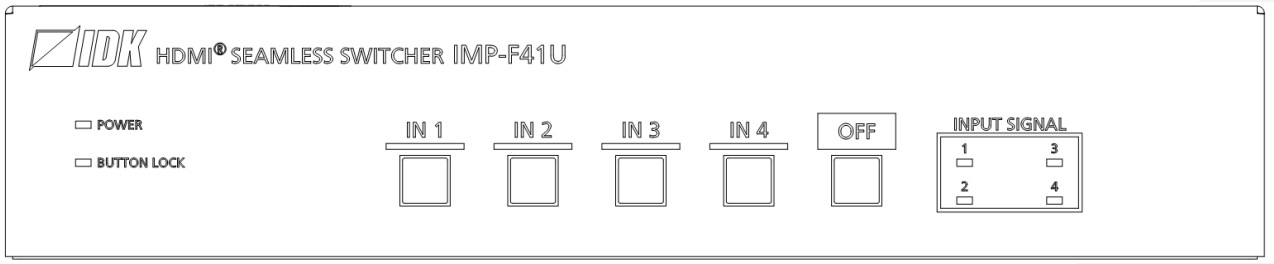
HDMI Seamless Switcher

IMP-F41U

User Guide
Ver.1.0.0



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.

IDK Corporation

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- 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.**

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 equipment.	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 equipment using communication commands through RS-232C or LAN communication.	

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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 Seamless Switcher
Model Name: IMP-F41U

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.

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 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 powering/powered functions, compatible cables must be used.** 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 cables/plugs, AC adapters, and cables for powering/powered functions,** **・ 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 cables/plugs 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 IDK. 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 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.

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About this Guide

This guide describes features, notes, and configurations of the IMP-F41U HDMI Seamless Switcher.

Conventions

- The following terms are used in this guide.
  OUT A : OUT 1A connector or OUT 2A connector
  OUT B : OUT 1B connector or OUT 2B connector
  INOFF : Input channel OFF
  Note : Addresses practices not related to personal injury, such as restrictions and attention.

- The following symbols are used in this guide.
  [ ] : Menus and messages displayed on the front display and a WEB GUI.
  “ ” : Reference

About this Product

The IMP-F41U is an HDMI seamless switcher with four (4) HDMI inputs, supports video resolutions up to 4K@60, and HDCP 2.2. content to the two (2) available HDMI outputs. Output image is mirrored across both outputs acting as an HDMI DA to distribute video across the AV system.

Input audio is distributed to digital and analog audio.

The switcher also includes RS-232C and LAN as communication ports that provide remote control and monitoring from the WEB browser or API commands.

Basic menus and Advanced menus

The menu consists of basic and advanced menus.
The advanced menus are not displayed by default. To display advanced menus, set [SYSTEM SETTINGS] →[ADVANCED MENU] to [ON].
【Advanced menu display (P.34)】

〇: Basic menu
⦿: Advanced menu

〇	OUTPUT IMAGE		Output video	15
	〇	RESOLUTION	Output resolution	15
	〇	TEST PATTERN	Test pattern	16

〇	OUTPUT SETTINGS		Output	17
	〇	SIGNAL OUTPUT	Video synchronous signal output	17
	〇	VIDEO MUTE	Video mute	17
	⦿	NO SIGNAL OUTPUT	Video synchronous signal output for when no video signal input	17
	⦿	NO SIGNAL IMAGE	Video output for when no signal is input	18
	⦿	HDCP AUTHENTICATION	HDCP authentication	18
	〇	CONNECTION RESET	Connection Reset	18
	⦿	SIGNAL FORMAT	Signal format	19
	⦿	RGB RANGE	RGB range	19
	⦿	FOLLOW SINK EDID	Automatic determining sink device EDID	20
	⦿	HOTPLUG MASK	Hot plug ignoring duration	20

⦿	INPUT SETTINGS		Input	21
	⦿	NO INPUT MONITORING	Hot plug output for when there is no active video input signal	21
	⦿	HDCP INPUT	HDCP input	23
	⦿	EQUALIZER	Equalizer	24

⦿	AUTO SWITCHING		Input channel automatic switching	25
	⦿	SIGNAL ON PRIORITY	Automatic switching priority for when a video input signal is detected	25
	⦿	SIGNAL OFF PRIORITY	Automatic switching priority for when there is no active video input signal	25
	⦿	IGNORING DURATION	Ignoring duration after automatic switching	25

〇	OUTPUT AUDIO SETTINGS		Output audio	26
	〇	SIGNAL OUTPUT	Audio output	26
	〇	AUDIO LEVEL	Audio level	26
	〇	MUTE	Mute	26
	〇	TEST TONE	Test tone	26

○	INPUT AUDIO SETTINGS		Input audio	27
	○	AUDIO LEVEL	Audio level	27
	⦿	STABLE WAIT	Stable wait (Audio signal)	27
○	CONTACT		Contact input	27
	⦿	CHATTERING FILTER	Contact chatter (Filtering)	27

○	EDID SETTINGS		EDID	28
	○	EDID SELECTION	EDID selection	28
	○	RESOLUTION	Resolution	29
	○	SINK DEVICE EDID COPY	Copying EDID	30
	⦿	SIGNAL FORMAT	Signal format	30
	⦿	FRAME RATE	Frame rate	30

○	RS-232C SETTINGS		RS-232C	31
	○	PARAMETERS	Communication setting	31

○	LAN SETTINGS		LAN	31
	○	IP ASSIGNMENT	IP assignment	31
	○	IP ADDRESS	IP address	31
	○	SUBNET MASK	Subnet mask	31
	○	GATEWAY ADDRESS	Gateway address	31
	○	MAC ADDRESS	MAC address	31
	○	SECURE CONNECTION	Secure communication	31
	○	CERTIFICATE LIST	Server certificate selection	32
	○	STATIC SELF SIGNED CERTIFICATE	Server certificate update	32
	○	IMPORT SELF SINED CERTIFICATE	Server certificate save	32
	⦿	AUTO DISCONNECT	Automatic disconnection time (Timeout)	33

⦿	POWER ON SETTINGS		Start-up settings	33
	⦿	INPUT CHANNEL	Input channel	33
	⦿	BUTTON LOCK	Button security lockout	33

○	SYSTEM SETTINGS		Configuring IMP-F	34
	○	ADVANCED MENU	Advanced menu display	34
	○	BACKUP/RESTORE	Backup/Restore	34
	○	REBOOT	Reboot	34
	○	INITIALIZATION	Initialization of all settings	34

○	VIEW STATUS		Status	34
	○	OUTPUT STATUS	Output signal status	35
	○	SINK DEVICE EDID	Viewing sink device EDID	37
	○	INPUT STATUS	Input signal status	38
	○	HARDWARE CHECK RESULT	System check	39
	○	VERSION	Device information	39

Menu

The table below is used in this chapter.
For advanced menus, **Advanced** is mentioned in the table.

Menu	Manu name and menu hierarchy	Advanced	Command
Parameter	Target to be set		
Value	Setting value Default value is shaded.		

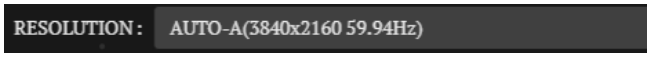
Output video

Output resolution

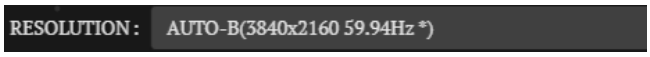
Menu	OUTPUT IMAGE→RESOLUTION		@GOT/@SOT
Parameter	OUT		
Value	AUTO-A AUTO-B 4096x2160 60Hz 4096x2160 59.94Hz 4096x2160 50Hz 4096x2160 30Hz 4096x2160 29.97Hz 4096x2160 25Hz 4096x2160 24Hz 4096x2160 23.98Hz 3840x2160 60Hz 3840x2160 59.94Hz 3840x2160 50Hz 3840x2160 30Hz 3840x2160 29.97Hz 3840x2160 25Hz 3840x2160 24Hz 3840x2160 23.98Hz	1080p 60Hz 1080p 59.94Hz 1080p 50Hz 720p 60Hz 720p 59.94Hz	2560x1600 (WQXGA) 2560x1440 (WQHD) 2048x1152 (QWXGA) 1920x1200 (WUXGA)

[AUTO A] : Automatically selects the optimal resolution from EDID of the sink device connected to OUT A.
[AUTO B] : Automatically selects the optimal resolution from EDID of the sink device connected to OUT B.
[4096x2160]/[3840x2160]/[1080p]/[720p]: Meets CTA-861.
Other resolutions: Meets VESA DMT/VESA CVT.
[2560x1600]/[2560x1440]/[2048x1152]/[1920x1200]: Reduced Blanking

For [AUTO-A] and[AUTO-B], the automatically selected resolution is displayed as follows:



If the output resolution is not optimal, [*] appears to the right of the resolution.



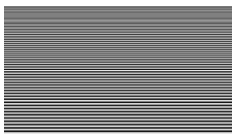
In this case, one of the following problem occurs.

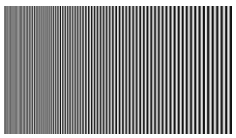
- No optimal resolution can be output.
  (The closest resolution to EDID of the sink device is output.)
- The sink device EDID cannot be read or “**Automatic determining sink device EDID (P.20)**” is set to [OFF].
  (Signal is output at the last resolution. If the sink device EDID has not been read after initialization, signal is output at [1080p 59.94Hz].)

Test pattern

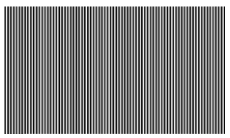
Several test patterns are available via this menu.

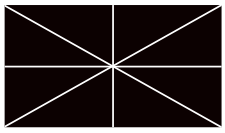
Menu	OUTPUT IMAGE→TEST PATTERN	@GTP/@STP
Parameter	OUT	
Value	OFF (Input video), HORIZONTAL ZEBRA, VERTICAL ZEBRA, HORIZONTAL STRIPE, VERTICAL STRIPE, OUTPUT FRAME, CROSS HATCH, BLUE RASTER, GREEN RASTER, RED RASTER, 50% WHITE RASTER, 100% WHITE RASTER, HORIZONTAL RAMP, VERTICAL RAMP, H-GRAY SCALE, V-GRAY SCALE, H-COLOR BAR, V-COLOR BAR	

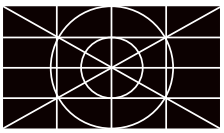

HORIZONTAL ZEBRA


VERTICAL ZEBRA


HORIZONTAL STRIPE


VERTICAL STRIPE


OUTPUT FRAME


CROSS HATCH


BLUE RASTER


GREEN RASTER


RED RASTER


50% WHITE RASTER

100% WHITE RASTER

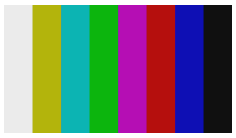

HORIZONTAL RAMP


VERTICAL RAMP


H-GRAY SCALE


V-GRAY SCALE


H-COLOR BAR


V-COLOR BAR

Output

Video synchronous signal output

Menu	OUTPUT SETTINGS→SIGNAL OUTPUT	@GVO/@SVO
Parameter	OUT A, OUT B	
Value	ON, OFF	

[ON] : Outputs video synchronous signal.
[OFF] : Stops outputting video synchronous signal and DDC 5 V signal electrically.
For some connected sink devices, the device switches into standby mode.

Video mute

Menu	OUTPUT SETTINGS→VIDEO MUTE	@GDB/@SDB
Parameter	OUT A, OUT B	
Value	ON, OFF	

[ON]: Mutes output video (outputs black video signal).

Video synchronous signal output for when no video signal input

You can set the video output signal when an input channel without video signal is selected or [OFF] is set to an input channel.

Menu	OUTPUT SETTINGS→NO SIGNAL OUTPUT	Advanced	N/A
Parameter	OUT A, OUT B		
Value	ON, 0 s to 60 s		

[ON] : Outputs video synchronous signal.
[0 s] to [60 s] : Stops outputting video signal* and disconnects DDC 5 V signal.
*Only if the following conditions are met:

- An input channel with no video signal or [OFF] is selected for the main window.
- No test pattern or bitmap is output.

When video signal output stops and DDC 5 V signal is disconnected, a sink device may switch into standby mode.

Video output for when no signal is input

Menu	OUTPUT SETTINGS→NO SIGNAL IMAGE	Advanced	N/A
Parameter	OUT		
Value	BLUE, BLACK		

[BLUE] : Outputs blue video signal.
[BLACK] : Outputs black video signal.

HDCP authentication

Menu	OUTPUT SETTINGS→HDCP AUTHENTICATION	Advanced	@GEN/@SEN
Parameter	OUT A, OUT B		
Value	HDCP 2.2, HDCP 1.4, HDCP INPUT ONLY, DISABLE		

[HDCP 2.2] : HDCP 2.2 or HDCP 1.4 authentication depending on the sink device
Outputs signal with HDCP.
[HDCP 1.4] : HDCP 1.4 authentication
Outputs signal with HDCP.
[HDCP INPUT ONLY] : HDCP 2.2 or HDCP 1.4 authentication depending on the sink device
Outputs signal depending on HDCP presence of input signal.
If input signal is protected by HDCP, outputs signal with HDCP.
If input signal is not protected by HDCP, outputs signal without HDCP.
[DISABLE] : No HDCP authentication
Outputs signal without HDCP.
Displays video only if input signal is not protected by HDCP.

For sink devices that are not supported by HDCP, signal without HDCP is output; video is displayed only if input signal is not protected by HDCP.

If [HDCP INPUT ONLY] is set, HDCP presence of output signal changes depending on HDCP presence of input signal. Some sink devices may not be displayed temporarily.

If video signal with HDCP 2.2 Type 1 is input, set this setting to [HDCP 2.2] or [HDCP INPUT ONLY] and connect to a sink device supporting HDCP 2.2.

Connection Reset

You can set the HDCP re-authentication.

Menu	OUTPUT SETTINGS→CONNECTION RESET	@HAU
Parameter	OUT A, OUT B	
Value	YES, NO	

Signal format

Menu	OUTPUT SETTINGS→SIGNAL FORMAT	Advanced	N/A
Parameter	OUT A, OUT B		
Value	HDMI YCbCr 4:4:4 MODE, HDMI YCbCr 4:2:2 MODE, HDMI YCbCr 4:2:0 MODE, HDMI RGB MODE, DVI MODE		

[HDMI YCbCr 4:2:0 MODE] : Enabled only if "**Output resolution (P.15)**" is set to 4K@50/59.94/60.
If the output resolution is 4K@30 or lower, video is output at the priority of [HDMI YCbCr 4:4:4 MODE].

[DVI MODE] : Enabled only for resolutions 4K@30 or lower.

Notes

- If DVI signal is output, digital audio is not output.
- If "**Output resolution (P.15)**" is set to 4K@50/59.94/60, video is output at the priority of [HDMI YCbCr 4:2:0 MODE].

RGB Range

You can set the RGB range of output video.

Menu	OUTPUT SETTINGS→RGB RANGE	Advanced	N/A
Parameter	OUT A, OUT B		
Value	AUTO, FULL, LIMITED		

[AUTO] : Outputs signal at the limited range if "**Output resolution (P.15)**" is set to [4096x2160], [3840x2160], [1080p] or [720p], the limited range is applied.
Outputs signal at the full range for other output resolutions.

[FULL] : Outputs signal at the full range.

[LIMITED] : Outputs signal at the limited range.

This setting is available only if HDMI RGB signal is output. For DVI signals, signal is output at the full range regardless of this setting.

Note

If the video appears washed out in the blacks or whites, it may be solved by changing this setting.

Automatic determining sink device EDID

The following settings are determined automatically according to the IMP-F settings and sink device EDID.
【Output resolution (P.15)】
【Signal format (P.19)】

Menu	OUTPUT SETTINGS→FOLLOW SINK EDID	Advanced	N/A
Parameter	OUT A, OUT B		
Value	ON, OFF		

[ON] : Follows the IMP-F settings and sink device EDID to output the optimal video/audio automatically.
[OFF] : Follows the IMP-F settings to output video/audio.

Note

If [ON] is selected and EDID cannot be acquired or EDID has an error, the sink device is determined as a DVI device. This may be solved by setting this feature to [OFF].

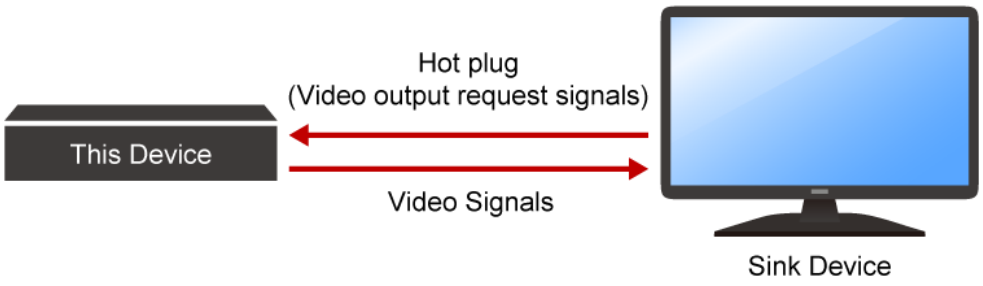
Hot plug ignoring duration

You can set the duration for ignoring video output request signals that are sent from the sink device.

Menu	OUTPUT SETTINGS→HOTPLUG MASK	Advanced	N/A
Parameter	OUT A, OUT B		
Value	OFF, 2s to 15s		

[OFF] : Always receives video output request signals from sink devices.
[2s] to [15s] : After receiving video output request signals, ignores these signals during the specified period.

If the signal request is repeated in a short cycle, the IMP-F resets the video output process. As a result, video may not be output. This problem can be solved by setting the ignoring duration.



Input

Hot plug output for when there is no active video input signal

The IMP-F requests the source device to output video signal by sending hot plug when no active video signal is input. You can enable/disable this feature and set the request interval.

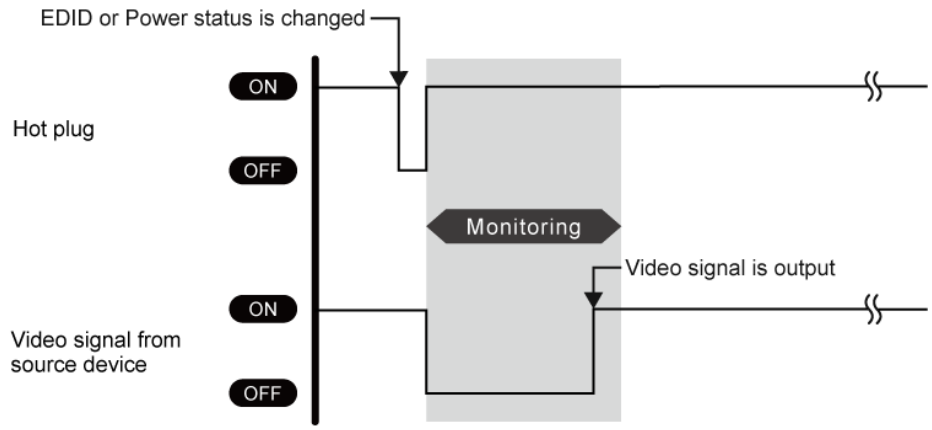
Menu	INPUT SETTINGS→NO INPUT MONITORING	Advanced	N/A
Parameter	IN1 to IN4		
Value	OFF, 2000ms to 15000ms (10000ms) (by 100ms)		

[OFF] : Does not request the source device to output video signal even if there is no active input signal.

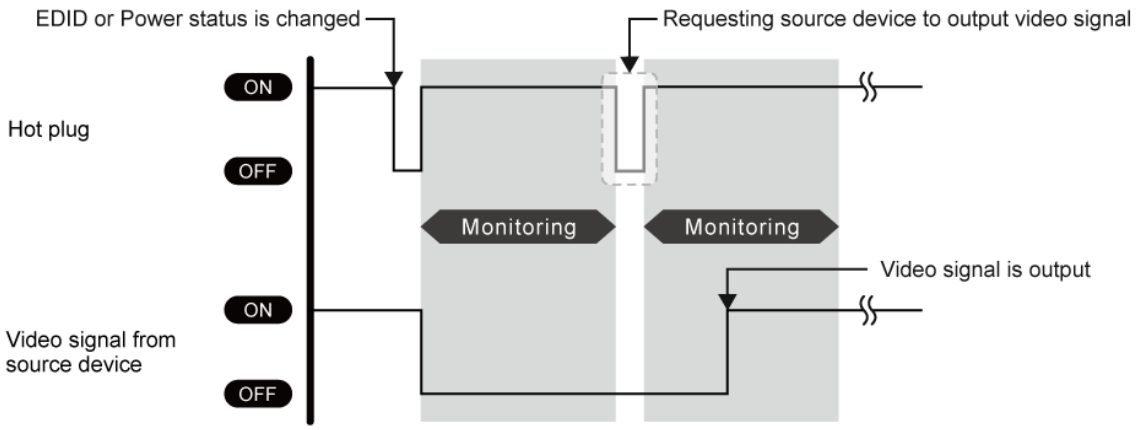
[2000ms] to [15000ms] : Requests the source device to output video signal after the specified monitoring time if there is no active input signal.

If the IMP-F is powered on or EDID is changed with the connected source device is powered on, the source device may stop outputting video signal. In this case, use this feature to request the source device to output video signal.

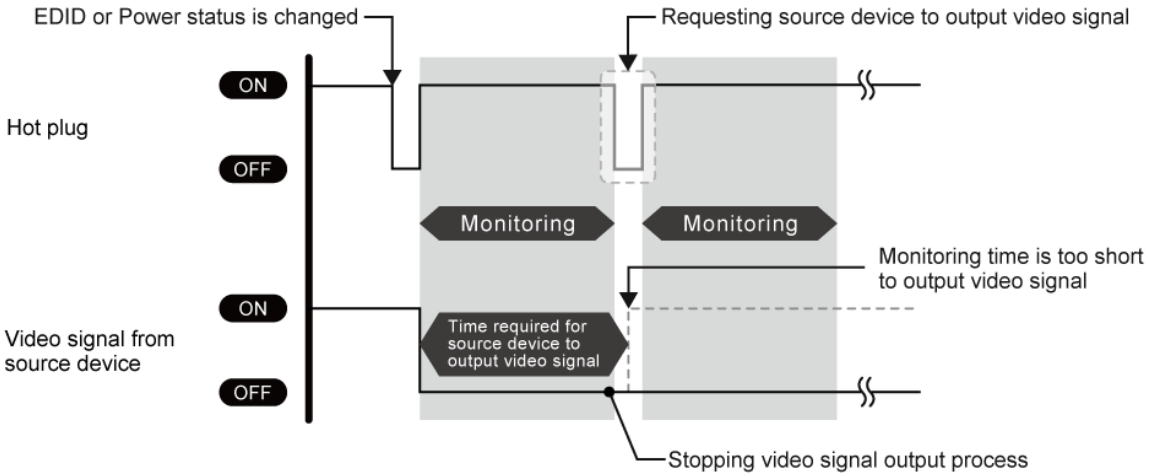
■ **Example: Video signal is output within the specified monitoring time**



■ **Example: The source device stops outputting video signals → Hot plug request is needed.**



■ **Example: The specified monitoring time is too short. → Set the longer monitoring time.**



If the interval is shorter than the time for source device output video signal, the source device repeats the video output process and does not output video signal. This problem can be solved by setting longer monitoring time.

Note

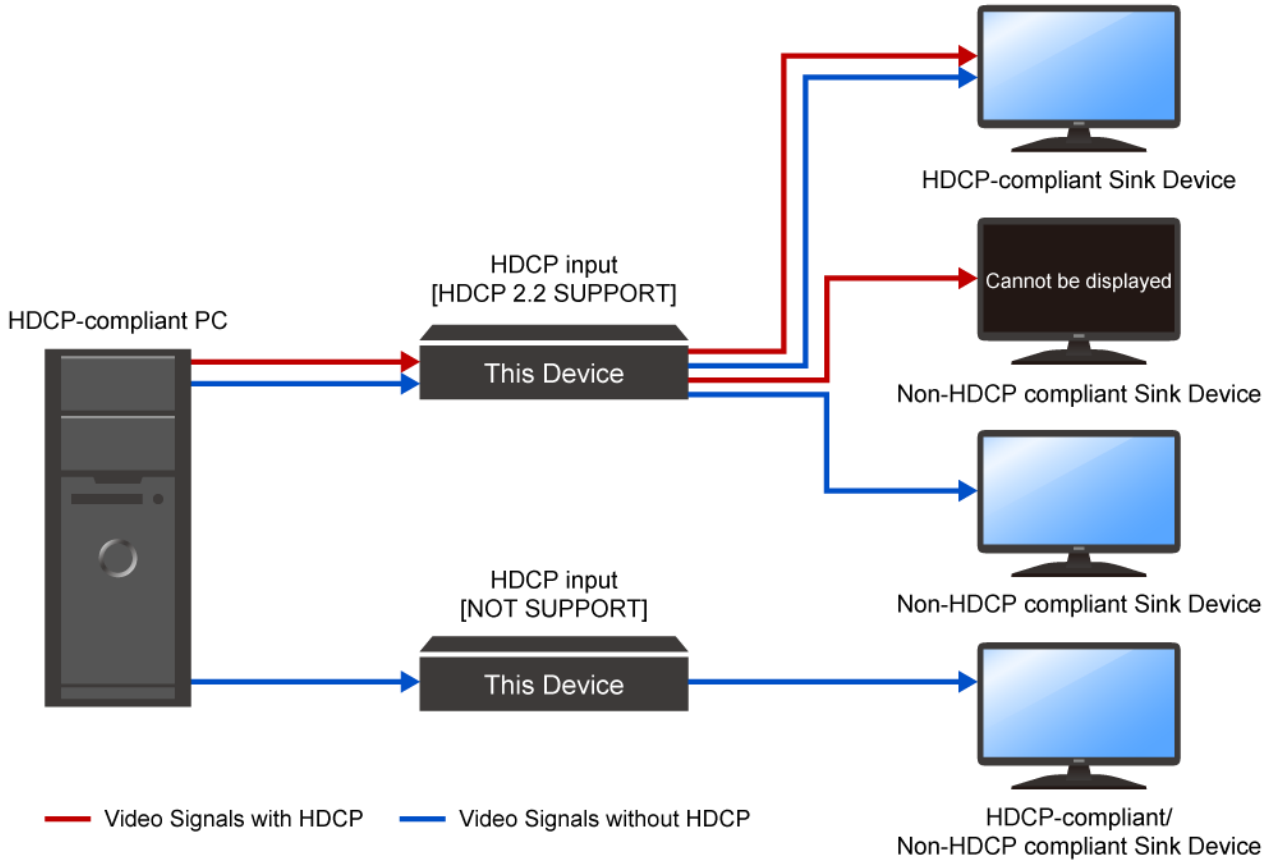
If the source device, such as a PC, disables the monitor power-saving or dual monitor features, set this setting to [OFF].

HDCP input

Menu	INPUT SETTINGS→HDCP INPUT	Advanced	@GHE/@SHE
Parameter	IN1 to IN4		
Value	HDCP 2.2 SUPPORT, HDCP 1.4 SUPPORT, NOT SUPPORT		

[HDCP 2.2 SUPPORT] : Operates as an HDCP 2.2 supported device.
[HDCP 1.4 SUPPORT] : Operates as an HDCP 1.4 supported device.
[NOT SUPPORT] : Operates as a non-HDCP compliant device.

Some source devices negotiate with the connected device to determine if HDCP encryption is supported. After this negotiation, the source device determines whether HDCP signal encryption is enforced or not. This process takes place with some source device, even if the content being presented is not copyright protected. The IMP-F is HDCP compliant, if it is connected to a display device that does not support HDCP, unprotected AV content may not be successfully displayed. Under these circumstances and if the content is indeed not protected, the problem can be solved by setting this menu to [NOT SUPPORT].



Note

HDCP 2.2 Type 0 video can be displayed on sink devices supporting HDCP 1.4.
HDCP 2.2 Type 1 video can be displayed on sink devices supporting HDCP 2.2 but cannot be displayed on sink devices supporting HDCP 1.4.

Equalizer

You can set the input equalizer compensation level.

Menu	INPUT SETTINGS→EQUALIZER	Advanced	N/A
Parameter	IN1 to IN4		
Value	HIGH, MIDDLE, LOW		

Note

Signals may not be compensated correctly depending on the connected cable length. Select the appropriate setting according to the cable length.

Input channel automatic switching

When video input signal is detected/disconnected, the IMP-F automatically switches input channel to the one having highest priority of input channel that has active video input signal.

Automatic switching priority for when a video input signal is detected

You can set the priority for automatic switching at the time of video input signal is detected.

Menu	AUTO SWITCHING→SIGNAL ON PRIORITY	Advanced	@GAU/@SAU
Parameter	OUT		
	IN1 to IN4		
Value	OFF (Disabled), 1 (Highest) to 4 (Lowest)		

If the priority of the detected input channel is lower than the priority of the selected input channel, automatic switching is not performed.

If the same priority if set to several input channels, the last detected input channel will have the first priority.

To enable automatic switching for every time detecting a video input signal, set all input channel to the same priority other than [OFF].

Automatic switching priority for when there is no active video input signal

You can set the priority for automatic switching at the time of video input signal of the current selected input is disconnected.

Menu	AUTO SWITCHING→SIGNAL OFF PRIORITY	Advanced	@GOF/@SOF
Parameter	OUT		
	IN1 to IN4, INOFF		
Value	OFF (Disabled), 1 (Highest) to 5 (Lowest)		

If the same priority is set to several input channels, the smallest number input channel will have the first priority.

Ignoring duration after automatic switching

You can set the time for disabling automatic switching temporarily after automatic input channel switching is performed.

Menu	AUTO SWITCHING→IGNORING DURATION	Advanced	N/A
Parameter	-		
Value	0s to 10s		

If video input signal is detected or disconnected in a short interval, the automatic switching is performed repeatedly. To avoid undesired automatic switching, set the ignoring duration.

Output audio

Audio output

Menu	OUTPUT AUDIO SETTINGS→SIGNAL OUTPUT	@GUC/@SUC
Parameter	OUT A, OUT B	
Value	ON, OFF	

[OFF]: Stops outputting audio signal (audio packet)

Audio level

Menu	OUTPUT AUDIO SETTINGS→AUDIO LEVEL	@GAV/@SAV
Parameter	OUT, AUDIO OUT	
Value	-100dB to +10dB (0dB)	

If you change the output level while “**Mute (P.26)**” is set to [ON], the mute function will be disabled.

Mute

You can mute/unmute the output audio.

Menu	OUTPUT AUDIO SETTINGS→MUTE	@GAM/SAM
Parameter	OUT, AUDIO OUT	
Value	ON (Muted), OFF	

Test tone

Menu	OUTPUT AUDIO SETTINGS→TEST TONE	N/A
Parameter	OUT	
Value	OFF,1kHz	

Input audio

Audio level

Menu	INPUT AUDIO SETTINGS→AUDIO LEVEL	@GSO/@SSO
Parameter	IN1 to IN4	
Value	-100dB to +10dB (0dB)	

This feature adjusts the volume gap when input channels are switched.

Stable wait (Audio signal)

This feature is for waiting until input audio becomes stable in order to avoid popping noise when digital audio source is turned on or the like.

Menu	INPUT AUDIO SETTINGS→STABLE WAIT	Advanced	@GAW/@SAW
Parameter	IN1 to IN4		
Value	ON, OFF		

If initial sound cannot be output, disable this feature. In such a case, however, unstable input signal may become noise at the start.

Contact input

Contact chatter (Filtering)

Chattering is a phenomenon in which the contacts of a relay or switch repeatedly turn ON/OFF for a short period caused by contact bounce during switching. You can set the debounce time.

Menu	CONTACT→CHATTERING FILTER	Advanced	N/A
Value	0ms to 300ms (30ms)		

If the IMP-F operates unstably due to chattering, set a longer debounce time.

EDID

A source device that is connected to an input connector obtains information of supported video and audio signals from the EDID. You can change the information to be sent to a source device.

EDID selection

You can set the EDID that will be sent to source device.

Menu	EDID SETTINGS→EDID SELECTION	@GED/@SED
Parameter	IN1 to IN4	
Value	BUILT-IN EDID, EXTERNAL EDID OUT A, EXTERNAL EDID OUT B, COPY DATA	

[BUILT-IN EDID] : Uses built-in EDID. You can change the following EDID information:
【Resolution (P.29)】
【Signal format (P.30)】
【Frame rate (P.30)】
Internal EDID audio formats: Linear PCM 48kHz
Internal EDID speaker configuration: FL/FR (2 channels)

[EXTERNAL EDID] : Uses EDID of the sink device that is connected to the output connector.
If EDID reading fails, the EDID is not changed.

[COPY DATA] : Uses EDID that is saved to the IMP-F in “**Copying EDID (P.30)**”.
Available only if there is effective data, the saved name is displayed.

Resolution

You can set the resolution of the IMP-F for if “**EDID selection (P.28)**” is set to [BUILT-IN EDID].

Menu	EDID SETTINGS→RESOLUTION	@GVF/@SVF
Parameter	IN1 to IN4	
Value	800x600 (SVGA) 1024x768 (XGA) 1280x720 (VESA720) 720p 1280x768 (WXGA) 1280x800 (WXGA) 1280x960 (QuadVGA) 1280x1024 (SXGA) 1360x768 (WXGA) 1366x768 (WXGA) 1400x1050 (SXGA+) 1440x900 (WXGA+) 1600x900 (WXGA++)	1600x1200 (UXGA) 1680x1050 (WSXGA+) 1080i 1920x1080 (VESA1080) 1080p 1920x1200 (WUXGA) 2048x1152 (QWXGA) 2560x1440 (WQHD) 2560x1600 (WQXGA) 3840x2160@30 3840x2160@60 4:2:0 4096x2160@30 4096x2160@60 4:2:0

Timing of [720p]/[1080i]/[1080p]/[3840x2160]/[4096x2160] meets the CTA-861 standard.
For other resolutions, timing parameters meet the VESA DMT or VESA CVT standard.

Copying EDID

EDID of sink device is read and saved to the IMP-F.
You can name the EDID at the time of saving by using ASCII code 20 to 7D (Up to 10 characters).

Menu	EDID SETTINGS→SINK DEVICE EDID COPY	N/A
Parameter	-	
Value	OUT A, OUT B	

EDID of the sink device connected to the selected output connector is read and saved.
To use the saved EDID, set "**EDID selection (P.28)**".

Signal format

You can set the signal format of the IMP-F for if "**EDID selection (P.28)**" is set to [BUILT-IN EDID].

Menu	EDID SETTINGS→SIGNAL FORMAT	Advanced	N/A
Parameter	IN1 to IN4		
Value	HDMI, DVI		

[HDMI] : Sets the IMP-F as an HDMI device.
[DVI] : Sets the IMP-F as an DVI device. Audio signal is not supported.

Frame rate

You can set the vertical synchronous frequency (frame rate) of the IMP-F for if "**EDID selection (P.28)**" is set to [BUILT-IN EDID].

Menu	EDID SETTINGS→FRAME RATE	Advanced	N/A
Parameter	IN1 to IN4		
Value	60Hz, 50Hz		

If selecting [50Hz], 60 Hz and 30 Hz vertical synchronous frequency of "**Resolution (P.29)**" will be 50 Hz and 25 Hz, respectively.

RS-232C

Communication setting

Menu	RS-232C SETTINGS→PARAMETERS			@GCT/@SCT
Parameter	RS1 (RS-232C), OUT1B, OUT2B			
	Baud rate [bps]	Data bit length [bit]	Parity check	Stop bit [bit]
Value	4800, 9600, 14400, 19200, 38400, 57600, 115200	7, 8	NONE, ODD, EVEN	1, 2

LAN

Network

Menu	LAN SETTINGS→IP ASSIGNMENT	@GIA/@SIA
Value	STATIC, DHCP/AutoIP, AutoIP	

Menu	LAN SETTINGS→IP ADDRESS	@GIP/@SIP
Value	0.0.0.0 to 255.255.255.255 (192.168.1.199)	

Menu	LAN SETTINGS→SUBNET MASK	@GSB/@SSB
Value	0.0.0.0 to 255.255.255.254 (255.255.255.0)	

Menu	LAN SETTINGS→GATEWAY ADDRESS	@GGW/@SGW
Value	0.0.0.0 to 255.255.255.255 (0.0.0.0)	

The IMP-F supports automatic IP address assignment using AUTO IP or DHCP(Dynamic Host Configuration Protocol).
If IP ASSIGNMENT is set to [DHCP/AutoIP] or [AutoIP], the IP address, subnet mask, and gateway address are configured automatically.
LAN communication is temporarily disconnected immediately after the IP ASSIGNMENT setting is changed. Wait a few moments and then try LAN communication again.

MAC address

Menu	LAN SETTINGS→MAC ADDRESS	@GMC
Value	Specific values of the device	

Secure communication

You can set the connection method for secure communication through the WEB browser.

Menu	LAN SETTINGS→SECURE CONNECTION	N/A
Value	ON, OFF	

Server certificate selection

You can select a server certificate to be used for HTTPS communication.

Menu	LAN SETTINGS→SELECT CERTIFICATION	N/A
Value	INTERNAL, EXTERNAL*	

*Available only if a server certificate is saved.

[INTERNAL] : Uses the built-in server certificate.
[EXTERNAL] : Uses the externally issued server certificate saved on the IMP-F.

Note

Built-in and self-signed server certificates need to be imported into your web browser. Otherwise, the web browser displays a warning message.

Server certificate update

You can update the built-in server certificate.

Menu	LAN SETTINGS→UPDATE INTERNAL SELF SIGNED CERTIFICATE	N/A
Value	Start date to End date (1 day to 10 years) 2026/06/01 to 2027/06/01	

Notes

- If the server certificate expires, communication may no longer be possible. Be sure to renew the certificate before it expires.
- After renewing the server certificate, import the updated server certificate into the web browser again.

Server certificate save

You can save the issued server certificate and its private key to the IMP-F.

Menu	LAN SETTINGS→IMPORT SELF SINED CERTIFICATE	N/A

Note

Save the server certificate (.crt) file and its private key (.key) file as a matching pair.

Automatic disconnection time (Timeout)

You can set the time to disconnect LAN communication automatically.

Menu	LAN SETTINGS→AUTO DISCONNECT	Advanced	@GLD/@SLD
Value	NOT DISCONNECT, 1 s to 180 s (30 s)		

[NOT DISCONNECT] : Does not disconnect LAN communication.
[1 s] to [180 s] : Disconnect LAN communication when the set time passes.

Up to eight connections from an external device to the IMP-F can be set.
The IMP-F disconnects the LAN communication if the IMP-F does not receive a command for the specified time.

If selecting [NOT DISCONNECT], the IMP-F does not disconnect the communication from its side.
Communication may be disabled if exceeding the connection limit.

Start-up settings

You can specify the settings for when the IMP-F is powered ON or starts up.

Input channel

You can set the input channel status for when the IMP-F is powered ON.

Menu	POWER ON SETTINGS→INPUT CHANNEL	Advanced	N/A
Value	IN1 to IN4, INOFF, LAST CHANNEL		

[IN1 ～ IN4] : Starts up with the selected input channel.
[INOFF] : Starts up with input channel OFF.
[LAST CHANNEL] : Starts up with the channel before the IMP-F.

Button security lockout

You can set the button security lockout when the IMP-F starts up.

Menu	POWER ON SETTINGS→BUTTON LOCK	Advanced	N/A
Value	AUTO, LOCK, UNLOCK		

[AUTO] : Starts up with the status before the IMP-F is powered OFF or switched into standby mode.
[LOCK] : Buttons are locked.
[UNLOCK] : Buttons are unlocked.

Configuring IMP-F

Advanced menu display

You can enable/disable the advanced menus.

Menu	SYSTEM SETTINGS→ADVANCED MENU	N/A
Value	ON (Enabled), OFF (Disabled)	

For details of advanced menus, see “**Basic menus and Advanced menus (P.12)**”.

Backup/Restore

You can backup or restore all settings of the IMP-F.

Menu	SYSTEM SETTINGS→BACKUP/RESTORE	N/A
Value	BACKUP, RESTORE	

Note

Login settings for WEB GUI are not included in the backup data.

Reboot

Menu	SYSTEM SETTINGS→REBOOT	@RBT
Value	-	

Initialization of all settings

You can initialize all settings or settings except for RS-232C and LAN communication settings.

Menu	SYSTEM SETTINGS→INITIALIZATION	@CLR
Parameter	ALL, NORMAL	

[ALL] : Initializes all settings.
[NORMAL] : Initializes settings except for the following settings.
【RS-232C (P.31)】(Communication setting)
【LAN (P.31)】
Login settings for WEB GUI

Note

To restore settings, make a backup copy.

Tip

Refer to the Operation guide for the login settings for WEB GUI.

Status

You can view the statuses of I/O channel and the IMP-F.

Output signal status

Menu	VIEW STATUS→OUTPUT STATUS	@GSS

■ **Output video signal format, HDCP authentication status**

[RESOLUTION]: Output resolution (Horizontal x Vertical resolutions, Vertical sync frequency)
[HDMI/DVI]
[HDCP AUTHENTICATION]
[COLOR SPACE]
[DEEP COLOR]
[COLOR RANGE]

■ **Output audio signal format**

[FORMAT]
[SAMPLING FREQUENCY]
[CHANNEL]
[BIT LENGTH]

■ **Error status**

[VIDEO ERROR] : Video output error status
[DIGITAL AUDIO ERROR] : Digital audio output error status
[ANALOG AUDIO ERROR] : Analog audio output error stats

Error code for video output

Code	Description
Video Mute	Video mute is set to [ON]. 【Video mute (P.17)】
Not DDC Power	DDC 5 V signal is not input or no source device is connected.
No Signal	No video signal is input. ・ May be solved by changing "**Hot plug output for when there is no active video input signal (P.21)**" to longer. ・ Signal quality may be decreased due to cable length or cabling. ・ May be solved by limiting source device video output of EDID. 【Resolution (P.29)】
AV Mute Received	Video output of source device is in a Mute status.
HDCP Video Mute	Signal with HDCP is input, but the sink device does not support HDCP. ・ May be solved by setting "**HDCP input (P.23)**" to [NOT SUPPORT].
Not AVIInfoFrame	The source device does not output required information (packets) for outputting video.
Dot Clock Over	Video signal that is not supported, such as out of dot clock range, is input. ・ May be solved by limiting source device video output of EDID. 【EDID selection (P.28)】
Channel OFF	Input selection is set to [OFF].

Error code for digital and analog audio output

Code	Description
Audio Mute	Audio mute is set to [ON]. 【Mute (P.26)】
Not DDC Power	DDC 5 V signal is not input or no source device is connected.
No Signal	No audio signal is input. ・ DVI signal does not include audio. ・ Limited to DVI signal input in EDID setting. 【Signal format (P.30)】
AV Mute Received	Audio output of source device is in a Mute status.
Not AUDInfoFrame	The source device does not output required information (packets) for outputting video or audio.
DVI Mode	DVI signal is output. DVI signal does not include audio. ・ "**Signal format (P.19)**" is set to [DVI MODE]. ・ The sink device may not support audio. EDID reading may be failed. Can be solved by setting "**Automatic determining sink device EDID (P.20)**" to [ON].
Channel OFF	Input selection is set to [OFF].

*Input status of analog audio signal cannot be detected. Even if any error code is not displayed, audio may sometimes not be output when analog input is selected.

Viewing sink device EDID

You can view EDID of the sink device that is connected to an output connector.

Menu	VIEW STATUS→SINK DEVICE EDID	@GES

For a sink device that does not support HDMI, only sink device name, recommended resolution, and supported video signal format are displayed.
If video synchronous signal output is stopped, [SIGNAL STOPPED] is displayed on the front display. If the IMP-F cannot read EDID from connected sink devices or the data is invalid, [EDID READ ERROR] is displayed. If EDID check sum error causes, [CHECK SUM ERROR] is displayed.

■ **Sink device EDID**

[MONITOR NAME] : Sink device name
[RESOLUTION] : Recommended resolution (Horizontal x Vertical resolutions, Vertical sync frequency)
[HDMI/DVI]
[COLOR SPACE]
[DEEP COLOR]
[PCM FREQUENCY]
[PCM BIT LENGTH]
[PCM CHANNEL]
[COMPRESSED AUDIO]

Input signal status

Menu	VIEW STATUS→INPUT STATUS	@GSS

■ **Input video signal format**

[RESOLUTION]: Input resolution (Horizontal x Vertical resolutions, Vertical sync frequency)
[HDMI/DVI]
[HDCP AUTHENTICATION]
[COLOR SPACE]
[DEEP COLOR]
[COLOR RANGE]

■ **Input audio signal format**

[FORMAT]
[SAMPLING FREQUENCY]
[CHANNEL]
[SPEAKER]
[BIT LENGTH]

System check

You can view the statuses of the internal supply voltage and internal temperature can be displayed.

Menu	VIEW STATUS→HARDWARE CHECK RESULT	@GHC

[VOLTAGE] : Internal supply voltage
[TEMP] : Internal temperature

Device information

You can view the model name and firmware version.

Menu	VIEW STATUS→VERSION	@GIV

Factory default list

Menu		Default value
OUTPUT IMAGE	RESOLUTION	A (AUTO-A)
	TEST PATTERN	TEST PATTERN: OFF
OUTPUT SETTINGS	SIGNAL OUTPUT	ON
	VIDEO MUTE	OFF
	NO SIGNAL OUTPUT	ON
	NO SIGNAL IMAGE	BLUE
	HDCP AUTHENTICATION	HDCP 2.2
	CONNECTION RESET	---
	SIGNAL FORMAT	HDMI YCbCr 4:4:4 MODE
	RGB RANGE	AUTO
	FOLLOW SINK EDID	ON
	HOTPLUG MASK	OFF
INPUT SETTINGS	NO INPUT MONITORING	10000ms
	HDCP INPUT	HDCP 2.2 SUPPORT
	EQUALIZER	MIDDLE
AUTO SWITCHING	SIGNAL ON PRIORITY	OFF
	SIGNAL OFF PRIORITY	OFF
	IGNORING DURATION	0s000ms
OUTPUT AUDIO SETTINGS	SIGNAL OUTPUT	ON
	AUDIO LEVEL	0dB
	MUTE	OFF
	TEST TONE	OFF
INPUT AUDIO SETTINGS	AUDIO LEVEL	0dB
	STABLE WAIT	ON
CONTACT	CHATTERING FILTER	30ms
EDID SETTINGS	EDID SELECTION	BUILT-IN EDID
	RESOLUTION	3840x2160@60 4:2:0
	SINK DEVICE EDID COPY	All: Not saved
	SIGNAL FORMAT	HDMI
	FRAME RATE	60Hz
RS-232C SETTINGS	PARAMETERS	BPS: 9600、LENGTH: 8、PARITY: NONE、STOP: 1
LAN SETTINGS	IP ASSIGNMENT	DHCP/AutoIP
	IP ADDRESS	192.168.1.199
	SUBNET MASK	255.255.255.0
	GATEWAY ADDRESS	192.168.1.200
	MAC ADDRESS	---
	SECURE CONNECTION	ON
	SELECT CERTIFICATION	INTRENAL
	UPDATE INTERNAL SELF SIGNED CERTIFICATE	---
	IMPORT SELF SINED CERTIFICATE	---
	AUTO DISCONNECT	30s
POWER ON SETTINGS	INPUT CHANNEL	LAST CHANNEL
	BUTTON LOCK	AUTO
SYSTEM SETTINGS	ADVANCED MENU	OFF
	INITIALIZATION	---

License

The following table shows the licensed third-party software packages used by the IMP-F-V.
Transferring, copying, disassembling, decompiling, or reverse-engineering the included software other than open source software that is licensed by GPL, LGPL, or other licenses are prohibited.

OSS	License	URL
Eclipse ThreadX	MIT	https://github.com/eclipse-threadx
Eclipse ThreadX NetX Duo	MIT	https://github.com/eclipsethreadx/netxduo/blob/master/LICENSE.txt
Eclipse ThreadX filex	MIT	https://github.com/eclipsethreadx/filex/blob/master/LICENSE.txt
mbedtls	Apache License Version 2.0	https://github.com/MbedTLS/mbedtls/blob/development/LICENSE
workbox	MIT	https://github.com/GoogleChrome/workbox/blob/v7/LICENSE
ant-design/icons	MIT	https://github.com/ant-design/ant-design-icons/blob/master/LICENSE
ant-design	MIT	https://github.com/ant-design/ant-design/blob/master/LICENSE
react	MIT	https://github.com/facebook/react/blob/main/LICENSE
redux-toolkit	MIT	https://github.com/reduxjs/redux-toolkit/blob/master/LICENSE
axios	MIT	https://github.com/axios/axios/blob/v1.x/LICENSE
react-redux	MIT	https://github.com/reduxjs/react-redux
react-router	MIT	https://github.com/remix-run/react-router/blob/main/LICENSE.md
styled-components	MIT	https://github.com/styled-components/styled-components/blob/main/LICENSE
web-vitals	Apache License v2	https://github.com/GoogleChrome/web-vitals/blob/main/LICENSE
material-ui	MIT	https://github.com/mui/material-ui/blob/master/LICENSE
tsparticles	MIT	https://github.com/tsparticles/tsparticles/blob/main/LICENSE
ant-float-label	MIT	https://github.com/razr001/ant-float-label/blob/master/LICENSE
virtual-list	MIT	https://github.com/react-component/virtual-list/blob/master/LICENSE
motion	MIT	https://github.com/motiondivision/motion/blob/main/LICENSE.md
emotion	MIT	https://github.com/emotion-js/emotion/blob/main/LICENSE

Specification

Product specification

		IMP-F41U
Video/Audio input	HDMI	4 inputs
		HDMI/DVI 1.0 TMDS single link[*1], HDCP 1.4/2.2 TMDS clock: Up to 300 MHz, TMDS data rate: Up to 9 Gbps
		640x480@60 to 2560x1600@60 Reduced Blanking 480p, 576p to 3840x2160@24/25/30 (4:4:4), 3840x2160@50/59.94/60 (4:2:0), 4096x2160@24/25/30 (4:4:4), 4096x2160@50/59.94/60 (4:2:0) Color depth: 24 bits *For all supported video signals, see the table below.
		LPCM: Up to 2 channels Sampling frequency: 32/44.1/48/88.2/96/176.4/192 kHz Reference level: -20 dBFS, Max. input level: 0 dBFS
		Connector: HDMI Type A Maximum distances[*2]: 98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60)
Video/Audio output	HDMI	1 output
		2 distributions
		HDMI/DVI 1.0 TMDS single link[*1], HDCP 1.4/2.2 TMDS clock: Up to 297 MHz, TMDS data rate: Up to 8.91 Gbps
		1920x1200@ 60 Reduced Blanking to 2560x1600@60 Reduced Blanking 720p, 1080p to 3840x2160@24/25/30 (4:4:4), 3840x2160@50/59.94/60 (4:2:0), 4096x2160@24/25/30 (4:4:4), 4096x2160@50/59.94/60 (4:2:0) Color depth: 24 bits *For all supported video signals, see the table below.
		LPCM: Up to 2 channels Sampling frequency: 48 kHz Reference level: -20 dBFS, Max. output level: 0 dBFS
		Connector: HDMI Type A Maximum distances[*2]: 30 m (1080p@60), 12 m (4K@60)
	Analog audio	1 output
		Stereo L/R Output impedance: 50 Ω unbalanced Reference level: -10 dBu, Max. input level: +10 dBu
		Connector: Captive screw (3-pin)
Control I/F	RS-232C	1 port/Connector: Captive screw (3-pin)
	LAN	1 port/10Base-T/100Base-TX (Auto Negotiation), Auto MDI/MDI-X, Connector: RJ-45
	Contact input/Tally output	5 ports Contact input: Non-voltage contact (make contact) input or voltage contact output (DC 0 V to 5 V ±5%) Tally output: Open collector output (Rated DC 48 V 1 A) Connector: Captive screw (3-pin) LED power for Tally (Rated DC 5 V 0.5 A) connector: Captive screw (2-pin)
Functions	Video	Resolution conversion, Frame rate conversion, Seamless switching, Each video output OFF, Built-in library of test patterns
	Audio	Volume level adjustment (Input/Output), De-embedding, Test tone
	Control	WEB browser (Encrypted communication supported), Unique Reception Command, Unsolicited notification
	Others	Automatic input switching, EDID emulation, Audio input enable/disable, HDCP input enabling/disabling, Automatic signal equalization (Input/Output), Status display, System check, Last memory, Anti-Snow, Connection Reset [*3], Button security lockout
General	Power	DC 12 V 2.2 A AC adapter: AC 100 V - 240 V ±10%, 50 Hz/60 Hz ±3 Hz, DC 12 V 3 A
	Power consumption	26 W
	Dimensions	8.3 (W) × 1.7 (H) × 7.9 (D)" (210 (W) × 42 (H) × 200 (D) mm) (Excluding connectors and the like)
	Weight	3.1 lbs. (1.4 kg)
	Temperature	Operating: 32°F to 104°F (0°C to +40°C), Storage: -4°F to +176°F (-20°C to +80°C)
	Humidity	20% to 90% (Non Condensing)

[*1] CEC/Deep Color/3D/HDR/ARC/HEC are not supported.

[*2] The maximum specified distances may not be achievable with some device combinations, cabling method, or other manufacturer's cable. For the same reasons, video signal disturbances or interruptions may occur, even if signals are within the specified distance (cable length) parameters.
The maximum cable length varies depending on the connected devices. The specifications have been qualified under following conditions
- HDMI (1080p@60) : When IDK cable was used and signal of 1080p@60 24 bits was transmitted.
- HDMI (4K@60) : When IDK's 18 Gbps supported cable was used and signal of 3840x2160@60 24 bits was transmitted.

[*3] It creates the same condition as if the cable were physically disconnected and reconnected. This feature only works for the IMP's output. Connecting other devices between the IMP's outputs and sink devices, may interfere with the operation of this feature.

Supported video signals

Signal	Resolution	Frame Rate [Hz]	Pixel Clock [MHz]	Color Depth [bits]	INPUT	OUT
					HDMI	HDMI
640x480@60	640x480	59.94	25.18	24	○	–
800x600@60	800x600	60.32	40.00	24	○	–
1024x768@60	1024x768	60.00	65.00	24	○	–
1280x768@60	1280x768	59.87	79.50	24	○	–
1280x800@60	1280x800	59.81	83.50	24	○	–
1280x960@60	1280x960	60.00	108.00	24	○	–
1280x1024@60	1280x1024	60.02	108.00	24	○	–
1360x768@60	1360x768	60.02	85.50	24	○	–
1366x768@60	1366x768	59.79	85.50	24	○	–
1400x1050@60	1400x1050	59.98	121.75	24	○	–
1440x900@60	1440x900	59.89	106.50	24	○	–
1600x900@60	1600x900	59.95	118.25	24	○	–
1600x1200@60	1600x1200	60.00	162.00	24	○	–
1680x1050@60	1680x1050	59.95	146.25	24	○	–
1920x1080@60 RB	1920x1080	59.93	138.50	24	○	–
1920x1200@60 RB	1920x1200	59.95	154.00	24	○	○
2048x1152@60 RB	2048x1152	60.00	162.00	24	○	○
2560x1440@60 RB	2560x1440	59.95	241.50	24	○	○
2560x1600@60 RB	2560x1600	59.97	268.50	24	○	○
480p	720x480	59.94	27.00	24	○	–
576p	720x576	50.00	27.00	24	○	–
720p@50	1280x720	50.00	74.25	24	○	○
720p@60/59.94	1280x720	60.00/59.94	74.25/74.18	24	○	○
1080i@50	1920x1080	25.00	74.25	24	○	–
1080i@60/59.94	1920x1080	30.00/29.97	74.25/74.18	24	○	–
1080p@50	1920x1080	50.00	148.50	24	○	○
1080p@60/59.94	1920x1080	60.00/59.94	148.50/148.35	24	○	○
3840x2160@24/23.98	3840x2160	24.00/23.98	297.00/296.70	24	○	○
3840x2160@25	3840x2160	25.00	297.00	24	○	○
3840x2160@30/29.97	3840x2160	30.00/29.97	297.00/296.70	24	○	○
3840x2160@50	3840x2160	50.00	594.00	24	○*1	○*1
3840x2160@60/59.94	3840x2160	60.00/59.94	594.00/593.41	24	○*1	○*1
4096x2160@24/23.98	4096x2160	24.00/23.98	297.00/296.70	24	○	○
4096x2160@25	4096x2160	25.00	297.00	24	○	○
4096x2160@30/29.97	4096x2160	30.00/29.97	297.00/296.70	24	○	○
4096x2160@50	4096x2160	50.00	594.00	24	○*1	○*1
4096x2160@60/59.94	4096x2160	60.00/59.94	594.00/593.41	24	○*1	○*1

RB: Reduced Blanking
*1 YCbCr 4:2:0 24 bit is supported.

For best results, please confirm that the source device(s) video output can be configured to match the listed formats above.

Troubleshooting

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

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

- Are the IMP-F 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-F 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-F?

HDMI Seamless Switcher

IMP-F41U

User Guide

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