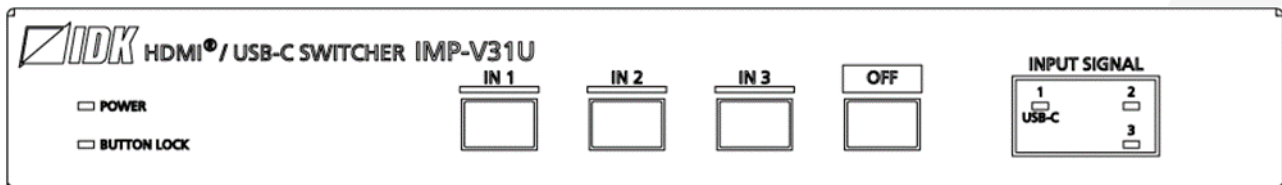


HDMI/USB-C Switcher

IMP-V31U

Operation Guide

Ver.1.1.0



Thank you for choosing our product.

Please thoroughly familiarize yourself with this guide before installing this equipment. We recommend keeping this manual together with the equipment for future reference as needed.

- All rights reserved.
- 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 this equipment to a power source.**

<p>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.</p>	<p>Provided with the product.</p>
<p>2. Setup Guide Contains setup information and precautions for installing the product and connecting cables.</p>	<p>Download from www.idkav.com</p>

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

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

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FCC STATEMENT

Note: 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.

(Class A)

**Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information**

Unique Identifier

Type of Equipment: HDMI/USB-C Switcher

Model Name: IMP-V31U

Responsible Party – U.S. Contact Information

Company Name: IDK America Inc.

Address: 72 Grays Bridge Road Suite 1-C, Brookfield, CT 06804

Telephone number: +1-203-204-2445

URL: www.idkav.com

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(FCC SDoC)

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.

	<h2>Warning</h2>	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.
	<h2>Caution</h2>	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	<ul style="list-style-type: none"> ● Lifting must be done by two or more personnel. <p>To avoid injury: When lifting the product, bend your knees, keep your back straight and get close to it with two or more persons.</p>
--	--

For installing and connecting products:





 Prohibited	<ul style="list-style-type: none"> ● Do not place the product in unstable place. <p>Install the product in a horizontal and stable place, as this may fall or tip over and cause injury.</p> <ul style="list-style-type: none"> ● Secure the product if installing in the locations with vibration. <p>Vibration may move or tip over the product unexpectedly, resulting in injury.</p>
---	--




Warning

 Instruction	<ul style="list-style-type: none"> ● 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, arcing 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 electrically earthed/grounded. 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	<ul style="list-style-type: none"> ● 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, <ul style="list-style-type: none"> • 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. <p>Misuse of the power cable and plug may cause fire or electric shock. If power cables/plugs become damaged, contact your IDK representative.</p>
 Do not disassemble	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Do not touch the product and connected cables during electric storms. Contact may cause electric shock.
 Instruction	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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. <p>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.</p>
--	--







Caution

For installing and connecting products:

 <p>Prohibited</p>	<ul style="list-style-type: none"> ● 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.
 <p>No wet hands</p>	<ul style="list-style-type: none"> ● Do not handle power plug with wet hands. Failure to observe this precaution may increase the risk of electric shock.
 <p>Instruction</p>	<ul style="list-style-type: none"> ● 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	<p>For products with the hot surfaces caution label only:</p> <ul style="list-style-type: none"> ● Do not touch the product's hot surface. <p>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.</p>
 Prohibited	<ul style="list-style-type: none"> ● Use only the supplied power cable and AC adapter. ● Do not use the supplied power cable and AC adapter with other products. <p>If non-compliant adapter or power cables are used, it may increase the risk of fire or electric shock.</p>
 Unplug	<ul style="list-style-type: none"> ● If the product won't be used for an extended period of time, unplug it. <p>Failure to observe this precaution may increase the risk of fire.</p> <ul style="list-style-type: none"> ● Unplug the product before cleaning. <p>To prevent electric shock.</p>
 Instruction	<ul style="list-style-type: none"> ● Do not prevent heat release. <p>If cooling fan stops, power off the product and contact IDK. Failure to do so may raise internal temperature and increase the risk of malfunction, fire, or electric shock.</p> <ul style="list-style-type: none"> ● Keep vents clear of dust. <p>If the vent holes near the cooling fan or near the fan are covered with dust, internal temperatures increase and 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.</p>

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About this Guide

This guide describes how to configure and use the IMP-V31U HDMI/USB-C switcher (hereafter referred to as IMP-V).

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
 - INOFF : Input channel OFF
- The following symbols are used in this guide.
 - [] : Menus and messages displayed on the front panel 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 suggestions.

About this Product

The IMP-V31U is an HDMI and USB-C switcher having three (3) inputs and two (2) distributed outputs.

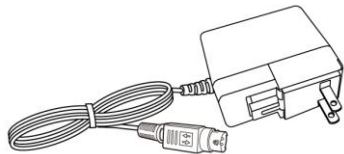
This IMP switcher includes two (2) HDMI and one (1) USB-C video inputs that will support up to 4K@60 video resolution. The selected input video signal can be distributed to both HDMI and USB-C video outputs simultaneously. The video signal from the USB-C output can be fed to a PC and be used to present content in various video conferencing applications. With built-in scan converter, the resolution from the USB-C video signal output can be selected from the connected PC.

For audio input, the IMP-V31U provides two (2) HDMI, one (1) USB-C, and one (1) analog audio inputs. Analog audio can be mixed with digital audio of the selected input channel. The selected input audio signals are distributed to both HDMI and USB-C outputs.

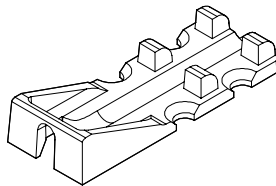
The switcher also includes RS-232C and LAN as communication ports that offer remote setting from WEB browser or control commands.

Provided items

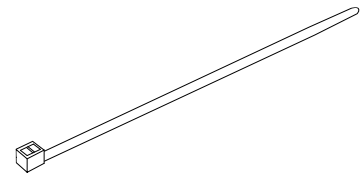
Ensure that all items illustrated below are included in the package.
If any items are missing or damaged, please contact IDK.



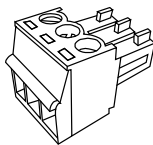
One (1) AC adapter (4 ft. (1.2 m))



Five (5) Cable lacing brackets



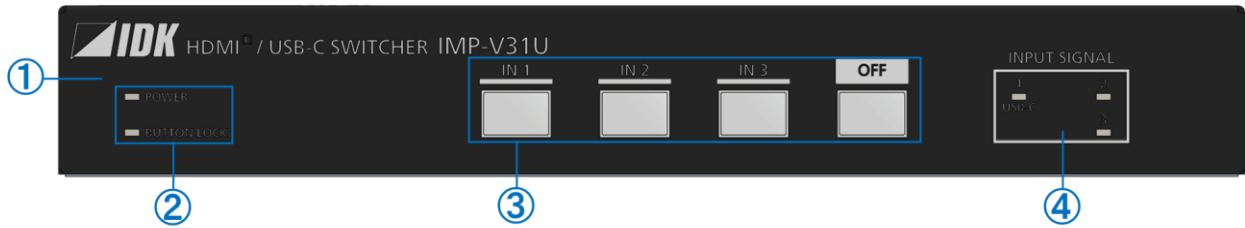
Five (5) Tie wraps



Two (2) 3-pin captive-screw terminal blocks

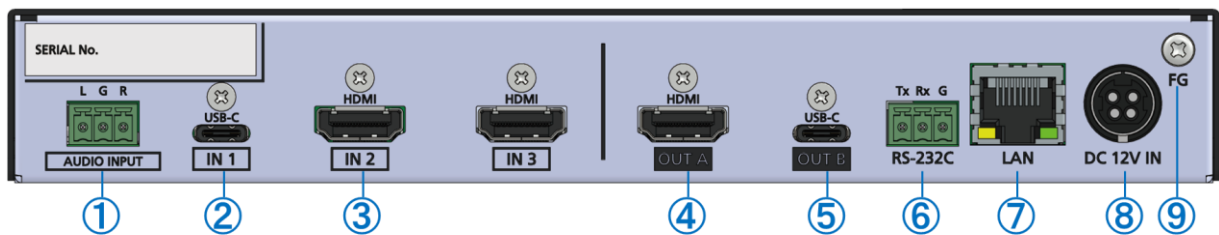
Panel overview

Front panel



①	Front panel User accessible control buttons and status LED.
②	POWER and BUTTON LOCK LED Shows power and button lock status.
③	Input selection buttons Selects an input. Lights if the IN is selected.
④	INPUT SIGNAL LED Illuminates if the video signal is input.

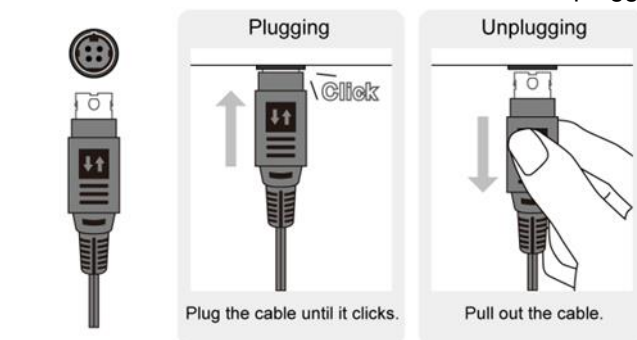
Rear Panel



①	Analog audio input
②	USB-C input
③	HDMI input
④	HDMI output
⑤	USB-C output
⑥	RS-232C
⑦	LAN
⑧	DC input
⑨	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 IMP-V, observe the following precautions; otherwise, the internal temperature increases, possibly affecting product reliability and operation.
 - Do not stack or place one IMP-V directly on top of another IMP-V.
 - Do not block vent holes.
 - Maintain sufficient clearances around the IMP-V (1.2 in. (30 mm) or more) to provide adequate ventilation.
 - It is advisable to install the IMP-V in an environment compatible with the maximum temperature indicated in the specification sheet 32°F to 104°F (0°C to +40°C).
 - If mounting the IMP-V on an optional IDK rack system, refer to its User Guide for details.
- Insert the DC plug into the power inlet connector of the IMP-V until it clicks.
Hold the connector as illustrated below when unplugging the DC plug.



Connection Details

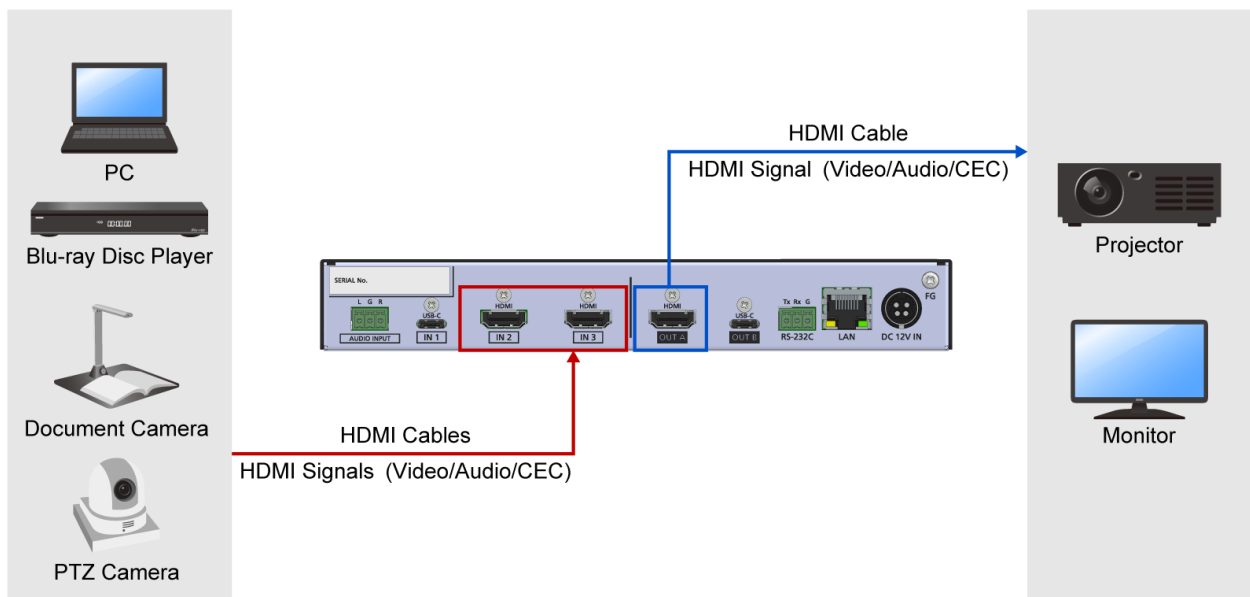
When connecting the IMP-V to external devices, observe the following precautions.

Notes

- Before connecting cables to the IMP-V 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 IMP-V to HDMI devices using HDMI cables.

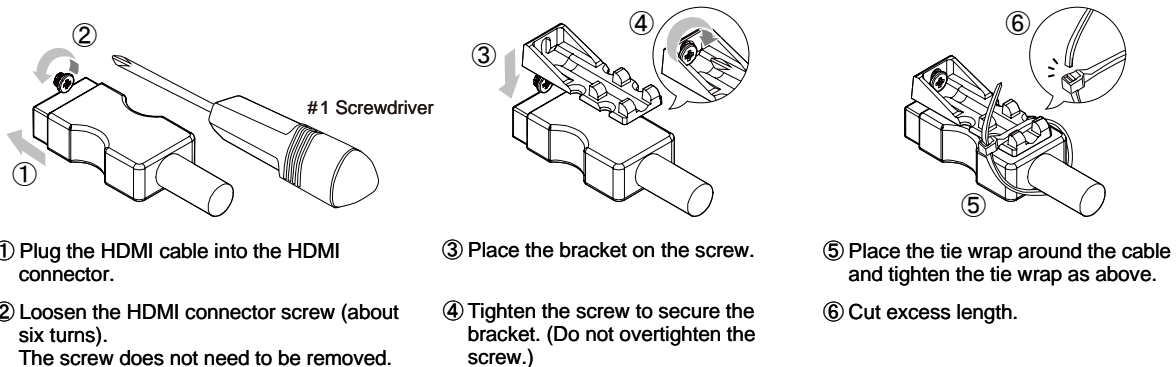


Notes

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

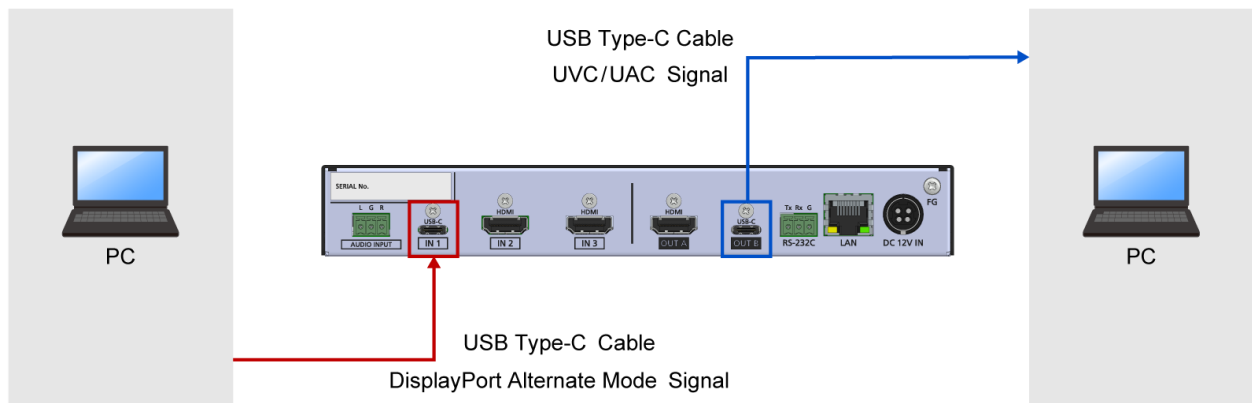
Cable Lacing Bracket (FB-01 for IDK products only)

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



Connecting USB devices

Connect the IMP-V to USB devices using USB Type-C cables.



Notes

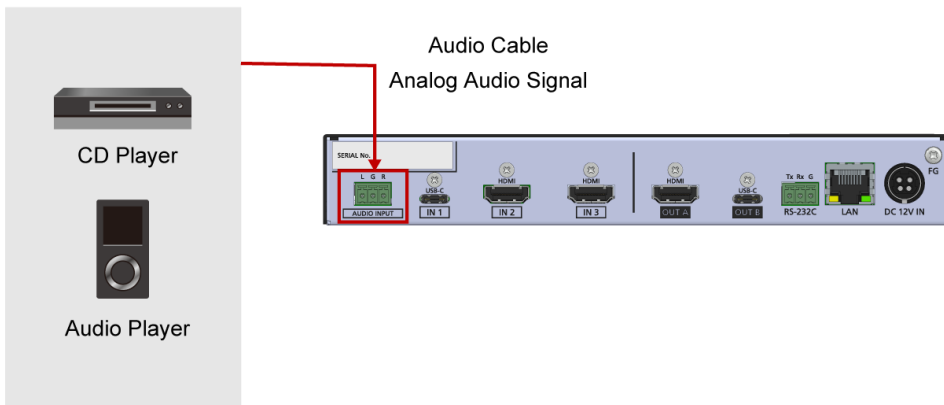
- For USB-C input, use a USB 3.2 Gen1 or higher USB Type-C cable.
- Video may be interrupted or may not be output depending on cable type, cable quality, cabling condition, connected device type, and installation environment.
- A problem may occur if a cable joint is used for USB Type-C cable extension.

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

Use the cable lacing bracket to secure a USB Type-C cable by seeing “**Connecting HDMI devices (P.14)**”.

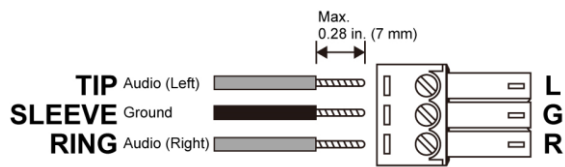
Connecting analog devices

Connect the IMP-V to analog audio devices over audio cables.



Tip

Connect the captive-screw terminal blocks to audio cable as follows:

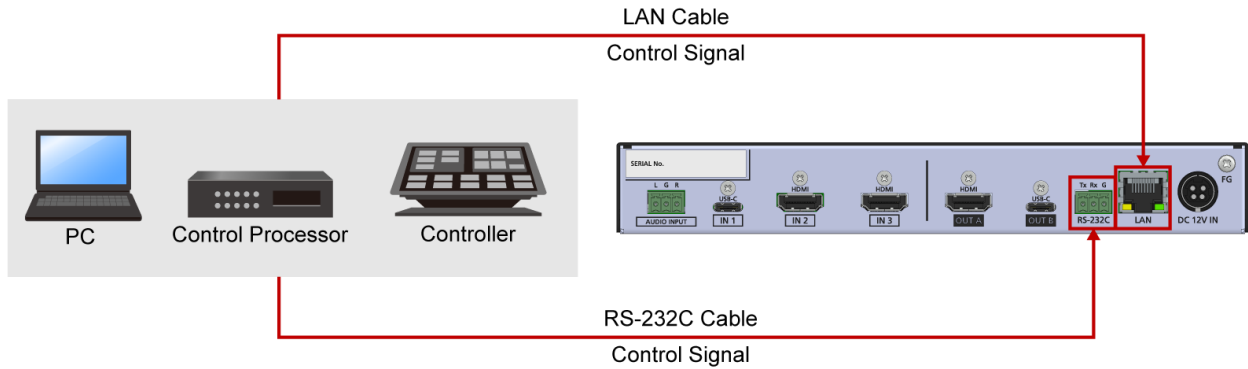


28 AWG to 16 AWG conductor cabling is recommended.

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

Control connections

Connect the IMP-V to external devices over LAN/RS-232C to control the IMP-V from external devices.



Tip

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

RS-232C cable



28 AWG to 16 AWG conductor cabling is recommended.

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

Advanced menu

The menu structure consists of frequently used basic menus and advanced menus. Only the 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 **Advanced** indication below is included at the lower right area of the section title.

Advanced

WEB GUI

1. Select [SYSTEM SETTINGS].
2. Select [ON] from [ADVANCED MEN].



Front Panel Operations

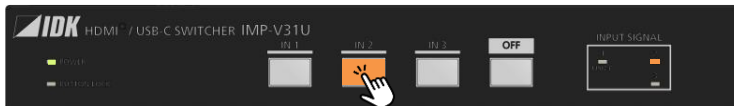
This chapter contains information on the front panel operation and security lock.

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

Switching video/audio

Front Panel

1. Press the input selection button.
The selected button lights solid amber.



Setting front panel security lockout

Enabling front panel security lockout

Front Panel

1. Press and hold the IN1 button for three seconds.
When the lockout is enabled, the BUTTON LOCK LED lights solid amber.



Disabling front panel security lockout

Front Panel

1. Press and hold the IN1 button for three seconds.
When the lockout is disabled, the BUTTON LOCK LED turns off.



WEB Browser Operation

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

Displaying WEB GUI

WEB GUI

1. Configure network settings for the PC before connecting to the IMP-V.
If the IMP-V's IP address is set to its default, set the internet protocol version 4 (TCP/IPv4) of the PC.

Example

IP address : 192.168.1.100

Subnet mask : 255.255.255.0

2. Connect the IMP-V's LAN connector to the PC.
3. Open a WEB browser on the connected PC.
4. Enter the IP address of the IMP-V 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

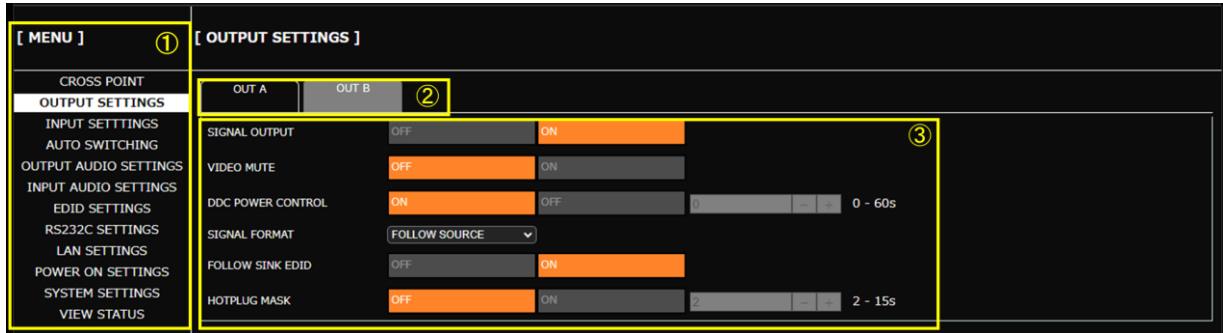
See "**Configuring LAN communication (P.39)**" for setting or viewing the IMP-V's IP address.

Changing settings via WEB vrowser

Advanced

WEB GUI

1. Select the main menu (①).
2. Select the output(②).
3. Select or specify the desired values (③).



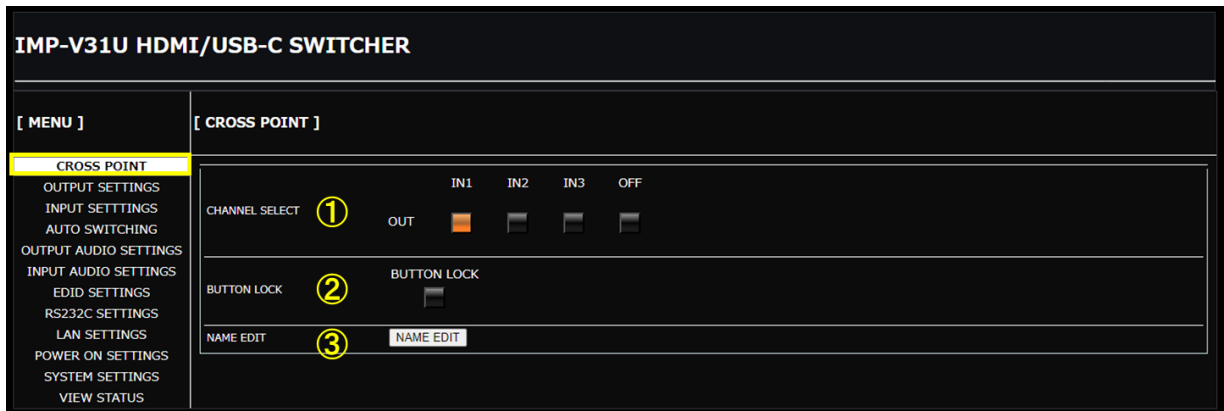
Tip

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

Controlling IMP-V via WEB browser

WEB GUI

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



①	[CHANNEL SELECT]	Selects an input channel.
②	[BUTTON LOCK]	Enables/disables button lock.
③	[NAME EDIT]	Edits input names and other items displayed on WEB GUI.

Editing crosspoint name

WEB GUI

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).

[NAME EDIT]

INPUT1

INPUT2 ①

INPUT3

OUTPUT CH ②

OUTPUT HDMI CONNECTOR ③

OUTPUT USB-C CONNECTOR

MACHINE NAME ④

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

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

③ Output connector names:
Up to 10 one-byte characters.

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

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

IMP-V31U HDMI/USB-C SWITCHER ④

[MENU] [CROSS POINT]

CROSS POINT ①

CHANNEL SELECT ② OFF

BUTTON LOCK

BUTTON LOCK

NAME EDIT

[MENU] [OUTPUT SETTINGS]

CROSS POINT

OUTPUT SETTINGS ③

OUT A

SIGNAL OUTPUT

VIDEO MUTE

DDC POWER CONTROL 0 - 60s

SIGNAL FORMAT FOLLOW SOURCE

FOLLOW SINK EDID

HOTPLUG MASK 2 - 15s

Enabling WEB GUI login

Advanced

WEB GUI

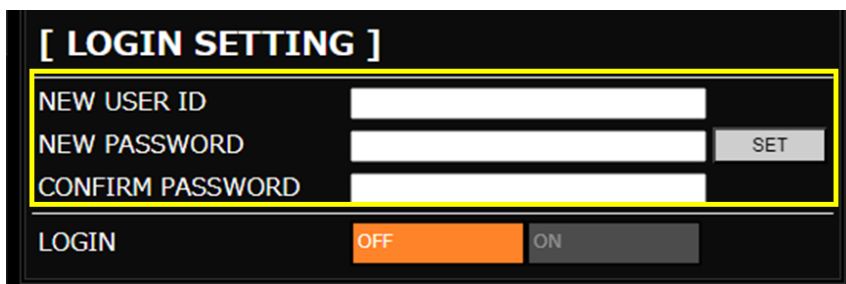
1. Select [MENU]→[SYSTEM SETTINGS].
2. Click the [LOGIN SETTING] button from [LOGIN SETTING] to open the [LOGIN] window.



3. On the login page that appears next, enter the desired user ID and password.
 User ID : admin (Default)
 Password : admin (Default)
4. Click the [LOGIN] button.



5. To change the user ID and password, enter the desired ID and password. (If you do not change them, you can skip this procedure.)
 [NEW USER ID] : ASCII 30 to 39, 41 to 5A, 5F, 61 to 7A (0 to 9, A to Z, _, a to z)
 [NEW PASSWORD] : ASCII 21 to 7D
 [CONFIRM PASSWORD] : ASCII 21 to 7D
 ※Up to 24 characters



Note

For the first-time setting, change the user ID and password.

6. Select [ON] for [LOGIN].

7. The [LOGOUT] button appears at the upper right.

Notes

- Multiple users cannot login at the same time. Only the last (subsequent) user can login.
- Once a user logs in, the session is kept until the user logs out or closes the browser.
- User ID and password are not saved to the backup file.
- Only if initialization command (@CLR,0) is initiated, the user ID and password are initialized.

Tip

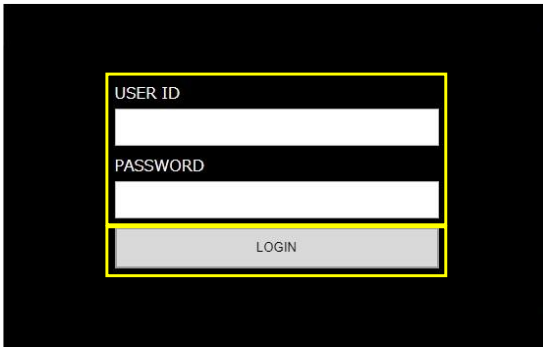
Only basic menus are displayed by default. To display advanced menus as well, perform the procedure in “Advanced menu (P.18)”.

Logging into WEB GUI

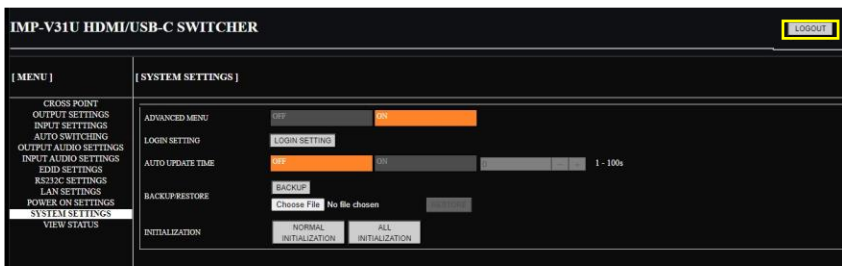
If WEB GUI login is enabled, user ID and password need to be changed for WEB GUI operations.

WEB GUI

1. Go to the WEB GUI login page.
2. On the login page that appears next, enter the user ID and password.
User ID : admin (Default)
Password : admin (Default)
3. Click the [LOGIN] button.



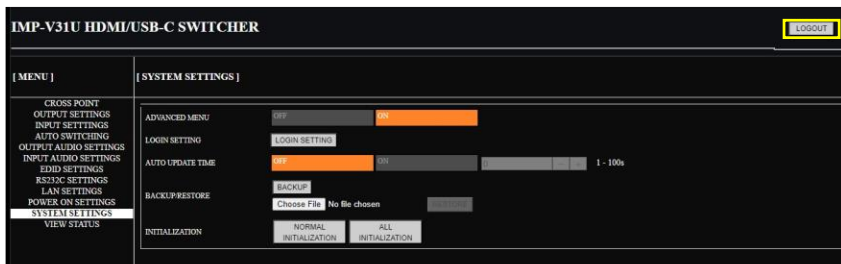
4. The [LOGOUT] button appears at the upper right.



Logging out of WEB GUI

WEB GUI

1. Click the [LOGOUT] button shown at upper right.



2. Click the [OK] button.



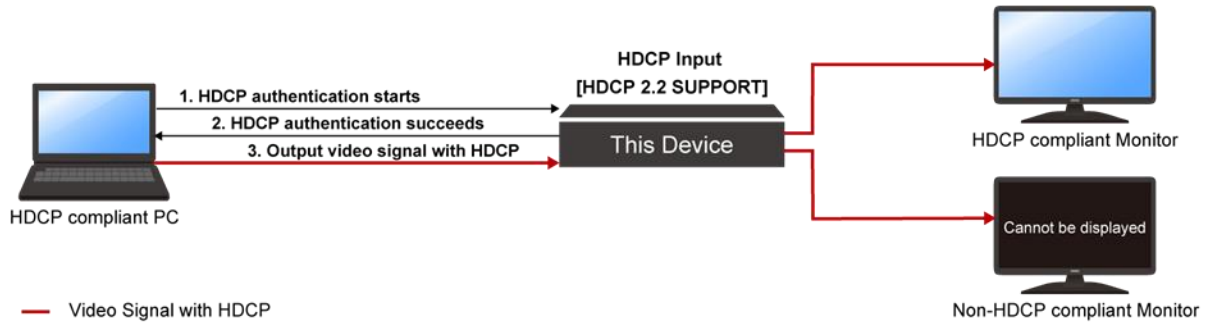
Setting Video Attributes

Displaying video on non-HDCP compliant sink device

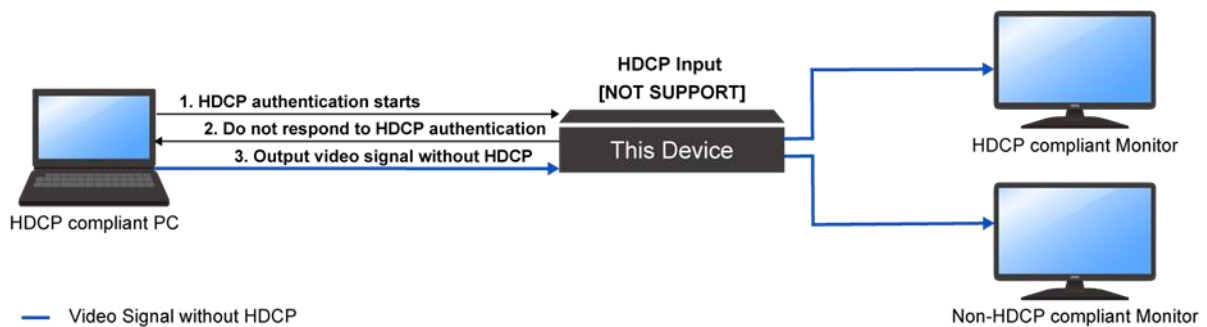
Advanced

By default, the IMP-V 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.

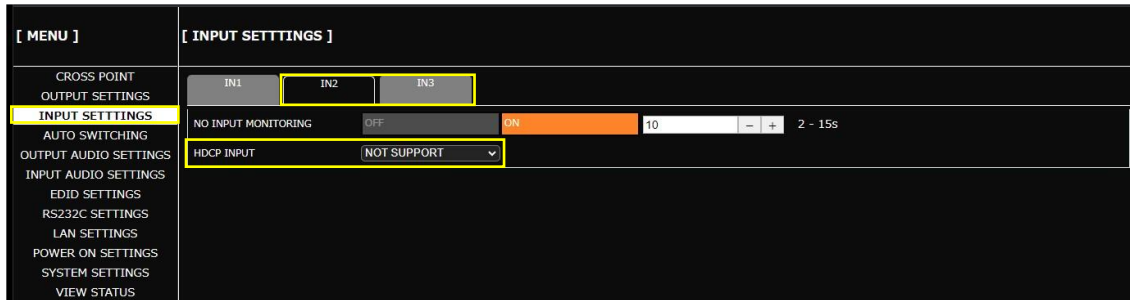


To display video signals on a non-HDCP compliant sink device, set the IMP-V's input connector to Non-HDCP mode.



WEB GUI

1. Select [MENU]→[INPUT SETTINGS].
2. Select an input connector, [IN2] or [IN3].
3. Select [NOT SUPPORT] for [HDCP]. (Default: HDCP 2.2 SUPPORT)



Note

For source devices that require HDCP encryption (for example, a Blu-ray player), video or audio cannot be presented on non-HDCP compliant sink devices.

Tip

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

Enabling Deep Color input

Advanced

WEB GUI

1. Select [MENU]→[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



Tip

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

Setting Audio

This chapter describes how to configure and adjust input and output audio of the IMP-V.

Adjusting audio level

WEB GUI

1. Select [MENU]→[INPUT AUDIO SETTINGS].
2. Select the input connector.
3. Specify the input audio level for [AUDIO LEVEL]. (Default: 0dB)



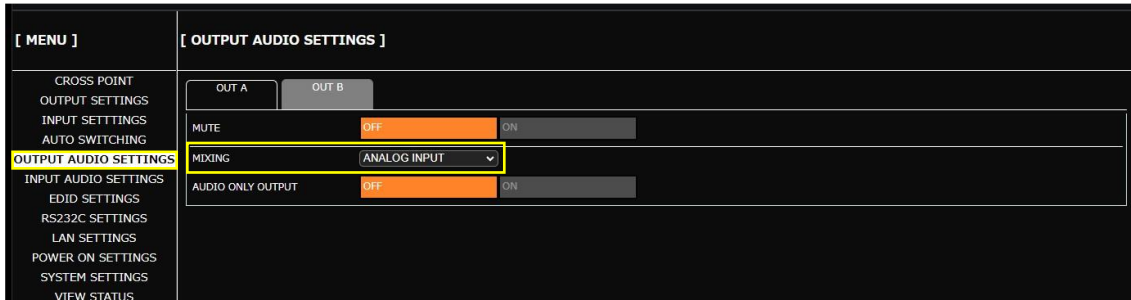
Outputting analog input audio

Analog audio can be embedded to a desired input video.

Embedding analog input audio

WEB GUI

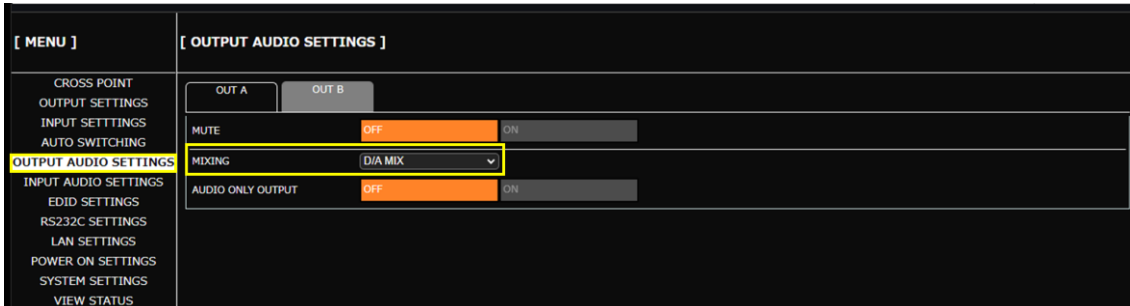
1. Select [MENU]→[OUTPUT AUDIO SETTINGS].
2. Select [ANALOG INPUT] for [MIXING].



Mixing analog input audio to input video

WEB GUI

1. Select [MENU]→[OUTPUT AUDIO SETTINGS].
2. Select [D/A MIX] for [MIXING].



Tip

By default, digital audio of the HDMI connector and USB connector is output to 2-channel.

Enabling multichannel audio input

Advanced

By default, it is set to 2-channel audio so that multichannel audio is not output from a source device. If you want to input multichannel audio, change the EDID settings.

WEB GUI

1. Select [MENU]→[EDID SETTINGS].
2. Select an input connector, [IN2] or [IN3].
3. 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



Tips

- To change speakers that output multichannel audio, select [MANUAL] for [SPEAKER CONFIGURATION]. For details, refer to the User Guide.
- The speaker placement is as follows:



FL : Front Left	RRC : Rear Right Center
FC : Front Center	LFE : Low Frequency Effect
FR : Front Right	FLW : Front Left Wide
FLC : Front Left Center	FRW : Front Right Wide
FRC : Front Right Center	FLH : Front Left High
RL : Rear Left	FCH : Front Center High
RC : Rear Center	FRH : Front Right High
RR : Rear Right	TC : Top Center
RLC : Rear Left Center	

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

Enabling bitstream audio

Advanced

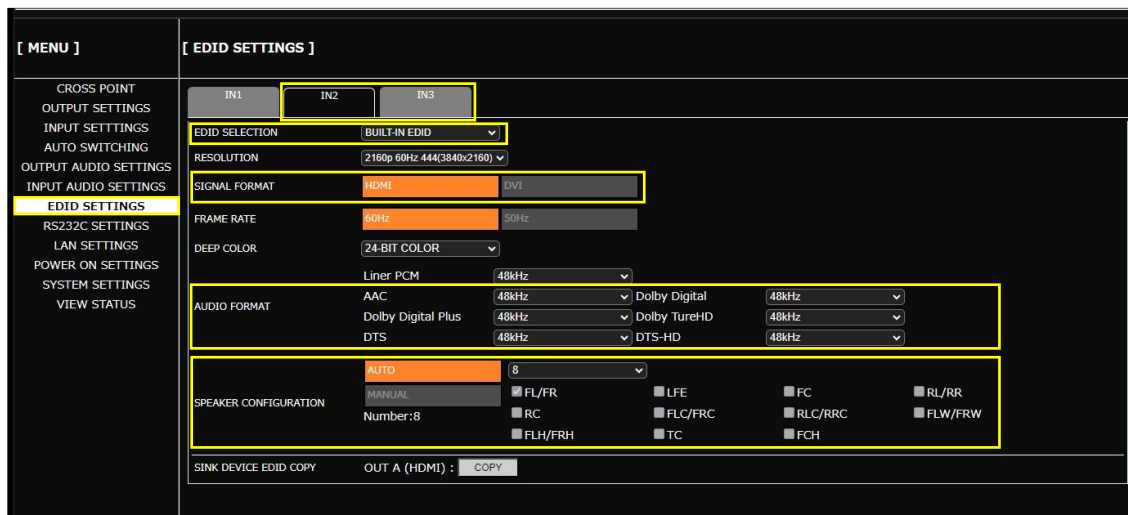
By default, bitstream audio is not output from a source device. Change the EDID settings to enable bitstream audio.

WEB GUI

1. Select [MENU]→[EDID SETTINGS].
2. Select an input connector, [IN2] or [IN3].
3. 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

4. Select the sampling frequency for [AUDIO FORMAT].



Notes

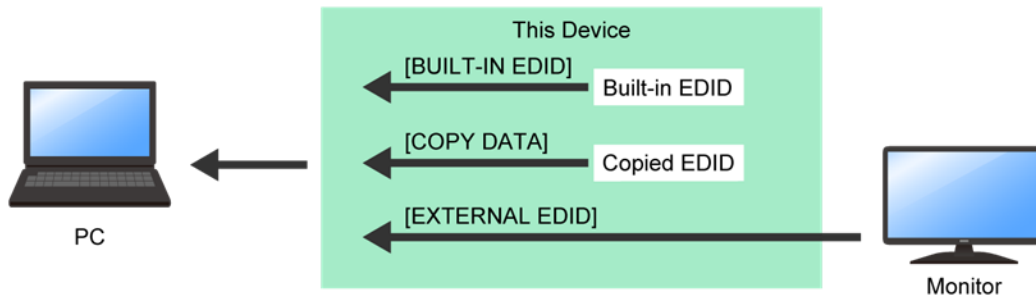
- The following bitstream audio are supported: AAC, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, and DTS-HD
- Bitstream audio that is not supported by the sink device cannot be output.
- Bitstream audio cannot be output to digital audio of the USB connector.
- If bitstream audio is input, analog audio cannot be mixed.
- If “**Mixing analog input audio to input video (P.30)**” is set to [D/A MIX], only digital input audio is output.
- Audio level of bitstream audio cannot be adjusted.

Tip

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

EDID

This chapter describes how to select EDID options and change EDID settings.



[BUILT-IN EDID] : IMP-V'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.

Selecting EDID

WEB GUI

1. Select [MENU]→[EDID SETTINGS].
2. Select the input connector.
3. Select the EDID profile for [EDID SELECTION] (Default: BUILT-IN EDID).



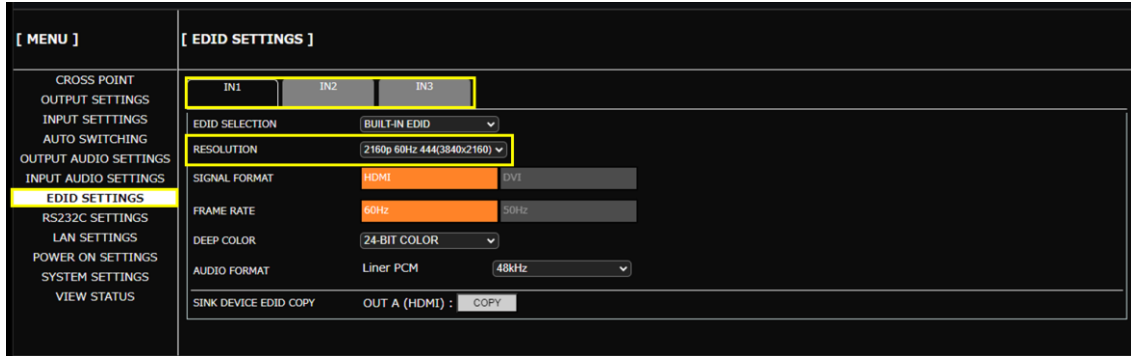
Note

The copied data can be selected only if valid stored data is available. For how to store the copied data to the IMP-V, see “**Copying EDID of sink device (P.35)**”.

Changing supported resolution of built-in EDID

WEB GUI

1. Select [MENU]→[EDID SETTINGS].
2. Select the input connector.
3. Select the resolution format for [RESOLUTION]. (Default: 3840x2160@60Hz 4:4:4)



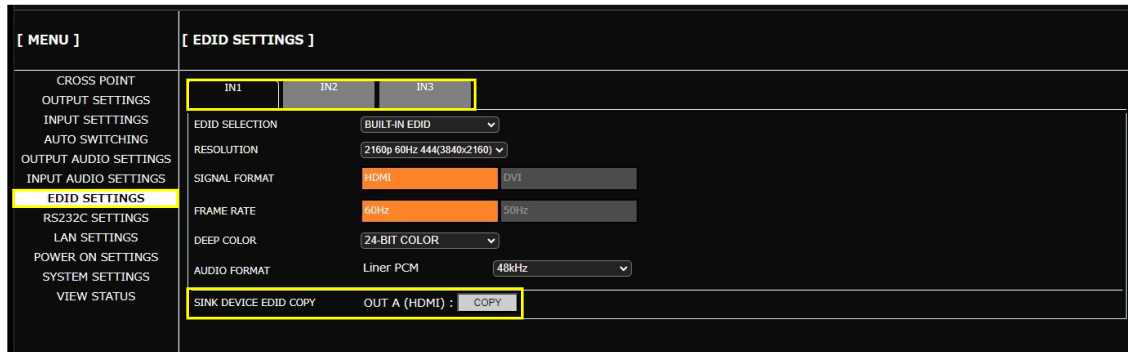
Note

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

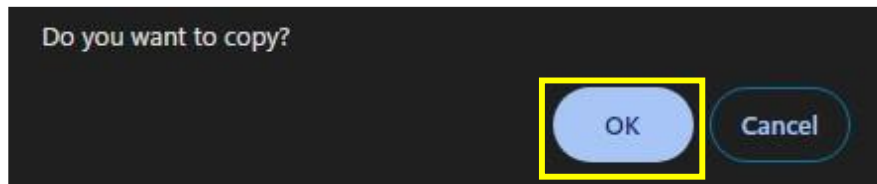
Copying EDID of sink device

WEB GUI

1. Select [MENU]→[EDID SETTINGS].
2. Click the [COPY] button of [SINK DEVICE EDID COPY].



3. Click the [OK] button.



Automatic Input Switching

This chapter describes how to automatically select connected inputs based on detection of video signal activity.

Configuring automatic input switching

Advanced

The example below shows how to set automatic channel switching for when video signal input is detected and when input video signal disappears.

WEB GUI

1. Setting automatic switching to the channel in which input video signal is detected:
 - a) Select [MENU]→[AUTO SWITCHING].
 - b) Select the same priority for all inputs for [SIGNAL ON PRIORITY].



2. Setting automatic switching to IN1 for when input video signal disappears:
 - a) Select [MENU]→[AUTO SWITCHING].
 - b) Select the priorities [SIGNAL OFF PRIORITY] as follows:

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



Tip

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

Automatic input switching – Setting response delay interval

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.

WEB GUI

1. Select [MENU]→[AUTO SWITCHING].
2. Set the ignoring duration to temporarily disable input detection after an auto-input switching event has occurred.

[MENU]	[AUTO SWITCHING]
CROSS POINT	
OUTPUT SETTINGS	
INPUT SETTINGS	
AUTO SWITCHING	
OUTPUT AUDIO SETTINGS	
INPUT AUDIO SETTINGS	
EDID SETTINGS	
RS232C SETTINGS	
LAN SETTINGS	
POWER ON SETTINGS	
SYSTEM SETTINGS	
VIEW STATUS	
	IN1 : 1 IN2 : 1 IN3 : 1 SIGNAL ON PRIORITY
	IN1 : 1 IN2 : OFF IN3 : OFF INOFF : OFF SIGNAL OFF PRIORITY
	IGNORING DURATION : 0 [+] 0 - 10s

Tip

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

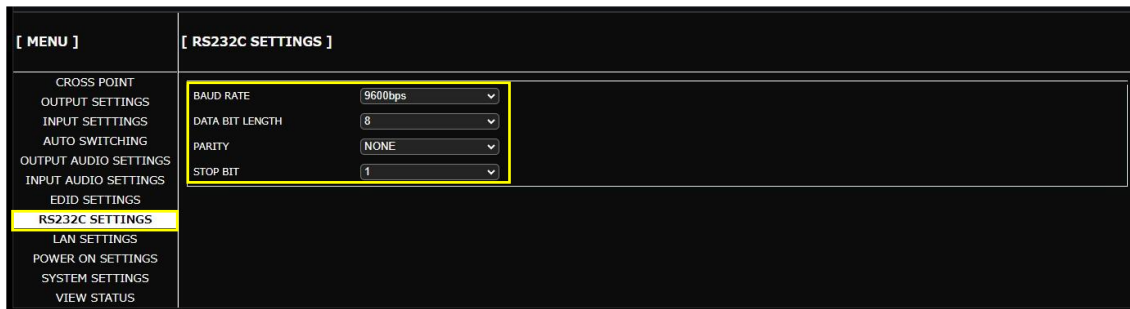
RS-232C/LAN Communication

This chapter describes how to configure communication for the IMP-V.

Configuring RS-232C communication

WEB GUI

1. Select [MENU]→[RS-232C SETTINGS].
2. Configure the following items: [BAUD RATE], [DATA BIT LENGTH], [PARITY], [STOP BIT]



The screenshot shows the WEB GUI interface. On the left is a vertical menu with the following items: [MENU], CROSS POINT, OUTPUT SETTINGS, INPUT SETTINGS, AUTO SWITCHING, OUTPUT AUDIO SETTINGS, INPUT AUDIO SETTINGS, EDID SETTINGS, RS232C SETTINGS (highlighted in yellow), LAN SETTINGS, POWER ON SETTINGS, SYSTEM SETTINGS, and VIEW STATUS. The main area is titled [RS232C SETTINGS] and contains four dropdown menus: BAUD RATE (set to 9600bps), DATA BIT LENGTH (set to 8), PARITY (set to NONE), and STOP BIT (set to 1). A yellow box highlights these four settings.

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

WEB GUI

1. Select [MENU]→[LAN SETTINGS].
2. Configure the following items: [IP ADDRESS], [SUBNET MASK], [GATE WAY]

[MENU]	[LAN SETTINGS]
CROSS POINT	IP ADDRESS: 192 168 2 14 SET
OUTPUT SETTINGS	SUBNET MASK: 255 255 255 0 SET
INPUT SETTINGS	GATEWAY: 192 168 1 200 SET
AUTO SWITCHING	MAC ADDRESS: 00-08-e5-71-f6-f6
OUTPUT AUDIO SETTINGS	AUTO DISCONNECT: DISCONNECT 30 1 - 180s
INPUT AUDIO SETTINGS	
EDID SETTINGS	
RS232C SETTINGS	
LAN SETTINGS	
POWER ON SETTINGS	
SYSTEM SETTINGS	
VIEW STATUS	

Note

From an external device to the IMP-V: Up to eight connections

Tip

By default, LAN 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)

Viewing Status

This chapter describes how to view I/O signal and EDID states of sink devices.
If video or audio cannot be displayed, check signal status using these features.

Viewing input signal status

WEB GUI

1. Select [MENU]→[VIEW STATUS].
2. Select [OUTPUT/INPUT].
3. Select [INPUT STATUS].



Tip

Input signal status of only the selected input channel is displayed. For other input channels, [UNSELECTED] is displayed.

Viewing output signal status

WEB GUI

1. Select [MENU]→[VIEW STATUS].
2. Select [OUTPUT/INPUT].
3. Select [OUTPUT STATUS].

[MENU]		[VIEW STATUS]	
CROSS POINT		OUTPUT STATUS	OUTPUT/INPUT
OUTPUT SETTINGS		SINK DEVICE EDID	HARDWARE
INPUT SETTINGS		VIDEO STATUS	: OUT A
AUTO SWITCHING		RESOLUTION	: 3840x2160p 59.94Hz
OUTPUT AUDIO SETTINGS		HDMI/DVI	: HDMI Mode
INPUT AUDIO SETTINGS		HDCP AUTHENTICATION	: Not Encrypted
EDID SETTINGS		COLOR SPACE	: RGB
RS232C SETTINGS		DEEP COLOR	: 8 bpc
LAN SETTINGS		OUTPUT STATUS	COLOR RANGE : Limited
POWER ON SETTINGS		AUDIO STATUS	: OUT A
SYSTEM SETTINGS		FORMAT	: Linear PCM
VIEW STATUS		SAMPLING FREQUENCY	: 48kHz
		CHANNEL	: 2 Channel
		BIT LENGTH	: 24 bit
		ERROR STATUS	: HDMI OUT A
		VIDEO ERROR	:
		DIGITAL AUDIO ERROR	:

Note

For some sink devices, different signals from the IMP-V's output setting may be output.

Viewing sink device EDID

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

WEB GUI

1. Select [MENU]→[VIEW STATUS].
2. Select [OUTPUT/INPUT].
3. Select [SINK DEVICE EDID].

[MENU]		[VIEW STATUS]	
		<input checked="" type="button" value="OUTPUT/INPUT"/> <input type="button" value="HARDWARE"/>	
		<input type="button" value="OUTPUT STATUS"/>	<input checked="" type="button" value="SINK DEVICE EDID"/> <input type="button" value="INPUT STATUS"/>
CROSS POINT		: OUT A	
OUTPUT SETTINGS		MONITOR NAME : LCD-M4K282X	
INPUT SETTINGS		RESOLUTION : 3840x2160 594.00MHz	
AUTO SWITCHING		HDMI/DVI : HDMI mode	
OUTPUT AUDIO SETTINGS		COLOR SPACE : RGB/YCbCr444/422/420	
INPUT AUDIO SETTINGS		DEEP COLOR : 8/10/12 bpc	
EDID SETTINGS		PCM FREQUENCY : 32/44.1/48kHz	
RS232C SETTINGS		PCM BIT LENGTH : 16/20/24 bit	
LAN SETTINGS		PCM CHANNEL : 2CHANNEL	
POWER ON SETTINGS		COMPRESSED AUDIO : Not Supported	
SYSTEM SETTINGS			
VIEW STATUS			

Backup and Restore

This chapter describes how to back up and restore settings.

All settings can be stored to a PC as a backup file via a WEB browser. The backup file can also be used to copy settings to other IMP-V devices.

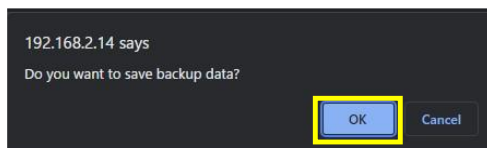
Backing up settings

WEB GUI

1. Select [MENU]→[SYSTEM SETTINGS].
2. Click the [BACK UP] button of [BACKUP/RESTORE].



3. Select [OK].



Notes

- A backup file is stored in IDM format.
- Settings of “Enabling WEB GUI login (P.24)” are not saved.

Restoring settings from backup file

WEB GUI

1. Select [MENU]→[SYSTEM SETTINGS].
2. Click the [Choose File] button of [BACKUP/RESTORE].
3. Select the file.
4. Click the [RESTORE] button.



5. Click [OK].
When the restoring is completed, the IMP-V reboots.



Note

Do not power off the IMP-V during the restoring process. The settings may be deleted.

Initialization

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

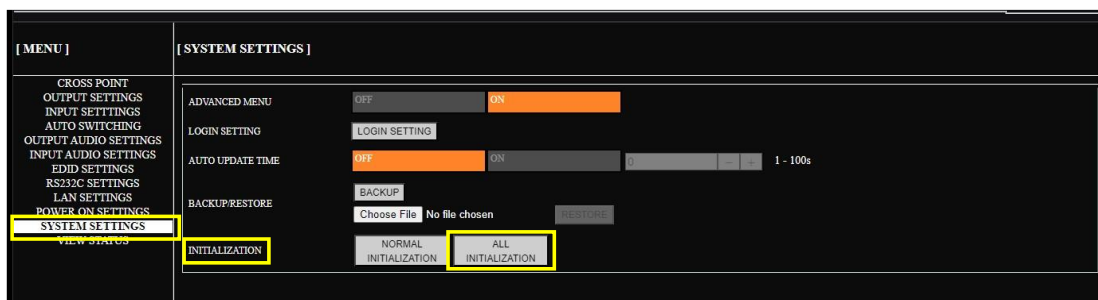
Initializing all settings

Front Panel

1. Press and hold the OFF button to boot the IMP-V.
2. LEDs other than POWER blink while settings are initialized.
3. Release the OFF button.

WEB GUI

1. Select [MENU]→[SYSTEM SETTINGS].
2. Click the [ALL INITIALIZATION] button of [INITIALIZATION].



Notes

- Do not power off the IMP-V during initialization. The initialization process may not be completed correctly.
- Settings of “**Enabling WEB GUI login (P.24)**” are initialized only by issuing @CLR command.

Initializing settings other than LAN/RS-232C configurations

WEB GUI

1. Select [MENU]→[SYSTEM SETTINGS].
2. Click the [NORMAL INITIALIZATION] button of [INITIALIZATION].



Note

Do not power off the IMP-V during initialization. The initialization process may not be completed correctly.

Troubleshooting

This chapter provides recommendations in case difficulties are encountered during IMP-V setup and operation.

In case the IMP-V does not work correctly, please check the following items first.

- Are the IMP-V and all devices connected to an active power source and are they 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?

Use the IMP-V built-in status display features to check for input signal presence and format. Also use the status display features to check for the presence of connected sink devices as well as for EDID and HDCP compatibility.

If difficulties persist, please refer to the peripheral device manuals as well, since connected equipment may be the cause of the trouble.

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

- Does the problem occur with all the signal connectors?
- Does the problem occur when you connect the source and display devices directly, bypassing the IMP-V?

HDMI/USB-C Switcher

IMP-V31U

Operation Guide



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