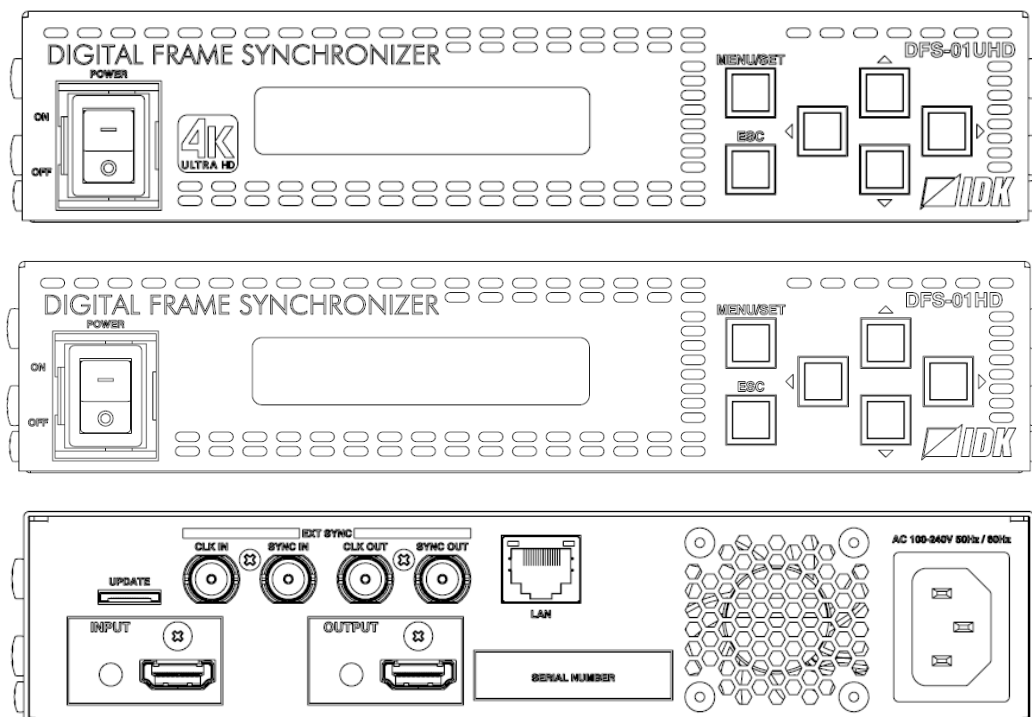**4K Digital Frame Synchronizer/Scaler**

DFS-01UHD/DFS-01HD

<User Guide>

Ver.3.6.0

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

IDK Corporation

Trademarks

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Before reading this manual

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

The reference manual consists of the following two volumes:

■ User guide (this document):
Provides explanations and procedures for operations, installation, connections among devices, I/O adjustment and settings.

■ Command guide: Please download the command guide from the website above.
Provides explanations and procedures for external control using RS-232C and LAN communications.

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: DIGITAL FRAME SYNCRONIZER

Model Name: DFS-01UHD, DFS-01HD

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 PoE/PoH, use category cables meeting IEEE802.3af/at.** Otherwise, it may cause problems or a fire.

For operating products:

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

If the following problem occurs:

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

⚠ Caution

For installing and connecting products:

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

For operating products:

Hot surfaces Caution	**For products with the hot surfaces caution label only:** ● **Do not touch the product's hot surface.** If the product is installed without enough space, it may cause malfunction of other products. If you touch product's hot surface, it may cause burns.
Prohibited	● **Use only the supplied power cable and AC adapter.** ● **Do not use the supplied power cable and AC adapter with other products.** If non-compliant adapter or power cables are used, it may increase the risk of fire or electric shock.
Unplug	● **If the product won't be used for an extended period of time, unplug it.** Failure to observe this precaution may increase the risk of fire. ● **Unplug the product before cleaning.** To prevent electric shock.
Instruction	● **Do not prevent heat release.** If cooling fan stops, power off the product and contact 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.

Table of Contents

1 About this Guide

This user guide explains how to use the "DFS-01UHD" and "DFS-01HD" frame synchronizer (hereafter referred to as "DFS").

2 Included items

Ensure that all items illustrated below are included in the package.
If any items are missing or damaged, please contact IDK.
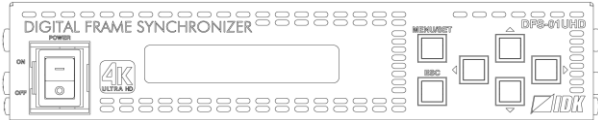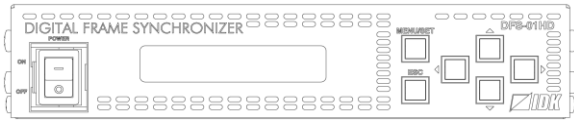
Main unit (DFS-01UHD)   Main unit (DFS-01HD)
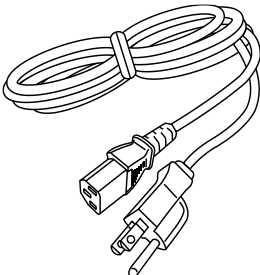
One (1) power cord, 6 ft. (1.8 m)

[Fig. 2.1] Included items

3 Product Outline

The IDK DFS-01UHD is a 1-input/1 output digital frame synchronizer with a scan converter.

HDMI or DVI signals can be input and converted to HDMI at a resolution up to 4K@60 for DFS-01UHD, or up to 4K@30 for DFS-01HD.

The DFS can control audio volume, and it corrects the gap between video and audio using the lip sync function.

The DFS can be controlled via TCP/IP (LAN).

[Table 3.1] DFS-01UHD and DFS-01HD

Model	Maximum resolution	HDCP version
DFS-01UHD	4K@60 (4:4:4)	HDCP 2.2
DFS-01HD	4K@30 (4:4:4)	HDCP 1.4

Video can be transmitted up to 98 ft. (30 m). For 4K format, since the maximum supported resolutions for DFS-01UHD and DFS-01HD are not the same, the maximum distances also differ: 39 ft. (12 m) 4K@60 for DFS-01UHD; 66 ft. (20 m) for DFS-01HD.
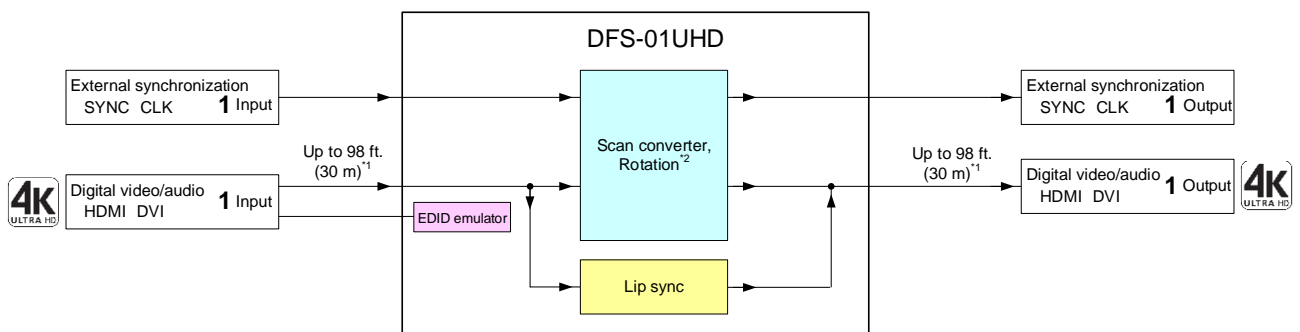
[*1] Maximum extension distance
   98 ft. (30 m):1080p@60
   39 ft. (12 m): 4K@60 (when 18 Gbps high-speed cable is used)
[*2] For 4K format and dot clock of 165 MHz or more, only 180-degree rotation is supported.
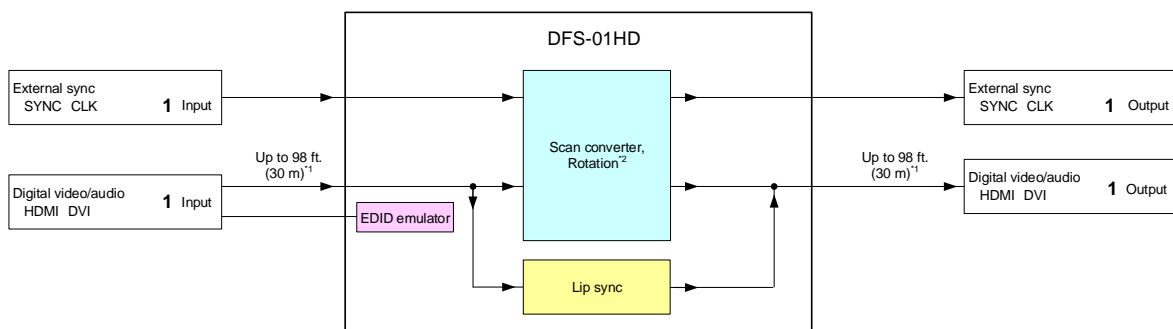
[*1] Maximum extension distance
   98 ft. (30 m):1080p@60
   39 ft. (12 m): 4K@60 (when 18 Gbps high-speed cable is used)
[*2] For 4K format and dot clock of 165 MHz or more, only 180-degree rotation is supported.

[Fig. 3.1] DFS-01UHD and DFS-01HD diagram

The external synchronization corrects the video gap in videowall system.

【See: 8.4 External synchronization】
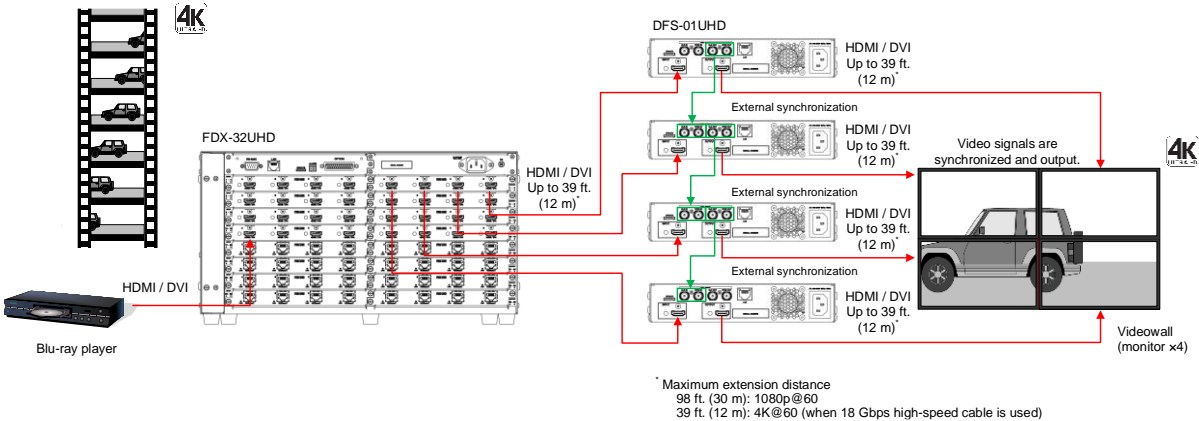
[Fig. 3.2] External synchronization (DFS-01UHD)

4 Features

■ **Video**
- ・ Maximum resolution
    DFS-01UHD : 4K@60 (4:4:4)
    DFS-01HD   : 4K@30 (4:4:4)
- ・ HDCP version
    DFS-01UHD : 1.4/2.2
    DFS-01HD   : 1.4
- ・ Motion adaptive interlaced/progressive conversion
- ・ Horizontal flip
- ・ Scan conversion
- ・ Aspect ratio control
- ・ Video rotation (by 90 degrees)[*]
- ・ External synchronization I/O for videowall
- ・ Anti-snow

■ **Audio**
- ・ Volume adjustment
- ・ Lip Sync

■ **Control input**
- ・ LAN

■ **Others**
- ・ CEC (Pass-through)
- ・ EDID emulation
- ・ All functions and configuration settings accessible through browser
- ・ Preset memory
- ・ Last memory
- ・ Connection Reset
- ・ Front key function lock
- ・ System check

[*] For 4K format and dot clock of 165 MHz or more, only 180-degree rotation is supported.

5 Panels

5.1 Front panel
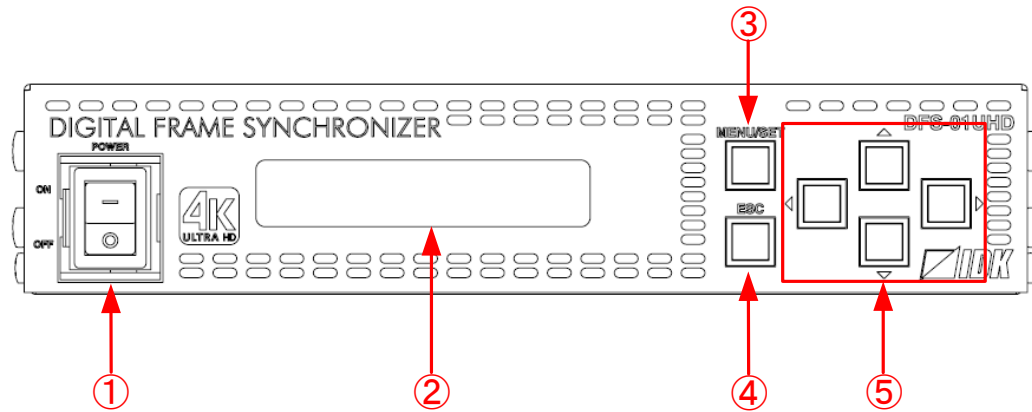
[Fig. 5.1] Front panel drawing (DFS-01UHD)

[Table 5.1] Front panel features

#	Feature	Description
①	Power key	Turn on/off the DFS
②	Front display	Displays menus and settings
③	MENU/SET key	Displays menu on the front display Applies settings 【See: 8.2 Menu operation】
④	ESC key	Ends the current menu setting
⑤	Arrow keys (▲, ▼, ◄, ►)	Switch menu, move cursor, and change setting values

5.2　Rear panel
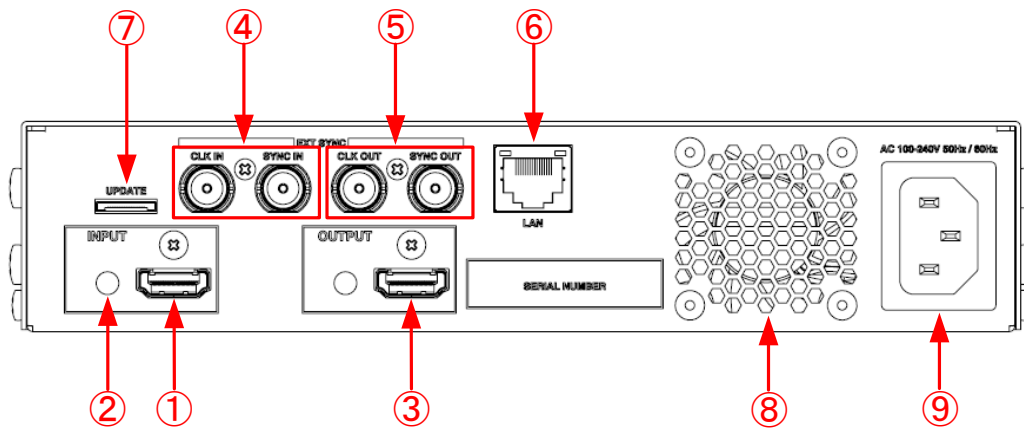
[Fig. 5.2] Rear panel drawing (DFS-01UHD/DFS-01HD)

[Table 5.2] Rear panel features

#	Feature	Description
①	HDMI input connectors	Input connectors for HDMI and DVI signals, interface source devices, such as Blu-ray players.
②	HDMI cable fixing holes (Not used)	Not used.
③	HDMI output connectors	Output connectors for HDMI and DVI signal, interfaces with sink devices such as LC monitors and projectors.
④	External synchronous input connector	Input connectors for reference synchronous signals Synchronizes output signals for when multiple DFS-01UHDs or DFS-01HDs are in the system. Connect to the external synchronous output connector of the desired DFS-01UHD or DFS-01HD. 【See: 7.2.2 Connecting coaxial cable】
⑤	External synchronous output connector	Output connectors for reference synchronous signals. Synchronizes output signals for when multiple DFS-01UHDs or DFS-01HDs are in the system. Connect to the external synchronous input connector of the desired DFS-01UHD or DFS-01HD. 【See: 7.2.2 Connecting coaxial cable】
⑥	LAN connector	For external control by communication commands or WEB browser
⑦	Maintenance port	Factory use only
⑧	Cooling fan	Maintains proper cooling
⑨	Power supply connector	For use with provided power cable

6 System Configuration Example

Configuration example: Displaying 4K video in 4-monitor videowall system using external synchronization.
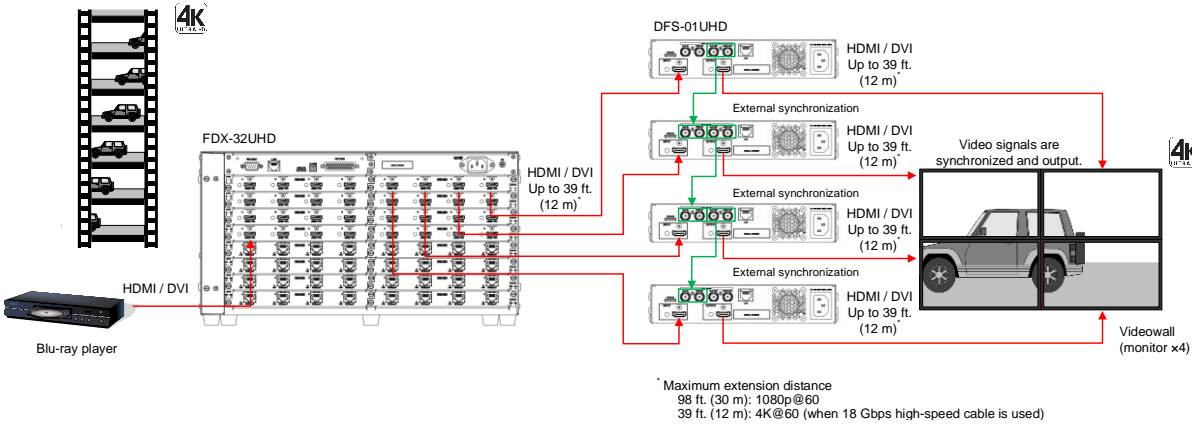
[Fig. 6.1] System configuration (DFS-01UHD)

7 Precautions

Before connecting to external devices, follow the precautions below.

7.1 Installation

When installing the DFS, please observe the following precautions.

- Do not stack or place one DFS directly on top of another DFS.
- Do not block vent holes. To provide adequate ventilation, maintain sufficient clearances around the DFS (1.2 in. (30 mm) or more).
- When the DFS needs to be mounted in an enclosed space, ensure that a sufficient ventilation/cooling system is provided to keep the ambient temperature at 104°F (40°C) or lower. If inadequately vented, the product's service life, operation, and reliability may be affected.

7.2   Cabling

When connecting the DFS to external devices, please observe the following precautions.

・ Read manuals for the external devices.
・ Before connecting cables to the DFS 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 all units off before connecting cables.
・ Be sure to fully seat all plugs and connections and dress cables to reduce stress on connectors.
・ Use the cable lacing bracket to secure a standard HDMI cable as shown.

① Plug the HDMI cable into the HDMI connector.

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

③ Place the bracket on the screw.

④ Tighten the screw to secure the bracket. (Do not overtighten the screw.)

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

⑥ Cut excess length.
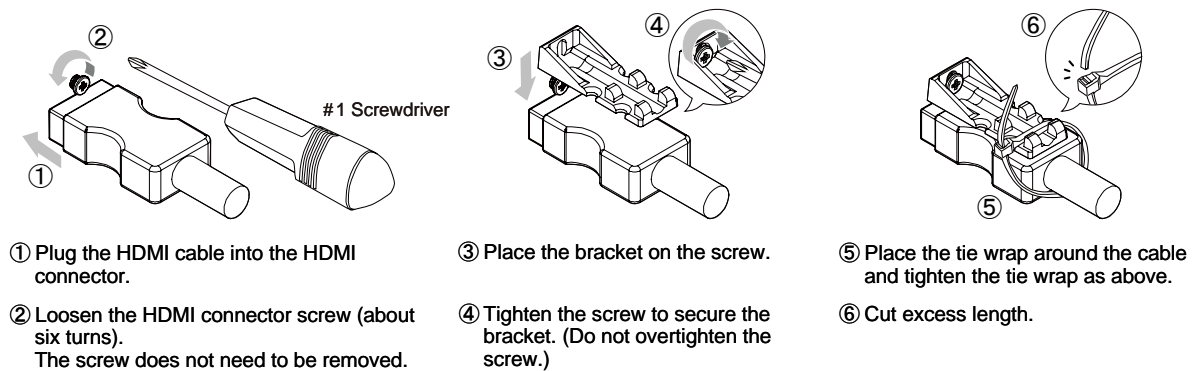
[Fig. 7.1] Cable Lacing Bracket (FB-01 For IDK products only)

7.2.1 Cables

IDK has a large selection of Premium HDMI cables, flexible HDMI cables, high-quality long cables, and conversion cables.
Use the correct cable depending on the system configuration.

For 4K format video, the maximum TMDS data rate (transmission speed) is 18 Gbps. If a high-speed HDMI cable that supports up to 10.2 Gbps rate is used, video cannot be displayed stably. Select an appropriate 18 Gbps high-speed cable depending on the 4K format.
The maximum distance may change depending on cable type and characteristics of source and sink devices.

[Table 7.1] 18 Gbps high-speed cable for 4K format

	TMDS data rate (Gbps)								
	RGB, YCbCr 4:4:4			YCbCr 4:2:2			YCbCr 4:2:0		
4K format	24 bit	30 bit	36 bit	24 bit	30 bit	36 bit	24 bit	30 bit	36 bit
3840x2160p (24/25/30)	10.2 Gbps	18 Gbps	18 Gbps	10.2 Gbps	10.2 Gbps	10.2 Gbps	N/A	N/A	N/A
4096x2160 (24/25/30)	10.2 Gbps	18 Gbps	18 Gbps	10.2 Gbps	10.2 Gbps	10.2 Gbps	N/A	N/A	N/A
3840x2160p (50/59.94/60)	18 Gbps	N/A	N/A	18 Gbps	18 Gbps	18 Gbps	10.2 Gbps	18 Gbps	18 Gbps
4096x2160 (50/59.94/60)	18 Gbps	N/A	N/A	18 Gbps	18 Gbps	18 Gbps	10.2 Gbps	18 Gbps	18 Gbps

18 Gbps: 18 Gbps high-speed cable; 10.2 Gbps: 10.2 Gbps cable, －:N/A

Note:
If a cable is extended and a cable joint (JJ) is used, video may be interrupted or may not be output.

7.2.2 Connecting coaxial cable

Connect external synchronous signal output and the target input of the DFS-01UHD or DFS-01HD over a coaxial cable.

Use coaxial cables of 75 Ω characteristic impedance.
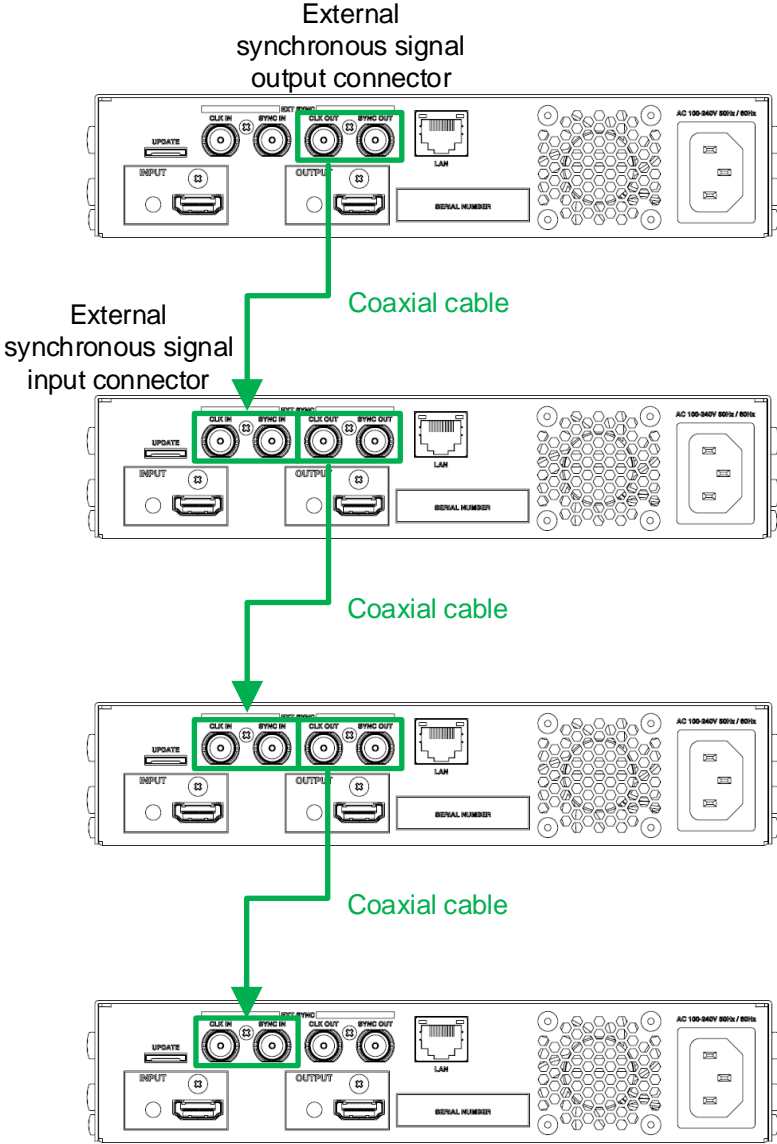
[Fig. 7.2] Connecting coaxial cable

8 Basic Operation

8.1 Power up init period

After powering on the DFS, there is some seconds delay before the first operation can be received.

[Table 8.1] Required time

Operation	Required time
Receiving communication command	7 seconds
Receiving WEB browser operation	7 seconds
Receiving operation of front panel	7 seconds

8.2 Menu operation

You can use the front screen and front panel keys to view and control settings.

Press the "MENU/SET" key to apply settings and to change the menu level.

Press the "ESC" key to go back to the previous screen.

Use the "▲" and "▼" keys to select channels and use the "▲" and "▼" keys to select the menu item.

In the setting screen, use "▲", "▼", "▲" and "▼" keys to move the cursor and select the setting The applied values are saved automatically after the session.

【See: 9.1 Menu list】
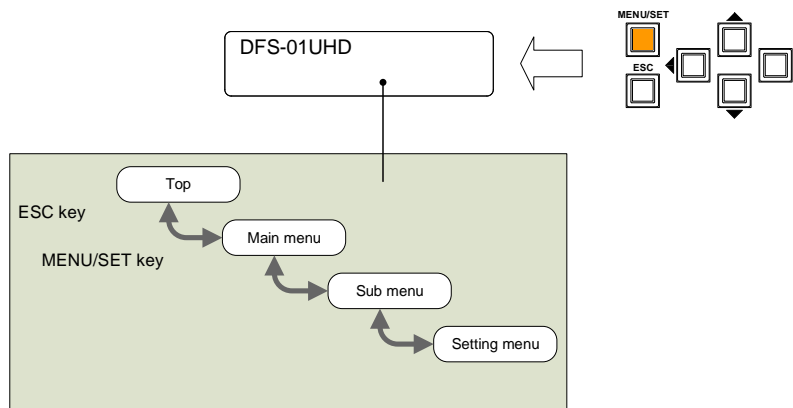
[Fig. 8.1] Menu level

Tips:

・ The "MENU/SET" key LED is illuminated only for settable menu.

・ For some setting screens, the set value is applied from the "MENU/SET" key. When the "MENU/SET" key flashes, press the key to apply the setting value. After the setting has been applied, the key will illuminate without flashing.

Note:

To avoid losing settings, do not interrupt power to the DFS while "Saving.", "Loading.", and "NOW UPDATE…" are displayed; otherwise, the setting information may be lost.

8.3 Locking and unlocking key function

Press and hold the "ESC" key for five seconds or longer to set/cancel keylock for keys below. You will hear a beep tone and then one of the following messages is displayed for 1 second.

・OPERATION LOCK ! (Locked)
・OP LOCK RELEASE ! (Unlocked)

Menu operation keys

Press and hold for 5 seconds or longer
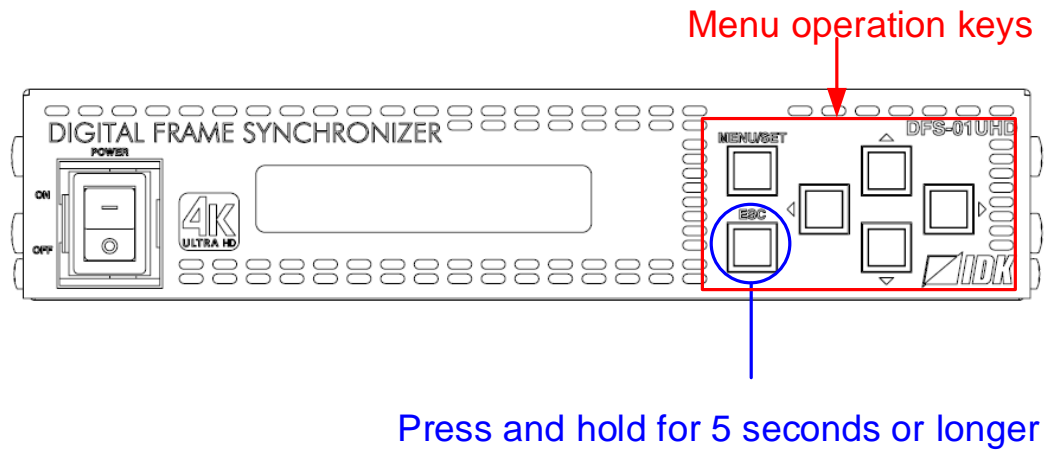
[Fig. 8.2] Keys can be locked/unlocked

8.4   External synchronization

The function synchronizes output signals and corrects the signal gaps of multiple DFS-01UHDs or DFS-01HDs in videowall system.

If synchronous signal is input to the external synchronous signal input connector, the output video signal is synchronized with the external device and the synchronous signal is output to external synchronous signal output connector.

【See: 7.2.2 Connecting coaxial cable】
【See: 9.6.5 External synchronization】
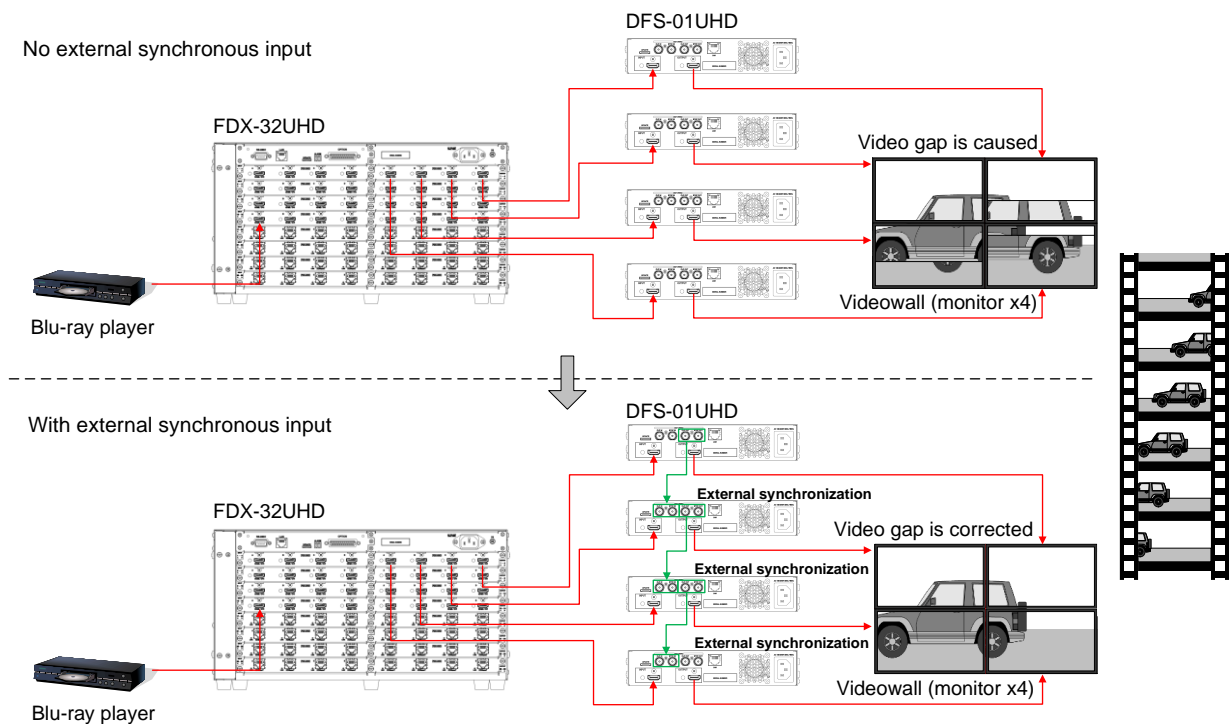
[Fig. 8.3] External synchronization

Note:

For external synchronization, input the same video at the same output resolution ("**9.3.1 Output resolution**") for all DFSs.

8.5   Initialization

All settings will be reset to factory default values by powering on the DFS while pressing the "ESC" key.
Press and hold the "ESC" key until you hear a short beep sounds four times.
The table below show default values.
Note that once initialized, the previous settings cannot be restored.

[Table 8.2] Factory default

Menu		Factory default	See
OUTPUT TIMING			
OUTPUT RESOLUTION	Default	AT	34
OUTPUT ASPECT	Default	RESOLUTION	35
OUTPUT ROTATE	Default	0°	35
OUTPUT MIRROR	Default	OFF	36
OUTPUT CONTRAST	Default	R: 100, G: 100, B: 100	37
OUTPUT BRIGHTNESS	Default	100%	37
OUTPUT BLANK COLOR	Default	R: 0, G: 0, B: 0	37
OUTPUT BACKGROUND	Default	R: 0, G: 0, B: 0	37
OUTPUT TEST PATTERN	Default	OFF	38
OUTPUT SETTING			
OUTPUT MODE	Default	HDMI RGB	39
OUTPUT HDMI MODE	Default	OFF	39
OUTPUT HDCP MODE	Default	ON	40
OUTPUT HPD MASK	Default	OFF	40
OUTPUT DEEP COLOR	Default	24Bit	40
OUTPUT SYNC SIGNAL	Default	OFF	41
INPUT TIMING			
INPUT H POSITION	For	Each input signal	42
	Default	+0 DOT	
INPUT H SIZE	For	Each input signal	42
	Default	+0 DOT	
INPUT V POSITION	For	Each input signal	42
	Default	+0 LINE	
INPUT V SIZE	For	Each input signal	42
	Default	+0 LINE	
INPUT ASPECT	For	Each input signal	44
	Default	AUTO	
INPUT SHARPNESS	For	Each input signal	44
	Default	0 NORMAL	
INPUT CONTRAST	For	Each input signal	44
	Default	R: 100, G: 100, B: 100	

[Table 8.3] Factory default (Cont'd)

Menu		Factory default	See
INPUT TIMING (Cont'd)			
INPUT BRIGHTNESS	For	Each input signal	45
	Default	100%	
INPUT HUE	For	Each input signal	45
	Default	0°	
INPUT SATURATION	For	Each input signal	45
	Default	100%	
INPUT GAMMA	For	Each input signal	45
	Default	1.0 NORMAL	
INPUT SETTING			
INPUT VIDEO DETECT	Default	10 sec.	46
INPUT HDCP ENABLE	Default	HDCP 2.2 (DFS-01UHD)	47
		HDCP 1.4 (DFS-01HD)	
VIDEO WALL			
VIDEO WALL TYPE	Default	H: 01, V: 01	49
VIDEO WALL POSITION	Default	H: 01, V: 01	49
VIDEO H/V SIZE	Default	H: 100.0%, V: 100.0%	49
VIDEO H/V POSITION	Default	H: +0.0%, V: +0.0%	50
VIDEO EXTERNAL SYNC	Default	OFF	50
VIDEO FRAME DELAY	Default	OFF	50
AUDIO			
AUDIO LEVEL	Default	0 dB	52
AUDIO MUTE	Default	OFF	52
AUDIO CHANNEL	Default	AUTO	52
AUDIO LIP SYNC	Default	0 FRAME	53
AUDIO TEST TONE	Default	OFF	53
EDID			
EDID DATA	Default	42: 2160p @60(4:4:4) (DFS-01UHD)	55
		02: 1080p (DFS-01HD)	
EDID SAVE	Default	---	57
EDID DEEP COLOR	Default	24Bit	57
EDID SPEAKER CHANNEL	Default	2CH	58
EDID LINEAR PCM	Default	48kHz	59
EDID Dolby Digital	Default	OFF	59
EDID AAC	Default	OFF	59
EDID Dolby Digital+	Default	OFF	60
EDID DTS	Default	OFF	60
EDID DTS-HD	Default	OFF	60
EDID Dolby TrueHD	Default	OFF	60
EDID WXGA SELECT	Default	WXGA(1360x768)	61
EDID CEC ADDRESS	Default	DEFAULT (1.0.0.0)	61

[Table 8.4] Factory default (Cont'd)

Menu		Factory default	See
LAN			
LAN IP ADDRESS	Default	192.168.001.199	62
LAN SUBNET MASK	Default	255.255.255.000	62
LAN CONTROL PORT	Default	Port number: 1100 The number of connections: OFF (Up to 4 connections available)	63
LAN MAC ADDRESS	Default	---	63
PRESET MEMORY			
PRESET LOAD	Default	---	64
PRESET SAVE	Default	---	64
PRESET STARTUP	Default	LAST MEMORY	65
OTHERS			
BUZZER	Default	ON	66
POWER SAVE	Default	ON	66
ALARM	Default	ON	66
TOP DISPLAY	Default	OFF	67
INPUT STATUS	Default	---	68
MONITOR STATUS	Default	---	69
BOARD STATUS	Default	---	70
FAN STATUS	Default	---	70
POWER STATUS	Default	---	71
HEALTH CHECK	Default	---	71
VERSION	Default	---	72

8.6   Control from WEB browser

You can control the DFS connected over LAN from a WEB browser as well as front panel.
To control the DFS from a WEB browser, enter the IP address that is programmed into the DFS in the address
bar of the WEB browser to display the WEB menu.

【See: 9.9.1 IP address】
【See: 9.9.2 Subnet mask】
【See: 9.9.3 TCP port number】

[Table 8.5] Input example

Control port number of web browser	IP address
80 (Normal)	http://192.168.1.199

JavaScript is used for the DFS WEB browser. When you set the DFS from WEB browser menu, enable
JavaScript before setting up. Refer to each browser's help menu if you do not know how to enable JavaScript.

Tip:
IDK tests the DFS under the following environment:
OS   : Windows 7 Professional
WEB browser : Microsoft Internet Explorer 11
                Google Chrome 67
                Mozilla Firefox 61

8.6.1 WEB menu
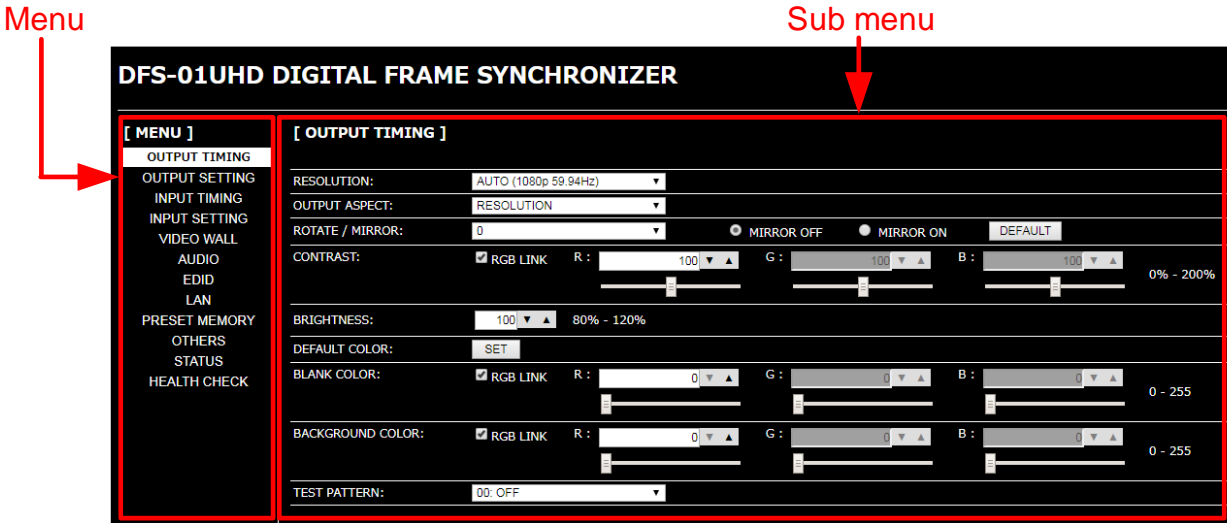
Menu   Sub menu

[Fig. 8.4] WEB menu

① Select the desired item from the menu to display setting items in the submenu.

② Set items in the submenu by referring to the table below.

[Table 8.6] Form control

Form control	Example	Description
Set/execution button	DEFAULT	Click the button to execute the desired operation.
Pull down list	AUTO (1080p 59.94Hz) ▼	Use the down button to select the desired value.
Arrow button	100 ▼ ▲	Use the up/down buttons to select the desired value. You also can enter the value directly.
Slider bar		Drag a single handle to select the desired value.
Check box	RGB LINK	Check the desired item(s).
Radio button	○ MIRROR OFF ○ MIRROR ON	Select either of the radio buttons.

9 Menu

9.1 Menu list

Menu trees for the DFS.

【See: 8.2 Menu operation】

```
Top
├──Main menu
│     ├──Sub menu
│     ├

DFS-01UHD/DFS-01HD
│
│ / * 9.2 Setting output timing * /
├──OUTPUT TIMING
│     ├──OUTPUT RESOLUTION
│     ├──OUTPUT ASPECT
│     ├──OUTPUT ROTATE
│     ├──OUTPUT MIRROR
│     ├──OUTPUT CONTRAST
│     ├──OUTPUT BRIGHTNESS
│     ├──OUTPUT BLANK COLOR
│     ├──OUTPUT BACKGROUND
│     └──OUTPUT TEST PATTERN
│
│ / * 9.3 Setting output * /
├──OUTPUT SETTING
│     ├──OUTPUT MODE
│     ├──OUTPUT HDMI MODE
│     ├──OUTPUT HDCP MODE
│     ├──OUTPUT HPD MASK
│     ├──OUTPUT DEEP COLOR
│     └──OUTPUT SYNC SIGNAL
│
│ / * 9.4 Setting input timing * /
├──INPUT TIMING
│     ├──INPUT H POSITION
│     ├──INPUT H SIZE
│     ├──INPUT V POSITION
│     ├──INPUT V SIZE
│     ├──INPUT ASPECT
│     ├──INPUT SHARPNESS
│     ├──INPUT CONTRAST
│     ├──INPUT BRIGHTNESS
│     ├──INPUT HUE
│     ├──INPUT SATURATION
│     └──INPUT GAMMA
│
│
```

```
│ / * 9.5 Setting input * /
├──INPUT SETTING
│     ├──INPUT VIDEO DETECT
│     └──INPUT HDCP ENABLE
│
│ │
│ / * 9.6 Setting videowall * /
├──VIDEO WALL
│     ├──VIDEO WALL TYPE
│     ├──VIDEO WALL POSITION
│     ├──VIDEO H/V SIZE
│     ├──VIDEO H/V POSITION
│     └──VIDEO EXTERNAL SYNC
│     └──VIDEO FRAME DELAY
│
│ / * 9.7 Setting audio * /
├──AUDIO
│     ├──AUDIO LEVEL
│     ├──AUDIO MUTE
│     ├──AUDIO CHANNEL
│     ├──AUDIO LIP SYNC
│     └──AUDIO TEST TONE
│
│ / * 9.8 Setting EDID * /
├──EDID
│     ├──EDID DATA
│     ├──EDID SAVE
│     ├──EDID DEEP COLOR
│     ├──EDID SPEAKER CHANNEL
│     ├──EDID LINEAR PCM
│     ├──EDID Dolby Digital
│     ├──EDID AAC
│     ├──EDID Dolby Digital+
│     ├──EDID DTS
│     ├──EDID DTS-HD
│     ├──EDID Dolby TrueHD
│     ├──EDID WXGA SELECT
│     └──EDID CEC ADDRESS
│
│
```

[Fig. 9.1] Menu list (1/2)

```
| /＊9.9 Setting LAN communication ＊/
├──LAN
│     ├──LAN IP ADDRESS
│     ├──LAN SUBNET MASK
│     ├──LAN CONTROL PORT
│     └──LAN MAC ADDRESS
│
| /＊9.10 Setting preset memory ＊/
├──PRESET MEMORY
│     ├──PRESET LOAD
│     ├──PRESET SAVE
│     └──PRESET STARTUP
│
| /＊9.11 Advanced setting ＊/
└──OTHERS
      ├──BUZZER
      ├──POWER SAVE
      ├──ALARM
      ├──TOP DISPLAY
      ├──INPUT STATUS
      ├──MONITOR STATUS
      ├──BOARD STATUS
      ├──FAN STATUS
      ├──POWER STATUS
      ├──HEALTH CHECK
      └──VERSION
```

[Fig. 9.2] Menu list (2/2)

9.2 Setting output timing

9.2.1 Output resolution

Menu	Top→OUTPUT TIMING→OUTPUT RESOLUTION

Setting value			
・AT	: AUTO　[Default]	・20:720x480p@59	: 480p@59
・01:640x480@60	: VGA@60	・21:720x576p@50	: 576p@50
・02:800x600@60	: SVGA@60	・22:1280x720p@50	: 720p@50
・03:1024x768@60	: XGA@60	・23:1280x720p@59	: 720p@59
・04:1280x768@60	: WXGA@60	・24:1920x1080i@50	: 1080i@50
・05:1280x800@60	: WXGA@60	・25:1920x1080i@59	: 1080i@59
・06:1280x960@60	: Quad-VGA@60	・26:1920x1080p@50	: 1080p@50
・07:1280x1024@60	: SXGA@60	・27:1920x1080p@59	: 1080p@59
・08:1360x768@60	: WXGA@60	・40:3840x2160p@23	: 2160p@23
・09:1366x768@60	: WXGA@60	・41:3840x2160p@29	: 2160p@29
・10:1400x1050@60	: SXGA+@60	・42:3840x2160p@59	: 2160p@59**
・11:1440x900@60	: WXGA+@60	・43:4096x2160p@23	: 2160p@23 (4096)
・12:1600x900@60	: WXGA++@60	・44:4096x2160p@29	: 2160p@29 (4096)
・13:1600x1200@60	: UXGA@60	・45:4096x2160p@59	: 2160p@59 (4096)**
・14:1680x1050@60	: WSXGA+@60	・46:3840x2160p@25	: 2160p@25
・15:1920x1080@60	: VESAHD@60	・47:3840x2160p@50	: 2160p@50**
・16:1920x1200@60	: WUXGA@60	・48:4096x2160p@25	: 2160p@25 (4096)
・17:2048x1152@60	: QWXGA@60	・49:4096x2160p@50	: 2160p@50 (4096)**
・18:2560x1440@60	: WQHD@60	** Only for DFS-01UHD	
・19:2560x1600@60	: WQXGA@60		

The optimal resolution will be selected automatically if you set this menu to "AT".
Press the MENU/SET key to apply the setting.

Numbers following "@" represent the vertical synchronous frequency.
480p/576p/720p/1080i/1080p/2160p are timing formats relating to the CEA-861 standard.
Others are timing formats meeting either the VESA DMT standard or the VESA CVT standard. VESAHD@60, WUXGA@60, QWXGA@60, WQHD@60, and WQXGA@60are output formats that incorporate Reduced Blanking.

■ "AT"
Automatically selects the optimal output resolution format depending on the EDID of the sink device connected to the HDMI output connector. The actual output resolution is displayed on the front display.

```
[OUTPUT RESOLUTION]
AT: 1920x1080p @59      ↕
```
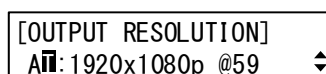
[Fig. 9.3] Recalling resolution and outputting video

9.2.2 Aspect ratio of sink device

Menu   Top→OUTPUT TIMING→OUTPUT ASPECT

Setting value

・RESOLUTION [Default]   ・5:3   ・16:9   ・256:135
・4:3   ・5:4   ・16:10

You can set the aspect ratio for each video input.

"RESOLUTION": The aspect ratio of the output resolution will be applied. If the aspect ratio of the connected sink device and that of the output resolution are not the same, select the former to "4:3", "5:3", "5:4", "16:9", "16:10", or "256:135".
"256:135" is the aspect ratio for 4096x2160.

【See: 9.2.1 Output resolution】

9.2.3 Rotation

Menu   Top→OUTPUT TIMING→OUTPUT ROTATE

Setting value

・0° [Default]   ・180°
・90°   ・270°

You can set the video rotation by 90 degrees.
The set background color is displayed in the blanking area.

【See: 9.2.8 Background color】

Note:
For 4K format and dot clock of 165 MHz or more, only 180-degree rotation is supported. If it is set to 90 or 270 degrees, setting of 0 degree will be applied.

9.2.4 Mirror
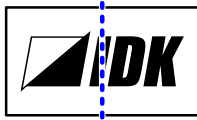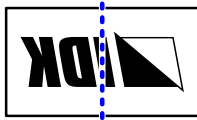
Menu	Top→OUTPUT TIMING→OUTPUT MIRROR
Setting values	ON : Flipping images
	OFF : Not flipping images [Default]

You can flip horizontally images as follows.

【See: 9.2.3 Rotation】

[Table 9.1] Rotation/Mirror

9.2.5 Output contrast

Menu	Top→OUTPUT TIMING→OUTPUT CONTRAST
Setting value	R/G/B: 0 to 200 [Default] R/G/B: 100

You can set the contrast of video image.
Select "ALL" to change the settings of "R", "G" and "B" relatively from the current setting values.

9.2.6 Output brightness

Menu	Top→OUTPUT TIMING→OUTPUT BRIGHTNESS
Setting value	80% MIN to 120% MAX [Default] 100%

You can set the brightness of the output video.

9.2.7 Blank color

Menu	Top→OUTPUT TIMING→OUTPUT BLANK COLOR
Setting value	R/G/B: 0 to 255 [Default] R/G/B: 0 (Black)

You can set the color for when no video is input.
Select "ALL" to change the settings of "R", "G" and "B" relatively from the current setting values.

9.2.8 Background color

Menu	Top→OUTPUT TIMING→OUTPUT BACKGROUND
Setting value	R/G/B: 0 to 255 [Default] R/G/B: 0 (Black)

You can set the background color for blanking area.
Select "ALL" to change the settings of "R", "G" and "B" relatively from the current setting values.

9.2.9 Test pattern

Menu	Top→OUTPUT TIMING→OUTPUT TEST PATTERN
Setting value	[Fig. 9.4] Test pattern

00:OFF [Default]   01:COLOR BAR   02:16 STEP GRAY   03:256 STEP GRAY   04:WHITE RASTER

05:RED RASTER   06:GREEN RASTER   07:BLUE RASTER   08:CROSS HATCH   09:VERTICAL STRIPE
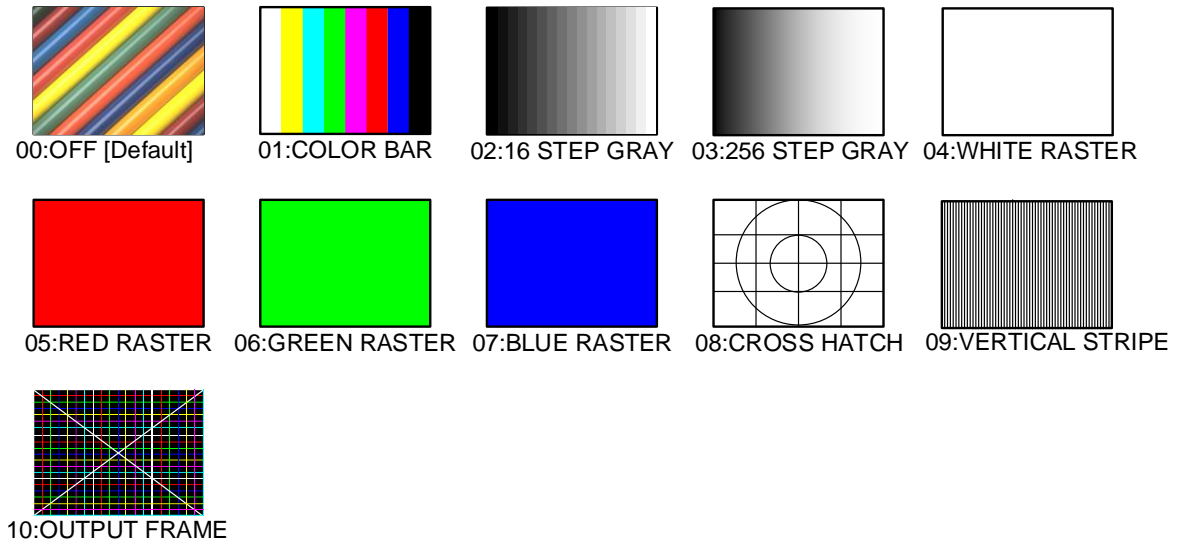
10:OUTPUT FRAME

[Fig. 9.4] Test pattern

You can activate the DFS's internal test pattern generator and direct its signal to each output port.

"OUTPUT FRAME" is for videowall, and it affects the following settings:
- ・ 9.6.1 Videowall configuration
- ・ 9.6.2 Videowall display position
- ・ 9.6.3 Display size
- ・ 9.6.4 Display position

For test patterns other than "OUTPUT FRAME", the test pattern is output on full screen at the resolution that is set in "**9.2.1 Output resolution**", and the following settings will be invalid.
- ・ 9.2.5 Output contrast
- ・ 9.2.6 Output brightness
- ・ 9.4.4 Sharpness
- ・ 9.4.5 Contrast
- ・ 9.4.6 Brightness
- ・ 9.4.7 Hue
- ・ 9.4.8 Saturation
- ・ 9.4.9 Gamma

9.3   Setting output

9.3.1 Output mode

Menu	Top→OUTPUT SETTING→OUTPUT MODE
Setting value	

    HDMI RGB   : HDMI RGB mode   [Default]
    DVI   : DVI mode
    HDMI 422   : HDMI YCbCr4:2:2 mode
    HDMI 444   : HDMI YCbCr4:4:4 mode
    HDMI 420   : HDMI YCbCr4:2:0 mode** Enabled only if the output resolution is set to
                                    3840x2160p @50/59 or 4096x2160p @50/59.

                                                          ** Only for DFS-01UHD

【See: 9.2.1 Output resolution】

9.3.2 Output mode for EDID error

Menu	Top→OUTPUT SETTING→OUTPUT HDMI MODE
Setting value	

    OFF   : Treated as DVI when EDID reading error occurs   [Default]
    ERROR1   : Treated as HDMI without SCDC when EDID reading error occurs
    ALWAYS1 : Treated as HDMI without SCDC all the time
    ERROR2   : Treated as HDMI with SCDC when EDID reading error occurs**
    ALWAYS2 : Treated as HDMI with SCDC all the time**

                                                          ** Only for DFS-01UHD

The DFS acquires EDID from the sink device and determines if the sink device is an HDMI device or DVI device in order to output HDMI signals. However, if the DFS cannot acquire EDID for some reasons, problems such as no audio output and the like may occur. In these cases, DFS recognized the connected sink device is HDMI or DVI device and output signal as HDMI or DVI mode depending on its setting.

Notes:
・ If you use this setting for forced HDMI signal output, set the resolution of the EDID to a resolution other than "EXTERNAL (External EDID)" and set the EDID according to the resolution of the target sink device.
・ This menu is available if the output mode is set to a value other than "DVI".

【See: 9.8.1 Resolution】
【See: 9.3.1 Output mode】

9.3.3 HDCP output

Menu	Top→OUTPUT SETTING→OUTPUT HDCP MODE
Setting value	AUTO : Encrypts HDCP
	INPUT ONLY : Encrypts HDPC only if input signal is HDCP-compliant
	ON : Encrypts HDCP at all times [Default]

You can set the HDCP output for when an HDCP-compliant sink device is connected.

"AUTO" : The DFS does not start to encrypt HDCP until a signal with HDCP is input. Once a signal with HDCP is input, the DFS encrypts HDCP at all times regardless of input signal state.
"INPUT ONLY" : The DFS encrypts HDCP only if the input signal has HDCP.
For some devices, "INPUT ONLY" or "AUTO": if HDCP is changed from OFF to ON, video and audio may not be output temporarily due to HDCP encryption failure.
"ON" : The DFS encrypts HDCP at all times regardless of input signal state.

Notes:
- HDCP2.2 (stream type 0) contents can be displayed on sink devices supporting HDCP1.4.
- HDCP2.2 (stream type 1) contents can be displayed on sink devices supporting HDCP2.2 but cannot be displayed on sink devices supporting HDCP1.4.

9.3.4 Hot plug ignoring duration

Menu	Top→OUTPUT SETTING→OUTPUT HPD MASK
Setting value	OFF : Not ignoring request signals [Default]
	2Sec to 15Sec : 2 to 15 sec.

Time for ignoring the video output request signals sent from the sink device.
If the request signals are repeated in a short cycle, the DFS processes video output from the first cycle.
As a result, video may not be output. This problem can be solved by setting the ignoring time.

9.3.5 Deep Color

Menu	Top→OUTPUT SETTING→OUTPUT DEEP COLOR
Setting value	24Bit [Default], 30Bit

You can select the color depth of HDMI signal.
"30Bit": Signals are output at 30 bit/pixel (10 bit/component) only if a sink device supporting Deep Color is connected. Since the transmission clock of 30 bit/pixel (10 bit/component) is faster than that of 24 bit/pixel (8 bit/component), noise may occur if a poor-quality cable or long cable is connected. In those cases, the noise may be removed by selecting"24Bit".
For 2560x1440, 2560x1600, 3840x2160, and 4096x2160, the color depth will be 24 bit/pixel (8 bit/component).

9.3.6 Synchronous signal output when no video signal is input

Menu	Top→OUTPUT SETTING→OUTPUT SYNC SIGNAL
Setting value	OFF : Synchronous signal is always output [Default]
	5Sec - 60Sec: 5 - 60 sec. after video input

You can set the waiting time from video input OFF to video output OFF.

9.4   Setting input timing

You can set the input timing of input video signal.
The setting value is saved for each input timing.

9.4.1 Start position

Menu	Top→INPUT TIMING→INPUT H POSITION (Horizontal)/INPUT V POSITION (Vertical)
Setting for	Each input signal
Setting value	[Table 9.2] Start position setting

[Table 9.2] Start position setting

Function	Setting value
Horizontal start position	-100 DOT to +10 0DOT [Default] +0 DOT
Vertical start position	-30 LINE to +30 LINE [Default] +0 LINE

You can set the horizontal/vertical starting position.
If no signal is input, "No Signal" is displayed on the front display.

9.4.2 Active area

Menu	Top→INPUT TIMING→INPUT H SIZE (Horizontal)/INPUT V SIZE (Vertical)
Setting for	Each input signal
Setting value	[Table 9.3] Active area setting

[Table 9.3] Active area setting

Function	Setting value
Horizontal active area	-100 DOT to +100 DOT [Default] +0 DOT
Vertical active area	-30 LINE to +30 LINE [Default] +0 LINE

You can set the horizontal/vertical active area of input video.
If no signal is input, "No Signal" will be displayed on the front display.

(−): The vertical video will be shrunk according to the sink device.
(＋): The horizontal video will be enlarged according to the sink device.

"－": To be shrunk
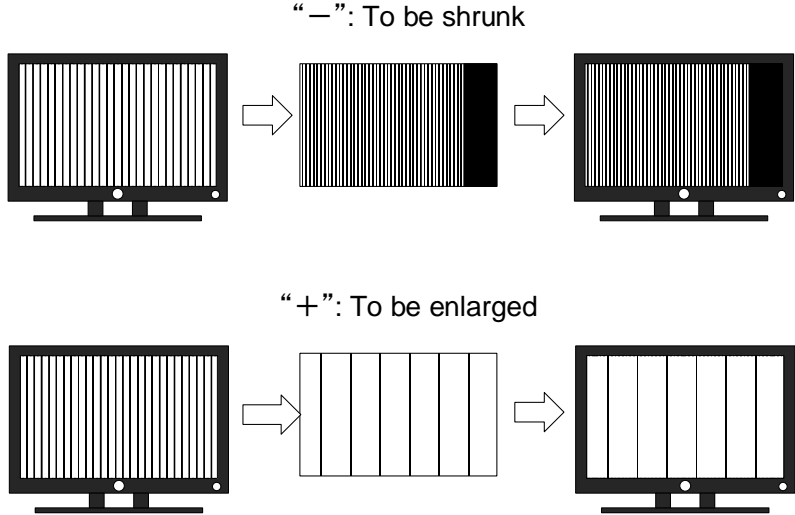
"＋": To be enlarged

[Fig. 9.5] Horizontal active area

(－): The vertical video will be shrunk according to the sink device.
(＋): The horizontal video will be enlarged according to the sink device.

"－": To be shrunk

"＋": To be enlarged
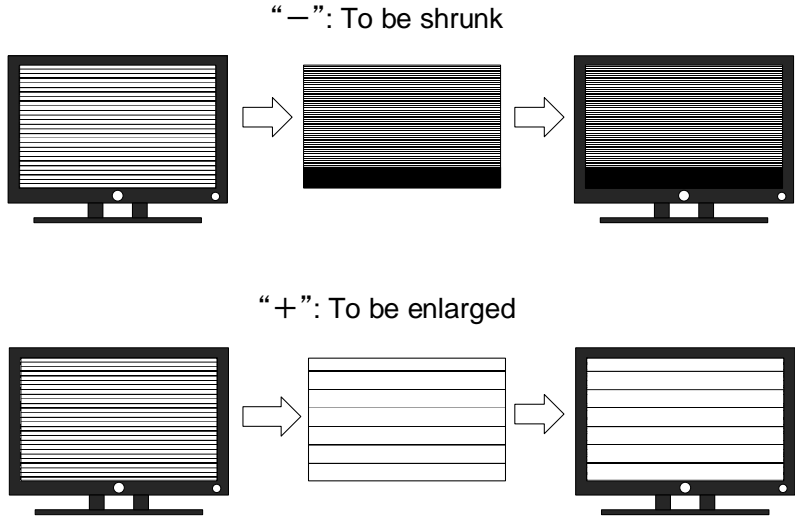
[Fig. 9.6] Vertical active area

If no signal is input, the active area cannot be set and "No Signal" will be displayed on the front display.

9.4.3 Aspect ratio

Menu	Top→INPUT TIMING→INPUT ASPECT
Setting for	Each input signal
Setting value	

・AUTO　[Default]　・5:4
・FULL　　　　　　・16:9
・4:3　　　　　　　・16:10
・5:3　　　　　　　・16:9 LETTER BOX

You can set the aspect ratio for input video.
"FULL": Video is displayed in the entire screen at all times regardless of the setting of
"**9.2.2 Aspect ratio**".
If no signal is input, "No Signal" is displayed on the front display.

9.4.4 Sharpness

Menu	Top→INPUT TIMING→INPUT SHARPNESS
Setting for	Each input signal
Setting value	-5 SOFT MIN to 15 SHARP MAX　[Default] 0 NORMAL

You can set the sharpness of the input video.
If no signal is input, "No Signal" is displayed on the front display.

9.4.5 Contrast

Menu	Top→INPUT TIMING→INPUT CONTRAST
Setting for	Each input signal
Setting value	R/G/B: 0 to 200　[Default] R/G/B: 100

You can set the contrast of video image.
Select "ALL" to change the settings of "R", "G" and "B" relatively from the current setting values.
If no signal is input, "No Signal" is displayed on the front display.

9.4.6 Brightness

Menu	Top→INPUT TIMING→INPUT BRIGHTNESS
Setting for	Each input signal
Setting value	80% MIN to 120% MAX [Default] 100%

You can set the brightness level of the input video.
If no signal is input, "No Signal" is displayed on the front display.

9.4.7 Hue

Menu	Top→INPUT TIMING→INPUT HUE
Setting for	Each input signal
Setting value	0° to 359° [Default] 0°

You can set the color HUE of the input video.
If no signal is input, "No Signal" is displayed on the front display.

9.4.8 Saturation

Menu	Top→INPUT TIMING→INPUT SATURATION
Setting for	Each input signal
Setting value	0% MIN to 200% MAX [Default] 100%

You can set the color saturation of the input video.
If no signal is input, "No Signal" is displayed on the front display.

9.4.9 Gamma

Menu	Top→INPUT TIMING→INPUT GAMMA
Setting for	Each input signal
Setting value	0.1 LOW MIN to 3.0 HIGH MAX (by 0.1) [Default] 1.0 NORMAL

You can adjust the gamma curve of the input video.
If no signal is input, "No Signal" is displayed on the front display.

9.5 Setting input

9.5.1 No-signal input monitoring

Menu   Top→INPUT SETTING→INPUT VIDEO DETECT
Setting value   OFF, 3 sec. to 15 sec. (by 1 sec.)   [Default] 10 sec.

If you change the EDID settings of the DFS or power the DFS off/on, the source device may not output a video signal. Use this menu to set the monitoring time which is from when a source device stops outputting signal to when the DFS requests the source device to output video signal.
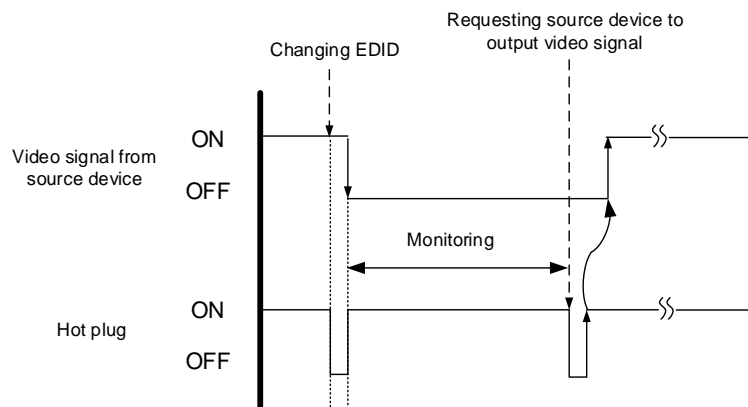
[Fig. 9.7] Monitoring absence of input

Notes:

・If you are using the monitor power-saving or dual monitor features on your PC, set this feature to "OFF". This will avoid unpredictable operation.

・When using this feature, ensure that the "monitoring time" is set for a value greater than the amount of time needed for the source to provide an output signal.
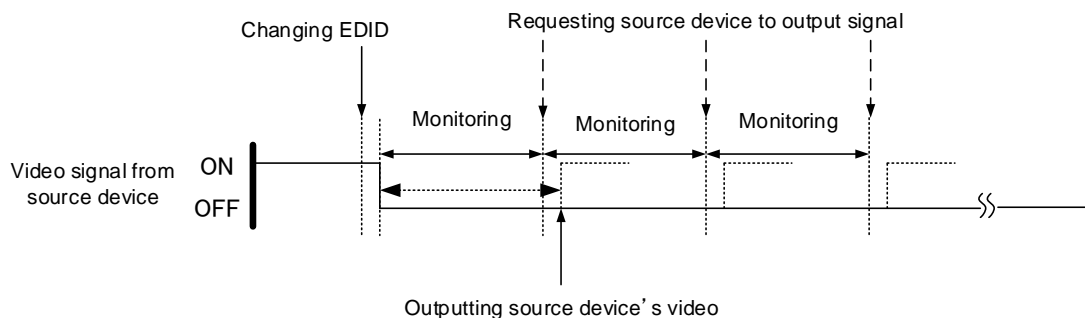
[Fig. 9.8] Repeating output signal setting

9.5.2 HDCP input enabled/disabled

Menu	Top→INPUT SETTING→INPUT HDCP ENABLE
Setting value	

・HDCP 2.2 : Supports HDCP 2.2 and HDCP 1.4** [Default] (DFS-01UHD)
・HDCP 1.4 : Supports HDCP 1.4 [Default] (DFS-01HD)
・DISABLE : Not support HDCP

** Only for DFS-01UHD

Some source devices negotiate with the connected device to determine if it supports HDCP encryption. After this negotiation, the source device decides whether they encrypt HDCP signal or not. This process takes place with some source device, even if the content being presented is not copyright protected. The DFS is HDCP compliant, if it is connected to a display device that does not support HDCP, video may not be displayed. Under these circumstances and if the content is not protected, the problem can be solved by setting this menu to "DISABLE."
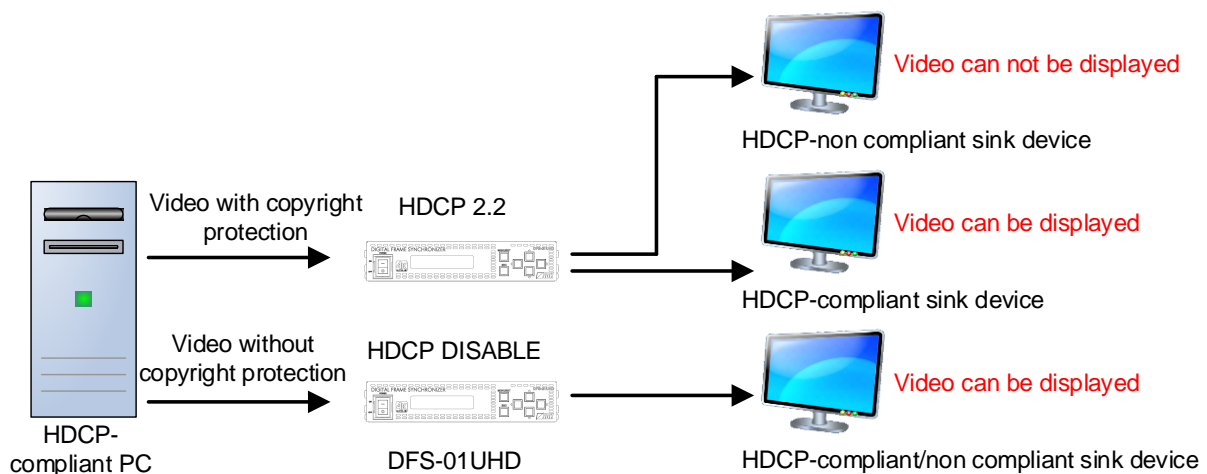
[Fig. 9.9] HDCP-compliant and HDCP-non compliant sink device

Notes:
・ HDCP2.2 (stream type 0) contents can be displayed on sink devices supporting HDCP1.4.
・ HDCP2.2 (stream type 1) contents can be displayed on sink devices supporting HDCP2.2 but cannot be displayed on sink devices supporting HDCP1.4.

9.6 Setting videowall

You can set videowall up to 20 x 20.

■ **Setting videowall:**
Example: 2 x 2 videowall
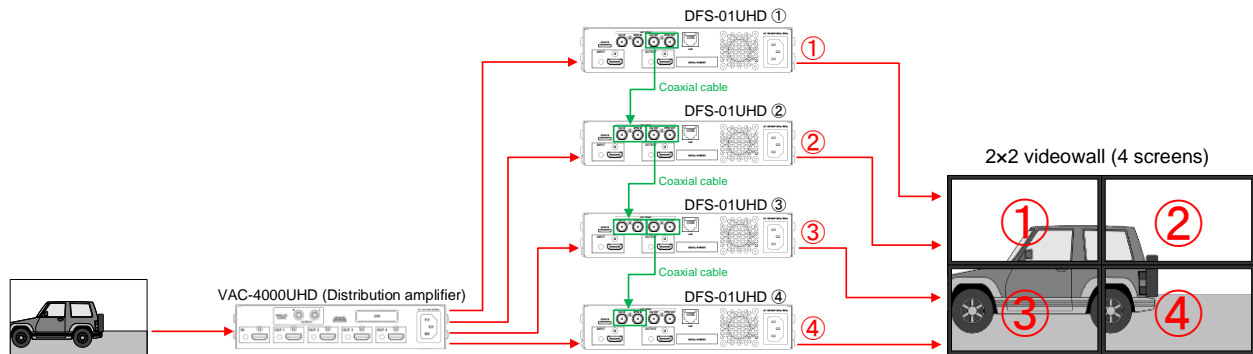
[Fig. 9.10] Videowall configuration and display position

(1) Connect external synchronous output connectors to external synchronous input connectors over coaxial cables.
(2) Set "**9.6.5 External synchronization**" to "AUTO".
(3) Set the number of screens in "**9.6.1 Videowall configuration**".
　　・ Set "H" and "V" of DFS-01UHD① to ④ to "02".
(4) Assign the input video signals to screens in "**9.6.2 Videowall display position**".
　　・ DFS-01UHD①: Set "H" and "V" to "01".
　　・ DFS-01UHD②: Set "H" and "V" to "02" and "01", respectively.
　　・ DFS-01UHD③: Set "H" and "V" to "01" and "02", respectively.
　　・ DFS-01UHD④: Set "H" and "V" to "02".
(5) Adjust settings as needed in "**9.6.3 Display size**" and "**9.6.4 Display position**".

9.6.1 Videowall configuration

Menu	Top→VIDEO WALL→VIDEO WALL TYPE
Setting value	H: -- (Not control), 01 to 20 (The number of horizontal screens: 1 to 20) [Default] 01
	V: -- (Not control), 01 to 20 (The number of vertical screens : 1 to 20) [Default] 01

You can set the number of screens that display a video signal simultaneously.
"**9.6.3 Display size**" will be set and overwritten automatically in proportion to this setting.
Select "-- (Not control)" not to overwrite the setting.
Press the "MENU/SET" key to apply settings.

Tip:
Adjust display size of input video signal in "**9.6.3 Display size**" as needed.

9.6.2 Videowall display position

Menu	Top→VIDEO WALL→VIDEO WALL POSITION
Setting value	H: -- (Not control), 01 to 20 (Horizontal display position: first to fourth from left) [Default] 01
	V: -- (Not control), 01 to 20 (Vertical display position : first to fourth from top) [Default] 01

You can set the horizontal display position (H) and vertical display position (V).
"**9.6.4 Display position**" will be set and overwritten automatically in proportion to this setting.
Select "-- (Not control)" not to overwrite the setting.
Press the "MENU/SET" key to apply settings.

Tip:
Adjust display size of input video signal in "**9.6.4 Display position**" as needed.

9.6.3 Display size

Menu	Top→VIDEO WALL→VIDEO H/V SIZE
Setting value	H : 20.0% to 2100.0% (by 0.1%) from upper left [Default] 100.0%
	V : 20.0% to 2100.0% (by 0.1%) from upper left [Default] 100.0%

You can set the display size with reference to the upper left.
The display size is automatically set when "**9.6.1 Videowall configuration**" is set. Use this menu to adjust the display size.
Select "H&V" to change the settings of "H" and "V" relatively from the current setting values.
If you want to change either "H" or "V" setting, select the desired type ("H" or "V") and change the setting.

9.6.4 Display position

Menu	Top→VIDEO WALL→VIDEO H/V POSITION
Setting value	H : -2100.0% (leftward) to +2100.0% (rightward) by 0.1% [Default] + 0.0%
	V : -2100.0% (upward) to +2100.0% (downward) by 0.1% [Default] + 0.0%

You can change the display position.

The display position is automatically set when "**9.6.2 Videowall display position**" is set.

Use this menu to adjust the display position.

For "H", + value, the image moves to right while setting -value

9.6.5 External synchronization

Menu	Top→VIDEO WALL→VIDEO EXTERNAL SYNC
Setting value	AUTO: Detects external synchronous input
	If synchronous signal is input to the external synchronous input connector, the output video will be synchronized.
	OFF : Not detect external synchronous input; external synchronization will be disabled. [Default]
	ON : Not detect external synchronous input; external synchronization will always be enabled.

You can set external synchronization function.

"●" appears if being synchronized.
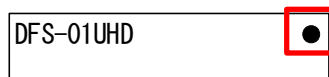
[Fig. 9.11] "●" for external synchronization

【See: 8.4 External synchronization】

9.6.6 Frame delay

Menu	Top→VIDEO WALL→VIDEO FRAME DELAY
Setting value	OFF : No frame delay [Default]
	-1, 1 : -1 frame delay, 1 frame delay

You can set the frame delay for videowall.

Only if the DFS operates over external synchronization, the frame delay function will be enabled.

Use this function to correct the gap between output video. If the problem still cannot be solved, set the rotation angle to 180 degrees.

9.7 Setting audio

The formats mentioned in the table below are supported for HDMI digital audio.

Set the audio depending on device connected to the HDMI output connector.

Only "2-channel LPCM" can be input by default. If you want to use "Multi-channel LPCM" or bit stream signal (compressed audio), set the audio format and speaker configuration.

【See: 9.8.5 LPCM Audio】

【See: 9.8.4 Speaker configuration】

[Table 9.4] Audio format

Audio format	Description
2-channel LPCM	2ch, 32 kHz to 192 kHz, 16/20/24 bit
Multi-channel LPCM	8ch, 32 kHz to 192 kHz, 16/20/24 bit
Dolby Digital, DTS, Dolby Digital+, DTS-HD, Dolby TrueHD, AAC	Bit stream signal

■ **If multi-channel LPCM signal is input to digital audio:**

For sink device that do not support multi-channel LPCM signal, 2 channels (ch) that are set in "**9.7.3 LPCM analog output**" or down mixed audio will be output.
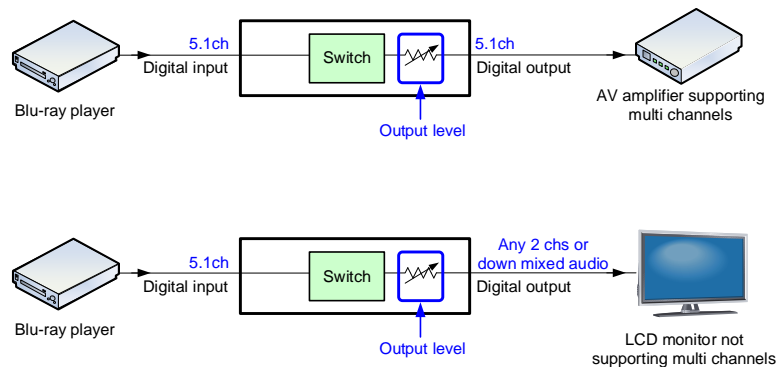
[Fig. 9.12] Multi-channel LPCM input

■ **If bit stream signal is input to digital audio:**

Input audio is output to digital audio connector.

Audio volume cannot be adjusted.
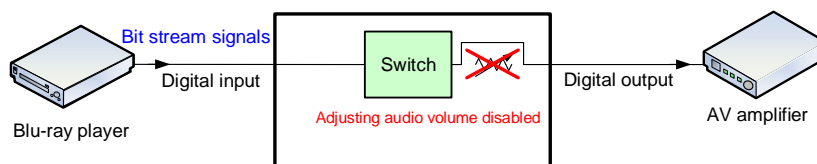
[Fig. 9.13] Bit stream signal input

9.7.1 Audio output level

Menu	Top→AUDIO→AUDIO LEVEL
Setting value	-60dB to 10dB [Default] 0dB

You can set the audio output level.

9.7.2 Muting/unmuting audio output

Menu	Top→AUDIO→AUDIO MUTE
Setting value	OFF [Default], ON

You can mute/unmute the audio output.

9.7.3 LPCM analog output

Menu	Top→AUDIO→AUDIO CHANNEL
Setting value	

・AUTO   [Default]　　　　　・CH5/CH6 STEREO　　　　　・CH5/CH6 MONO
・DOWN MIX　　　　　　　　・CH7/CH8 STEREO　　　　　・CH7/CH8 MONO
・CH1/CH2 STEREO　　　　　・CH1/CH2 MONO
・CH3/CH4 STEREO　　　　　・CH3/CH4 MONO

You can set the audio to be output to a sink device that does not support multi-channel LPCM or analog audio for when multi-channel LPCM audio is input from an HDMI input connector.

DOWN MIX ： Multi-channel audio is downmixed

STEREO 　　: Stereo audio

MONO 　　　: Monaural audio

AUTO 　　　: Outputs the optimal audio to the sink device automatically. If the sink device supports multi-channel LPCM, the DFS outputs the multi-channel LPCM signals as it is input.
If the sink device does not support multi-channel LPCM, the DFS outputs down-mixed audio.

9.7.4 Lip Sync

Menu	Top→AUDIO→AUDIO LIP SYNC
Setting value	0 FRAME to 16 FRAME [Default] 0 FRAME

You can adjust the gap between video (motion) and audio (sound).

Up to 16 frames can be set.

If sampling frequency is 192 kHz and vertical synchronous frequency is 23 Hz to 30 Hz, the maximum Lip Sync values are mentioned below:

[Table 9.5] Maximum lip sync

Sampling frequency	Vertical synchronous frequency	Maximum Lip Sync
192 kHz	23 Hz/25 Hz	Up to 8 frames
	29 Hz/30 Hz	Up to 10 frames
For other conditions		Up to 16 frames

9.7.5 Test tone

Menu	Top→AUDIO→AUDIO TEST TONE
Setting value	

　　Test tone:

　　　　OFF   [Default], 1000Hz, 400Hz

　　Speaker:

　　　　・ALL   [Default]　　　　　　　　・LFE : LOW FREQUENCY EFFECT

　　　　・FL/FR   : FRONT L/R　　　　・FC   : FRONT CENTER

　　　　・RL/RR   : REAR L/R　　　　　・RL   : REAR LEFT

　　　　・RLC/RRC : REAR L/R CENTER　・RR   : REAR RIGHT

　　　　・FL   : FRONT LEFT　　　・RLC : REAR LEFT CENTER

　　　　・FR   : FRONT RIGHT　　・RRC : REAR RIGHT CENTER

Since test tone can be output only to specific speakers, you can check the position of the speakers.

For "LFE" (LOW FREQUENCY EFFECT), only test tone of 30 Hz is output.

9.8　Setting EDID

You can set or customize EDID to be sent to the source device. Change the setting as needed.

■ Setting EDID

Step 1 : If you use copied EDID, copy the target EDID from the sink device.

Step 2 : Set the EDID that will be sent to the source device.

Step 3 : If you use built-in EDID, customize the data as usage.
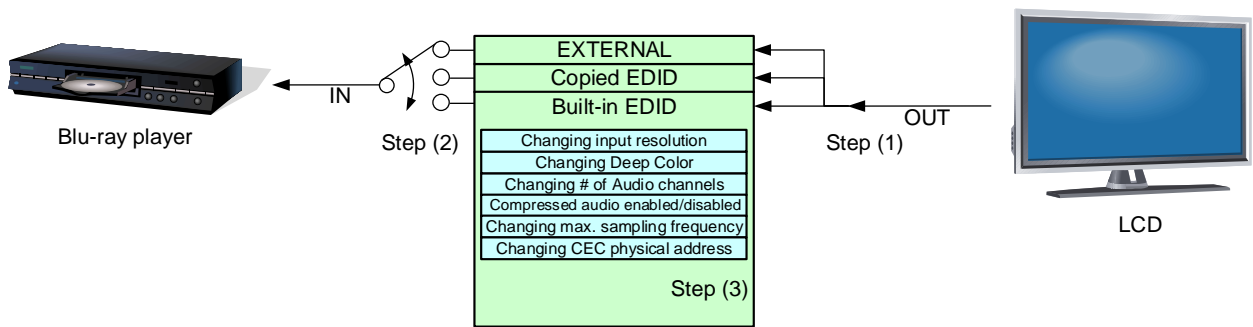
[Fig. 9.14] Setting EDID

9.8.1 Resolution

Menu	Top→EDID→EDID DATA

Setting value

- ・00:EXTERNAL (External EDID)
- ・01:SAVE[---] (Copied EDID)
- ・02:1080p (1920x1080)
- ・03:720p (1280x720)
- ・04:1080i (1920x1080)
- ・05:1080p 24/25/30/50 (1920x1080)
- ・06:SVGA (800x600)
- ・07:XGA (1024x768)
- ・08:VESA720 (1280x720)
- ・09:WXGA (1280x768)
- ・10:WXGA (1280x800)
- ・11:Quad-VGA (1280x960)
- ・12:SXGA (1280x1024)
- ・13:WXGA (1360x768/1366x768)
- ・14:SXGA+ (1400x1050)
- ・15:WXGA+ (1440x900)

- ・16:WXGA++ (1600x900)
- ・17:UXGA (1600x1200)
- ・18:WSXGA+ (1680x1050)
- ・19:VESA1080 (1920x1080)
- ・20:WUXGA (1920x1200)
- ・21:QWXGA (2048x1152)
- ・22:WQHD (2560x1440)
- ・23:WQXGA (2560x1600)
- ・40:2160p @30 (3840x2160)
- ・41:2160p @60(4:2:0) (3840x2160)[**]
- ・42:2160p @60(4:4:4) (3840x2160)[**]
- ・43:4096x2160 @30
- ・44:4096x2160 @60(4:2:0)[**]
- ・45:4096x2160 @60(4:4:4)[**]

[**] Only for DFS-01UHD

[Default]   DFS-01UHD42:2160p @60(4:4:4) (3840x2160)
DFS-01HD02:1080p (1920x1080)

You can set the resolution requested to be output from source devices.
This setting will also be applied for controlling output resolution when AV devices (such as Blu-ray players) are connected over HDMI.
Press the MENU/SET key to apply the setting.

Timings of 720p/1080i/1080p/2160p meet the CEA-861 standard. For other resolutions, timings meet the VESA DMT or VESA CVT standard.
Set the maximum available resolution, but the lower resolutions are also supported. Select the resolution supported by the connected PC.

If a source device that does not support 4K is connected to the input connector with 4K EDID set, the source device may output DVI signal and may not output audio. In order to output HDMI signal from the source device, change the settings of this menu to a value other than 4K.

[Table 9.6] Supported resolution

	EDID-supported pixel → / Max. resolution ↓	640x480	800x600	1024x768	1280x720	1280x768	1280x800	1280x960	1280x1024	1360x768*	1366x768*	1400x1050	1440x900	1600x900	1600x1200	1680x1050	1920x1080	1920x1200	2048x1152	2560x1440	2560x1600	3840x2160(30p)	4096x2160(30p)	3840x2160(60p)	4096x2160(60p)
00	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
01	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
02	1080p (59.94/60)	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
03	720p	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
04	1080i	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
05	1080p (24/25/30/50)	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
06	800x600	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
07	1024x768	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
08	1280x720	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
09	1280x768	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
10	1280x800	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
11	1280x960	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
12	1280x1024	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
13	1360x768/1366x768*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N
14	1400x1050	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
15	1440x900	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N
16	1600x900	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N
17	1600x1200	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N
18	1680x1050	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N
19	1920x1080	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
20	1920x1200	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
21	2048x1152	Y	Y	Y	N	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
22	2560x1440	Y	Y	Y	N	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N
23	2560x1600	Y	Y	Y	N	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
40	2160p (24/25/30)	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
41	2160p (50/59.94/60,4:2:0)	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	P	N
42	2160p (50/59.94/60,4:4:4)	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N
43	4096x2160 (24/25/30)	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
44	4096x2160 (50/59.94/60,4:2:0)	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	P	P
45	4096x2160 (50/59.94/60,4:4:4)	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Y: Supported, P: Only YCbCr 4:2:0, N: Not supported, －: Not used

* Set the EDID supported pixel for 1360x768 and 1366x768 in "**9.8.12 WXGA**". 1360x768 is set by default.

9.8.2 Copying EDID

Menu	Top→EDID→EDID SAVE

You can save EDID of the sink device to the DFS.
The copied EDID will be treated as built-in EDID if "**9.8.1 Resolution**" is set for "01".
Press the MENU/SET key to execute the copy.

DFS-01UHD："42:2160p @60(4:4:4) (3840x2160)" is saved by default.
DFS-01HD   ："02:1080p (1920x1080)"is saved by default.
The EDID's vendor code is displayed as the copied EDID name.

```
[EDID SAVE]
 [XXX] -> [IDK]
```

EDID's vendor code
(sink device)

Saved EDID's vendor code
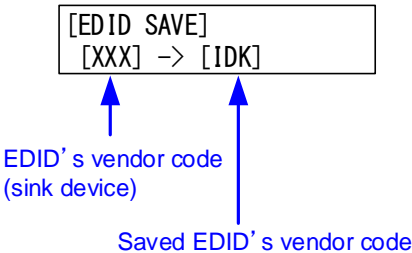
[Fig. 9.15] Default EDID saving

Note:
The DFS does not support HDR. If EDID that supporting HDR is copied, the source device outputs HDR and then the video may not be output correctly. Disable the HDR output of the source device to solve the problem.

9.8.3 Deep Color

Menu	Top→EDID→EDID DEEP COLOR
Setting value	24Bit [Default], 30Bit

You can set the Deep Color that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".

If you set this function to "30Bit", the transmission clock frequency is increased. It may cause noise on the video. In such a case, set this menu to "24Bit".
Press the MENU/SET key to apply the setting.

9.8.4 Speaker configuration

Menu	Top→EDID→EDID SPEAKER CHANNEL
Setting value	2CH : 2 channels [Default]
	2.1CH: 2.1 channels
	5.1CH: 5.1 channels
	7.1CH: 7.1 channels

FL : Front Left
FC : Front Center
FR : Front Right
RL : Rear Left
RR : Rear Right
RLC : Rear Left Center
RRC : Rear Right Center
LFE : Low Frequency Effect
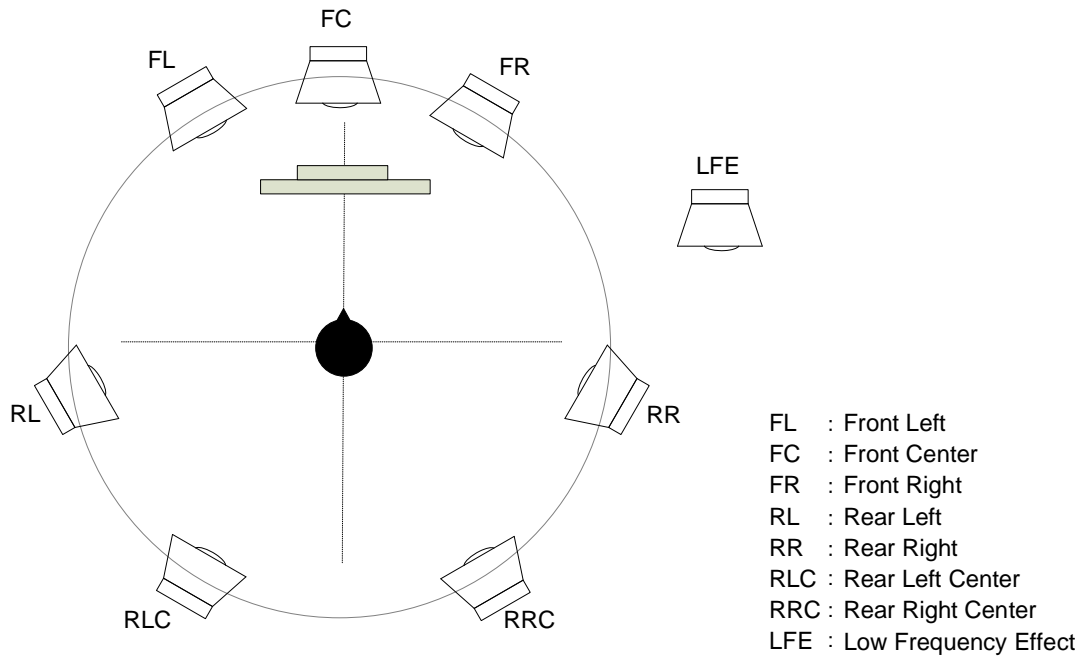
The # of channels	FL/FR	LFE	FC	RL/RR	RLC/RRC
2 channels	ON	OFF	OFF	OFF	OFF
2.1 channels	ON	ON	OFF	OFF	OFF
5.1 channels	ON	ON	ON	ON	OFF
7.1 channels	ON	ON	ON	ON	ON

[Fig. 9.16] The number of channels and speaker configuration

You can set the number of multiple channels to be output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.5 LPCM Audio

Menu	Top→EDID→EDID LINEAR PCM
Setting value	32kHz
	44.1kHz
	48kHz [Default]
	88.2kHz
	96kHz
	192kHz

You can set the maximum sampling frequency of PCM audio that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.6 Dolby Digital Audio

Menu	Top→EDID→EDID Dolby Digital
Setting value	OFF : OFF [Default]
	ON : 48 kHz

You can set the maximum sampling frequency of Dolby Digital Audio that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.7 AAC Audio

Menu	Top→EDID→EDID AAC
Setting value	OFF : OFF [Default]
	ON : 96 kHz

You can set the maximum sampling frequency of AAC Audio that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.8 Dolby Digital Plus Audio

Menu	Top→EDID→EDID Dolby Digital+
Setting value	OFF : OFF [Default]
	ON : 48 kHz

You can set the maximum sampling frequency of Dolby Digital Plus Audio that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.9 DTS Audio

Menu	Top→EDID→EDID DTS
Setting value	OFF : OFF [Default]
	ON : 96 kHz

You can set the maximum sampling frequency of DTS Audio that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.10 DTS-HD Audio

Menu	Top→EDID→EDID DTS-HD
Setting value	OFF : OFF [Default]
	ON : 192 kHz

You can set the maximum sampling frequency of DTS-HD Audio that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.11 Dolby-TrueHD Audio

Menu	Top→EDID→EDID Dolby TrueHD
Setting value	OFF : OFF [Default]
	ON : 192 kHz

You can set the maximum sampling frequency of Dolby-TrueHD Audio that is output from the source device.
The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

9.8.12 WXGA

Menu	Top→EDID→EDID WXGA SELECT
Setting value	WXGA (1360x768) [Default]
	WXGA (1366x768)

You can select the 1360x768 or 1366x768 pixels based on the resolution setting of EDID.
The setting will be applied only if "**9.8.1 Resolution**" is set to one of "02", "05" and "13" to "19".
Press the MENU/SET key to apply the setting.

9.8.13 CEC physical address

Menu	Top→EDID→EDID CEC ADDRESS
Setting value	DEFAULT (1.0.0.0 static) [Default], COPY

COPY: Connected sink device's CEC physical address is copied and used as the DFS's CEC physical address. The CEC physical address is displayed on the front display. If a sink device that does not have the same CEC physical address is connected, the address of the DFS will be overwritten.

If the CEC physical address of the connected sink device and DFS's address are not the same, the CEC functions, such as input switching in the sink device at start-up, may not work correctly. The problem can be solved by using the CEC physical address that is copied into the DFS.

The setting will be applied only if "**9.8.1 Resolution**" is set to a value other than "00" and "01".
Press the MENU/SET key to apply the setting.

Note:
CEC system link functions supported by other companies are not guaranteed to work correctly by this setting. Check the actual configuration.

9.9   Setting LAN communication

The DFS can be controlled using communication commands or WEB browser via the LAN connector.
Eight connections in the DFS can be set individually.

The DFS does not support automatic acquisition of IP address using DHCP (Dynamic Host Configuration
Protocol). If you use the DFS in a network with DHCP, keep a fixed IP address. If controlling peripheral
devices connected over LAN from the DFS, keep multiple fixed IP addresses.

9.9.1 IP address

Menu	Top→LAN→LAN IP ADDRESS
Setting value	000.000.000.000 to 255.255.255.255 [Default] 192.168.001.199

You can set the IP address.
Press the MENU/SET key to apply the setting.

9.9.2 Subnet mask

Menu	Top→LAN→LAN SUBNET MASK
Setting value	000.000.000.000 to 255.255.255.254 [Default] 255.255.255.000

You can set the subnet mask.
Press the MENU/SET key to apply the setting.

9.9.3 TCP port number

Menu	Top→LAN→LAN CONTROL PORT
Setting value	1 : 1100, 6000 to 6999 : TCP port number [Default] 1100
	2 : OFF : Up to 4 connections can be used [Default]
	2 : ON : Up to 8 connections can be used

You can set the TCP port number to control the DFS externally.

"OFF" : Connections will be divided into 4 for WEB browser control (HTTP port number is fixed 80) and 4 for communication command control at maximum.

"ON" : Connections will be assigned to 8 communication command controls at maximum.

For communication command control, set the port number to a value from "1100", "6000" to "6999".

Press the MENU/SET key to apply setting.

OFF

Browser control: Up to 4 connections   Communication command: Up to 4 connections

ON

Communication command: Up to 8 connections
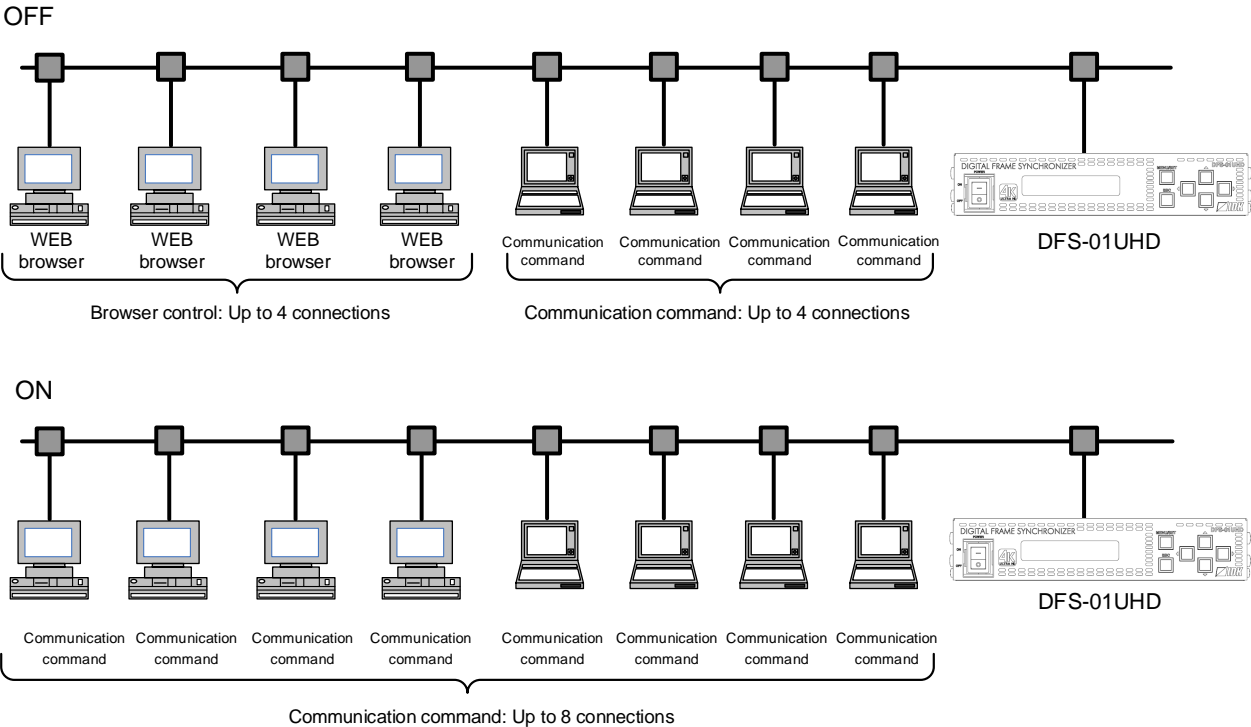
[Fig. 9.17] Connection setting

Note:

If setting this menu to "ON", WEB browser cannot be used.

9.9.4 MAC address

Menu	Top→LAN→LAN MAC ADDRESS

You can display the MAC address.

9.10 Setting preset memory

9.10.1 Recalling preset memory

Menu	Top→PRESET MEMORY→PRESET LOAD
Setting value	01 to 16: Preset memory number 1 to 16

You can recall settings that are saved in preset memories.
Once you recall a setting, output settings of video and audio except for a few environmental settings.
Press the MENU/SET key to apply the setting.

9.10.2 Saving preset memory

Menu	Top→PRESET MEMORY→PRESET SAVE
Setting value	01 to 16: Preset memory number 1 to 16

You can set the current settings to a preset memory (up to 16 preset memories). You can name the preset memory using up to 10 characters ("20" to "7D" ASCII code). If you do not need to name the memory, you can skip the step.
Press the MENU/SET key to apply the setting.

[Table 9.7] Settings saved in preset memory

Menu	Description
Setting output timing	Output resolution, Rotation, Mirror, Output contrast, Output brightness, Test pattern
Setting videowall	Videowall configuration, Videowall display position, Display position, Display size
Setting audio	Audio output level, Muting/unmuting audio output

9.10.3 Start-up setting

Menu   Top→PRESET MEMORY→PRESET STARTUP
Setting value   [Table 9.8] Setting at start-up

You can select the setting/memory that will be applied at start-up.

[Table 9.8] Setting at start-up

Memory/Setting	Setting value	Description
Last memory	LAST MEMORY [Default]	The settings that were used when the DFS was last powered off will be applied.
Preset memory	PRESET MEMORY 01 to PRESET MEMORY 16	The setting of preset memory will be applied. For settings that are not saved in the preset memory, the settings that was used when the DFS was last powered off will be applied.
Default setting	DEFAULT MEMORY	The default settings of "**[Table 9.7] Settings saved in preset memory**" will be applied.

9.11 Advanced setting

9.11.1 Beep

Menu	Top→OTHERS→BUZZER
Setting value	ON [Default], OFF

You can enable/disable the beep function (sounding every time you press a front panel key).

9.11.2 Power saving

Menu	Top→OTHERS→POWER SAVE
Setting value	ON [Default], OFF

If you set this menu to "ON" and no key function is operated for 10 seconds, the display brightness is reduced to approximately 25%. When any key is operated, the luminance returns to 100%.

9.11.3 Alarm

Menu	Top→OTHERS→ALARM
Setting value	ON [Default], OFF

You can enable/disable the alarm function for internal temperature, cooling fan, or power-supply voltage. The following ALARM page appears and the backlight blinks only if the top page is displayed.
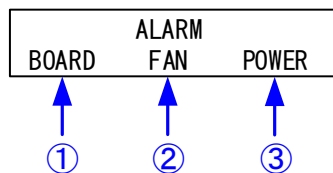
[Fig. 9.18] Alarm page

[Table 9.9] Alarm page

#	Description
①	Displayed if a problem occurs in internal temperature.
②	Displayed if a problem occurs in cooling fans.
③	Displayed if a problem occurs in the power-supply voltage.

Note:

In case the alarm is displayed, the DFS may have problems. Please contact us.

9.11.4 Top page

Menu	Top→OTHERS→TOP DISPLAY
Setting value	[Fig. 9.19] Top page of front display

● **TOP DISPLAY: OFF [Default]**

```
DFS-01UHD
```
```
DFS-01HD
```

● **TOP DISPLAY: ON**

Input signal status
```
[INPUT STATUS 1]
1920x1080p 59.94Hz H⁑ ⬍
```

```
[INPUT STATUS 2]
H24 444 LIMITED Type0 ⬍
```

```
[INPUT AUDIO STATUS]
L-PCM 48kHz M          ⬍
```

Sink device status
```
[MONITOR STATUS 1]
HP:[RGB/444/422/---]  ⬍
```

```
[MONITOR STATUS 2]
DC:[36] HDCP 1.4:[002⬍
```

```
[MONITOR STATUS 3]
HDR:[--] SCDC:[ON]    ⬍
```

Internal temperature status
```
[BOARD STATUS]
45.0℃ OK              ⬍
```

Cooling fan status
```
[FAN STATUS]
3720rpm OK            ⬍
```

Power-supply voltage
```
[POWER STATUS]
12.000V OK            ⬍
```

System check
```
[HEALTH CHECK]
BOARD:OK FAN:OK PWR:OK⬍
```

IP address
```
[IP ADDRESS]
192.168.001.199       ⬍
```

[Fig. 9.19] Top page of front display

You can set the top page of the front display.

ON: One of seven statuses is displayed.

"●" appears if being synchronized.

Pages can be switched using "▲" and "▼" keys for "INPUT STATUS" and "MONITOR STATUS".
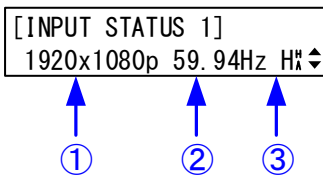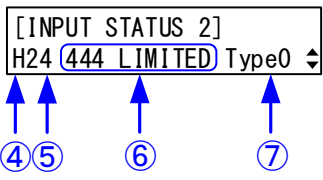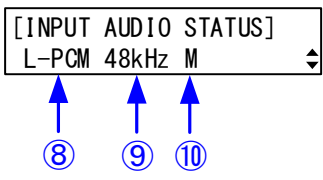
9.11.5 Input signal status

Menu	Top→OTHERS→INPUT STATUS
Values to be displayed	[Table 9.10] Input signal status displayed on front display

You can view the status of the input signal that is input from an HDMI input connector.

[Table 9.10] Input signal status displayed on front display

	Example	Description

Input video status Page1	[INPUT STATUS 1]
	1920x1080p 59.94Hz H_A⇕
	① ② ③
		① Input resolution
		② Input vertical frequency
		③ Input status
		  H : HDMI
		  D : DVI
		  H : With HDCP
		  A : Audio is input
		When no signal is input, "No Signal" is displayed.

Input video status Page2	[INPUT STATUS 2]
	H24 444 LIMITED Type0 ⇕
	④⑤ ⑥ ⑦
		④ Input signal
		  d : DVI, without HDCP
		  D : DVI, with HDCP
		  h : HDMI, without HDCP
		  H : HDMI, with HDCP
		⑤ Color depth
		  24 : 24 bit/pixel (8 bit/component)
		  30 : 30 bit/pixel (10 bit/component)
		⑥ Color space
		⑦ Stream type*
		  Type1 : HDCP 2.2 stream type1
		  Type0 : HDCP 2.2 stream type 0
		When no signal is input, "No Signal" is displayed.

Input audio status	[INPUT AUDIO STATUS]
	L-PCM 48kHz M ⇕
	⑧ ⑨ ⑩
		⑧ Input audio signal
		  L-PCM : LPCM
		  COMPRESSED AUDIO : Compressed audio
		⑨ Input sampling frequency
		⑩ Multi-channel
		  M : Multi-channel audio
		  No value is displayed : 2-channel audio
		When no signal is input, "No Signal" is displayed.

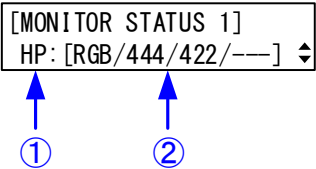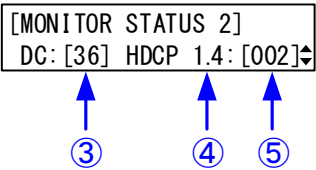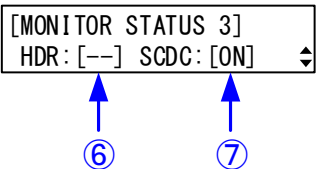* Displayed only for DFS-01UHD.

9.11.6 Sink device status

Menu	Top→OTHERS→MONITOR STATUS
Values to be displayed	[Table 9.11] Sink device status displayed on front display

You can view the sink device status that is connected to an HDMI output connector.

[Table 9.11] Sink device status displayed on front display

	Example	Description
Sink device status Page1	`[MONITOR STATUS 1]` `HP:[RGB/444/422/---]` ⇕ ↑ ↑ ① ②	① Audio 　　　HC : Compressed audio supported 　　　HP　: Compressed audio not supported 　　　　　(LPCM only) 　　　D　: DVI monitor ② Color space 　　　RGB : RGB supported 　　　444　: YCbCr 4:4:4 supported 　　　422　: YCbCr 4:2:2 supported 　　　420　: YCbCr 4:2:0 supported 　　　--- : Unknown When no sink device is connected, "UNCONNECTED" is displayed.
Sink device status Page2	`[MONITOR STATUS 2]` `DC:[36] HDCP 1.4:[002]`⇕ ↑ ↑ ↑ ③ ④ ⑤	③ Color depth 　　　24　: 24 bit/pixel (8 bit/component) 　　　30　　: 30 bit/pixel (10 bit/component) 　　　36　　: 36 bit/pixel (12 bit/component) ④ HDCP 　　　2.2 : HDCP 2.2 supported 　　　1.4 : HDCP 1.4 supported 　　　OFF: HDCP not supported 　　　--- : Not connected ⑤ HDCP authorization 　　　000: None 　　　001: Being authorized 　　　002: Being authorized 　　　003: Being authorized 　　　004: Completed correctly 　　　005: Error When no sink device is connected, "UNCONNECTED" is displayed.
Sink device status Page3	`[MONITOR STATUS 3]` `HDR:[--] SCDC:[ON]` ⇕ ↑ ↑ ⑥ ⑦	⑥ HDR 　　　ON　: HDR supported 　　　-- : HDR not supported ⑦ SCDC 　　　ON　: SCDC supported 　　　-- : SCDC not supported When no sink device is connected, "UNCONNECTED" is displayed.

9.11.7 Internal temperature status

Menu　　　　　Top→OTHERS→BOARD STATUS

Values to be displayed

[Table 9.12] Internal temperature status

	Internal temperature
Example	```[BOARD STATUS] 45.0℃ OK``` ① ②
Description	① Internal temperature ② Internal temperature status 　　OK : No problem detected 　　NG : Problem detected

You can view the internal temperature and temperature status.

Note:

In case an error occurs in internal temperature, the DFS may have problems. Please contact us.

9.11.8 Cooling fan status

Menu　　　　　Top→OTHERS→FAN STATUS

Values to be displayed

[Table 9.13] Cooling fan status page

	Cooling fan status
Example	```[FAN STATUS] 3720rpm OK``` ① ②
Description	① Rotation speed ② Cooling fan 　　OK : No problem detected 　　NG : Problem detected

You can view the cooling fan speed and status.

Note:

In case an error occurs in cooling fan, the DFS may have problems. Please contact us.

9.11.9 Power-supply voltage

Menu   Top→OTHERS→POWER STATUS

Values to be displayed

[Table 9.14] Power-supply voltage

	Power-supply status
Example	[POWER STATUS] 12.000V OK ① ②

Description	① Power-supply voltage
	② Power-supply status
	    OK : No problem detected
	    NG : Problem detected

You can view the power-supply voltage.

Note:

In case any error status is displayed, the DFS may have problems. Please contact us.

9.11.10 System check

Menu   Top→OTHERS→HEALTH CHECK

Values to be displayed   Internal temperature status, cooling fan status, power-supply voltage

[Table 9.15] System check page

	System check
Example	[HEALTH CHECK] BOARD:OK FAN:OK PWR:OK ① ② ③

Description	① Internal temperature status
	② Cooling fan status
	③ Power-supply voltage status
	    OK : No problem detected
	    NG : Problem detected

You can view statuses for internal temperature, cooling fan, and power supply voltage.

Note:

In case any error status is displayed, the DFS may have problems. Please contact us.

9.11.11 Version

Menu	Top→OTHERS→VERSION
Values to be displayed	Versions of firmware and hardware

You can view the firmware and hardware versions. The version information is displayed on three pages, and you can switch pages by pressing "▲" and "▼" keys.

```
[VERSION]
IPL:1.00R0 MAIN:1.00R0 ⬍
```

Firmware version

```
[VERSION]
FPGA1 10-20180401-00(1)⬍
```
```
[VERSION]
FPGA2 10-20180401-00(1)⬍
```

Hardware version 1   Hardware version 2

[Fig. 9.20] Viewing versions

10 Product specification

10.1 DFS-01UHD

Item			Description
Input	Video	HDMI/DVI	1 input HDMI Deep Color (*1)/DVI 1.0 TMDS single link, HDCP 1.4/2.2 TMDS clock: 25 MHz to 300 MHz, TMDS data rate: 0.75 Gbps to 18 Gbps CEC (Pass through), EDID emulation Connector: Female HDMI Type A (19-pin)
		Format	VGA to WQXGA (Dot clock 25 MHz to 300 MHz) 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (Up to 4K@60 (4:4:4)) (*2)
	Audio	Digital	1 input Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz, Sample size: 16 bit to 24 bit Connector: Female HDMI Type A (19-pin)
Output	Video	HDMI/DVI	1 input HDMI Deep Color (*1)/DVI 1.0 TMDS single link, HDCP 1.4/2.2 TMDS clock: 25.175 MHz to 296.703 MHz, TMDS data rate: 0.755 Gbps to 17.802 Gbps CEC (Pass through) Connector: Female HDMI Type A (19-pin)
		Format	VGA / SVGA / XGA / WXGA (1280x768) / WXGA (1280x800) / Quad-VGA / SXGA / WXGA (1360x768) / WXGA (1366x768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / VESAHD / WUXGA / QWXGA / WQHD / WQXGA *VESAHD / WUXGA / QWXGA / WQHD / WQXGA, only Reduced Blanking is supported. 480p / 576p / 720p / 1080i / 1080p / 4K (3840 x 2160) / 4K (4096 x 2160)
	Audio	Digital	1 input Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz, Sample size: 16 bit to 24 bit Connector: Female HDMI Type A (19-pin)
External sync. I/O (*3)			1 input and output (SYNC, CLK) Level: TTL Connector: BNC *For external synchronization, use this product together with another DFS-01UHD or DFS-01HD.
Maximum extension distance	Digital Input		1080p@60: 98 ft. (30 m), 4K@60: 39 ft. (12 m) (*4)
	Digital output		1080p@60: 98 ft. (30 m), 4K@60: 39 ft. (12 m) (*4)
Functions	Scan Converter		Motion adaptive I/P conversion, Aspect Ratio Control, Video rotation (by 90 degrees) (*5), Horizontal flip, Picture adjustment (brightness, contrast, display position, display size, etc.)
	Others		All function setting through browser, Volume adjustment, Lip Sync (Max. 16 frames), Preset memory (16 settings), Last memory, Anti-Snow (*6), Connection Reset (*7), Security lock, System check
External control	LAN		1 port/RJ-45 10Base-T/100Base-TX (Auto Negotiation), Auto MDI/MDI-X
General	Power		100 - 240 VAC ± 10%, 50 Hz/60 Hz ± 3 Hz
	Power consumption		About 27 Watts
	Dimensions		8.3 (W) × 1.7 (H) × 9.8 (D)" (210 (W) × 44 (H) × 250 (D) mm) (EIA 1U high, half rack wide) (Excluding connectors and the like)
	Weight		4.2 lbs. (1.9 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		Operating/Storage: 20% to 90% (Non Condensing)

*1 30 bit/pixel (10 bit/component) Deep Color is supported while x.v.Color, 3D, ARC and HEC are not supported.
   WQHD, WQXGA and 4K format: 24 bit/pixel (8 bit/component) is supported.
*2 4K format: Only CEA-861 timing is supported.
*3 External synchronization is not supported if the output format is 1080i.
*4 The maximum cable distance varies depending on the connected devices and was measured under following conditions:
    ・ 1080p@60 : when IDK's AWG 24 cable was used and signals of 1080p@60 24 bit/pixel (8 bit/component) was input or output.
    ・ 4K@60   : when IDK's 18 Gbps supported cable was used and signals of 4K@60 24 bit/pixel (8 bit/component) was input or output.
   The maximum cable distance depends on the connected devices. The distance may not be extended with some device combinations, cabling method, or other manufacturer's
   cable. Video may be disturbed or may not be output even if signals are within the range mentioned above.
*5 For 4K format and video signals with dot clock of 165 MHz or more, only 180 degree rotation is supported.
*6 The anti-snow feature automatically fixes snow noise that is a specific symptom of HDCP-compliant signals and mainly occurs at start-up. This feature does not work when snow
   noise has already occurred during startup or when it occurs due to a bad condition of the transmission line.
*7 For digital systems, some problems, such as an HDCP authentication error, can often be recovered by physically disconnecting and reconnecting the digital cables. However, the
   Connection Reset feature will fix these problems automatically without the need to physically plug and unplug the cables. It creates the same condition as if the cable were
   physically disconnected and reconnected. This feature only works for the MSD's output. If other devices are connected between the MSD's output and sink device, this feature
   may be invalid.

10.2 DFS-01HD

Item			Description
Input	Video	HDMI/DVI	1 input HDMI Deep Color (*1)/DVI 1.0 TMDS single link, HDCP 1.4 TMDS clock: 25 MHz to 300 MHz, TMDS data rate: 0.75 Gbps to 9 Gbps CEC (Pass-through), EDID emulation Connector: Female HDMI Type A (19-pin)
		Format	VGA to WQXGA (Dot clock 25 MHz to 300 MHz) 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (Up to 4K@30)
	Audio	Digital	1 input Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz, Sample size: 16 bit to 24 bit Connector: Female HDMI Type A (19-pin)
Output	Video	HDMI/DVI	1 input HDMI Deep Color (*1)/DVI 1.0 TMDS single link, HDCP 1.4 TMDS clock: 25.175 MHz to 296.703 MHz, TMDS data rate: 0.755 Gbps to 8.901 Gbps CEC (Pass through) Connector: Female HDMI Type A (19-pin)
		Format	VGA / SVGA / XGA / WXGA (1280x768) / WXGA (1280x800) / Quad-VGA / SXGA / WXGA (1360x768) / WXGA (1366x768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / VESAHD / WUXGA / QWXGA / WQHD / WQXGA *VESAHD / WUXGA / QWXGA / WQHD / WQXGA, only Reduced Blanking is supported. 480p / 576p / 720p / 1080i / 1080p / 4K (3840 x 2160) (*2) / 4K (4096 x 2160) (*2)
	Audio	Digital	1 input Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz, Sample size: 16 bit to 24 bit Connector: Female HDMI Type A (19-pin)
External sync I/O (*3)			1 input and output (SYNC, CLK) Level: TTL Connector: BNC *For external sync, use this product together with another DFS-01UHD or DFS-01HD.
Maximum extension distance	Digital Input		1080p@60: 98 ft. (30 m), 4K@30: 66 ft. (20 m) (*4)
	Digital output		1080p@60: 98 ft. (30 m), 4K@30: 66 ft. (20 m) (*4)
Functions	Scan Converter		Motion adaptive interlaced/progressive conversion, Aspect Ratio Control, Video rotation (by 90 degrees) (*5), Horizontal flip, Picture adjustment (brightness, contrast, display position, display size etc.)
	Others		All functions and configuration settings accessible through browser, Volume adjustment, Lip Sync (Max. 16 frames), Preset memory (16 settings), Last memory, Anti-Snow (*6), Connection Reset (*7), Front key function lock, System check
External control	LAN		1 port/RJ-45 10Base-T/100Base-TX (Auto Negotiation), Auto MDI/MDI-X
General	Power		100 - 240 VAC ± 10%, 50 Hz/60 Hz ± 3 Hz
	Power consumption		About 20 Watts
	Dimensions		8.3 (W) × 1.7 (H) × 9.8 (D)" (210 (W) × 44 (H) × 250 (D) mm) (EIA 1U high, half rack wide) (Excluding connectors and the like)
	Weight		4.2 lbs. (1.9 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		Operating/Storage: 20% to 90% (Non Condensing)

*1 30 bit/pixel (10 bit/component) Deep Color is supported while x.v.Color, 3D, ARC and HEC are not supported.
   WQHD, WQXGA and 4K format: 24 bit/pixel (8 bit/component) is supported.
*2 4K format: Up to 4K@30 is supported
*3 External sync is not supported if the output format is 1080i.
*4 The maximum cable distance varies depending on the connected devices and was measured under following conditions:
   ·   1080p@60 : when IDK's AWG 24 cable was used and signals of 1080p@60 24 bit/pixel (8 bit component) was input or output.
   ·   4K@30   : when IDK's AWG 24 cable was used and signals of 4K@30 24 bit/pixel (8 bit/component) was input or output.
   The maximum cable distance depends on the connected devices. The distance may not be extended with some device combinations, cabling method, or other manufacturer's
   cable. Video may be disturbed or may not be output even if signals are within the range mentioned above.
*5 For 4K format and video signals with dot clock of 165 MHz or more, only 180 degree rotation is supported.
*6 The anti-snow feature automatically fixes snow noise that is a specific symptom of HDCP-compliant signals and mainly occurs at start-up. This feature does not work when snow
   noise has already occurred during startup or when it occurs due to a bad condition of the transmission line.
*7 For digital systems, some problems, such as an HDCP authentication error, can often be recovered by physically disconnecting and reconnecting the digital cables. However, the
   Connection Reset feature will fix these problems automatically without the need to physically plug and unplug the cables. It creates the same condition as if the cable were
   physically disconnected and reconnected. This feature only works for the DFS's output. If other devices are connected between the DFS's output and sink device, this feature may
   be invalid.

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11 Troubleshooting

This chapter recommends what to do if you have problems operating the DFS.

In case the DFS does not work correctly, please check the following items first.
- ・ Are the DFS and all devices plugged in and powered on normally?
- ・ Are cables connected correctly?
- ・ Are there no loose connections?
- ・ Are correct cables supported by devices being used?
- ・ For 4K format, is an 18 Gbps high-speed cable used?
- ・ Are specifications of connected devices matched to each other?
- ・ Are settings of the sink device correct?
- ・ Are there any nearby objects that may cause noise?

If the problem still cannot be solved, perform the following actions. Refer to manuals of connected devices as well, since they may possibly be the cause of the problem.

Problem	Cause/Check item/Solution	Page
● Video output		
Video is not output.	[1] Are signals output from the source device? If the input resolution is displayed in "INPUT STATUS", check [3] to [4]; if "No Signal" is displayed, check [5] to [6].	68
	[2] Set "**9.2.9 Test pattern**" to a pattern other than "OFF". - If any test pattern is not output, check [7] to [9]. - If a test pattern is output, the source device may not output video.	―
	[3] If the display device or AV amplifier does not support HDCP, video is not output when signal with content protection is input. Some HDMI/DVI devices check if the connected device is HDCP compliant and determines whether to output HDCP signal or not. Since the DFS is HDCP compliant, video may not be output if the DFS is connected to a sink device or AV amplifier that does not support HDCP. In this case, disable HDCP input from the input device in "**9.5.2 HDCP input enabled/disabled**".	47
	[4] Change the setting of Hot plug ignoring duration.	40
	[5] The set time for monitoring no-signal input may be too short.	46
	[6] If the source device has multiple output connectors, check the video output settings of the source device.	―
Video is disappeared, interrupted, or has noise.	[7] If using a long cable for input or output, replace it with a 16.4 ft. (5 m) or shorter cable. Since the DFS has the equalizing function, long cables can be connected, but the DFS may not provide its full performance depending on the cable quality and the connected device. If the problem is solved by replacing the cable, signal may have been degraded due to the long haul transmission. We have high-quality cables, cable boosters and extenders. Please contact us as needed.	―

Problem	Cause/Check item/Solution	Page
Video is disappeared, interrupted, or has noise. (Cont'd)	[8] When high-speed signal (high resolution: such as UXGA, WUXGA, QWXGA, WQHD, WQXGA, 1080p, 4K; DEEP COLOR signal) is input or output, video may not be displayed or noise may appear depending on the cable quality and the connected device. Change the resolution to a lower level and/or disable Deep Color. You can check the resolution and color depth of the input signal in "**9.11.5 Input signal status**" and you can also limit resolution and color depth of input signal according to the EDID setting. You can specify the output resolution and check the color depth of the output signal in "**9.11.6 Sink device status**" and you can also limit the output signal color depth.	55, 57 34 40
Input video and test pattern are not output.	[9] If you set the output resolution other than "AT", check if the selected resolution is supported by the sink device. If you select "1080i", video may not be output to sink devices that do not support interlaced signal. For TV output resolutions (480p to 4K (4096x2160)), check the vertical synchronous frequency. PC output resolutions (VGA to WQXGA) may not be output to LCD TVs.	34
Video from HDMI/DVI output is interrupted or has noise.	If the problem occurs when a test pattern is displayed, replace the cable with a shorter one.	—
The left, right, top and bottom sides are cut off.	If the problem occurs only when "CROSS HATCH" (a test pattern) is output, the sink device enlarges and displays the video. Adjust the sink device. If the sink device does not have the adjusting function, set the video size and position of the output. If the problem occurs even if "CROSS HATCH" is output to all outputs, check [10] to [11].	38
Part of video is cut off or black is displayed at edge(s).	[10] Settings of the start position or active area are not changed? *Note:* Start position and active area can be set for each input or output.	34
Black is displayed at top, bottom, right and left on PC video or only part of the PC video is displayed, and the rest is displayed by scrolling with the mouse.	[11] Does the PC resolution (you can check it in "Properties" of the PC) match the resolution that is output from the PC (you can check it in "**9.11.5 Input signal status**". If not, set the EDID and PC resolutions. If the copy of the built-in LCD screen is output in the laptop, the output to an output monitor is limited to the resolution of the LCD screen. As a result, black may be displayed at edges. The problem can be solved by enlarging the display or displaying only to the external monitor.	54, 55
Video flickers	If interlace signal is input to a sink device that does not support interlace signal, the video may flicker. Check the output resolution of the sink device.	34

Problem	Cause/Check item/Solution	Page
Video is reduced vertically or horizontally.	Does the selected aspect ratio of the output resolution match that of the connected sink device? If not, set the aspect ratio of the sink device.	35
	Check the set aspect ratio of the input signal.	44
	Check the monitor setting of the source device (such as 4:3, 16:9, letter box and the like).	－
PC's dual monitor cannot be set or the setting is canceled.	If the monitoring function for no-signal input works, the dual monitor function may not work correctly. In this case, disable the monitoring function.	46
● Videowall		
Display size or position is not correct.	Set "**9.6.1 Videowall configuration**" of all DFS units to the same value.	49
	Is the setting of "**9.6.2 Videowall display position**" appropriated for monitor layout.	49
Video signal frame is not correct.	Connect the external synchronous output connector and external synchronous input connector correctly.	23
	Set "**9.6.5 External synchronization**" to "AUTO"?	50
● Audio output		
Audio is not output.	Is video being output correctly? If not, check [5], [7] and [8].	－
	Set "**9.7.2 Muting/unmuting audio output**" to "OFF".	59
	If the display device or AV amplifier does not support HDCP, only audio without content protection is output; audio is not output when signal with content protection is input. Some HDMI/DVI devices check if the connected device is HDCP compliant and determines whether to output HDCP signal or not. Since the DFS is HDCP compliant, audio may not be output if the DFS is connected to a sink device or AV amplifier that does not support HDCP. In this case, disable HDCP input from the input device in "**9.5.2 HDCP input enabled/disabled**".	47
	LCD monitors may not output compressed audio, such as Dolby Digital, DTS, and so on. If playing contents with compressed audio (such as Blu-ray disc), check the audio output setting. Audio signal that is output from the source device can be controlled by setting EDID.	59
	Set "**9.3.1 Output mode**" to a mode other than "DVI MODE". If the sink device does not support HDMI signal, the DFS outputs DVI signal automatically. Check which signal type is supported by the sink device.	39
	Is DVI signal output from the source device? You can check the input signal type in "**9.11.5 Input signal status**". DVI signal may be output depending on EDID settings.	57
	If a source device that does not support 4K is connected to the input connector to which 4K EDID is set, DVI signal may be output. Change the setting of "**9.8.1 Resolution**", "**9.8.2 Copying EDID**".	55 57

Problem	Cause/Check item/Solution	Page
● Audio output		
Audio is not output. (Cont'd)	Is the input audio format supported by the connected sink device or AV amplifier input? LCD monitors, especially, may not output 88.2 kHz or higher sampling frequency of linear PCM and compressed audio (such as Dolby Digital, DTS, and so on). Audio signal output from the source device can be controlled by setting EDID.	68 59
	If the source device has multiple output connectors, check the audio output settings of the selected output device.	—
	If the output resolution is set to a value other than "AT", make sure that the sink device or AV amplifier supports the selected output resolution. If a PC output resolution (VGA to 4K) is selected, some sink devices and AV amplifiers cannot output audio.	34
Compressed audio (such as Dolby Digital, DTS) is not output from the source device.	Compressed audio input is set to OFF (EDID settings) by factory default. If using compressed audio, change the EDID setting.	59
	In order to output compressed audio of multi-channel, set the number of speakers.	58
	Check the audio output settings of the source device.	—
Multi-channel audio is not output.	In order to output multi-channel audio, set the number of speakers.	58
Audio of only a specific scene is not output from digital input	Is "DOWN MIX" is set for multi-channel audio output? For multi-channel audio, since channels changes depending on scenes, audio may not output if audio is not included in the set channel.	52
● Key operation		
Keys do not operate.	Ensure that keys are not locked.	25
	Immediately after start-up, all keys are disabled until the connection of the sink device is confirmed.	24
Settings are not saved or reflected to the actual operation.	Settings of some menus may not be saved if the "MENU/SET" key is not pressed after setting.	24
● Communication command control, WEB browser control		
Communication command control and WEB browser control from the PC to the DFS cannot be performed.	The IP address and subnet mask are set correctly? For using WEB browser, check if the setting for TCP port connection is enabled for WEB browser.	63

If additional assistance is required, please perform the following tests and then contact us.

1. Does the same problem occur at all connectors?
2. Connect the devices using genuine cables without connecting the DFS.
   The problem still cannot be solved? Please contact us for assistance.

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