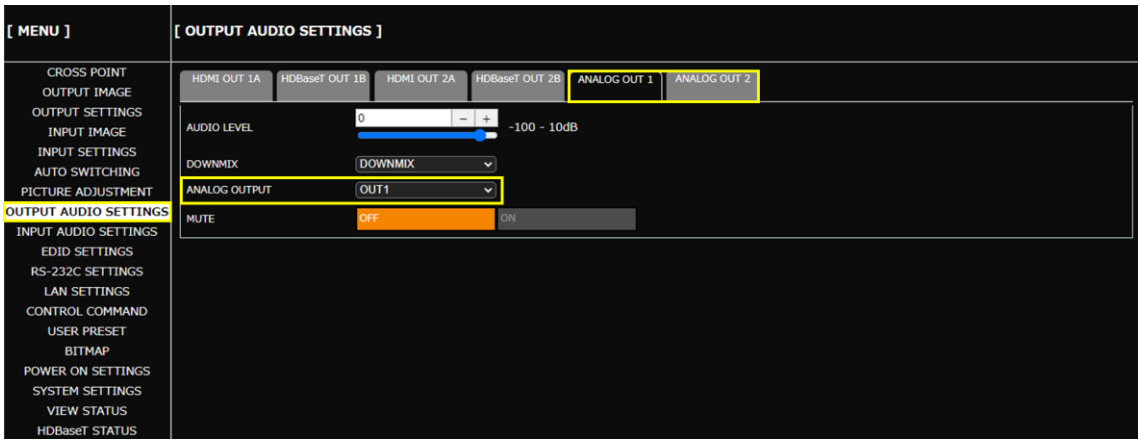
Advanced

By default, OUT1's input audio is de-embedded and output from the analog audio output connector.

Front Panel

1. Select [OUTPUT AUDIO SETTINGS]→[ANALOG OUTPUT].
2. Select the output.
3. Select the digital output whose audio is de-embedded and output to the analog audio output connector.

WEB GUI



Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Tip

[OUT1]/[OUT2] outputs the selected audio of input channel switching. IN1 to IN6, ANALOG1, and ANALOG2 outputs audio of fixed input connector.

Enabling multichannel audio input

Advanced

By default, the number of speakers is set to [2] so that multichannel audio is not output from a source device. If you want to input multichannel audio, change the EDID setting.

Front Panel

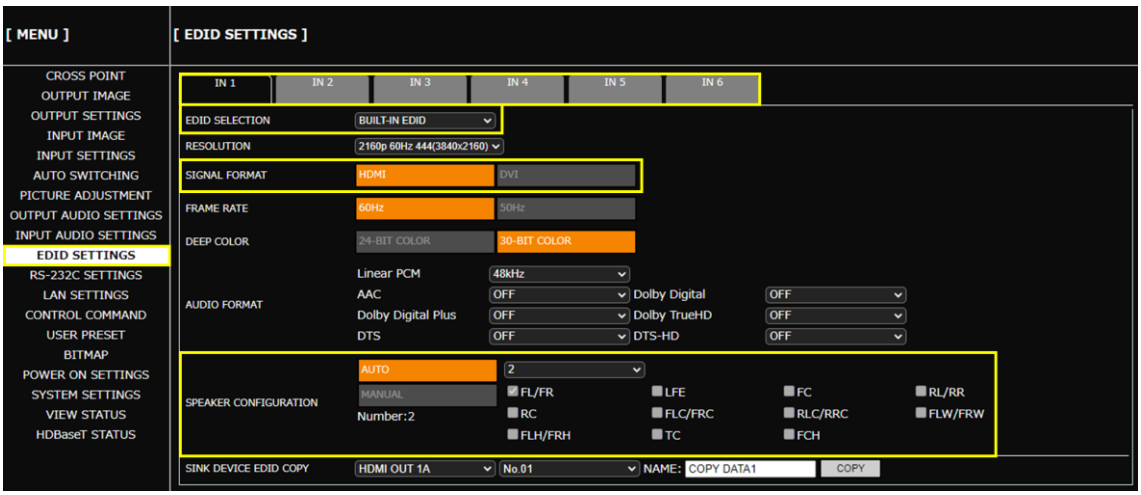
1. Select [EDID SETTINGS].
2. Set the input connector as follows:

Submenu	Setting value	Default
[EDID SELECTION]	BUILT-IN EDID	BUILT-IN EDID
[SIGNAL FORMAT]	HDMI	HDMI
[SPEAKER CONFIGURATION]	AUTO	AUTO
	3 to 8 (Number of speakers)	2

Note

After selecting desired values, press the MENU/ENTER button to accept the new values.

WEB GUI

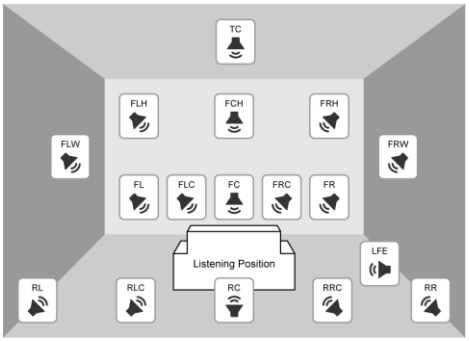


Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Tip

To select speakers for multichannel audio manually, set [SPEAKER CONFIGURATION] to [MANUAL].



FL	Front Left
FC	Front Center
FR	Front Right
FLC	Front Left Center
FRC	Front Right Center
RL	Rear Left
RC	Rear Center
RR	Rear Right
RLC	Rear Left Center

RRC	Rear Right Center
LFE	Low Frequency Effect
FLW	Front Left Wide
FRW	Front Right Wide
FLH	Front Left High
FCH	Front Center High
FRH	Front Right High
TC	Top Center

Enabling multichannel audio output

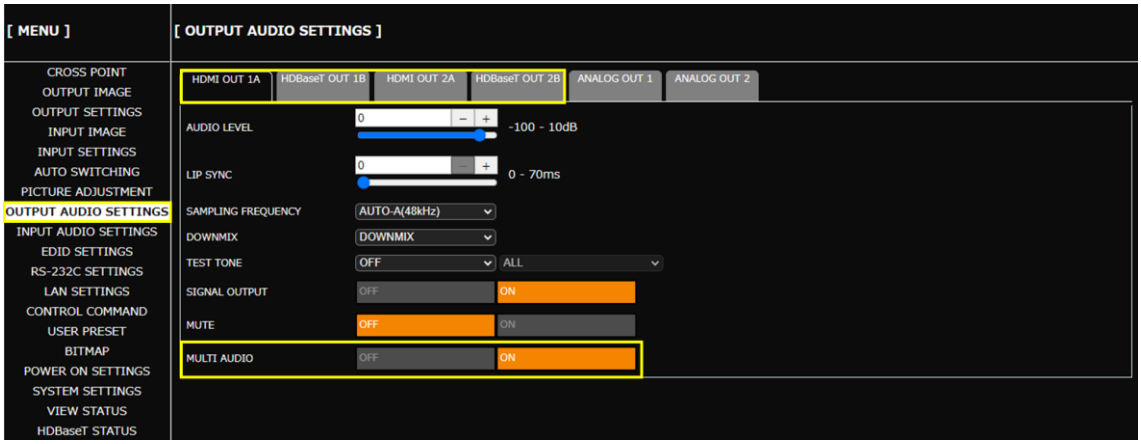
Advanced

By default, downmixed audio is output if multichannel audio is input. If you want to output multichannel audio, change the setting.

Front Panel

1. Select [OUTPUT AUDIO SETTINGS]→[MULTI AUDIO].
2. Select the output connector.
3. Select [ON]. (Default: OFF)

WEB GUI



Notes

- If the sink device does not support multichannel audio, only part of the audio is output.
- Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in “**Advanced menu (P.18)**”.

Downmixing multichannel LPCM input audio

Advanced

To downmix multichannel LPCM input audio, set the digital audio and analog audio downmix.

Front Panel

1. Select [OUTPUT AUDIO SETTINGS]→[MULTI AUDIO].
2. Select the output connector.
3. Select [OFF]. (Default: OFF)
4. Select [OUTPUT AUDIO SETTINGS]→[DOWNMIX].
5. Select the output connector.
6. Select [DOWNMIX]. (Default: DOWNMIX)

WEB GUI

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Enabling compressed input audio

Advanced

By default, multichannel audio is not output from a source device. Change the EDID settings to enable compressed audio.

Front Panel

1. Select [EDID SETTINGS].
2. Set the input connector as follows:

Submenu	Setting value	Default
[EDID SELECTION]	BUILT-IN EDID	BUILT-IN EDID
[SIGNAL FORMAT]	HDMI	HDMI
[SPEAKER CONFIGURATION]	AUTO	AUTO
	3 to 8 (Number of speakers)	2

3. Press the MENU/ENTER button.
4. Select the compressed audio.
5. Select the input connector.
6. Select the sampling frequency. (Default: OFF)
7. Press the MENU/ENTER button to accept the new value.

WEB GUI

Notes

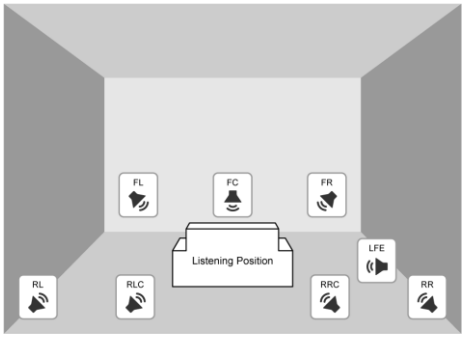
- The following compressed audio is supported: AAC, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, and DTS-HD
- Compressed audio that is not supported by the sink device is not output.
- If compressed audio is input or output, audio settings are disabled and analog audio is not output.
- Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in “**Advanced menu (P.18)**”.

Outputting test tone

Test tone is useful for checking audio output and multichannel audio speaker and for adjusting audio level.

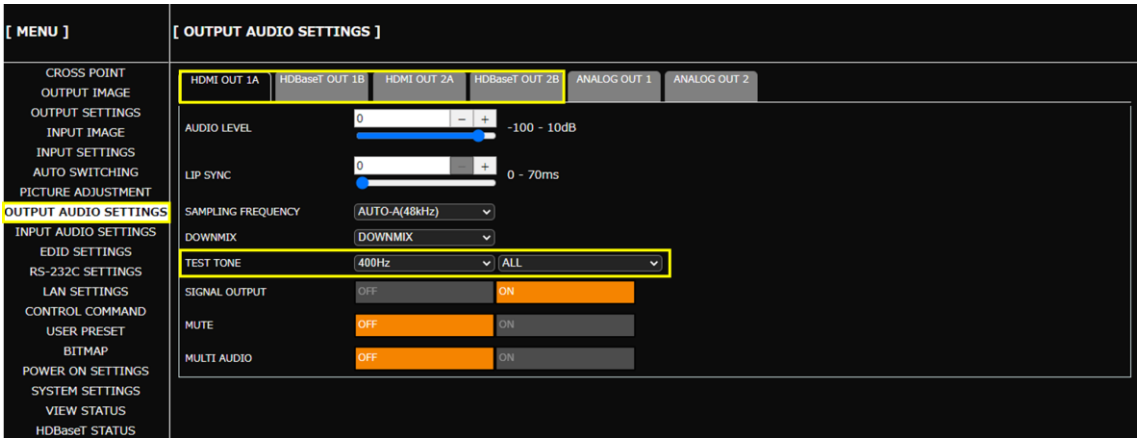
Front Panel

1. Select [OUTPUT AUDIO SETTINGS]→[TEST TONE].
2. Select the output connector.
3. Select the test tone frequency.
4. Select the speaker.



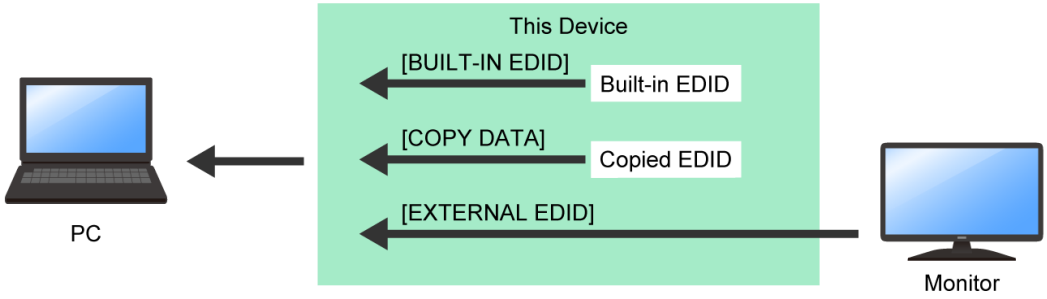
FL	Front Left
FC	Front Center
FR	Front Right
LFE	Low Frequency Effect
RL	Rear Left
RLC	Rear Left Center
RRC	Rear Right Center
RR	Rear Right

WEB GUI



EDID

This chapter describes how to set EDID and change EDID setting.



[BUILT-IN EDID] : MSD-V6's EDID. Native resolution and the like can be changed.
[COPY DATA] : EDID copied from sink devices.
[EXTERNAL EDID] : EDID of sink devices connected to output connectors.

Notes

- For IN6, either of HDMI or HDBaseT input connector can be set.
- For OUTB, only HDBaseT output connector can be set.

Selecting EDID

Front Panel

1. Select [EDID SETTINGS]→[EDID SELECTION].
2. Select the input connector.
3. Select the EDID. (Default: BUILT-IN EDID)
4. Press the MENU/ENTER button to accept the new value.

WEB GUI

Note

[COPY DATA] can be selected only if valid saved data is available. Names that are set at the time of saving are displayed. For how to save the copied data to the MSD-V6, see "**Copying EDID of sink device (P.49)**".

Changing supported resolution of built-in EDID

Front Panel

1. Select [EDID SETTINGS]→[RESOLUTION].
2. Select the input connector.
3. Select the resolution. (Default: 3840x2160@60Hz 4:4:4)
4. Press the MENU/ENTER button to accept the new value.

WEB GUI

Note

If a source device that does not support 4K is connected when the MSD-V6's EDID is set to 4K, video may not be output correctly. Change the EDID resolution according to the resolution supported by the source device.

Copying EDID of sink device

Front Panel

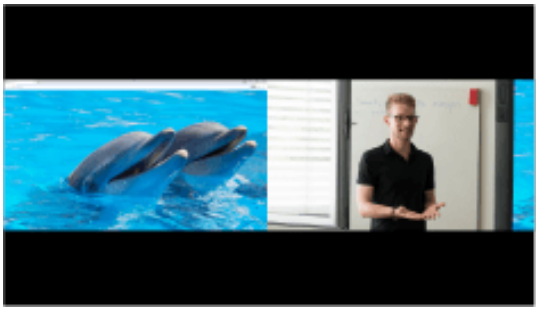
1. Select [EDID SETTINGS]→[SINK DEVICE EDID COPY].
2. Select the output connecter to which the sink device is connected.
3. Select the memory number.
4. Enter the desired name.
5. Press the MENU/ENTER button to accept the new values.

WEB GUI

Picture in Picture

This chapter describes how to set how the windows overlap one another.

PinP



Side by Side

PinP window video can be switched separately. The window layout is switched by recalling a pattern memory. The following information is saved to the pattern memory.

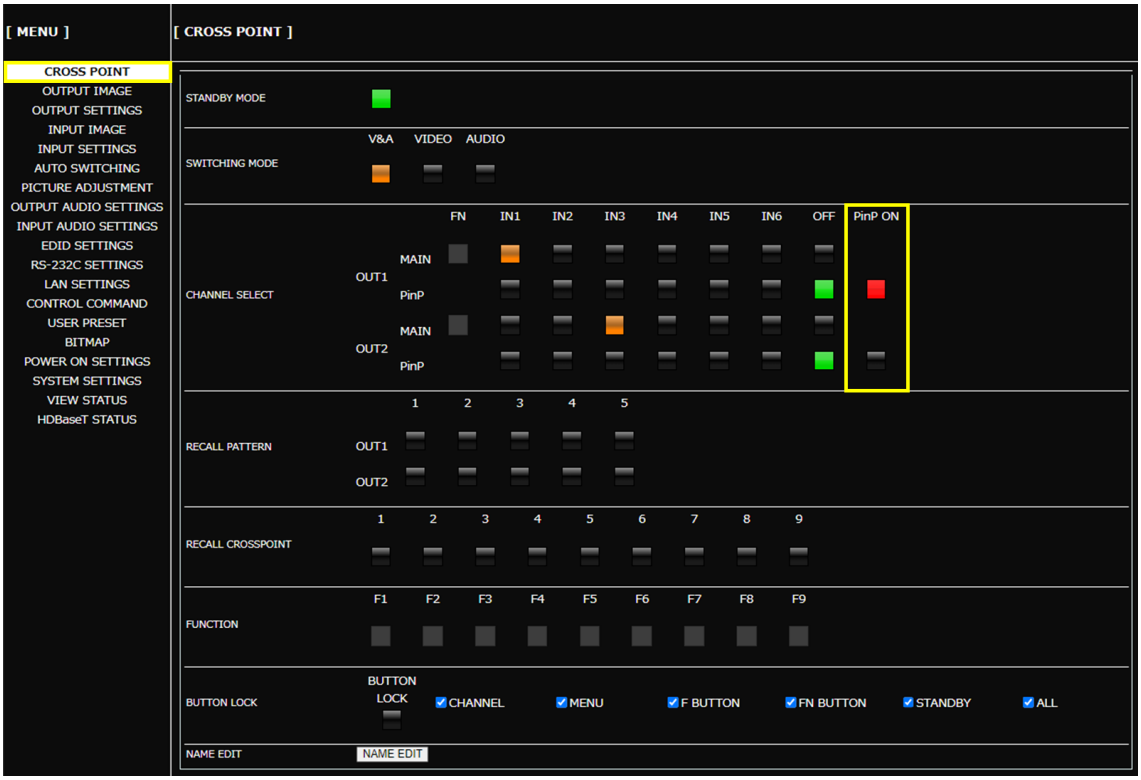
- Enabling/Disabling PinP window display.
- Image positions and sizes of the main window and PinP window

Displaying PinP window

Front Panel

1. Select [OUTPUT IMAGE]→[PinP OUTPUT].
2. Select the output.
3. Select [ON].

WEB GUI



Switching PinP video

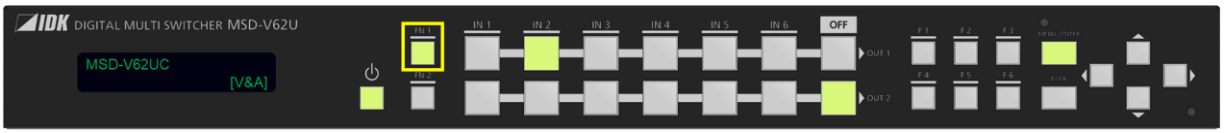
Front Panel

1. Select [SYSTEM SETTINGS]→[WINDOW SELECT].
2. Select [PinP]. (Default: MAIN)
3. Press the input selection button.

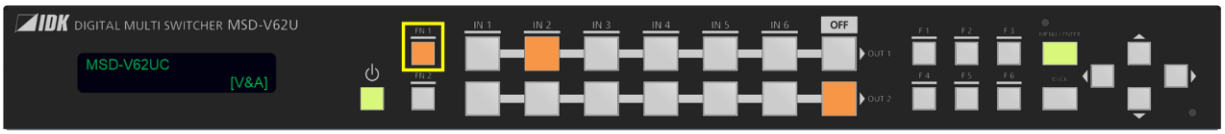
Tip

Video of the main window and PinP window can be switched by assigning [WINDOW SELECT] to a function button as follows. For details, see “**Setting function button mode (P.22)**”.

If the assigned function button lights steadily green, the PinP window video is switched by pressing the input selection button.



If the assigned function button lights steadily amber, the main window video is switched by pressing the input selection button.



WEB GUI

Note

For PinP window, only video is switched regardless of the [SWITCHING MODE] setting.

Switching window layout

By default, the following window layouts are saved to the pattern memory.

No.1

Main window only

No.2

PinP window is displayed. (Upper-left)

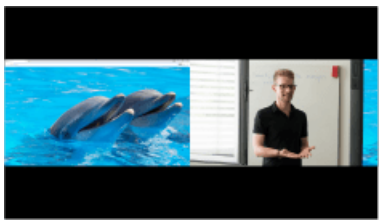
No.3

PinP window is displayed. (Upper-right)

No.4

PinP window is displayed. (Lower-right)

No.5



PinP window is displayed. (Side-by-Side)

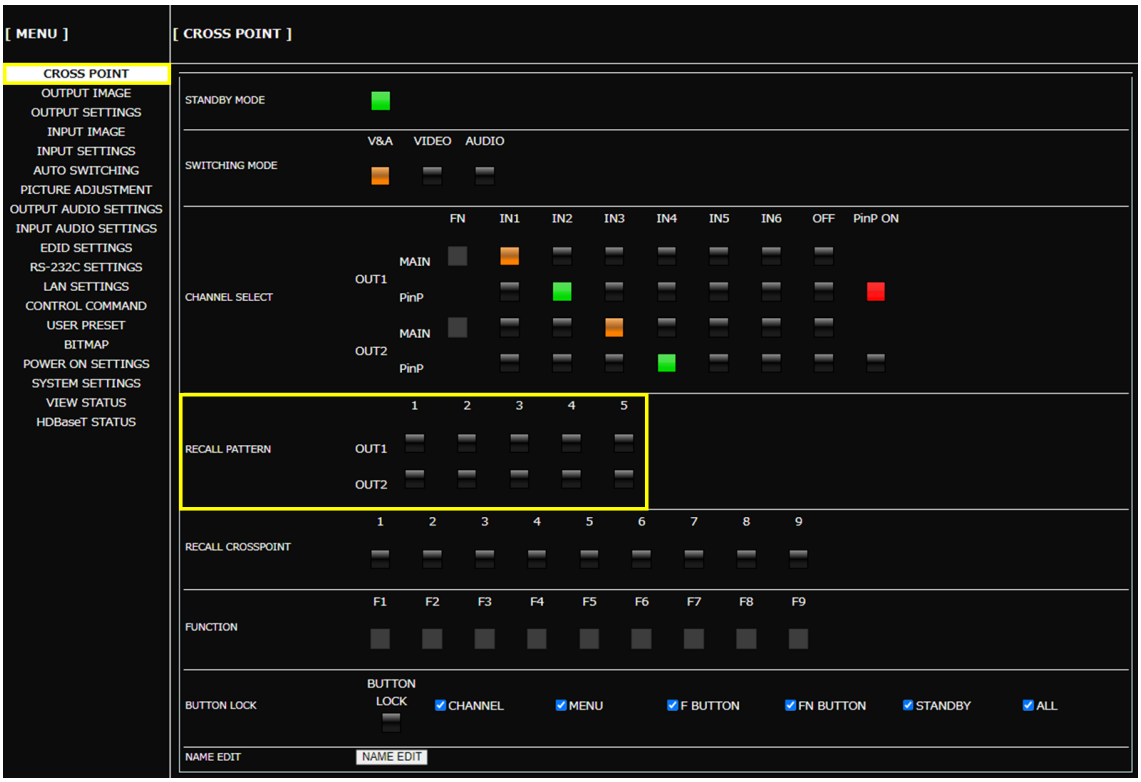
Front Panel

1. Select [USER PRESET]→[RECALL PATTERN].
2. Select the output.
3. Select the pattern memory number.
4. Press the MENU/ENTER button.
   The confirmation message appears.
5. Select [YES].
6. Press the MENU/ENTER button to accept the new value.

Tips

- Layouts can be recalled in the order of pattern memory number by assigning [RECALL PATTERN] to a function button. For the procedure, see “**Setting function button mode (P.22)**”.
- For the procedure for changing layouts, see “**Adjusting image position (P.30)**” and “**Adjusting image size (P.31)**”.
- For the procedure for saving layouts, see “**Saving layouts in pattern memory (P.84)**”.

WEB GUI



Tip

Input selection information is not saved to pattern memories. To switch a window layout and input selection simultaneously, recall the crosspoint memory at the same time or recall the preset memory. For details, see “**Saving and Recalling Presets (P.80)**”.

Bitmap

This chapter describes how to save and display bitmap files.

For saving bitmap files, the MSD-V6 supports DIB (Device Independent Bitmap) with a header generally used for Windows, and those files need to meet the following requirements:

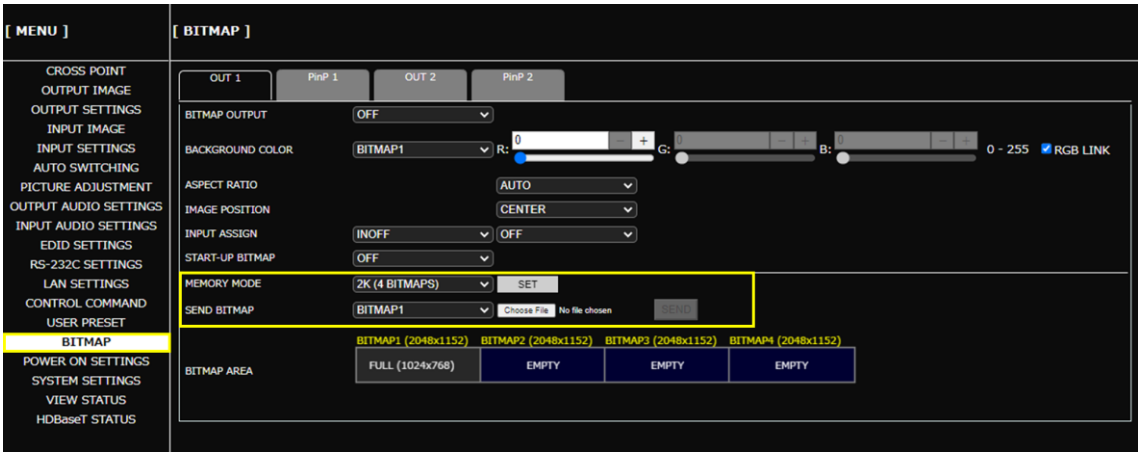
File header	: BITMAPFILEHEADER
Information header	: BITMAPCOREHEADER (for OS/2), BITMAPINFOHEADER (for Windows)
The number of colors	: 2 colors (monochrome, 1 bit), 16 colors (4 bits), 256 colors (8 bits), 16.77 million colors (TRUE COLOR, 24 bits)
Size of an image:	: [MEMORY MODE] [2K (4 BITMAPS)] : 2048x1152 or smaller [MEMORY MODE] [4K (1 BITMAPS)] : 4096x2160 or smaller
Compression format	: No compression (BI_RGB), 8 bit-run-length compression (BI_RLE8), 4 bit-run-length compression (BI_RLE4)

Saving bitmap file

Advanced

WEB GUI

1. Select [MENU]→[BITMAP].
2. Select a maximum resolution for [MEMORY MODE].
   2K (4 BITMAPS) : Up to four bitmap files of 2048x1152 or smaller.
   4K (1 BITMAP)　: One bitmap file of 4096x2160 or smaller
3. Click [SET].
   Notes
   - Once the setting is changed, saved bitmap files are deleted automatically.
   - It takes six minutes approximately for 1920x1080 and 20 minutes approximately for 3840x2160.
4. Select the bitmap file number from the [SEND BITMAP] drop-down menu.
5. Click [Choose File] and select the bitmap file.
6. Click [SEND].



Notes

- Do not power off the MSD-V6 while a message, [Writing Bitmap Please Wait...] is displayed on the front display. The settings may be deleted.
- The saved bitmap file is not deleted even after initialization or it cannot be backed up.
- Use a WEB browser to save bitmap files. Bitmap files cannot be saved via the front panel.
- Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in “**Advanced menu (P.18)**”.

Displaying bitmap

Front Panel

1. Select [BITMAP]→[BITMAP OUTPUT].
2. Select the window.
3. Select the saved bitmap file number.

WEB GUI

Note

Only numbers of saved bitmap files can be selected.

Displaying bitmap when OFF is set to an input

Advanced

Front Panel

1. Select [BITMAP]→[INPUT ASSIGN].
2. Select the window.
3. Select [INOFF] for [INPUT ASSIGN].
4. Select the bitmap file number.
5. Press the MENU/ENTER button to accept the new value.

WEB GUI

Notes

- Only numbers of saved bitmap files can be selected.
- Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in “**Advanced menu (P.18)**”.

Displaying bitmap when no video signal is input

Advanced

Front Panel

1. Select [OUTPUT SETTINGS]→[NO SIGNAL IMAGE].
2. Select the window.
3. Select the bitmap file number.

WEB GUI

Notes

- Only numbers of saved bitmap files can be selected.
- Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in “**Advanced menu (P.18)**”.

Automatic Input Switching

This chapter describes how to automatically select the connected input based on detection of an active video signal.

Switching input automatically

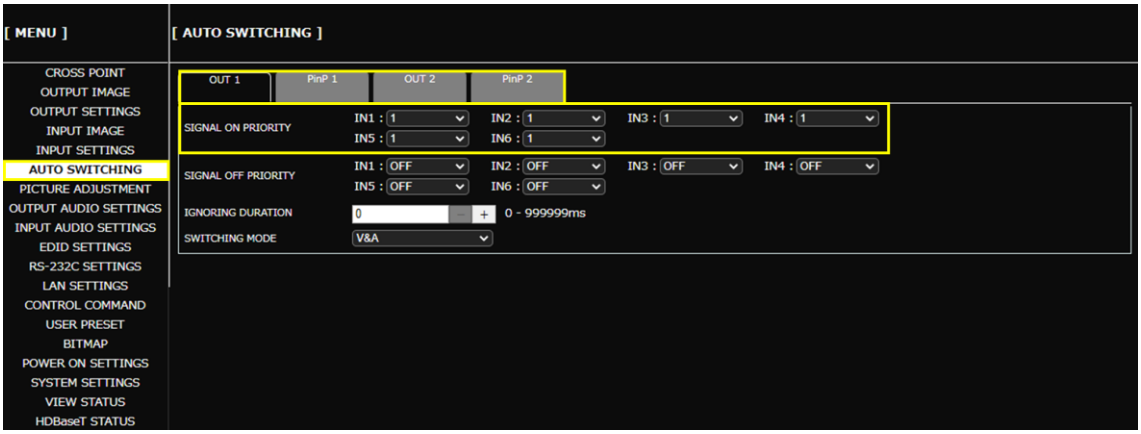
Advanced

The example below shows how to switch automatically video and audio to IN1 in the following cases:

- Input video signal is detected
  and
- Displayed input video signal disappears

1. Setting automatic switching priority for when input video signal is detected:
   Front Panel
   a) Select [AUTO SWITCHING]→[SIGNAL ON PRIORITY].
   b) Select the window.
   c) Select the same priority for all inputs.
   d) Press the MENU/ENTER button.

   WEB GUI



2. Setting automatic switching priority for when input video signal disappears:

Front Panel

a) Select [AUTO SWITCHING]→[SIGNAL OFF PRIORITY].

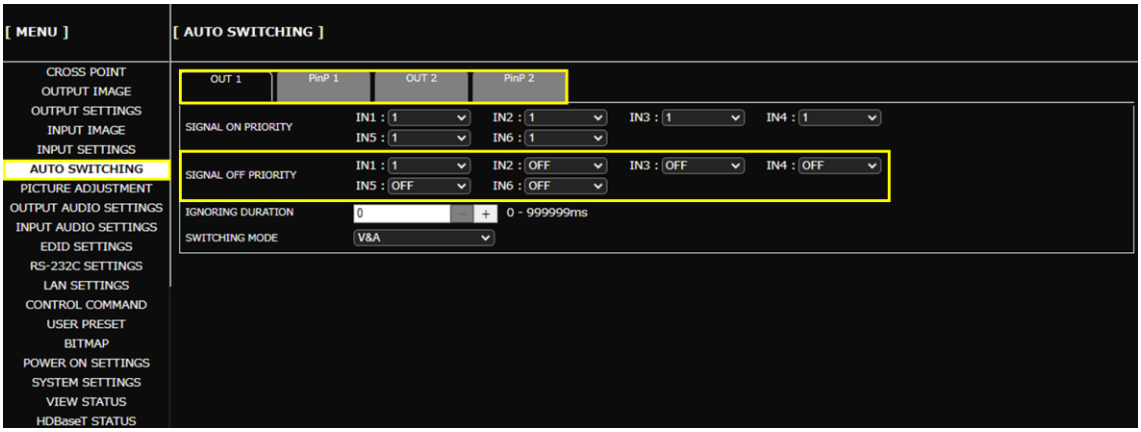
b) Select the window.

c) Select the priorities as follows:

Input	Setting value	Description
[IN1]	1	The top priority
Inputs other than IN1	OFF	No priority is set.

d) Press the MENU/ENTER button to accept the new values.

WEB GUI



3. Selecting signal to be switched:

Front Panel

a) Select [AUTO SWITCHING]→[SWITCHING MODE].

b) Select the window.

c) Select [V&A].

WEB GUI

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Ignoring duration after automatic input switching

Advanced

If changes in input video signals are detected at short intervals, inputs are switched automatically and continuously. This successive automatic switching can be avoided by setting the change detection interval manually after the auto-input switching is executed.

Front Panel

1. Select [AUTO SWITCHING]→[IGNORING DURATION].
2. Select the output.
3. Set the duration that ignores input detection after auto-input switching.

WEB GUI

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

RS-232C/LAN Communication

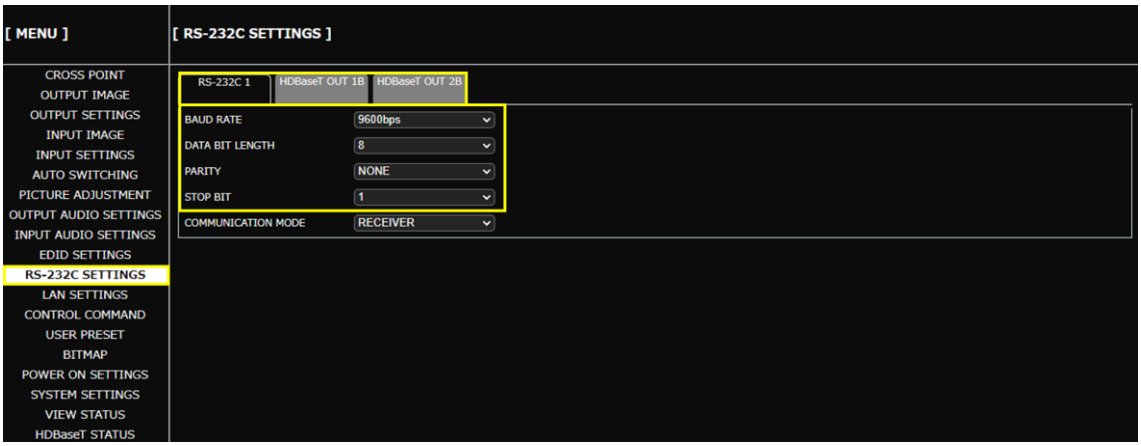
This chapter describes how to configure communication of the MSD-V6.

Configuring RS-232C communication

Front Panel

1. Select [RS-232C SETTINGS]→[PARAMETERS].
2. Select the connectors supporting RS-232C communication.
3. Configure the following items: [BAUD RATE], [DATA BIT LENGTH], [PARITY], [STOP BIT]
4. Press the MENU/ENTER button to accept the new value.

WEB GUI



Tip

By default, RS-232C communication is configured as follows:

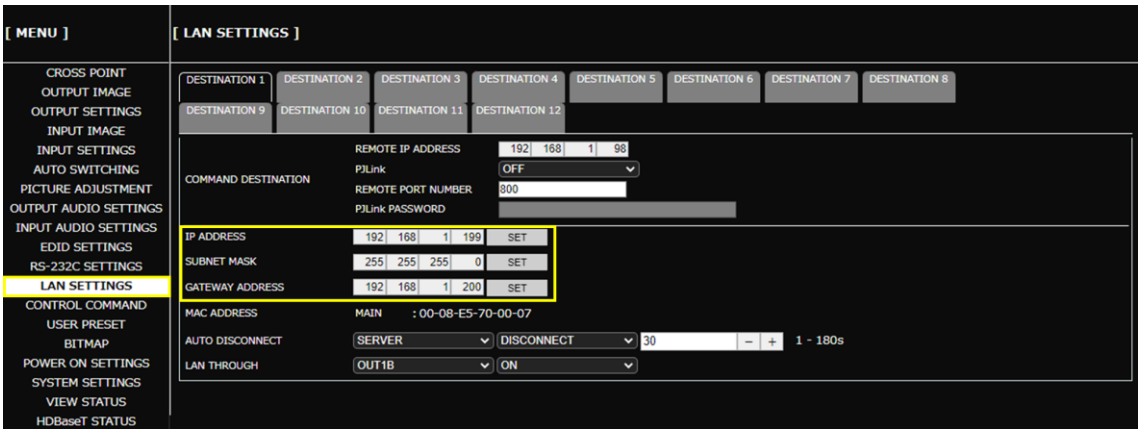
Baud rate	9600 bps
Data bit length	8 bits
Parity check	NONE
Stop bit	1 bit

Configuring LAN communication

Front Panel

1. Select [LAN SETTINGS].
2. Configure the following items: [IP ADDRESS], [SUBNET MASK], [GATE WAY]
3. Press the MENU/ENTER button to accept the new values.

WEB GUI



Notes

- From an external device to the MSD-V6 : Up to eight connections.
- From the MSD-V6 to an external device : Up to 12 connections.

Tips

- By default, RS-232C communication is configured as follows:

IP address	192.168.1.199
Subnet mask	255.255.255.0
Default gateway	192.168.1.200
TCP port	1100 (Fixed)

- By default, LAN communication of extension connectors is configured as follows:

10GbE connector	Disabled
HDBaseT connector	Enabled

Projector Power Control

This chapter describes how to control power supply of a projector from the MSD-V6.

Tip

For other controls from the MSD-V6, refer to the User Guide.

Controlling projector power via RS-232C communication

Advanced

The examples below show how to control projector power using a function button.

Baud Rate	9600 bps
Data Bits	8 bits
Parity Bits	NONE
Stop Bits	1 bit

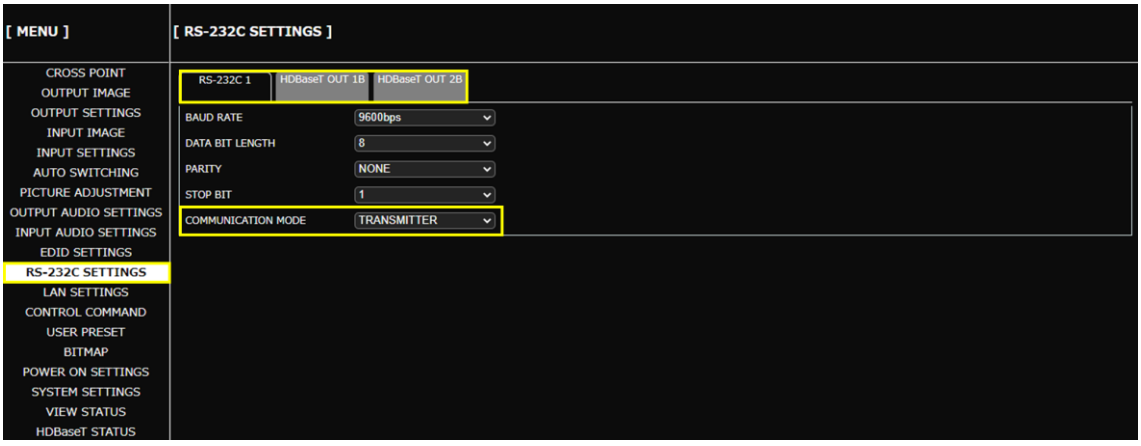
Baud Rate	9600 bps
Data Bits	8 bits
Parity Bits	NONE
Stop Bits	1 bit

1. By performing "**Configuring RS-232C communication (P.63)**", configure the RS-232C communication of the MSD-V6 to the same settings as the projector as follows:
2. Set the communication mode to [TRANSMITTER].

   Front Panel

   a) Select [RS-232C SETTINGS]→[COMMUNICATION MODE].
   b) Select the RS-232C communication connector.
   c) Select [TRANSMITTER].
   d) Press the MENU/ENTER button to accept the new value.

   WEB GUI



3. Register the two commands for powering on and off the projector to the MSD-V6.

Front Panel

a) Select [CONTROL COMMAND]→[COMMAND REGISTER/EDIT].

b) Select the command (CMD) number.

c) Register the commands as follows:

	CMD1	CMD2
I/F	RS232C/LAN	RS232C/LAN
RS1	ON	ON
DATA	Power ON command*	Power OFF command*
DATA SIZE	Transmitting data size	Receiving data size
MEMO	POWER ON	POWER OFF

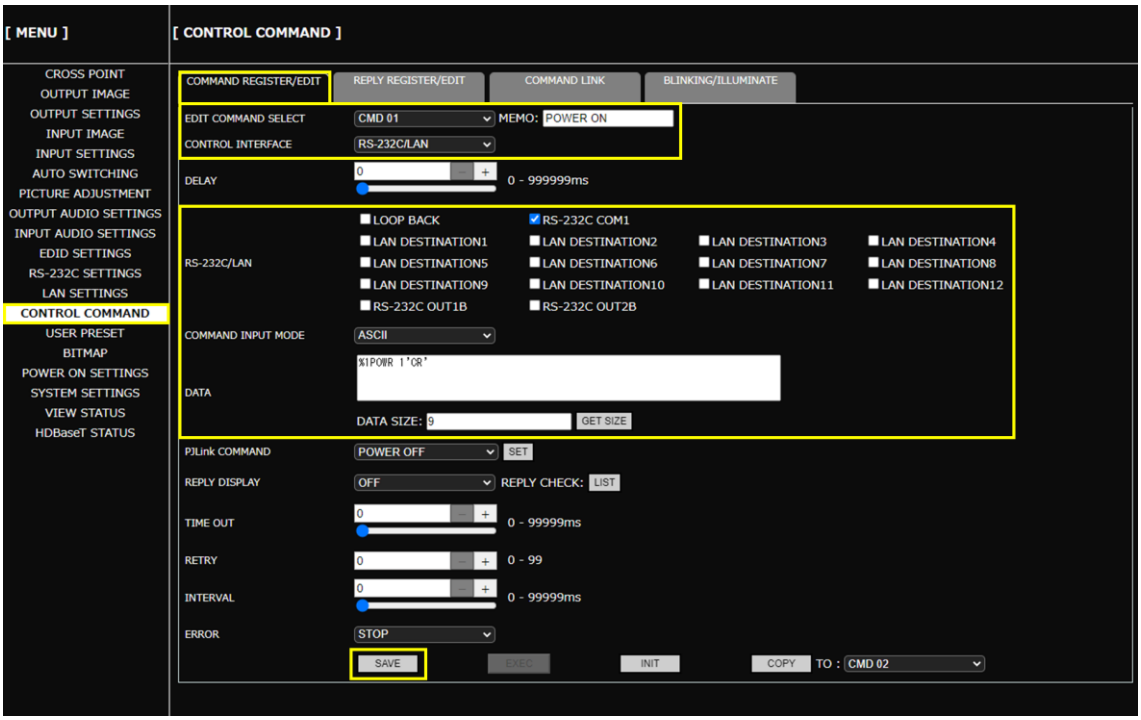
*For the power control command, refer to the User Guide of the projector.

Note

Only values that need to be changed are mentioned above.

d) Press the MENU/ENTER button to accept the new values.

WEB GUI



Tips

- To register the control commands, you also can use Multi Switcher Configurator or Control Command Configuration Tool, which can be downloaded from www.idkav.com.
- To control registered commands from external devices, send the @EXC command to the MSD-V6. For details, refer to the Command Guide.

4. Assign [DISPLAY POWER] to the FN1 button.

Front Panel

a) Select [SYSTEM SETTING]→[FUNCTION ASSIGNMENT].

b) Select [FN1].

c) Assign [DISPLAY POWER] to [FN1].

d) Press the MENU/ENTER button.

WEB GUI

5. Assign the control commands to a function button.

Front Panel

a) Select [CONTROL COMMAND]→[COMMAND LINK].

b) Select [FN1].

c) Assign control commands registered in [A-1st] (powering on) and [B-1st] (powering off) to FN1 function button.

	FN1
TOGGLE	ON
A-1st	COMMAND 2
B-1st	COMMAND 1

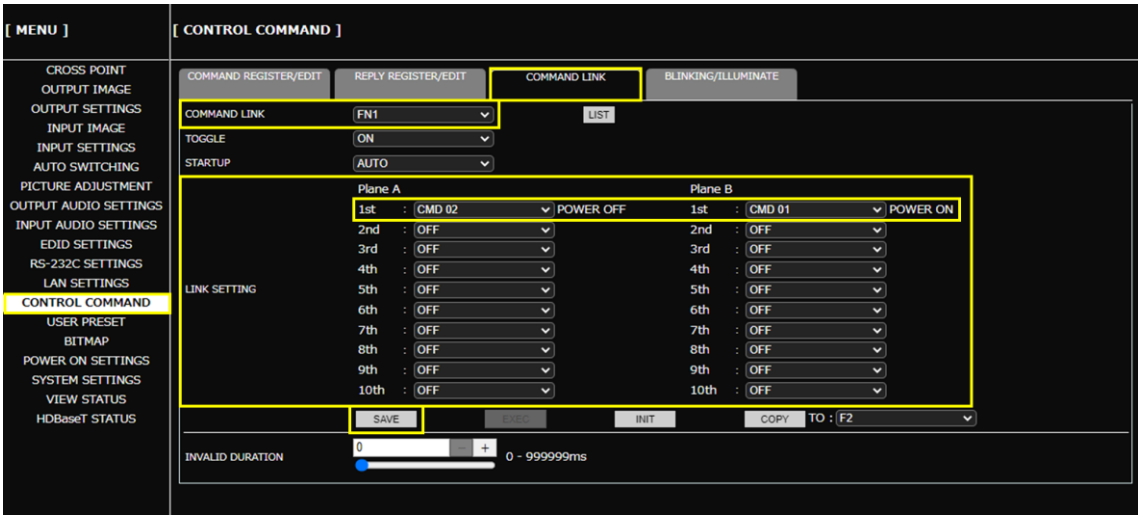
Note

[A-1st] : Executed by pressing the button LED which lights steadily.

[B-1st] : Executed by pressing the button LED which does not light.

d) Press the MENU/ENTER button to accept the new values.

WEB GUI



6. Press the assigned function button.

Pressing the FN1 button whose LED does not light : Powering on projector.

Pressing the FN1 button whose LED light : Powering off projector.

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Controlling projector power via PJLink (LAN communication)

Advanced

IP Address	192.168.1.199

IP Address	192.168.1.101
PJLink Pass Word	123456

1. Perform the same procedure of “**Configuring LAN communication (P.64)**”.
2. Configure the destination of control command.

   Front Panel

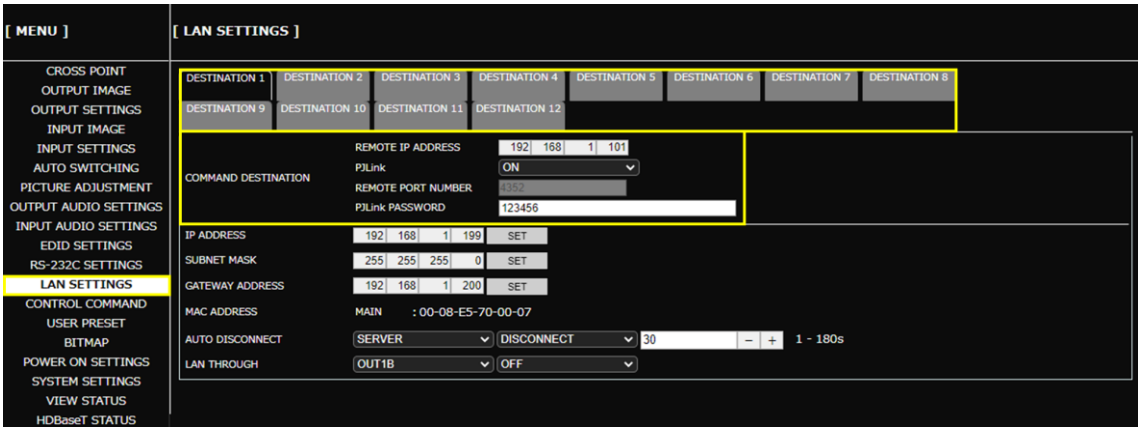
   a) Select [LAN SETTINGS]→[COMMAND DESTINATION].
   b) Select [DESTINATION1].
   c) Set the IP address of the projector to [192.168.1.101].
   d) Set [PJLink] to [ON].
   e) Configure the PJLink password to [123456].

   Tip

   For password of PJLink, refer to the User Guide of the projector.

   f) Press the MENU/ENTER button to accept the new value.

   WEB GUI



Note

If you do not use PJLink protocol connection, set [PJLink] to [OFF] and set the destination port number.

3. Only if sending the control command from an 10GbE/HDBaseT connector, enable the LAN communication of the connector.

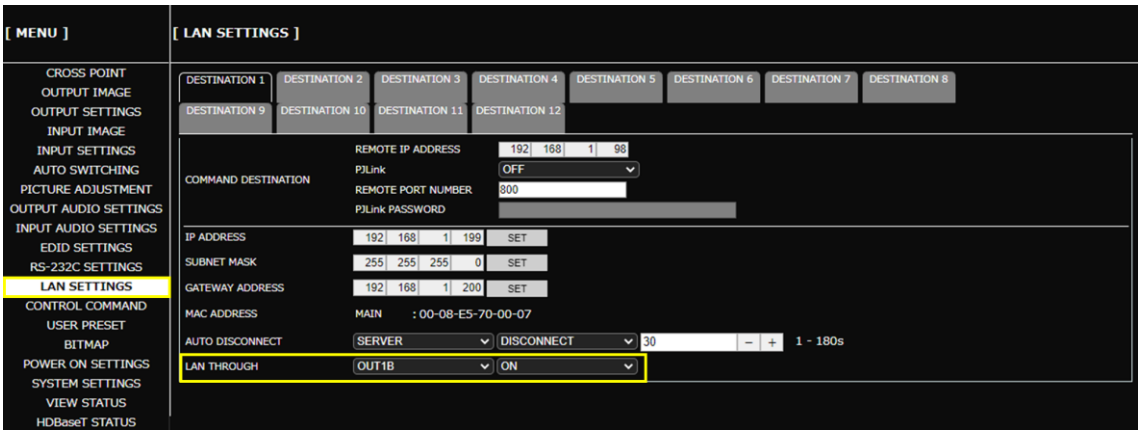
Front Panel

a) Select [LAN SETTINGS]→[LAN THROUGH].

b) Select the 10GbE/HDBaseT connector.

c) Set [LAN THROUGH] to [ON].

WEB GUI



Note

The MSD-V6 includes switching hub function. If the MSD-V6 communicates with a product having a switching hub over LAN, the network may be down due to loop problem.

In case the loop problem occurs, set the LAN communication to [OFF].

4. Register the two commands for powering on and off the projector to the MSD-V6.

Front Panel

a) Select [CONTROL COMMAND]→[COMMAND REGISTER/EDIT].

b) Select the command (CMD) number.

c) Register the commands as follows:

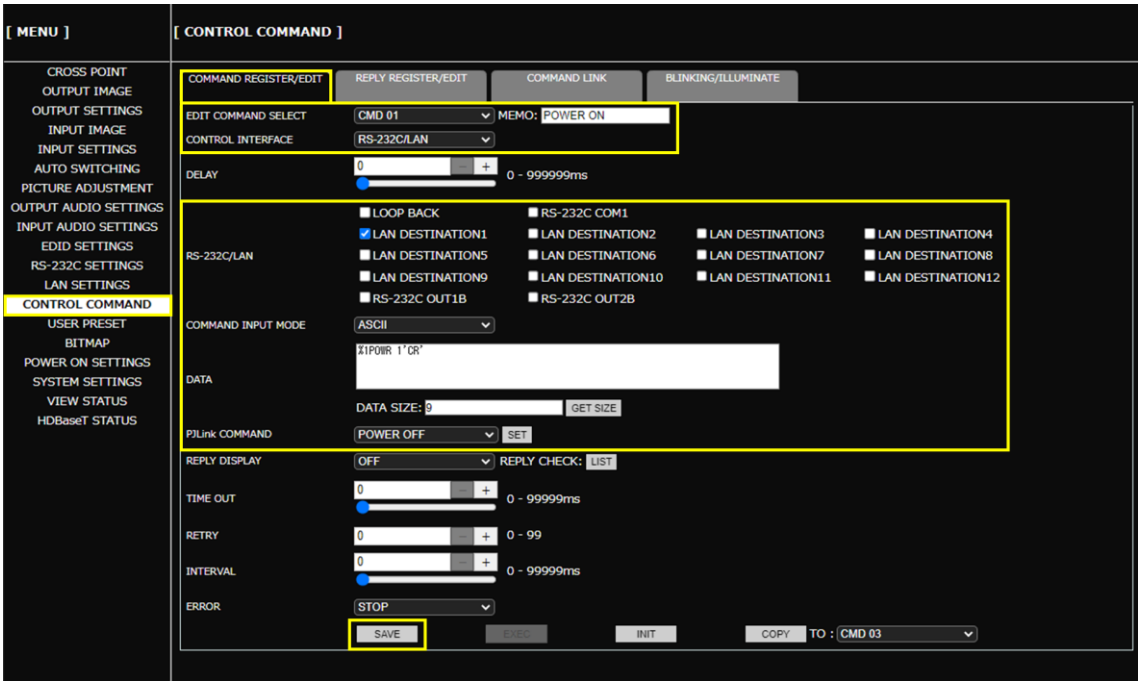
	CMD1	CMD2
I/F	RS232C/LAN	RS232C/LAN
[LAN DESTINATION1]	ON	ON
DATA	%1POWR 1↲	%1POWR 0↲
DATA SIZE	9	9
MEMO	POWER ON	POWER OFF

Note

Only values that need to be changed are mentioned above.

d) Press the MENU/ENTER button to register the control command.

WEB GUI



Tips

- To register the control commands, you also can use Multi Switcher Configurator or Control Command Configuration Tool, which can be downloaded from www.idkav.com.
- To control registered commands from external devices, send the @EXC command to the MSD-V6. For details, refer to the Command Guide.

5. Assign [DISPLAY POWER] to a function button.

Front Panel

a) Select [SYSTEM SETTING]→[FUNCTION ASSIGNMENT].

b) Select [FN1].

c) Assign [DISPLAY POWER] to [FN1].

d) Press the MENU/ENTER button to accept the new value.

WEB GUI

6. Assign the control commands to a function button.

Front Panel

a) Select [CONTROL COMMAND]→[COMMAND LINK].

b) Select [FN1].

c) Assign control commands registered in [A-1st] (powering on) and [B-1st] (powering off) to FN1 function button.

	FN1
TOGGLE	ON
A-1st	COMMAND 2
B-1st	COMMAND 1

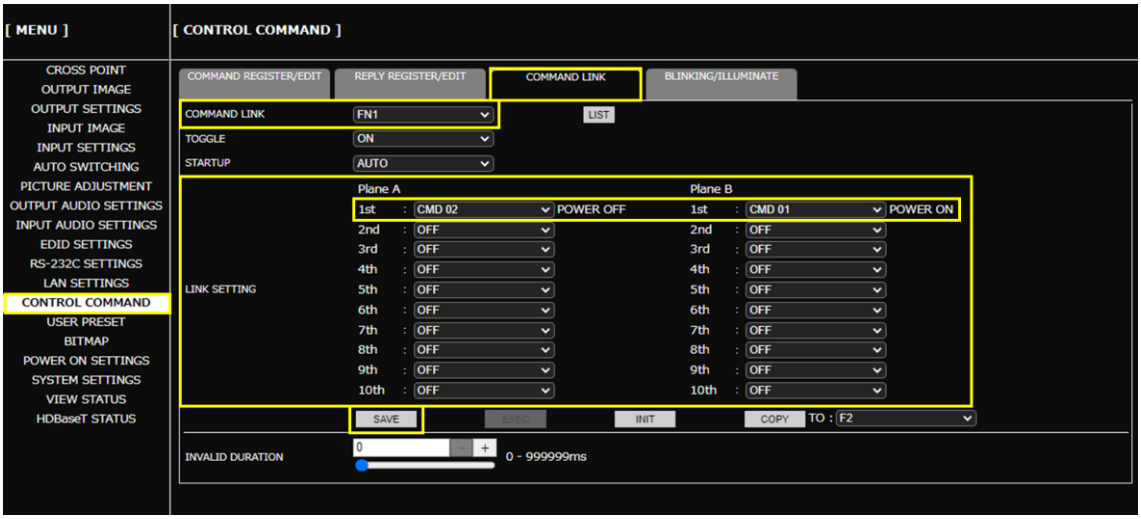
Note

[A-1st] : Executed by pressing the button LED which lights steadily.

[B-1st] : Executed by pressing the button LED which does not light.

d) Press the MENU/ENTER button to accept the new values.

WEB GUI



7. Press the assigned function button.

Pressing the FN1 button whose LED does not light : Powering on projector.

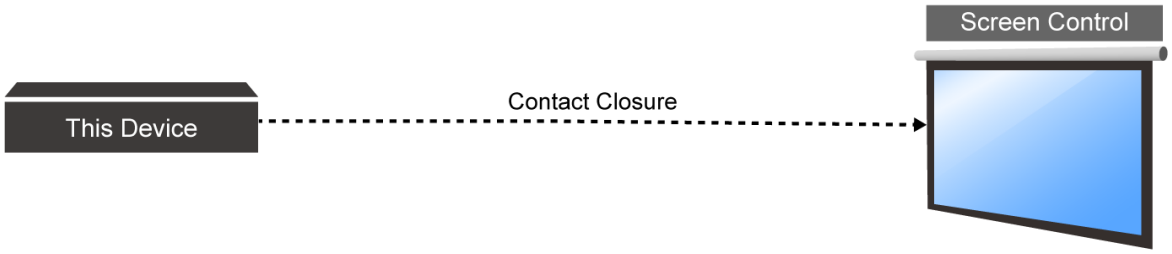
Pressing the FN1 button whose LED light : Powering off projector.

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Screen Control

This chapter describes how to control a screen via contact closure from the MSD-V6.



1. Register the three commands for screen up/down/stop to the MSD-V6.

   Front Panel

   a) Select [CONTROL COMMAND]→[COMMAND REGISTER/EDIT].

   b) Select the command (CMD) number.

   c) Register the commands as follows:

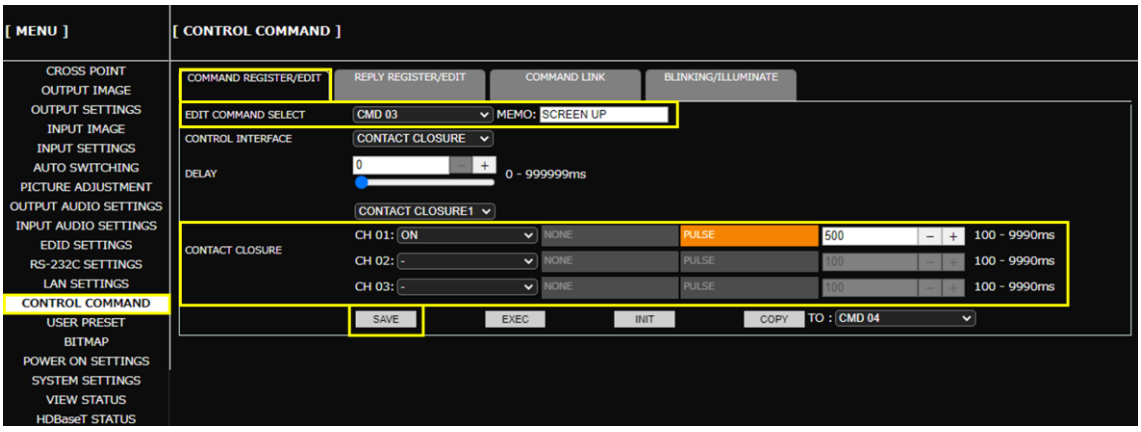
	CMD3		CMD4		CMD5	
I/F	CONTACT CLOSURE		CONTACT CLOSURE		CONTACT CLOSURE	
CH1	ON	PULSE: 500 ms	OFF	PULSE: NONE	OFF	PULSE: NONE
CH2	OFF	PULSE: NONE	ON	PULSE: 500 ms	OFF	PULSE: NONE
CH3	OFF	PULSE: NONE	OFF	PULSE: NONE	ON	PULSE: 500 ms
MEMO	SCREEN UP		SCREEN STOP		SCREEN DOWN	

   Notes

   - Only values that need to be changed are mentioned above.
   - For setting values for [PULSE] of [CH1] to [CH3], refer to the User Guide of the screen.

   d) Press the MENU/ENTER button to register the control command.

   WEB GUI



Tips

- To register the control commands, you also can use Multi Switcher Configurator or Control Command Configuration Tool, which can be downloaded from www.idkav.com.
- To control registered commands from external devices, send the @EXC command to the MSD-V6. For details, refer to the Command Guide.

2. Assign [COMMAND] to function buttons for screen up/down/stop.

Front Panel

a) Select [SYSTEM SETTING]→[FUNCTION ASSIGNMENT].

b) Assign [COMMAND] to [F1] to [F3].

c) Press the MENU/ENTER button to accept the new value.

WEB GUI

3. Assign commands for screen up/down/stop to function buttons.

Front Panel

a) Select [CONTROL COMMAND]→[COMMAND LINK].

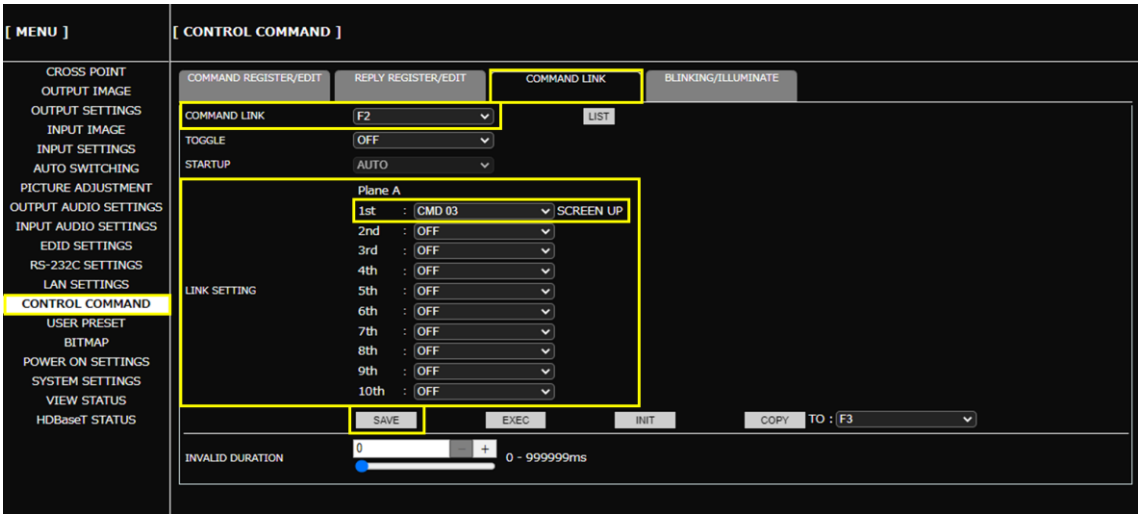
b) Select [F2] to [F4].

c) Assign control commands as follows:

	F2	F3	F4
TOGGLE	OFF	OFF	OFF
1st	COMMAND 3	COMMAND 4	COMMAND 5

d) Press the MENU/ENTER button.

WEB GUI



4. Press the assigned function button.
Pressing the lighting F2 button : Screen UP
Pressing the lighting F3 button : Screen STOP
Pressing the lighting F4 button : Screen DOWN

Viewing Statuses

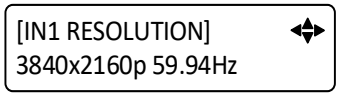
This chapter describes how to view I/O signal states and EDID of sink devices.
If video or audio cannot be output, first, check these statuses.

Viewing input signal status

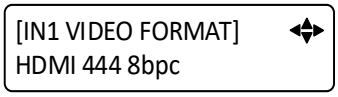
Front Panel

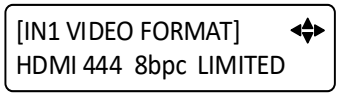
1. Select [VIEW STATUS]→[INPUT STATUS].
2. Select the input connector.
3. Select the item.

Input video resolution

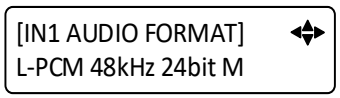


Input video signal format

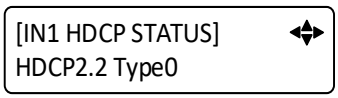




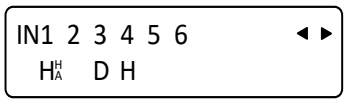
Input audio signal format



HDCP



Statuses of all input connectors



[H] : HDMI signal is input.
[D] : DVI signal is input.
No character : No signal is input.
Small [H] : Signal is protected by HDCP.
Small [A] : Audio is embedded.

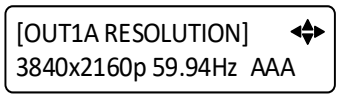
WEB GUI

Viewing output signal status

Front Panel

1. Select [VIEW STATUS]→[OUTPUT STATUS].
2. Select the output connector.
3. Select the item.

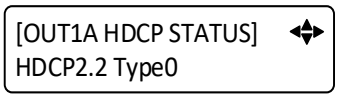
Output video resolution



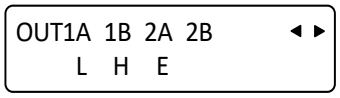
Output video signal format

Output audio signal format

HDCP



Statuses of all output connectors

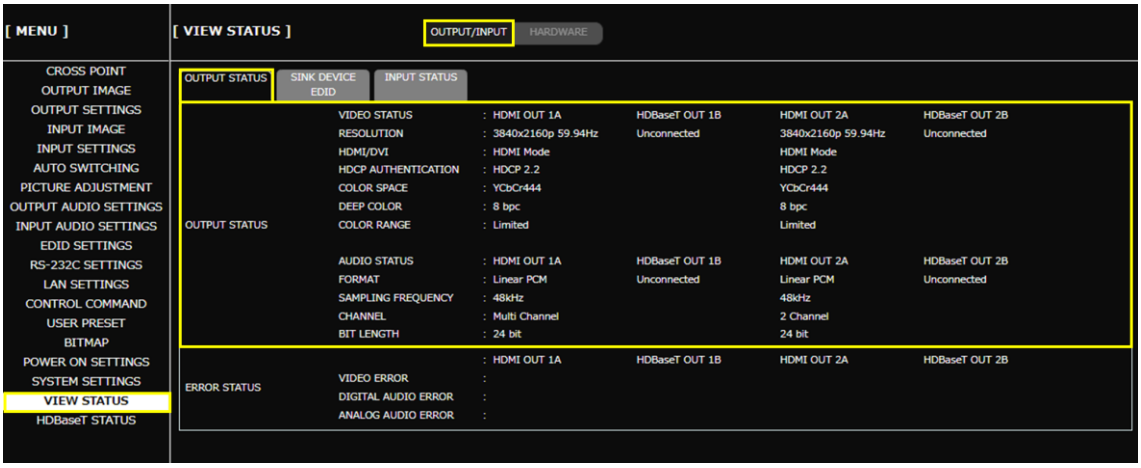


[H] : Signal is detected with HDCP.
[L] : Signal is detected but no HDCP present.
[E] : HDCP authorization failed.
[C] : Being HDCP authorized.
[X] : Video synchronization output is suspended.
[D] : Sink is disconnected (displayed only for one second).
No character : No sink device is connected or video synchronization output is suspended.

Note

AAA: An error code is displayed. For descriptions of error codes, refer to User Guide.

WEB GUI



Note

For some sink devices, signals which differ from the MSD-V6's output setting may be output.

Viewing sink device EDID

This feature is useful for checking the optimal resolution and audio format.

Front Panel

1. Select [VIEW STATUS]→[SINK DEVICE EDID].
2. Select the output connector to which the sink device is connected.
3. Select the item.

Sink device name and recommended resolution

[OUT1A] MONITOR NAME
3840x2160p 594.00MHz

Supported video signal format

[OUT1A] HDMI
RGB/YCbCr422/444

[OUT1A]
DVI

Supported color depth

[OUT1A]
8/10/12 bpc

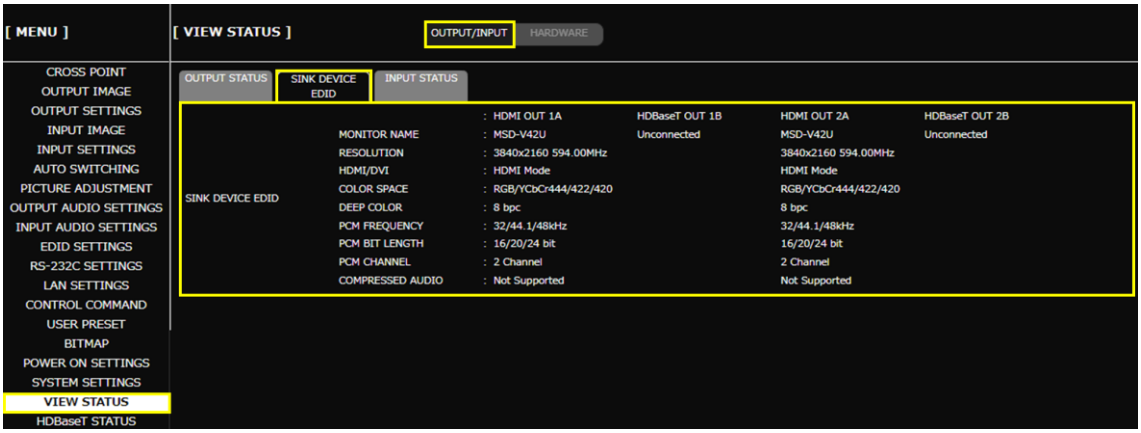
Supported sampling frequency

[OUT1A]
32/44.1/48/96kHz

Supported audio signal format

[OUT1A] 16/20/24BIT
8CHANNEL COMPRESSED

WEB GUI



Saving and Recalling Presets

This chapter describes how to save and recall settings to/from the following three types of presets:

- Preset memory : Current input selection of video and audio and output video settings.
- Crosspoint memory : Current input selection of video and audio.
- Pattern memory : Current settings such as image position, image size, and so on.

Tip

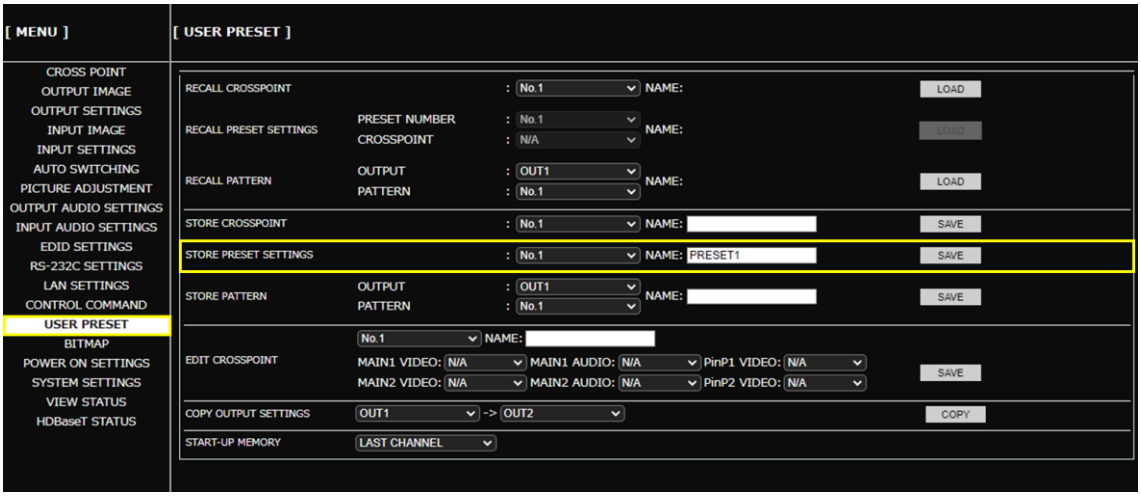
For details of settings to be saved to the presets, refer to the User Guide.

Saving settings in preset memory

Front Panel

1. Select [USER PRESET]→[STORE PRESET SETTINGS].
2. Select the preset memory number.
3. Enter the desired name.
4. Press the MENU/ENTER button.
   The confirmation message appears.
5. Select [YES].
6. Press the MENU/ENTER button.

WEB GUI



Recalling saved settings from preset memory

Front Panel

1. Select [USER PRESET]→[RECALL PRESET SETTINGS].
2. Select the preset memory number.
3. For [CROSSPOINT], select the input you want to recall with the preset memory.
   [N/A] : No information
   [PRESET] : The input settings saved in the preset memory.
   [CP_MEMORY] : The input settings saved in the crosspoint memory.
4. Press the MENU/ENTER button.
   The confirmation message appears.
5. Select [YES].
6. Press the MENU/ENTER button to accept the new value.

WEB GUI

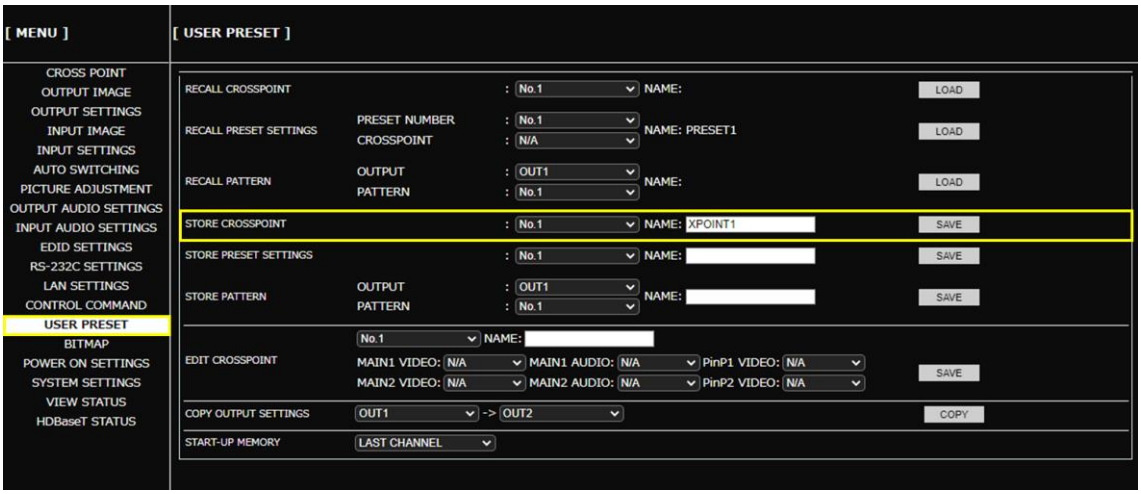
Saving input selection settings to crosspoint memory

The input channel selections of the current video and audio can be saved to crosspoint memory.

Front Panel

1. Select [USER PRESET]→[STORE CROSSPOINT].
2. Select the crosspoint memory number.
3. Enter the desired name.
4. Press the MENU/ENTER button.
   The confirmation message appears.
5. Select [YES].
6. Press the MENU/ENTER button to accept the new values.

WEB GUI

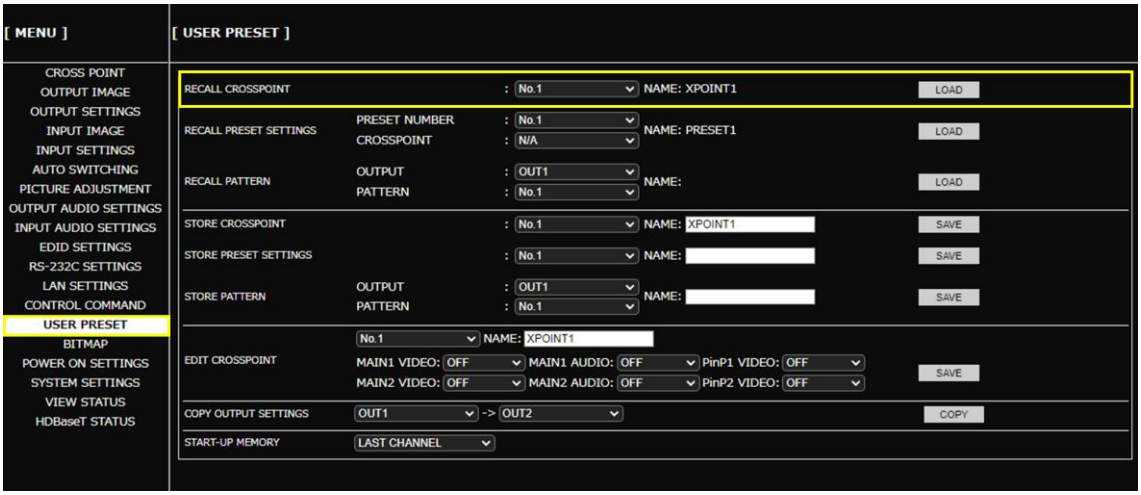


Recalling saved input selection settings from crosspoint memory

Front Panel

1. Select [USER PRESET]→[RECALL CROSSPOINT].
2. Select the crosspoint memory number.
3. Press the MENU/ENTER button.

WEB GUI

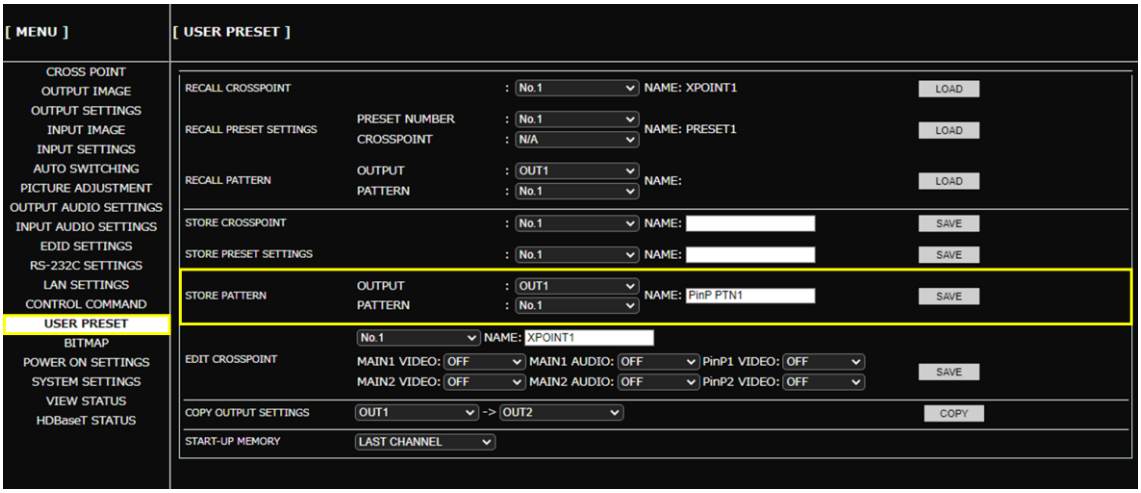


Saving layouts in pattern memory

Front Panel

1. Select [USER PRESET]→[STORE PATTERN].
2. Select the output.
3. Select the pattern memory number.
4. Enter the desired name.
5. Press the MENU/ENTER button.
   The confirmation message appears.
6. Select [YES].
7. Press the MENU/ENTER button to accept the new values.

WEB GUI



Recalling saved layouts from pattern memory

Front Panel

1. Select [USER PRESET]→[RECALL PATTERN].
2. Select the output.
3. Select the pattern memory number.
4. Press the MENU/ENTER button.
   The confirmation message appears.
5. Select [YES].
6. Press the MENU/ENTER button to accept the new values.

WEB GUI

Note

By default, the following layouts are saved in the pattern memory:

No.1

Main window only

No.2

PinP window is displayed.
(Upper-left)

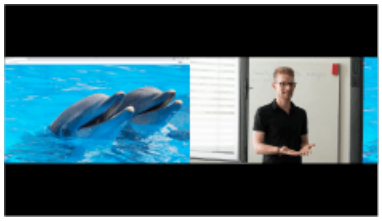
No.3

PinP window is displayed.
(Upper-right)

No.4

PinP window is displayed.
(Lower-right)

No.5



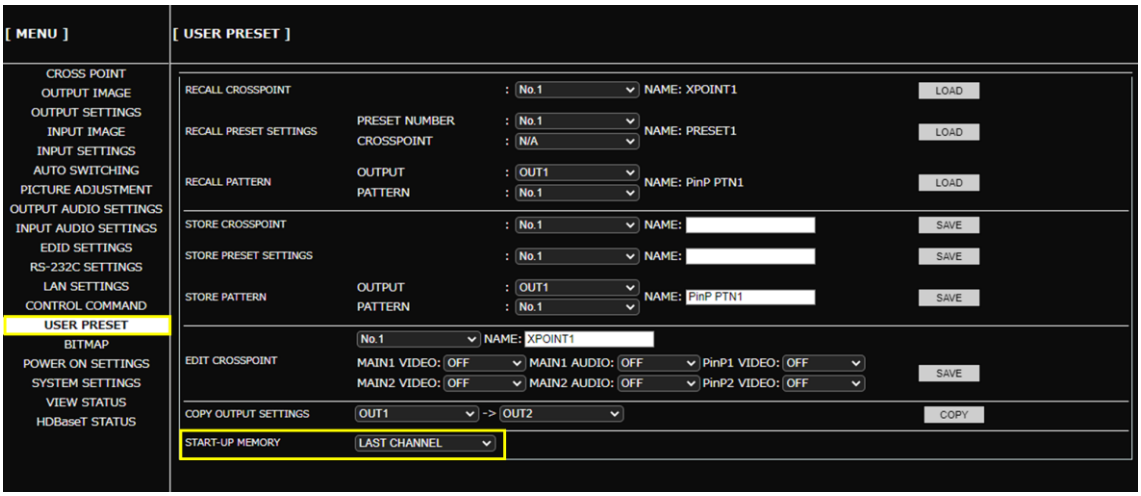
PinP window is displayed.
(Side-by-Side)

Recalling presets at start-up

Front Panel

1. Select [USER PRESET]→[START-UP MEMORY].
2. Select presets you want to recall at the time of start-up.
   [LAST CHANNEL] : Last settings before powering off or turning to the standby state.
   [CROSS POINT] : Desired crosspoint.
   [PRESET MEMORY] : Selected preset.

WEB GUI



Note

If no settings are saved in the preset memory, preset memory is not displayed on the menu.

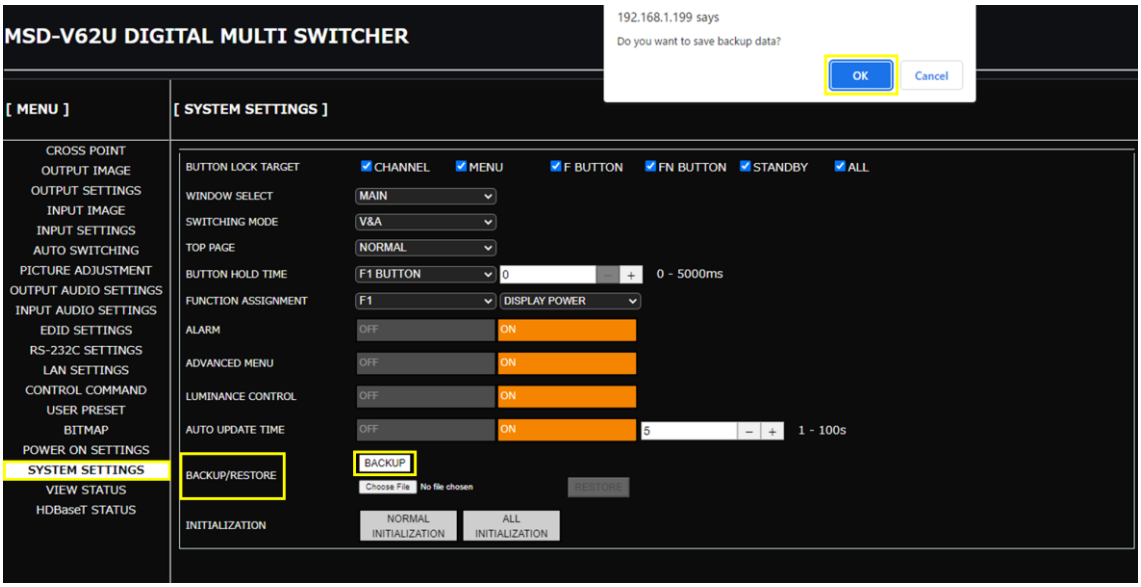
Backup and Restore

This chapter describes how to back up and restore settings.
All settings can be saved to a PC as a backup file via a WEB browser. The backup file can also be used to copy settings to other MSD-V6 series devices.

Backing up settings

WEB GUI

1. Select [SYSTEM SETTINGS].
2. Click [BACK UP] of [BACKUP/RESTORE].
3. Click [OK].



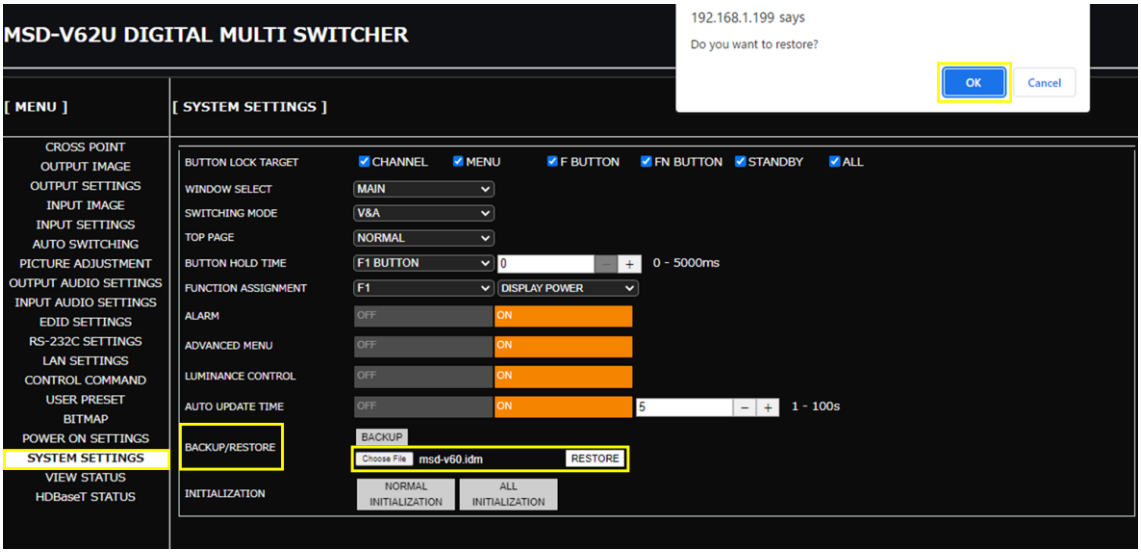
Notes

- A backup file is saved in IDM format.
- Bitmap files cannot be backed up.

Restoring settings from backup file

WEB GUI

1. Select [SYSTEM SETTINGS].
2. Click [Choose File] from [BACKUP/RESTORE].
3. Select the file.
4. Click [SEND].
5. Click [OK].
   When the restoring is complete, the MSD-V6 reboots.



Note

Do not power off the MSD-V6 during the restoring process. The settings may be deleted.

Initialization

This chapter describes how to initialize settings to factory-installed defaults.

Notes

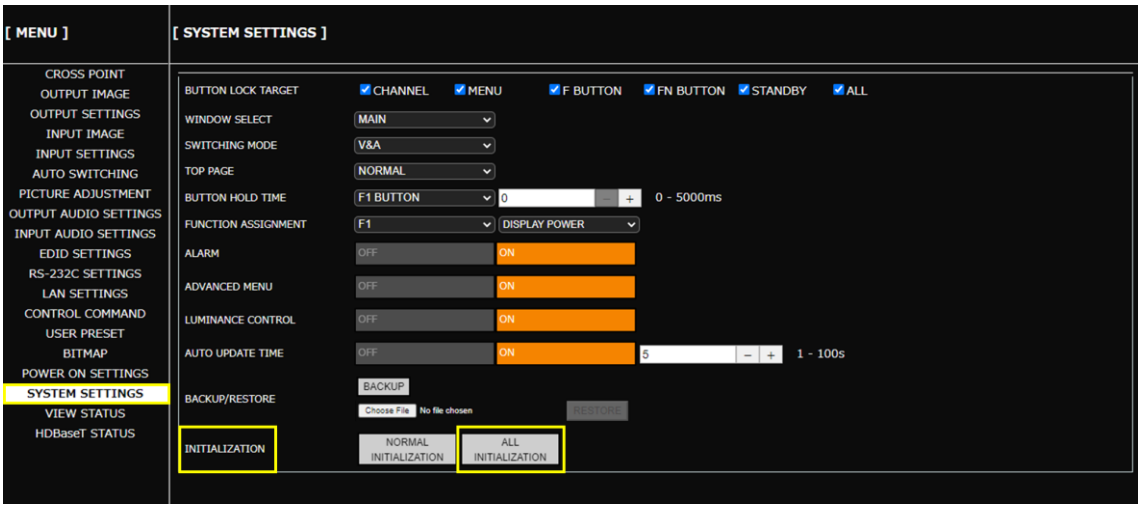
- Bitmap files are not initialized.
- Back up setting files for restore before executing the initialization process as needed.

Initializing all settings

Front Panel

1. Press and hold the BACK button to boot the MSD-V6.
2. Ensure that a message, [Initializing…] appears on the front display.
3. Release the BACK button.

WEB GUI

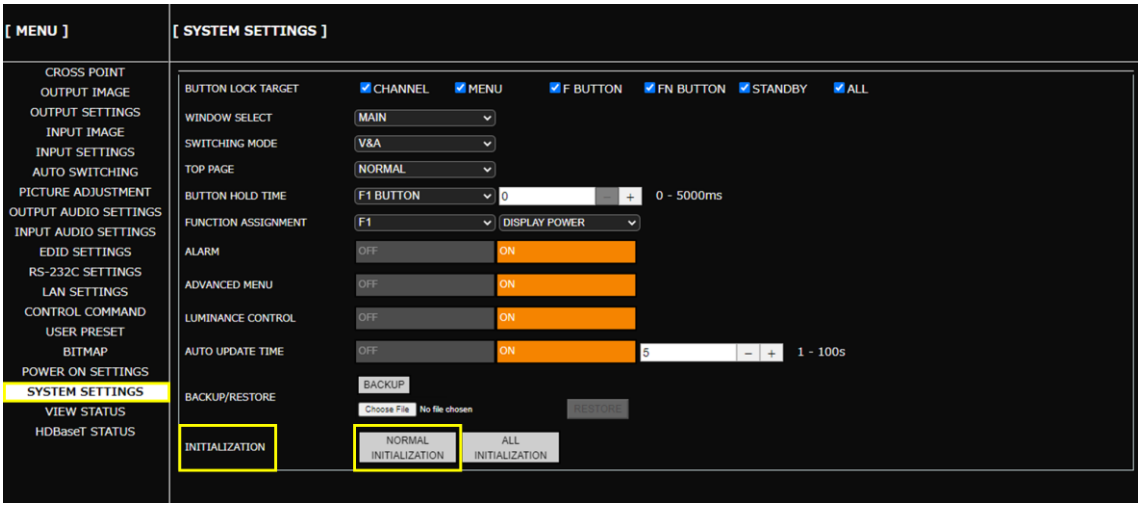


Note

Do not power off the MSD-V6 while a message, [Initializing…] is displayed on the front display. The initialization process may not be completed correctly.

Initializing settings other than LAN/RS-232C configurations

WEB GUI



Note

Do not power off the MSD-V6 while a message, [Initializing…] is displayed on the front display. The initialization process may not be completed correctly.

Other useful features

This chapter describes useful features.

Enabling sink device to be standby

Advanced

To enable a sink device to be standby for when selecting an input to [OFF] or no video signal is input, disable the output signal of MSD-V6.

Front Panel

1. Select [OUTPUT SETTINGS]→[NO SIGNAL OUTPUT].
2. Select the output connector.
3. Set the duration from selecting an input to [OFF] or no video signal is input until disabling output signal. (Default: ON)

WEB GUI

Note

Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in "**Advanced menu (P.18)**".

Tip

For detailed condition requirements, refer to the User Guide.

Troubleshooting

This chapter provides recommendations in case difficulties are encountered during MSD-V6 setup and operation.

In case the MSD-V6 does not work correctly, please check the following items first.

- Are the MSD-V6 and all devices connected to power and powered on?
- Are signal cables connected correctly?
- Are there any loose or partially mated connections?
- Are the interconnecting cables specified correctly to support adequate bandwidth?
- Are specifications of connected devices matched to each other?
- Are configuration settings for the connected devices correct?
- Is there any nearby equipment that may cause electrical noise/RF interference?

Refer to the manuals of connected devices as well, since they may possibly be the cause of the problem.

If the problem persists, please contact us after checking the following items.

- Does the problem occur at all connectors?
- Does the problem occur when you connect the devices without connecting the MSD-V6?

Digital Multi Switcher

MSD-V6 Series

Operation Guide

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