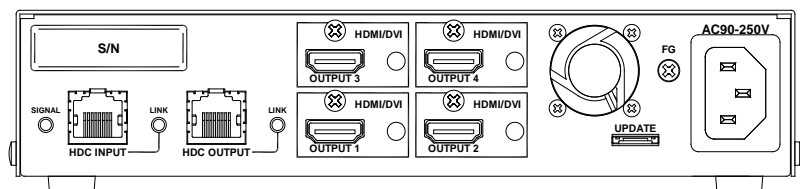
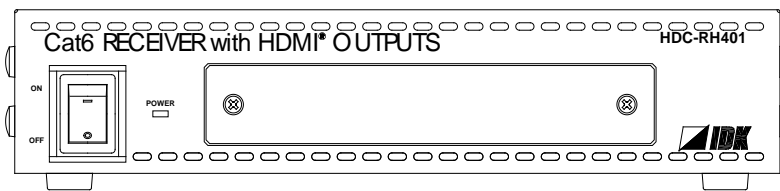




# HDBaseT Daisy Chain Receiver & HDMI Splitter HDC-RH401/201/101

<User's Guide>

Ver.1.5.0



- Thank you for choosing our product.
- To ensure the best performance of this product, please read this User's Guide fully and carefully before using it and keep this manual beside this product.

IDK Corporation

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## Before reading this manual

- All rights reserved.
- Some of the contents in this User's Guide such as appearance diagrams, menu operations, communication commands, and so on may differ depending on the version.
- This User's Guide is subject to change without notice. You can download the latest version from IDK's website at: <http://www.idk.co.jp/en/index.html>



The lasers in this product meet Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825 laser safety standards which specify design safety.

### FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

**Note:** This equipment was tested with shielded cables on the peripheral devices. Shielded cables must be used with the equipment to ensure compliance with FCC emissions limits.

### 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.

This equipment complies CISPR 22/EN 55022, VCCI, and FCC Part 15 Subpart B standards. To comply these standards, please use Ferrite Core to 5 cm from cable connector.







# Safety instructions






Read and understand all safety and operating instructions before using this device. Follow all instructions and cautions as detailed in this document.

Enforcement Symbol	Description
 <b>Warning</b>	Indicates the presence of a hazard that may result in death or serious personal injury if the warning is ignored or the equipment is handled incorrectly.
 <b>Caution</b>	Indicates the presence of a hazard that may cause minor personal injury or property damage if the caution is ignored or the equipment is handled incorrectly.

Symbol	Description	Example
 Caution	This symbol is indicated to alert the user. (Warning and caution)	 Electrical Hazard
 Prohibition	This symbol is intended to prohibit the user from actions.	 Do not disassemble
 Instruction	This symbol is intended to instruct the user.	 Unplug


# Warning

 <b>Prohibition</b>	<p><b>Do not place the product in any unstable place.</b> Install the product to a horizontal and stable place. Otherwise, it may fall/turn over and lead to injury.</p>
	<p><b>Do not place the product in any environment with vibration.</b> Otherwise, it may move/fall and lead to injury.</p>
	<p><b>Keep out any foreign objects.</b> In order to avoid fire or electric shock, do not allow foreign objects, such as metal and paper, to enter the product from the vent holes.</p>
	<p><b>For power cable/ plug:</b></p> <ul style="list-style-type: none"> <li>• <b>Do not scratch, heat, or modify, including extending them.</b></li> <li>• <b>Do not pull, put heavy stuff on them, or pinch them.</b></li> <li>• <b>Do not bend, twist, or tie them together forcefully.</b></li> </ul> <p>If they are used in those states continuously, it may cause fire or electric shock. If power cables/plugs become damaged, contact IDK.</p>
 <b>Do not disassemble</b>	<p><b>Do not repair, modify or disassemble.</b> Since the product includes high-voltage parts, those actions may cause fire or electric shock. For internal inspections or repairs, contact IDK.</p>
 <b>Do not touch</b>	<p><b>In the event of lighting or thunder, do not touch the main unit or cables such as power cable and LAN cable.</b> Contact may cause electric shock</p>
 <b>Instruction</b>	<p><b>For installation:</b> The product is intended to be installed by skilled technicians. For installation, please contact a system integrator or IDK. Otherwise, it may cause fire, electric shock, injury, or property damage.</p>
	<p><b>Set the power plug in a convenient place to unplug easily.</b> You can easily unplug in case of any extraordinary failure or abnormal situation, and it also helps for unplugging when you do not use it for a long period.</p>
	<p><b>Plug the power plug into appropriate outlet completely.</b> If the plug is plugged incompletely, it may overheat which causes electrical shock or fire. Do not use damaged plug or loosened outlet.</p>
	<p><b>Clean the power plug regularly.</b> If the plug is covered in dust, it may cause fire due to reduced insulating power.</p>
 <b>Unplug</b>	<p><b>Unplug immediately if the product smokes, makes unusual noise, or smells.</b> If you continue to use the product under those situations, it may cause electric shock or fire. After confirming that the product stops smoking, contact IDK.</p>
	<p><b>Unplug immediately if you drop the product or if the cabinet is damaged.</b> If you continue to use the product under those situations, it may cause electrical shock or fire. For maintenance and repair, contact IDK.</p>
	<p><b>Unplug immediately if water or other objects are directed inside.</b> If you continue to use it under those situations, it may cause electrical shock or fire. For maintenance and repair, contact IDK.</p>
<b>For connection</b>	
 <b>Instruction</b>	<p>Differences in ground potential among the product and peripheral devices may cause electric shock or damage of the devices. When using cables to connect devices, including connection of long-distance transmission, unplug the power cables of all related devices. After connecting signal/control cables of each device, plug in the power cables of each device.</p>


 <b>Caution</b>	
 <b>Prohibition</b>	<p><b>Do not place the product in any place where it will be subjected to high temperatures.</b> If the product is subjected to direct sunlight or high temperatures, it may cause fire.</p>
	<p><b>Do not place the product in humid, oil smoke, or dusty place.</b> If the product is placed near humidifiers or dusty area, it may cause fire or electric shock.</p>
	<p><b>Do not block the vent holes.</b> If ventilation slots are blocked, it may cause fire or failure due to internal heat.</p>
	<p><b>Do not put heavy items on the product.</b> It may fall/turn over and lead to injury.</p>
	<p><b>Do not exceed ratings of outlet and wiring devices.</b> If several plugs are put in an outlet, it may cause fire and electric shock.</p>
	<p><b>Use only the provided AC adapter and power cable.</b> If non-compliant adapter or power cables is used, it may cause fire or electrical shock. Use the provided AC power connection cable. If you want to use your product in other countries that use different AC power cables, contact IDK.</p>
 <b>No wet hands</b>	<p><b>Do not plug or unplug with wet hands.</b> It may cause electrical shock.</p>
 <b>Instruction</b>	<p><b>Use and store the product within the specified temperature/humidity range.</b> If the product is used outside the range continuously, it may cause fire or electric shock.</p>
	<p><b>Turn off devices when they are connected to another device.</b> It may cause fire or electric shock.</p>
 <b>Unplug</b>	<p><b>Unplug the power plug if you do not use the product for a long period.</b> In case of defect, it may cause fire.</p>
	<p><b>Unplug the power plug before cleaning.</b> It may cause electric shock.</p>

**For installation**

**For rack mount devices:**

 <b>Instruction</b>	<p>Mount the product to the rack meeting EIA standards, and maintain spaces above and below for air cooling. For your safety, attach an L-shape bracket in addition to the mount bracket kit for the front panel in order to balance the weight.</p>
---	--

**For devices with rubber feet:**

 <b>Instruction</b>	<p>Never insert only the screws into the holes after removing the rubber feet. It may lead to damage when the screws contact electrical circuit or parts inside of the product. To put the rubber feet back on, use only provided rubber feet and screws.</p>
---	---

**Altitude:**



**Instruction**

Do not place the product at elevations of 2,000 meters (6562 feet) or higher above sea level. Failure to do so may shorten the life of the internal parts and result in malfunctions.

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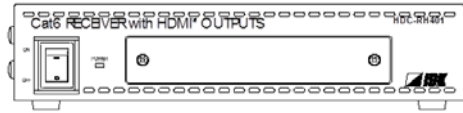


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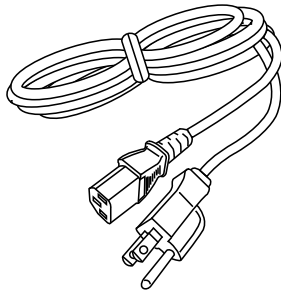
# 1 Included items

Make sure all items below are included in the package.

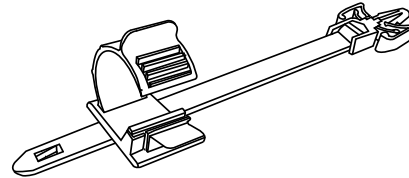
If any items are missing or damaged, please contact IDK.



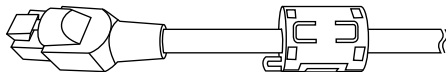
One (1) HDBaseT Daisy Chain Receiver & HDMI Splitter (main unit)



One (1) power cord  
(1.8 meters; approximately 5.91 feet)



Cord clamps  
One (1) for HDC-RH101  
Two (2) for HDC-RH201  
Four (4) for HDC-RH401



Two (2) Ferrite Core

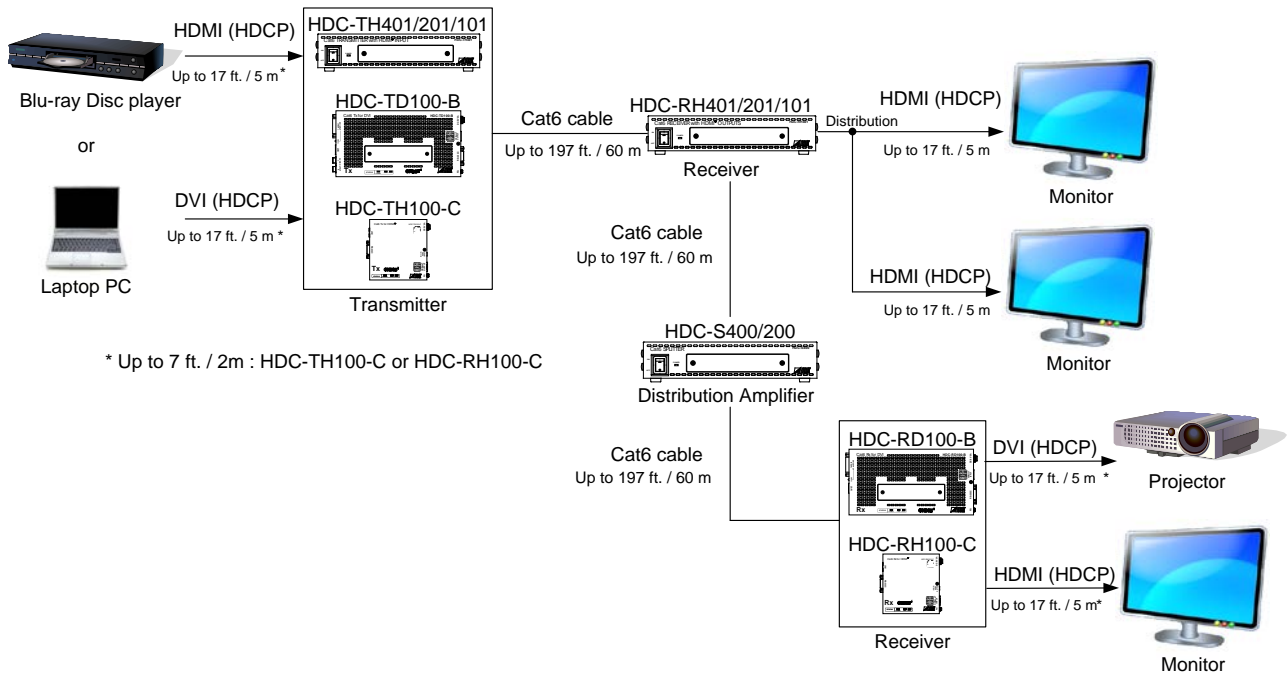
**[Fig. 1.1] Included items**

You can download the latest version of the User's Guide from IDK's website at:

<http://www.idk.co.jp/en/index.html>

## 2 Product outline

The IDK HDC-RH101, 201, and 401 are receivers for HDBaseT signal. HDC-RH101, 201, and 401 have HDBaseT daisy chain and HDMI signal splitter functions. By using with the IDK HDC series transmitters, video and audio signals can be extended and distributed to up to four HDMI devices at receiver side.



[Fig. 2.1] HDC-RH401/201/101 diagram

## 3 Features

---

### ■ Video

- Up to QWXGA (RB)\*1 or 1080p
- HDCP supported
- Up to 197 ft. approx. / 60 m signal extension over a Cat6 cable
- Daisy chain connection
- Anti-snow

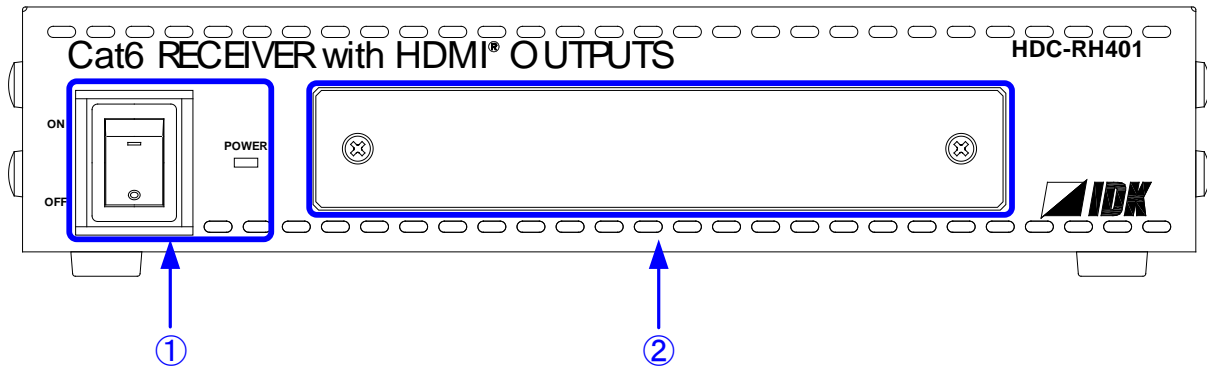
### ■ Others

- EDID emulation
- Seven segment LED signal status check
- Connection Reset (only HDMI output)

\*1. (RB) = Reduced Blanking

## 4 Panels

### 4.1 Front panel



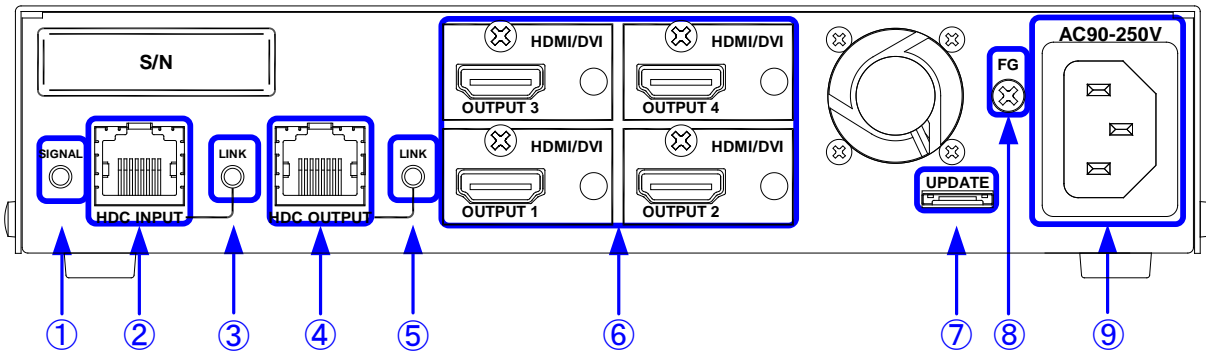
[Fig. 4.1] Front panel drawing (HDC-RH401/201/101)

#	Part name	Description
①	Power supply switch (POWER)	Turns on/off the HDC The POWER LED lights when the HDC is turned on.
②	Segment display and menu operation keys	Sets menu using "SET", "+", and "-" keys. (The cover plate with access to the menu is removable.) <b>【See "7.1 Menu operation"】</b>

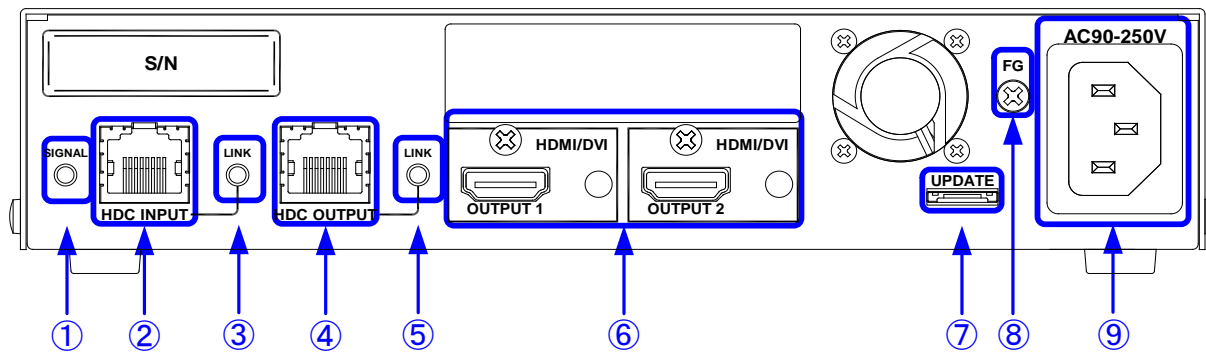
Note: Front panels for HDC-RH401/201/101 are common.

## 4.2 Rear panel

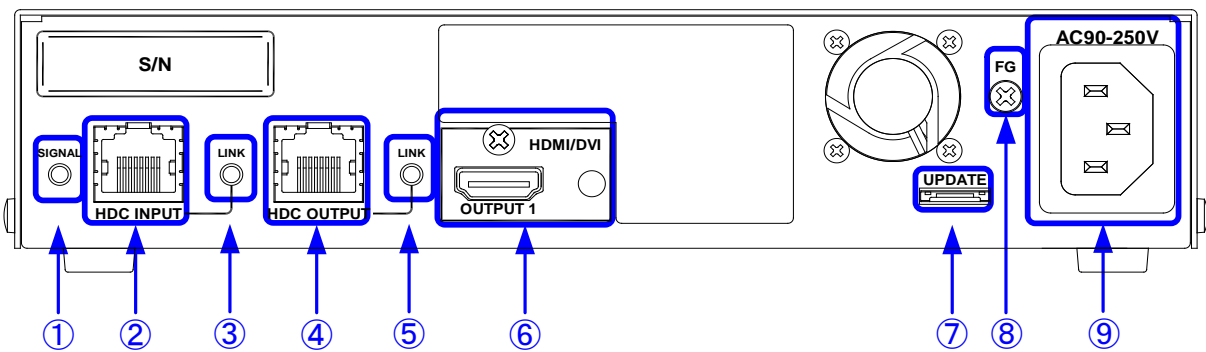
### HDC-RH401



### HDC-RH201



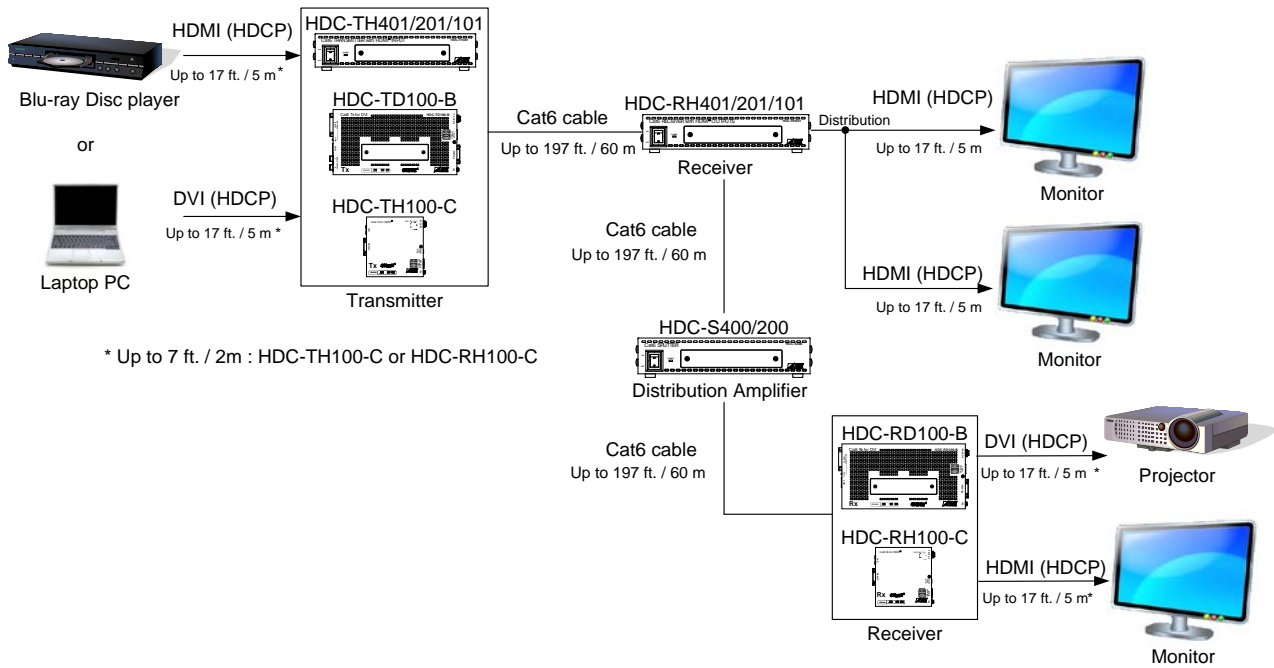
### HDC-RH401



[Fig 4.2] Panel drawing

#	Part name	Description
①	SIGNAL LED ( SIGNAL )	The LED lights when video signal input the HDC.
②	Twisted pair input connector (HDC INPUT)	Digital (video/audio) signals can be extended up to 60 m/197 ft. using the HDC transmitter.
③	LINK LED ( LINK )	The LED lights when HDC transmitter is connected.
④	Twisted pair output connector (HDC OUTPUT)	Digital (video/audio) signals can be extended up to 60 m/197 ft. using the HDC receiver.
⑤	LINK LED ( LINK )	The LED lights when HDC receiver is connected.
⑥	HDMI output connector(OUTPUT1 to 4)	Output connector for HDMI signal. Connector for sink devices such as LCD monitors and projectors HDC-RH401 : four (4) outputs OUTPUT1 to 4 HDC-RH201 : two (2) outputs OUTPUT1 and 2 HDC-RH101 : one (1) output OUTPUT1
⑦	Connector for Maintenance ( UPDATE )	Not used. Please do not connect anything; this connector is for maintenance only.
⑧	Frame ground (FG)	An M3 screw is used. Ground for indoor ground terminal.
⑨	AC connector ( AC90-250V )	Connector for supplied AC cable.

## 5 Example connection



[Fig. 5.1] Sample system diagram



## 6 Precautions

---

Before connecting to external devices, follow the precautions below.

### 6.1 Installation

---

When installing the HDC, please observe the following precautions.

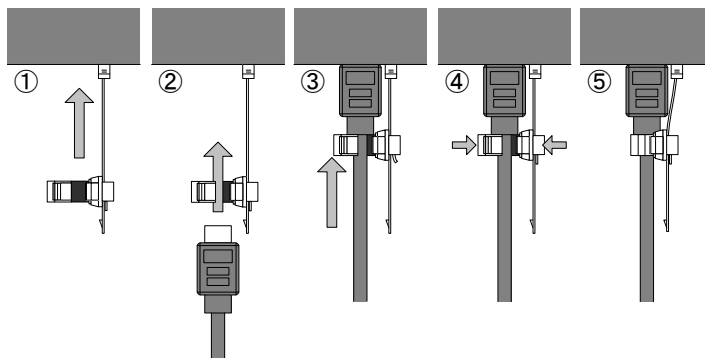
- Do not place the HDC on top of another HDC.
- Do not block vent holes. Please secure the space above ambient 30 mm/1.18 inches.
- Do not install the HDC to an enclosed space. When the HDC needs to be installed to EIA rack mount or an enclosed space, please prepare ventilating equipment to keep the ambient temperature at 40 degrees C/104 degrees F or less. If inadequately vented, the life of parts may be shortened and operations may be affected.

## 6.2 Cabling

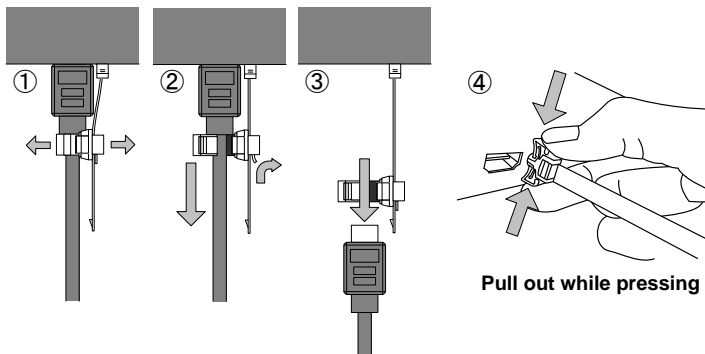
When connecting the HDC to the external devices, please observe the following precautions.

- Read manuals of the external devices.
- Before you connect the cable to the HDC or an external device, please remove electrification of the body by touching the metal around that is grounded.
- Turn off all devices' power before connecting the cable.
- Be sure to plug cables completely and install them without any stress on connectors.
- Fix HDMI cables using cable clamps to prevent those cables from falling off.

### Fixing HDMI cable using cable clamp



### Removing HDMI cable and cable clamp



[Fig. 6.1] Attaching a cable clamp

### ■ Connecting twisted pair cables

This equipment complies CISPR 22/EN 55022, VCCI, and FCC Part 15 Subpart B standards. To comply these standards, please use Ferrite Core to 5 cm from cable connector.



## 6.2.1 Cables

IDK Corporation provides various digital cables such as HDMI, DVI, and twisted pair cables.

Please choose appropriate cables for your system configuration. For analog audio and RS-232C, please use on processing the cable to fit the connectors.

## 6.2.2 Twisted pair cable

When connecting twisted pair cables to the HDC, please observe the following precautions.

- Cat5e/Cat6 UTP/STP can be used, however, we recommend a CAT.5E HDC cable\* for the twisted pair cable which is developed by IDK to maximize quality of video transmission.
- If using an STP cable, connect the FG connector to an earth ground source. Otherwise, the shielding feature does not work correctly. When using a UTP cable, we still recommend using the ground connector.
- The shielded STP cables are less affected by interference or external noise than UTP cables.
- The connector for twisted pair cable is as same as the connectors which are used for Ethernet (8 core modular type connector), however, it cannot be connected and use for Ethernet because the way of data transmission is different.
- The maximum extension distance of Cat5e/Cat6 UTP/STP cable is the shorter maximum extension distance of the connected HDC receiver and sink device.
- For pin assignments, apply T568A or T568B standards for straight through wiring.
- Do not give connection cables a strong pull. The allowable tension of the twisted pair cable is 110 N.
- Do not bend the connection cable at a sharp angle. Keep the bend radius four times of the cable diameter or longer.
- Do not tie the cable tightly; leave a space allowing the cable to move slightly.
- If you use the same cables, we recommended keeping a distance between the cables or not to place the cables closely in parallel.
- Keep the twisted pair cable as straight as you can. If you coil the cable, it is easily affected by noise.
- Do not place this product in an electrically noisy environment, since high-speed signal is transmitted. Particularly when you use a high-output radio around this device, video or audio may be interrupted.
- If the distance between the transmitter and receiver is 100 m/328.08 feet or less, cables can be joined using an RJ-45 plug coupler or wall outlet. Up to two cable couplers are allowed. Couplers supporting Cat6A (10GBase-T) are recommended.
- Following table shows extension distance by each twisted pair cable. The extension distance depending on installation environment.

External noise	Category		Distance	Dot clock	Memo
Affected	UTP	Cat5e	30 m/98.42 ft.	<= 225 MHz	IDK recommends Cat5e STP, Cat6 UTP/STP, or CAT.5E HDC cable* if the extension distance exceeds 50 m/164.04 ft.
		Cat6	60 m/196.85 ft.		
Less affected	STP	Cat5e*	60 m/196.85 ft.		
		Cat6			

\* CAT.5E HDC cable developed by IDK Corporation is double shielded twisted pair cable for high quality video transmission. It protects video signal from external noise or other interferences by having double shielded structure. Its transmission characteristic meets 500 MHz up to 100 m/328.08 ft., and it is certified and recommended by HDBaseT alliance.

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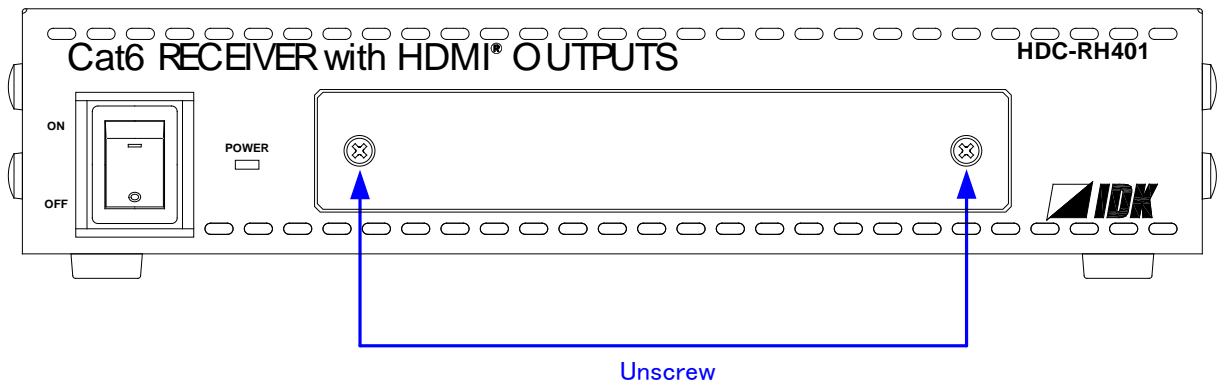
**【NOTE】** If there is a problem in the transmission path, video or audio may be interrupted. Please check the items above. If the problem still cannot be solved, shorten the length of the twisted pair cable.

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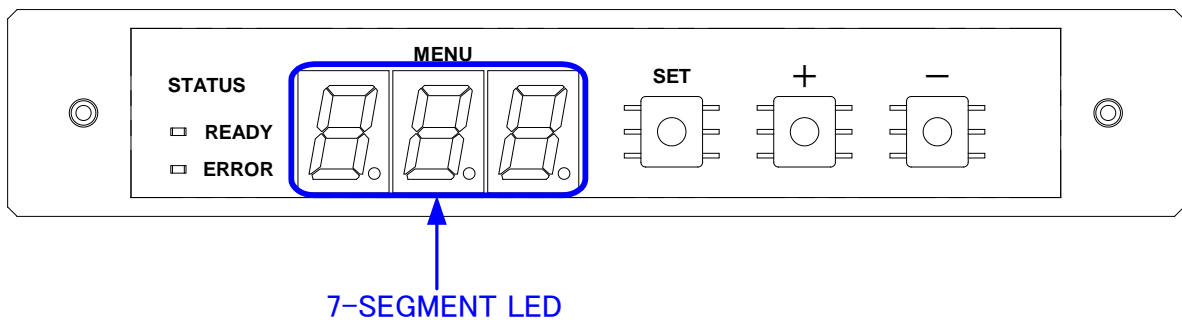
## 7 Basic operation

### 7.1 Menu operation keys

Menu operation can be done from front panel. Please remove the front panel cover, and then you can see menu operation keys.



[Fig. 7.1] Removing the cover

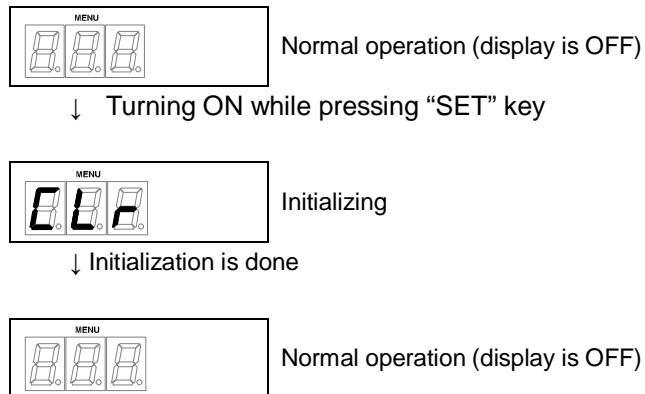


[Fig. 7.2] Display & menu operation keys

READY LED	ON	: EDID data can read and write.
	Blink	: DVI mode signal which has HDCP is input to HDC.
ERROR LED	The LED is ON	when HDC failed to read EDID data.
7-SEGMENT LED	Displaying	menu number or set value.
SET key	By pressing SET	key you can set value or display menu.
“ - ” and “ + ” keys	By pressing “ - ” or “ + ”	keys you can change the set value or switch menu.

## 7.2 Initialization

Initialization operation is assigned to “SET” key. You can initialize the HDC by turning on while pressing “SET” key. Please keep pressing “SET” key until 7-SEGMENT LED is ON like following. 7-SEGMENT LED become OFF, it means initialization is done and starts normal operation.



**[Fig. 7.3] Initialization (factory default)**

## 7.3 Notes on use

- 1) Extension distance is 60 m / 196.85 ft. using Cat6 or CAT.5E HDC cable. If you connect this unit to other HDC series products which support 100 m / 330 ft., the maximum extension distance will be shorter one (60 m / 196.85 ft.).
- 2) Input power is 90V to 250V. Please make sure before you turn on the unit.
- 3) xvYCC, Lip Sync, HEC, 3D, and ARC are not supported.
- 4) For DVI signal output, please use HDMI→DVI-I or DVI-D conversion cable (DualLink DVI is not supported).
- 5) CEC is pass through between INPUT and OUTPUT which is selected in “**8.19 [ F75 ] Selecting CEC**”. Please test CEC connection before you use other manufacturers source and sink devices.
- 6) Audio format which is shown in below table are supported. Factory default setting is 2ch liner PCM. If you use other format, please select internal EDID and select expected audio format.
- 7) 10bit/component (30bit/pixel) and 12bit/component (36bit/pixel) Deep Color are supported. If you cannot get Deep Color output from source device, please set Deep Color setting of the HDC, and then set the source device video settings. Factory default is 8bit/component (24bit/pixel).
- 8) Please use IDK's HDC receiver and transmitter when you want to transmit DVI signal which has HDCP.
- 9) If you got any trouble, please see ” **10 Trouble shooting**”.

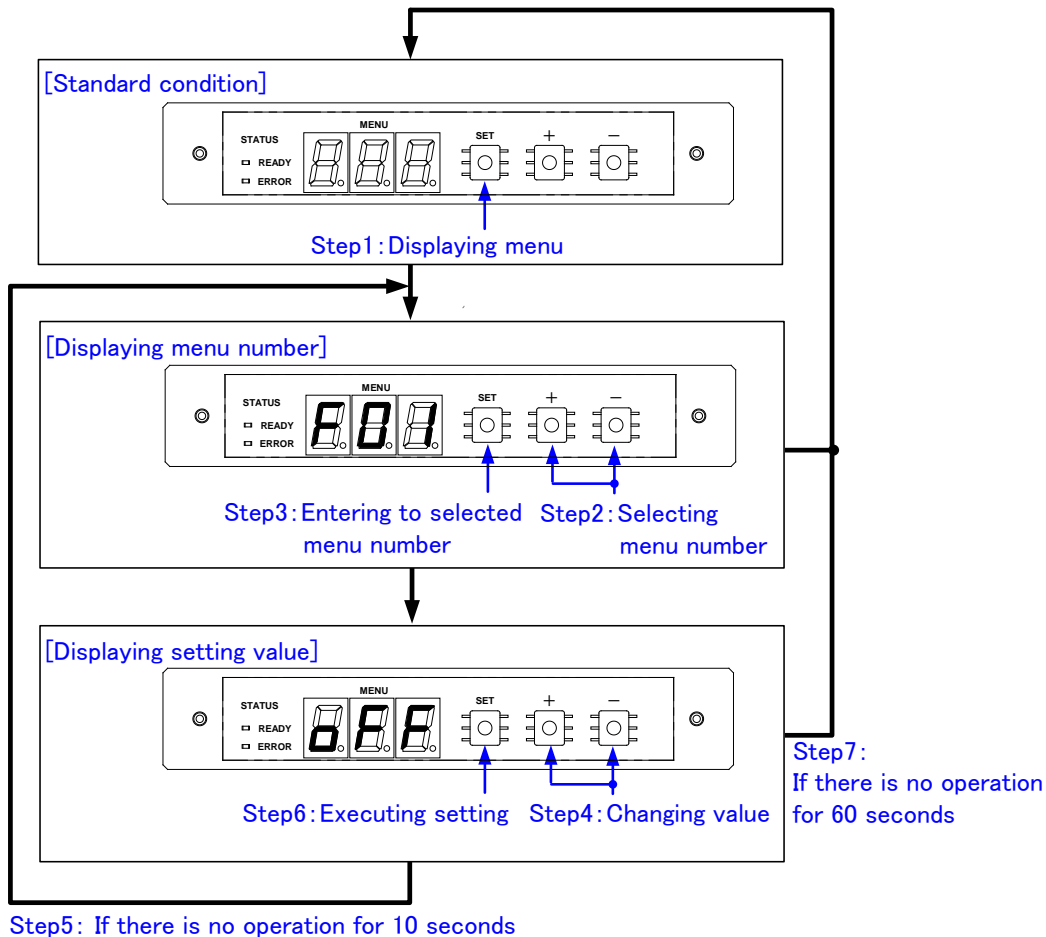
**[Table 7.1] Supported digital audio format**

Audio format	Details	Example of medias
2 channel liner PCM	2ch, 32 to 192 kHz, 16/20/24 bit	CD, DVD-Video, DVD-Audio
Multi channel liner PCM	8ch, 32 to 192 kHz, 16/20/24 bit	DVD-Audio
AC-3, Dolby Digital, DTS	Bit stream	DVD-Video
Dolby Digital+, DTS-HD, Dolby TrueHD	Bit stream	HD DVD, Blu-ray Disc
AAC	Bit stream	TV broadcast

# 8 Menus

## 8.1 Menu operation

- Step1: Press the “SET” key. The 7-SEGMENT LED display menu number.
- Step2: Select the menu number using the “+” and “-” keys.
- Step3: Press the “SET” key to apply the menu number.
- Step4: 7-SEGMENT LED displays current set value, and please set value using the “+” and “-” keys.
- Step5: If you do not press any keys for 10 seconds, the number is not applied and the segment display of the step 2 is displayed. You have to do the same operation from Step 2 again.
- Step6: Press the “SET” key. Then you go back to the menu selection. During the setting change execution, the unit stop its operation. As the result, the video and audio from output is stop until the process is done. If you have other setting to set, please repeat from Step2 to 6.
- Step7: If you do not operate anything for 60 seconds, 7-SEGMENT LED will be automatically OFF. When you start setting again please start from Step1.



[Fig. 8.1] Menu operation



## 8.2 Menu list

### 1) Standard menu

**[Table 8.1] Menu number (Standard menu)**

Type	Menu #	Functions	Page
Input	F01	[ F01 to F03 ] Copying EDID1	27
	F02	[ F01 to F03 ] Copying EDID2	27
	F03	[ F01 to F03 ] Copying EDID3	27
	F10	[ F10 ] Setting EDID resolution	29
	F12	[ F12 ] Setting external EDID	31
	F14	[ F14 ] setting Copy EDID	32
	F16	[ F16 ] Setting No-signal input monitoring time of Video signal	33
	F20	[ F20 ] Setting Deep Color	35
	F22	[ F22 ] Setting PCM Audio	36
	F24	[ F24 ] Setting AC-3 / Dolby Digital Audio	37
	F26	[ F26 ] Setting AAC Audio	38
	F28	[ F28 ] Setting Dolby Digital + Audio	39
	F30	[ F30 ] Setting DTS Audio	40
	F32	[ F32 ] Setting DTS-HD Audio	41
	F34	[ F34 ] Setting Dolby TrueHD Audio	42
	F36	[ F36 ] Setting Audio channel	43
F38	[ F38 ] Setting CEC physical address copy of EDID	45	
Output	F65	[ F65 to F69 ] Setting audio output HDC OUTPUT	46
	F66	[ F65 to F69 ] Setting audio output OUTPUT1	46
	F67	[ F65 to F69 ] Setting audio output OUTPUT2	46
	F68	[ F65 to F69 ] Setting audio output OUTPUT3	46
	F69	[ F65 to F69 ] Setting audio output OUTPUT4	46
Input	F75	[ F75 ] Selecting CEC	46
	F76	[ F76 ] Selecting EDID for WXGA	47
Others	F90	[ F90 ] Displaying firmware version	48
	F99	[ F99 ] Setting maintenance/status display menu	49

**[NOTE]** There are no F68 and F69 menu number on HDC-RH201. There are no F67, F68, and F69 menu number on HDC-RH101.

## 2) Maintenance menu

**[Table 8.2] Menu number (Maintenance menu)**

Type	Menu #	Functions	Page
Output	C01	[ C01 to C05] Setting forced output HDMI mode HDC OUTPUT	50
	C02	[ C01 to C05] Setting forced output HDMI mode OUTPUT1	50
	C03	[ C01 to C05] Setting forced output HDMI mode OUTPUT2	50
	C04	[ C01 to C05] Setting forced output HDMI mode OUTPUT3	50
	C05	[ C01 to C05] Setting forced output HDMI mode OUTPUT4	50
Input	C06	[ C06 ] Setting HDCP input	51
Output	C10	[ C10 ] Setting how long video output requests of sink device are ignored	52
	C55	[ C55 to C59 ] Setting output color conversion manually HDC OUTPUT	53
	C56	[ C55 to C59 ] Setting output color conversion manually OUTPUT1	53
	C57	[ C55 to C59 ] Setting output color conversion manually OUTPUT2	53
	C58	[ C55 to C59 ] Setting output color conversion manually OUTPUT3	53
	C59	[ C55 to C59 ] Setting output color conversion manually OUTPUT4	53

---

**【NOTE】** There are no C04, C05, C58, and C59 menu number on HDC-RH201. There are no C03, C04, C05, C57, C58, and C59 menu number on HDC-RH101.

---

## 3) Status display menu

**[Table 8.3] Menu number (Status menu)**

Menu #	Function	Page
L01 to L69	[ L01 to L69] Displaying status	54

### 8.3 [ F01 to F03 ] Copying EDID

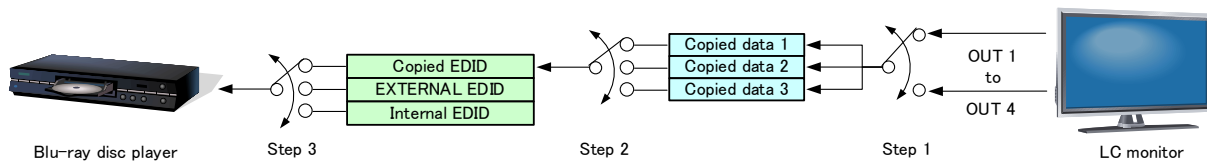
**Note:**

“[ ]” shows each menu number in this chapter.

EDID of sink devices can be read and stored, and the copied EDID can apply in the same way of internal EDID.

Registering EDID:

1. Save the sink device EDID to a Copy Data (1 to 3): Menu number [F01 to F03]
2. Select the copy data you want to use: Menu number [F14]
3. Select the Copy EDID: Menu number [F10]



[Fig. 8.2] Copying EDID

**Menu numbers**

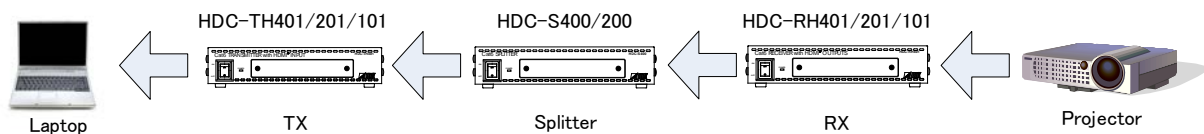
F01 to F03: Copied data 1 to 3

**Setting values**

- 01 to 02: HDC OUT to OUT1 (HDC-RH101) [Default] 01: HDC OUT
- 01 to 03: HDC OUT to OUT2 (HDC-RH201) [Default] 01: HDC OUT
- 01 to 05: HDC OUT to OUT4 (HDC-RH401) [Default] 01: HDC OUT

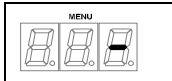
If cascade connection is employed, the source device will read the EDID of the source-device-side HDC. If two or more distributors are connected between a sink device and source device, follow the procedure below to read EDID data.

1. Copy the EDID of the sink device into the sink-device-side HDC-RHx01 unit and set it as “Copied EDID” or “EXTERNAL (External EDID)”.
2. Copy the EDID of the sink-device-side HDC-RHx01 into the HDC-Sx00 and set it as “Copied EDID” or “EXTERNAL (External EDID)”.
3. Copy the EDID of the HDC-Sx00 into the source-device-side HDC-THx01 and set it as “Copied EDID” or “EXTERNAL (External EDID)”.



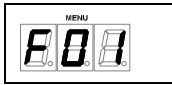
[Fig. 8.3] Reading EDID in cascade connection

•Setting by menu



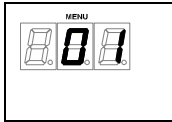
Normal condition (OFF)

↓ SET key



“-” “+” key EDID copy data1 → select F01  
EDID copy data2 → select F02, EDID copy data3 → select F03

↓ SET key

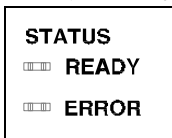


“-” “+” key select output connector [Default: 01: HDC OUTPUT]  
HDC OUTPUT → 01, OUTPUT1 → 02, OUTPUT2 → 03, OUTPUT3 → 04,  
OUTPUT4 → 05

※HDC-RH201 cannot select 04 and 05.

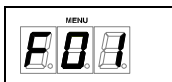
※HDC-RH101 cannot select 03, 04, and 05.

↓ SET key



During EDID copy is processing, READY LED is OFF. After copying is finished, the LED is ON.  
If there is connection error, error on reading EDID, error on writing EDID, or checksum error occurred, ERROR LED is ON. Please copy EDID again.

↓



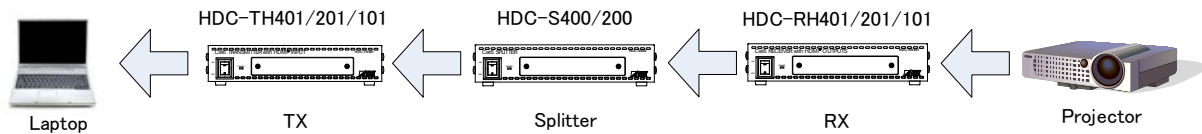
After processing, 7-SEGMENT LED goes back to menu.

## 8.4 [ F10 ] Setting EDID resolution

You can set the EDID to be sent to the source device:

In order to use a built-in EDID (setting values “03” to “28”), set the maximum resolution supported by the sink device using setting values “03” to “28”.

If cascade connection is employed, the source device will read the EDID of the source-device-side HDC.



[Fig. 8.4] Reading EDID

### Setting values

[Table 8.4] he maximum resolution of EDID

Setting values	Maximum resolution	Pixel	Standard	Remarks
1	EXTERNAL (External EDID)	-	-	If no collected data, its default is 03.
2	Copy EDID	-	-	If no collected data, its default is 03.
3	1080p (59.94 / 60)	1920×1080	HDTV	[Default]
4	720p	1280×720	HDTV	
5	1080i	1920×1080	HDTV	
6	1080p (24 / 25 / 30 / 50)	1920×1080	HDTV	
7	SVGA	800×600	VESA	
8	XGA	1024×768	VESA	
9	VESA720	1280×720	CVT	(For DVI device input)
10	WXGA	1280×768	VESA	
11	WXGA	1280×800	VESA	(For MAC)
12	Quad-VGA	1280×960	VESA	
13	SXGA	1280×1024	VESA	
14	WXGA	1360×768 1366×768	VESA	Selected resolution in “8.20 [ F76] Selecting EDID for WXGA” is applied.
15	SXGA+	1400×1050	VESA	
16	WXGA+	1440×900	VESA	
17	WXGA++	1600×900	VESA	(Reduced Blanking)
18	UXGA	1600×1200	VESA	
19	WSXGA+	1680×1050	VESA	
20	VESA1080	1920×1080	CVT	(For DVI device input) (Reduced Blanking)
21	WUXGA	1920×1200	VESA	(Reduced Blanking)
22	QWXGA	2048×1152	VESA	(Reduced Blanking)

**[Table 8.5] The maximum resolution and EDID supported pixels**

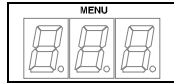
S: Supported, N: Not supported, -: Not used

(EDID supported) Pixels Max. resolution		640	800	1024	1280	1280	1280	1280	1280	1360	1366	1400	1440	1600	1600	1680	1920	1920	2048
		x 480	x 600	x 768	x 720	x 768	x 800	x 960	x 1024	x 768 *	x 768 *	x 1050	x 900	x 900	x 1200	x 1050	x 1080	x 1200	x 1152
01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
03	1080p(59.94/60)	S	S	S	N	N	S	S	S	S	S	S	S	S	S	S	S	N	N
04	720p	S	S	N	S	N	N	N	N	N	N	N	N	N	N	N	N	N	N
05	1080i	S	S	S	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
06	1080p (24/25/30/50)	S	S	S	N	N	S	S	S	S	S	S	S	S	S	S	S	N	N
07	800x600	S	S	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
08	1024x768	S	S	S	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
09	1280x720	S	S	S	S	N	N	N	N	N	N	N	N	N	N	N	N	N	N
10	1280x768	S	S	S	S	S	N	N	N	N	N	N	N	N	N	N	N	N	N
11	1280x800	S	S	S	S	S	S	N	N	N	N	N	N	N	N	N	N	N	N
12	1280x960	S	S	S	S	S	S	S	N	N	N	N	N	N	N	N	N	N	N
13	1280x1024	S	S	S	S	S	S	S	S	N	N	N	N	N	N	N	N	N	N
14	1360x768	S	S	S	S	S	S	S	S	S	S	N	N	N	N	N	N	N	N
15	1400x1050	S	S	S	S	N	S	S	S	S	S	S	N	N	N	N	N	N	N
16	1440x900	S	S	S	S	N	S	S	S	S	S	S	S	N	N	N	N	N	N
17	1600x900	S	S	S	S	N	S	S	S	S	S	S	S	S	N	N	N	N	N
18	1600x1200	S	S	S	S	N	S	S	S	S	S	S	S	S	S	N	N	N	N
19	1680x1050	S	S	S	S	N	S	S	S	S	S	S	S	S	S	S	N	N	N
20	1920x1080	S	S	S	N	N	S	S	S	S	S	S	S	S	S	S	S	N	N
21	1920x1200	S	S	S	N	N	S	S	S	N	N	S	S	S	S	S	S	S	N
22	2048x1152	S	S	S	N	N	N	S	S	N	N	S	S	S	S	S	S	S	S

\* The number of pixels for 1360x768 and 1366x768 can be set in “8.20 [ F76] Selecting EDID for WXGA P.47”

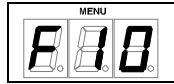
The default value is 1360x768.

•Setting by menu



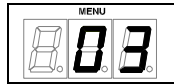
Normal condition (OFF)

↓ SET key



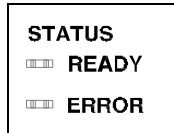
“-” “+” key set INPUT EDID → select F10

↓ SET key



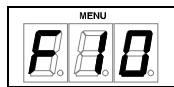
“-” “+” key select EDID number which you want to set. [Default: 3: 1080p]

↓ SET key



During EDID copy is processing, READY LED is OFF. After copying is finished, the LED is ON. If there is connection error, error on reading EDID, error on writing EDID, or checksum error occurred, ERROR LED is ON. Please copy EDID again.

↓

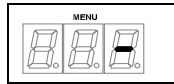


After processing, 7-SEGMENT LED goes back to menu.

## 8.5 [ F12 ] Setting external EDID

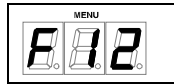
**Note:** Set this menu before setting the EDID resolution to “EXTERNAL (External EDID)”.

•Setting by menu



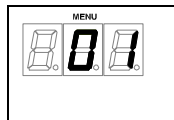
Normal condition (OFF)

↓ SET key



“-” “+” key setting INPUT external EDID → select F12

↓ SET key

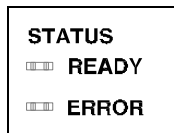


“-” “+” key select output connector [Default: 01: HDC OUTPUT]  
 HDC OUTPUT → 01, OUTPUT1 → 02, OUTPUT2 → 03, OUTPUT3 → 04,  
 OUTPUT4 → 05

※HDC-RH201 cannot select 04 and 05.

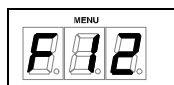
※HDC-RH101 cannot select 03, 04, and 05.

↓ SET key



During EDID copy is processing, READY LED is OFF. After copying is finished, the LED is ON. If there is connection error, error on reading EDID, error on writing EDID, or checksum error occurred, ERROR LED is ON. Please copy EDID again.

↓

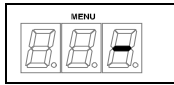


After processing, 7-SEGMENT LED goes back to menu.

## 8.6 [ F14 ] setting Copy EDID

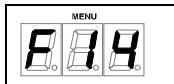
**Note:** Set this menu before setting the EDID resolution to "Copy EDID".

### Setting by men



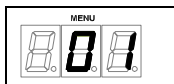
Normal condition (OFF)

↓ SET key



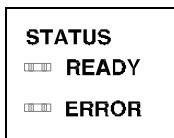
"-" "+" key setting INPUT copy EDID → select F14

↓ SET key



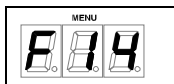
"-" "+" key Copied EDID data number [Default: 01]  
 Copied EDID data number (Copied by F01) → 01  
 Copied EDID data number (Copied by F02) → 02  
 Copied EDID data number (Copied by F03) → 03

↓ SET key



During EDID copy is processing, READY LED is OFF. After copying is finished, the LED is ON.  
 If there is connection error, error on reading EDID, error on writing EDID, or checksum error occurred, ERROR LED is ON. Please copy EDID again.

↓



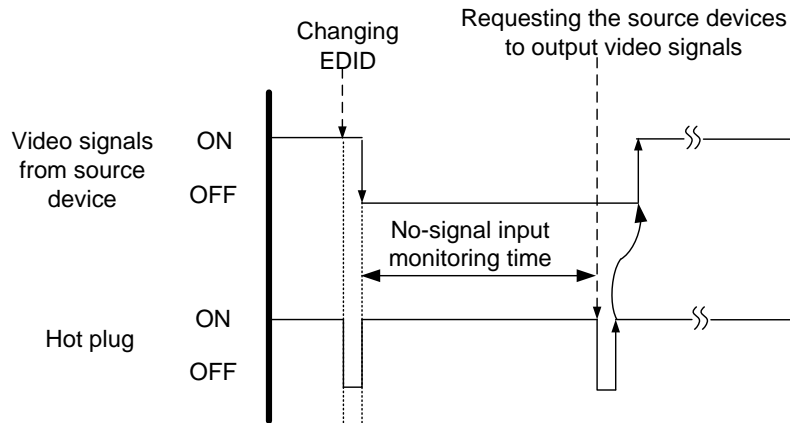
After processing, 7-SEGMENT LED goes back to menu.



## 8.7 [ F16 ] Setting No-signal input monitoring time of Video signal

If you change EDID of the HDC or turn on/off the HDC, the source devices may not output video signals. In this menu, you can set the monitoring time.

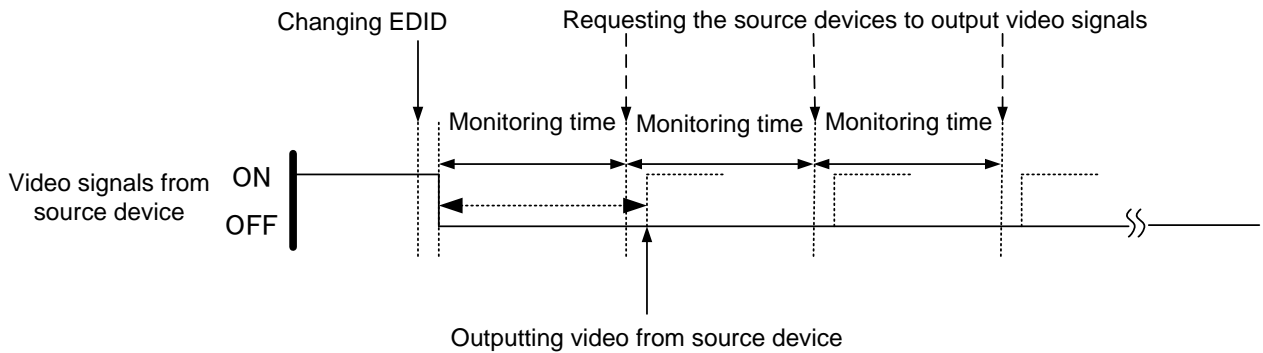
- No-signal input monitoring time (OFF, 2 to 15 seconds [Default: 10 seconds])



[Fig. 8.5] No-signal input monitoring time

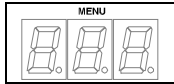
**Notes:**

- If you use the power saving or Dual monitor function of the PC (Source device), set this menu to “OFF”. When a PC is requested to output video signals, the PC may cancel those functions.
- If you set the time that is shorter than the output timing, the source device repeats reprocessing of output video signals. In this case, change the time to longer.



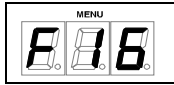
[Fig. 8.6] Repeating output signal setting

•Setting by menu



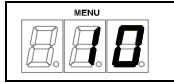
Normal condition (OFF)

↓ SET key



“-” “+” key setting INPUT no-signal input monitoring time → select F16

↓ SET key



“-” “+” key select no-signal input monitoring time [Default: 10 seconds]  
OFF, 2 to 15: 2 seconds to 15 seconds

↓ SET key



After processing, 7-SEGMENT LED goes back to menu.

## 8.8 [ F20 ] Setting Deep Color

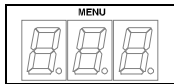
You can set the Deep Color (color depth) that is output from the source device.

- 08: 24bit/pixel (8bit/component) [Default]
- 10: 30bit/pixel (10bit/component)
- 12: 36bit/pixel (12bit/component)

### Notes:

- If you select “30bit/pixel (10bit/component)” or “36bit/pixel (12bit/component)”, the transmission clock will be faster resulting in noise on video when a poor-quality cable or long cable is connected. In this case, change the setting to “24bit/pixel (8bit/component)”.
- This is enabled only if one of 03 to 22 is selected for the EDID resolution.

#### •Setting by menu



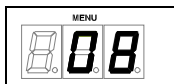
Normal condition (OFF)

↓ SET key



“-” “+” key set INPUT Deep Color → select F20

↓ SET key



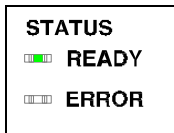
“-” “+” key set Deep Color [Default: 08: 8bit/component (24bit/pixel )]

08: 8bit/component ( 24bit/pixel )

10: 10bit/component ( 30bit/pixel )

12: 12bit/component ( 36bit/pixel )

↓



During Deep Color setting is processing, READY LED is OFF. After setting is finished, the LED is ON.

↓



After processing, 7-SEGMENT LED goes back to menu.

## 8.9 [ F22 ] Setting PCM Audio

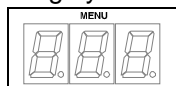
You can set the maximum sampling frequency of PCM Audio that is output from the source device.

- 32: 32 kHz
- 44: 44.1 kHz
- 48: 48 kHz [Default]
- 88: 88.2 kHz
- 96: 96 kHz
- 192: 192 kHz

**Notes:**

- Some LCD monitors do not support some audio formats. Select the audio format and sampling frequency supported by your devices.
- This is enabled only if one of 03 to 22 is selected for the resolution setting of EDID.

• Setting by menu



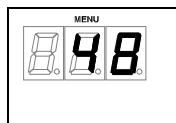
Normal condition (OFF)

↓ SET key



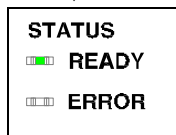
“-” “+” key set INPUT PCM audio → select F22

↓ SET key



“-” “+” key set PCM Audio [Default: 48: 48 kHz]  
 32: 32 kHz 44: 44.1 kHz 48: 48 kHz 88: 88.2 kHz 96: 96 kHz  
 192: 192 kHz

↓



During PCM Audio setting is processing, READY LED is OFF. After setting is finished, the LED is ON.

↓



After processing, 7-SEGMENT LED goes back to menu.

## 8.10[ F24 ] Setting AC-3 / Dolby Digital Audio

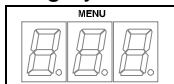
You can set the maximum sampling frequency of AAC Audio that is output from the source device.

- 32: 32 kHz
- 44: 44.1 kHz
- 48: 48 kHz
- 88: 88.2 kHz
- 96: 96 kHz
- oFF: OFF [Default]

**Notes:**

- Some LCD monitors do not support some audio formats. Select the audio format and sampling frequency supported by your device.
- This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

•Setting by menu



Normal condition (OFF)

↓ SET key



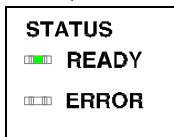
“-” “+” key set INPUT AC-3 / Dolbu Digital Audio → select F24

↓ SET key



“-” “+” key set AC-3 / Dolby Digital Audio [Default: OFF]  
OFF 32: 32 kHz 44: 44.1 kHz 48: 48 kHz

↓



During AC-3/Dolby Digital Audio setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓



After processing, 7-SEGMENT LED goes back to menu.

## 8.11 [ F26 ] Setting AAC Audio

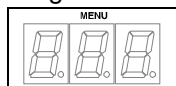
You can set the maximum sampling frequency of AAC Audio that is output from the source device.

- 32: 32 kHz
- 44: 44.1 kHz
- 48: 48 kHz
- 88: 88.2 kHz
- 96: 96 kHz
- oFF: OFF [Default]

**Notes:**

- Some LCD monitors do not support some audio formats. Select the audio format and sampling frequency supported by your device.
- This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

•Setting menu



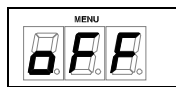
Normal condition (OFF)

↓ SET key



“-” “+” key set INPUT AAC Audio → select F26

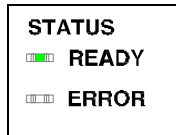
↓ SET key



“-” “+” key set AAC Audio [Default: OFF]

OFF 32: 32 kHz 44: 44.1 kHz 48: 48 kHz 88: 88.2 kHz 96: 96kHz

↓



During AAC Audio setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓



After processing, 7-SEGMENT LED goes back to menu.

## 8.12[ F28 ] Setting Dolby Digital + Audio

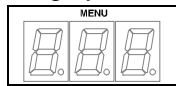
You can set the maximum sampling frequency of Dolby Digital Plus Audio that is output from the source device.

- 32: 32 kHz
- 44: 44.1 kHz
- 48: 48 kHz
- oFF: OFF [Default]

### Notes:

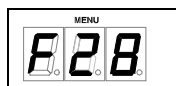
- Some LCD monitors do not support some audio formats. Select the audio format and sampling frequency supported by your device.
- This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

### •Setting by menu



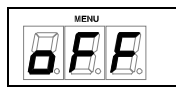
Normal condition (OFF)

↓ SET key



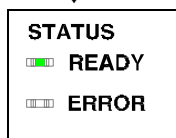
“-” “+” key set INPUT Dolby Digital + Audio → select F28

↓ SET key



“-” “+” key set Dolby Digital + Audio [Default: OFF]  
OFF 32: 32 kHz 44: 44.1 kHz 48: 48 kHz

↓



During Dolby Digital + Audio setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓



After processing, 7-SEGMENT LED goes back to menu.

## 8.13[ F30 ] Setting DTS Audio

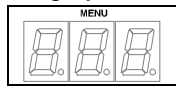
You can set the maximum sampling frequency of DTS Audio that is output from the source device.

- 32: 32 kHz
- 44: 44.1 kHz
- 48: 48 kHz
- 96: 96 kHz
- oFF: OFF [Default]

### Notes:

- Some LCD monitors do not support some audio formats. Select the audio format and sampling frequency supported by your device.
- This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

#### •Setting by menu



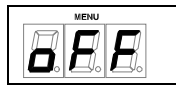
Normal condition (OFF)

↓ SET key



“-” “+” key set INPUT DTS Audio → select F30

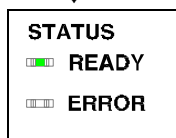
↓ SET key



“-” “+” key set DTS Audio [Default: OFF]

OFF 32: 32 kHz 44: 44.1 kHz 48: 48 kHz 96: 96kHz

↓



During DTS Audio setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓



After processing, 7-SEGMENT LED goes back to menu.



## 8.14[ F32 ] Setting DTS-HD Audio

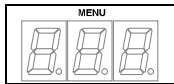
You can set the maximum sampling frequency of DTS-HD Audio that is output from the source device.

- 44: 44.1 kHz
- 48: 48 kHz
- 88: 88.2 kHz
- 96: 96 kHz
- 176: 176.4 kHz
- 192: 192 kHz
- oFF: OFF [Default]

### Notes:

- Some LCD monitors do not support some audio formats. Select the audio format and sampling frequency supported by your device.
- This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

#### •Setting by menu



Normal condition (OFF)

↓ SET key



“-” “+” key set INPUT DTS-HD Audio → select F32

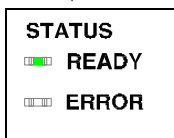
↓ SET key



“-” “+” key set DTS-HD Audio [Default: OFF]

OFF 44: 44.1 kHz 48: 48 kHz 88: 88.2 kHz 96 96kHz  
176: 176.4 kHz 192: 192 kHz

↓



During DTS-HD Audio setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓



After processing, 7-SEGMENT LED goes back to menu.

## 8.15[ F34 ] Setting Dolby TrueHD Audio

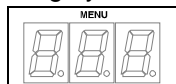
You can set the maximum sampling frequency of Dolby TrueHD Audio that is output from the source device.

- 44: 44.1 kHz
- 48: 48 kHz
- 88: 88.2 kHz
- 96: 96 kHz
- 176: 176.4 kHz
- 192: 192 kHz
- oFF: OFF [Default]

**Notes:**

- Some LCD monitors do not support some audio formats. Select the audio format and sampling frequency supported by your device.
- This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

•Setting by menu



Normal condition (OFF)

↓ SET key



“-” “+” key set INPUT Dolby TrueHD Audio → select F34

↓ SET key



“-” “+” key set Dolby TrueHD Audio [Default: OFF]  
 OFF 44: 44.1 kHz 48: 48 kHz 88: 88.2 kHz 96: 96kHz  
 176: 176.4 kHz 192: 192 kHz

↓



During Dolby TrueHD Audio setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓



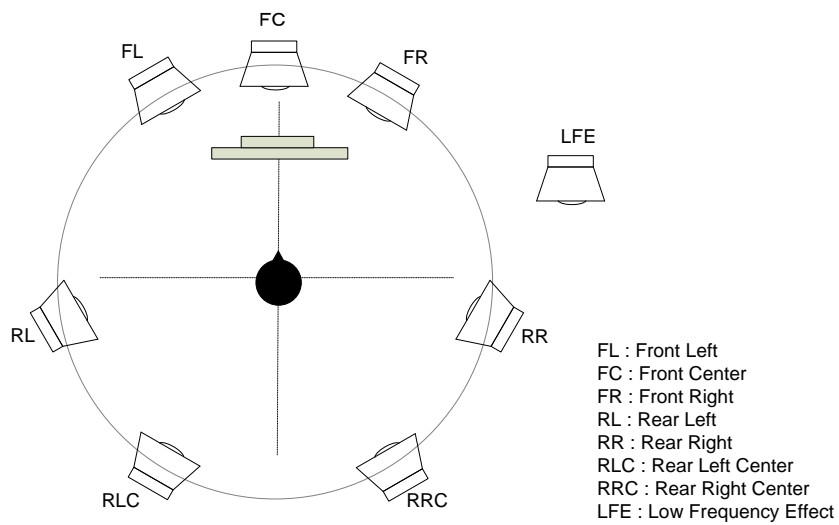
After processing, 7-SEGMENT LED goes back to menu.

## 8.16[ F36 ] Setting Audio channel

You can set the number of channels for the multiple channel audio that is output from the source device.

- 02:2 channels [Default]
- 03:3 channels (2.1channels)
- 06:6 channels (5.1channels)
- 08:8 channels (7.1channels)

■ The number of channels and speaker configuration

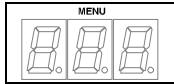


Speakers	FL/FR	LFE	FC	RL/RR	RLC/RRC
2 (2 channels)	ON	OFF	OFF	OFF	OFF
3 (2.1 channels)	ON	ON	OFF	OFF	OFF
6 (5.1 channels)	ON	ON	ON	ON	OFF
8 (7.1 channels)	ON	ON	ON	ON	ON

[Fig. 8.7] The number of channels and speaker configuration

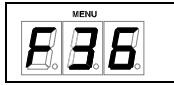
**Note:** This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

• Setting by menu



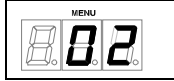
Normal condition (OFF)

↓ SET key



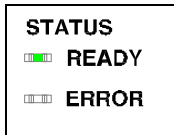
“-” “+” key set INPUT audio channel → select F36

↓ SET key



“-” “+” key set the number of speakers [Default: 2: 2ch]  
 2: 2ch 3: 3 (2.1)ch 6: 6 (5.1)ch 8: 8 (7.1)ch

↓



During Audio channel setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓



After processing, 7-SEGMENT LED goes back to menu.

## 8.17[ F38 ] Setting CEC physical address copy of EDID

CEC: Pass through between IN and HDC OUTPUT.

The CEC physical address of the sink device that is connected to HDC OUTPUT into the EDID of IN. can be copied

If the CEC physical address of the connected sink device and the HDC'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 HDC.

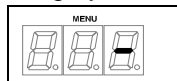
on: Copy physical address

oFF: Not copy physical address [Default]

### Notes:

- This is enabled if CEC-supported source and sink devices are connected and one of 03 to 22 is selected for resolution setting of EDID.
- CEC system link functions supported by other companies are not guaranteed to work correctly by this setting. Check the actual configuration.

#### • Setting by menu



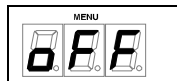
Normal condition (OFF)

↓ SET key



“-” “+” key set INPUT EDID physical address copying → select F38

↓ SET key



“-” “+” key set Copy physical address [Default: OFF]

OFF : EDID physical address copy OFF ON : EDID physical address copy ON

↓



During EDID physical address copying is processing, READY LED is OFF. After setting is finished, the LED is ON

↓

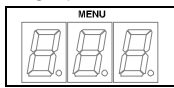


After processing, 7-SEGMENT LED goes back to menu.

## 8.18[ F65 to F69 ] Setting audio output ON/OFF

You can set audio output ON/OFF for each output connector.

•Setting by menu



Normal condition (OFF)

↓ SET key



“-” “+” key select output connector which you want to set output audio ON/OFF

HDC OUTPUT → select F65

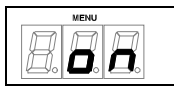
OUTPUT1 → select F66, OUTPUT2 → select F67

OUTPUT3 → select F68, OUTPUT4 → select F69

※HDC-RH201 does not have F68 and F69 menu.

※HDC-RH101 does not have F67, F68, and F69 menu.

↓ SET key



“-” “+” key set audio output ON/OFF [Default: ON]

OFF: No audio output ON: audio output

↓ SET key

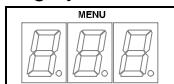


After processing, 7-SEGMENT LED goes back to menu.

## 8.19[ F75 ] Selecting CEC

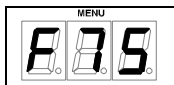
You can set wwhich output connector is connected to input for CECr.

•Setting by menu



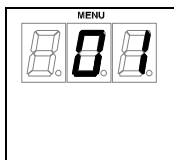
Normal condition (OFF)

↓ SET key



“-” “+” key set CEC connection → select F75

↓ SET key



“-” “+” key select output connector which is connected to input for CEC

[Default: 01: HDC OUTPUT]

HDC OUTPUT → 01, OUTPUT1 → 02,

OUTPUT2 → 03, OUTPUT3 → 04, OUTPUT4 → 05

OFF → no connection

※HDC-RH201 cannot select 04 and 05

※HDC-RH101 cannot select 03, 04, and 05

↓ SET key



After processing, 7-SEGMENT LED goes back to menu.

## 8.20[ F76] Selecting EDID for WXGA

You can set the number of WXGA pixels based on the resolution setting of EDID.

on: 1366x768

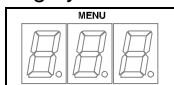
oFF: 1360x768 [Default]

**Note:** This is enabled only if one of 03 to 22 is selected for resolution setting of EDID.

[Table 8.6] EDID value which is able to enable WXGA

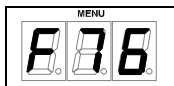
Set value	Resolution	Pixels	Standard	Remarks
3	1080p (59.94 / 60)	1920x1080	HDTV	[Default]
6	1080p (24 / 25 / 30 / 50)	1920x1080	HDTV	
14	WXGA	1360x768 1366x768	VESA	
15	SXGA+	1400x1050	VESA	
16	WXGA+	1440x900	VESA	
17	WXGA++	1600x900	VESA	(Reduced Blanking)
18	UXGA	1600x1200	VESA	
19	WSXGA+	1680x1050	VESA	
20	VESA1080	1920x1080	CVT	(For DVI input device) (Reduced Blanking)

•Setting by menu



Normal condition (OFF)

↓ SET key



“-” “+” key set INPUT EDID WXGA → select F76

↓ SET key



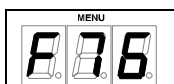
“-” “+” key select pixels [Default: 1360x768]  
OFF:1360x768 ON:1366x768

↓



During EDID WXGA setting is processing, READY LED is OFF. After setting is finished, the LED is ON

↓

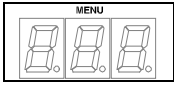


After processing, 7-SEGMENT LED goes back to menu.

## 8.21 [ F90 ] Displaying firmware version

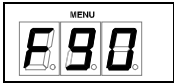
---

### • Displaying by menu



Normal condition (OFF)

↓ SET key



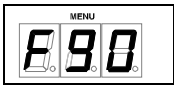
“-” “+” key displaying firmware version → select F90

↓ SET key



Displaying firmware version (Ex: 1.00)

↓ SET key



After processing, 7-SEGMENT LED goes back to menu.



## 8.22[ F99 ] Setting maintenance/status display menu

### 1) Maintenance menu

[Table 8.7] Menu number (Maintenance menu)

Type	Menu #	Function	Page
Output	C01	[ C01 to C05] Setting forced output HDMI mode HDC OUTPUT	50
	C02	[ C01 to C05] Setting forced output HDMI mode OUTPUT1	50
	C03	[ C01 to C05] Setting forced output HDMI mode OUTPUT2	50
	C04	[ C01 to C05] Setting forced output HDMI mode OUTPUT3	50
	C05	[ C01 to C05] Setting forced output HDMI mode OUTPUT4	50
Input	C06	[ C06 ] Setting HDCP input	51
Output	C10	[ C10 ] Setting how long video output requests of sink device are ignored	52
	C55	[ C55 to C59 ] Setting output color conversion manually HDC OUTPUT	53
	C56	[ C55 to C59 ] Setting output color conversion manually OUTPUT1	53
	C57	[ C55 to C59 ] Setting output color conversion manually OUTPUT2	53
	C58	[ C55 to C59 ] Setting output color conversion manually OUTPUT3	53
	C59	[ C55 to C59 ] Setting output color conversion manually OUTPUT4	53

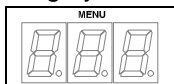
[NOTE] There are no C04, C05, C58, and C59 menu number on HDC-RH201. There are no C03, C04, C05, C57, C58, and C59 menu number on HDC-RH101.

### 2) Status display menu

[Table 8.8] Menu number (Status menu)

Menu #	Function	Page
L01 to L69	[ L01 to L69] Displaying status	54

#### • Setting by menu



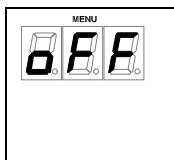
Normal condition (OFF)

↓ SET key



“-” “+” key Display mentenance menu → select F99

↓ SET key



“-” “+” key Select mentenance menu displaying [Default: OFF]  
 OFF: No displaying  
 ON: Displaying (After reboot the unit it turns to OFF)/  
 ALL: Displaying (Always ON)

↓ SET key

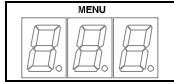


After processing, 7-SEGMENT LED goes back to menu.

## 8.23[ C01 to C05] Setting forced output HDMI mode

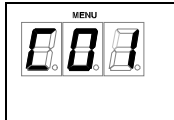
In order to output signals, the HDC acquires EDID from the sink device to determine if the sink device is using HDMI or DVI signals. If the sink device cannot do it for any reason, problems will occur (for example, audio cannot be output). In such a case, use the forced HDMI mode to output signals.

### • Setting by menu



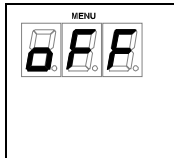
Normal condition (OFF)

↓ SET key



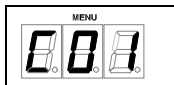
“-” “+” key    Select output connector  
 HDC OUTPUT → select C01,  
 OUTPUT1 → select C02, OUTPUT2 → select C03  
 OUTPUT3 → select C04, OUTPUT4 → select C05  
 ※HDC-RH201 cannot select C04 and C05.  
 ※HDC-RH101 cannot select C03, C04, and C05.

↓ SET key



“-” “+” key    Select forced output HDMI mode    [Default: OFF]  
 OFF: Normal operation  
 ERR: When EDID read error happens output HDMI  
 ALL: Always output HDMI output

↓ SET key

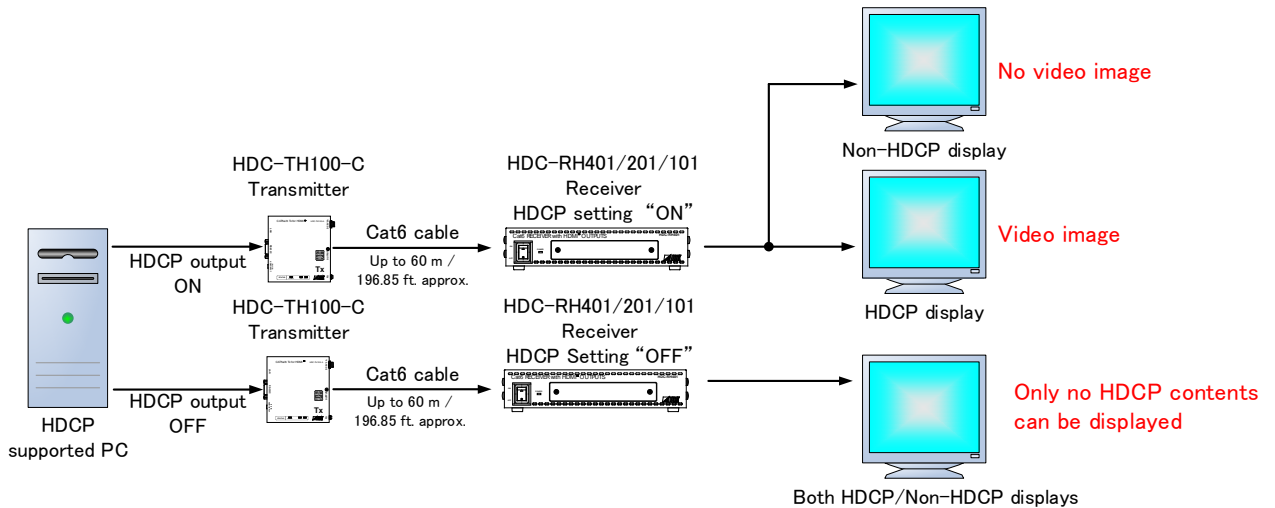


After processing, 7-SEGMENT LED goes back to menu.

## 8.24[ C06 ] Setting HDCP input

Some source devices check whether the connected device supports HDCP and then those source devices decide whether they encrypt HDCP signals or not.

Since the HDC is HDCP compliant, if it is connected to a display device that does not support HDCP, video may not be displayed. In these cases, the problem can be solved by setting this menu to “off”.



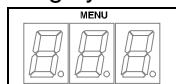
[Fig 8.8] HDCP-supported and HDCP-non-supported display devices

on: Enable HDCP encryption [Default]

off: Disable HDCP encryption

**Note:** In order to display video whose copyright is protected, set this menu to “on”.

### •Setting by menu



Normal condition (OFF)

↓ SET key



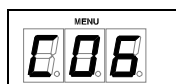
“-” “+” key set INPUTHDCP setting → select C06

↓ SET key



“-” “+” key select RX HDCP setting [Default: ON]  
OFF:HDCP not supported / ON:HDCP supported

↓ SET key

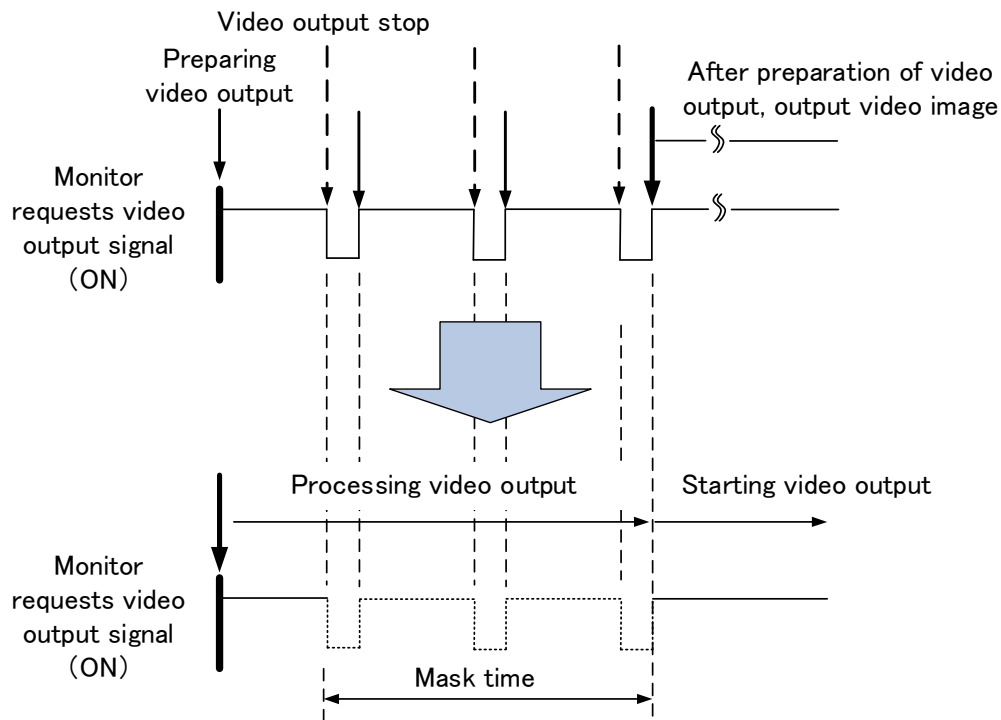


After processing, 7-SEGMENT LED goes back to menu.

## 8.25[ C10 ] Setting how long video output requests of sink device are ignored

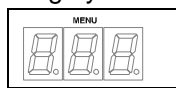
You can set how long signals for requesting video output that are sent from the sink device are ignored. If those signals are repeatedly sent from the sink device within a short cycle, the HDC tries to set the video output every time. Video can be output correctly by setting this menu.

oFF: No masking [Default]  
 02 to 15:2 to 15 [sec.]



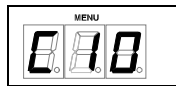
[Fig 8.9] Hot plug off mask setting

• Setting by menu



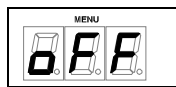
Normal condition (OFF)

↓ SET key



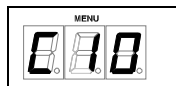
“-” “+” key set Hot plug off mask setting → select C10

↓ SET key



“-” “+” key set Hot plug off mask setting [Default: OFF]  
 OFF, 2 to 15: 2 seconds to 15 seconds

↓ SET key



After processing, 7-SEGMENT LED goes back to menu.

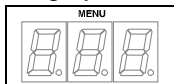
## 8.26[ C55 to C59 ] Setting output color conversion manually

You can set the color space that will be sent to the sink device

The sink device automatically selects the appropriate color space according to the color space of the input video. If the sink device cannot do it for any reason, you can select the color space manually.

rgb: RGB output  
 422: YCbCr422 output  
 444: YCbCr444 output  
 d: DVI output  
 oFF: Automatic [Default]

### •Setting by menu



Normal condition (OFF)

↓ SET key



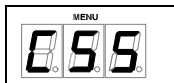
“-” “+” key Select output connector  
 HDC OUTPUT → select C55  
 OUTPUT1 → select C56, OUTPUT2 → select C57  
 OUTPUT3 → select C58, OUTPUT4 → select C59  
 ※HDC-RH201 cannot select C58 and C59.  
 ※HDC-RH101 cannot select C57, C58, and C59

↓ SET key



“-” “+” key Select output color space for each connector [Default: OFF]  
 OFF: Auto / rgb: RGB / 422: YCbCr422 / 444: YCbCr444 / d: DVI

↓ SET key

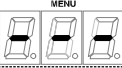


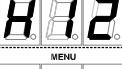

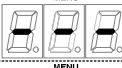
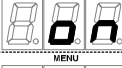

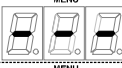
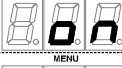

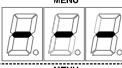



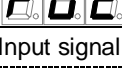

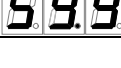


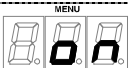

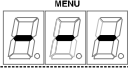
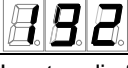
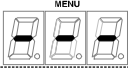

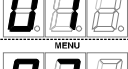







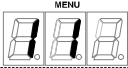



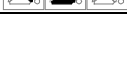


After processing, 7-SEGMENT LED goes back to menu.

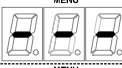
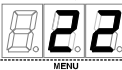
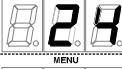







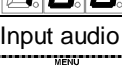
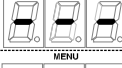


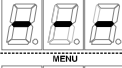






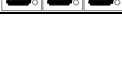
## 8.27[ L01 to L69] Displaying status

The status display menus can be operated if [F99] is set to “on” (Display) or “ALL” (Always display). Press the “SET” key to exit the operation.

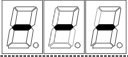




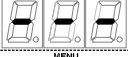



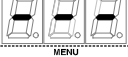


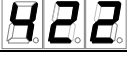
[Table 8.9] Menu number (Status menu)







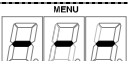



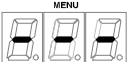



Type	Menu #	Function
Input	L01	HDMI mode / DVI mode and color bit of input signal
		 No input
		 HDMI mode 8 bit
		 HDMI mode 10 bit
		 HDMI mode 12 bit
	 DVI mode 8 bit	
	L02	HDCP status of input signal
		 No input
		 Input signal has HDCP
	 Input signal does not have HDCP	
	L03	HDCP authentication sutatus (suthentifiacion from source)
		 No input
		 Authentication
	 No authentication	
	L04	RGB/YCbCr of input signal
		 No input signal
		 RGB
		 YCbCr 444
		 YCbCr 422
	 For future use (not used)	
	L05	Input signal frequency
 No input		
 59.9Hz		



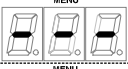
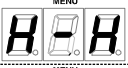
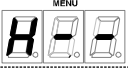
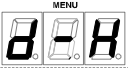
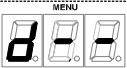
Type	Menu #	Function
Input	L06	DDC power input status
		 DDC power is on  No DDC power input
	L07	Input timing
		 No input  Input resolution
	L10	Input audio format
		 Unknown or no input  Unknown  PCM Audio  AC-3 Audio  MPEG-1 Audio  MP3 Audio  MPEG-2 Audio  AACLC Audio  DTS Audio  ATRAC Audio  DSD Audio  Dolby Digital + Audio  DTS-HD Audi  Dolby TrueHD Audio  DST Audio  WMA Audio  HE-AAC/HE-AACv2/MPEG Surround Audio

Type	Menu #	Function
Input	L11	Input audio frequency
		 No audio input
		 22.05kHz
		 24kHz
		 32kHz
		 44.1kHz
		 48kHz
		 88.2kHz
		 96kHz
		 176.4kHz
		 192kHz
		 768kHz
	L12	Input audio bit, HBR mode
		 No input
		 HBR mode, 24 bit
	 PCM mode, 24 bit	
	L13	Input audio status
		 No input
		 No audio input
		 Searching input signal
		 Searching input signal
		 Searching input signal
		 Searching input signal
		 Searching input signal
	 Correct input signal	



Type	Menu #	Function
Output	L30 to L34	Connected monitor's Deep Color support HDMI OUTPUT → L30, OUTPUT1 → L31, OUTPUT2 → L32, OUTPUT3 → L33, OUTPUT4 → L34 ※HDC-TH201 does not have L33 and L34. ※HDC-TH101 does not have L32, L33, and L34
		 No connection or monitor's EDID read error
		 8 bit
		 10 bit
		 12 bit
		 16 bit
		L35 to L39
	 No connection or monitor's EDID read error	
	 HDMI mode (compressed audio supported)	
	 HDMI mode (PCM audio supported)	
	 DVI mode (audio is not supported)	
	L40 to L44	Connected monitor's RGB/YCbCr support HDMI OUTPUT → L40, OUTPUT1 → L41, OUTPUT2 → L42, OUTPUT3 → L43, OUTPUT4 → L44 ※HDC-TH201 does not have L43 and L44. ※HDC-TH101 does not have L42, L43, and L44
		 No connection or monitor's EDID read error
		 RGB supported monitor
		 RGB, YCbCr 444 / 422 supported monitor
		 RGB, YCbCr 422 supported monitor

Type	Menu #	Function
output	L45 to L49	HDCP status between connected monitor HDMI OUTPUT → L45, OUTPUT1 → L46, OUTPUT2 → L47, OUTPUT3 → L48, OUTPUT4 → L49 ※HDC-TH201 does not have L48 and L49 ※HDC-TH101 does not have L47, L48, and L49
		 No
		 Authentication is processing
		 Authentication is processing
		 Authentication is processing
		 Authentication is done
		 Authentication is done with error
	L50 to L54	RGB / YCbCr output status HDMI OUTPUT → L50, OUTPUT1 → L51, OUTPUT2 → L52, OUTPUT3 → L53, OUTPUT4 → L54 ※HDC-TH201 does not have L53 and L54 ※HDC-TH101 does not have L52, L53, and L54
		 Not connected
		 RGB output
		 YCbCr 444 output
		 YCbCr 422 output
	L55 to L59	Connected monitor's HDCP support HDMI OUTPUT → L55, OUTPUT1 → L56, OUTPUT2 → L57, OUTPUT3 → L58, OUTPUT4 → L59 ※HDC-TH201 does not have L58 and L59 ※HDC-TH101 does not have L57, L58, and L59
		 No connection or monitor's EDID read error
		 HDCP supported
		 HDCP not supported
		 EDID read error

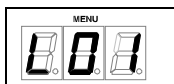
Type	Menu #	Function
Output	L60 to L64	Hot plug detect between monitor
		HDMI OUTPUT → L60, OUTPUT1 → L61, OUTPUT2 → L62, OUTPUT3 → L63, OUTPUT4 → L64 ※HDC-TH201 does not have L63 and L64 ※HDC-TH101 does not have L62, L63, and L64
		 Hot plug detected
		 No hot plug detected
	L65 to L69	HDMI / DVI mode, HDCP output status
		HDMI OUTPUT → L65, OUTPUT1 → L66, OUTPUT2 → L67, OUTPUT3 → L68, OUTPUT4 → L69 ※HDC-TH201 does not have L68 and L69. ※HDC-TH101 does not have L67, L68, and L69
		 No connection
		 HDMI mode output with HDCP
		 HDMI mode output without HDCP
		 DVI mode output with HDCP
 DVI mode output without HDCP		

• Displaying by menu



Normal condition (OFF)

↓ SET key



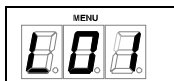
“-” “+” key Select status what you want to confirm → select L01 to L69

↓ SET key



Displaying each status depending on menu

↓ SET key



After processing, 7-SEGMENT LED goes back to menu.

# 9 Specification

## 9.1 Product specification

Item			Description			
Model number			HDC-RH101	HDC-RH201	HDC-RH401	
Input	Video	HDBaseT	Number / Signal	1 input / HDBaseT - HDCP1.4 (*2) - TMDS single link - TMDS clock: 25 MHz to 225 MHz - Dot clock: 25 MHz to 165 MHz		
			Connector	1 RJ-45 (*3)		
		Formats	480i / 480p / 576i / 576p / 720p / 1080i / 1080p VGA to QWXGA * VESA1080 / WUXGA / QWXGA: only Reduced Blanking is supported.			
	Color depth	24 bit, 30 bit, 36 bit Deep Color				
	Audio	Digital	Number / Signal	1 input / Multi-channel linear PCM up to 8 channels - Sampling frequency: 32 kHz to 192 kHz - Sample bit: 16 bit to 24 bit - Reference level:-20 dBFS - Max. input level: 0 dBFS		
			Connector	1 RJ-45 (*3)		
Output	Video	HDMI / DVI	Number	1 output	2 outputs	4 outputs
			Signal	HDMI Deep Color (*1) / DVI 1.0 - HDCP1.4 (*2) - TMDS single link - TMDS clock: 25 MHz to 225 MHz - Dot clock: 25 MHz to 165 MHz		
			Connector	1 female HDMI Type A (*5)	2 female HDMI Type A (*5)	4 female HDMI Type A (*5)
		HDBaseT	Number / Signal	1 output / HDBaseT (Daisy Chain) - HDCP1.4 (*2) - TMDS single link - TMDS clock: 25 MHz to 225 MHz - Dot clock: 25 MHz to 165 MHz y		
			Connector	1 RJ-45 (*3)		
		Formats	480i / 480p / 576i / 576p / 720p / 1080i / 1080p VGA to QWXGA * VESA1080 / WUXGA / QWXGA: only Reduced Blanking is supported.			

		Color depth	24 bit, 30 bit, 36 bit Deep Color			
	Audio	Digital	Number	1 output	2 outputs	4 outputs
			Signal	Multi-channel linear PCM up to 8 channels - Sampling frequency: 32 kHz to 192 kHz - Sample bit: 16 bit to 24 bit - Reference level: -20 dBFS - Max. output level: 0 dBFS		
		Connector	1 female HDMI Type A (*5)	2 female HDMI Type A (*5)	4 female HDMI Type A (*5)	
		Daisy Chain	Number / Signal	1 output / Multi-channel linear PCM up to 8 channels - Sampling frequency: 32 kHz to 192 kHz - Sample bit: 16 bit to 24 bit - Reference level: -20 dBFS - Max. output level: 0 dBFS		
		Connector	1 RJ-45 (*3)			
Function		Others	Daisy chain connection Seven segment LED signal status check Anti-Snow (*7) Connection Reset (only HDMI output) (*8) RS-232C (pass through)			
Plug & Play			DDC2B is supported			
Twisted pair cables			Cat5e UTP / STP, Cat6 UTP / STP, CAT.5E HDC cable (*4)			
Max. extension distance			197 ft. approx. / 60 m (*6)			
Control	Serial control port	Number / Signal	1 port / RS-232C, pass through 115.2 kbps			
		Connector	1 RJ-45 (*3)			
Others	AC adapter		90 - 250 VAC ± 50 Hz / 60 Hz ± 3 Hz			
	Power consumption		About 13 Watts	About 16 Watts	About 19 Watts	
	Dimensions		8.27 x 1.73 x 11.81 / 210 (W) x 44 (H) x 300 (D) mm (EIA 1/2U size, projections are not included)			
	Weight		4.19 lbs. / 1.9 kg	4.19 lbs. / 1.9 kg	4.41 lbs. / 2.0 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 humidity: 20% to 90% (Non Condensing)			

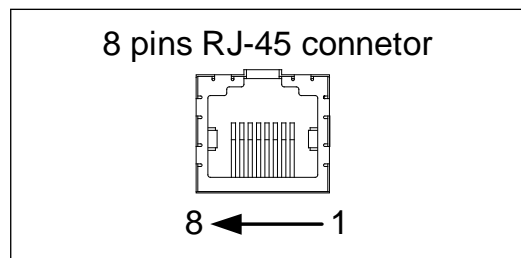
\*1 xvYCC, 3D, ARC and HEC are not supported.  
 \*2 HDCP-compliant DVI signals are not supported. To transmit these signals, use our extender which supports DVI signals or MSD-402 as receivers.  
 \*3 RJ-45 (HDBaseT input/output connectors) is only for Cat5e/Cat6 twisted pair cable. Please do not use it for LAN devices or the like.  
 \*4 T568A or T568B straight connection. HDC.CAT5E cable is HDBaseT recommended cable which IDK developed.  
 \*5 Please use HDMI cable which is shorter than 5 m / 16.4 ft. approx.  
 \*6 If connected to a device whose status is significantly bad, video signal can be unstable or cannot be output. Check the operation beforehand or contact us.  
 \*7 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.  
 \*8 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 HDC's output. If other devices are connected between the HDC's output and sink device, this feature may be invalid.

## 9.2 HDMI Type A connector

[Table 9.1] HDMI TypeA pin assignment

1	TMDS Data2+	2	TMDS Data2 Shield	3	TMDS Data2-
4	TMDS Data1+	5	TMDS Data1 Shield	6	TMDS Data1-
7	TMDS Data0+	8	TMDS Data0 Shield	9	TMDS Data0-
10	TMDS Clock+	11	TMDS Clock Shield	12	TMDS Clock-
13	CEC	14	Reserved(NC)	15	SCL
16	SDA	17	DDC/CEC Ground	18	+5V Power
19	Hot Plug Detect				

## 9.3 RJ-45 connector pin assignment



[Fig 9.1] pin assignment

TIA/EIA-568A pin assingmnet

Pin #	Sgnal
1	WHITE/GREEN, Stripe
2	GREEN
3	WHITE/ORANGE, Stripe
4	BLUE
5	WHITE/BLUE, Stripe
6	ORANGE
7	WHITE/BROWN, Stripe
8	BROWN

TIA/EIA-568B pi assignment

Pin #	Signal
1	WHITE/ORANGE, Stripe
2	ORANGE
3	WHITE/GREEN, Stripe
4	BLUE
5	WHITE/BLUE, Stripe
6	GREEN
7	WHITE/BROWN, Stripe
8	BROWN

## 10 Trouble shooting

In case this device does not work correctly, please check the following items first.

- Are this device and the connected devices turned on normally?
- Are cables connected correctly?
- Are there no loose connections?
- Are cables that are appropriate to this device being used?
- Are signal specifications of connected devices matched to each other?
- Are settings of the sink device correct?
- Are there any close objects that may cause noise?

If the problem still cannot be solved, check the items in the table below. Please refer to manuals of connected devices as well, since they may possibly cause the problem.

Problem	Check item	Page
Video output		
Video is not output.	If there are no problems with cable connections, first check [1] and [2] below.	—
	[1] Verify that the EDID resolution setting of the VAC is set to the input resolution supported by the display device. • The EDID resolution is set to 1080p by default, but some TVs do not support that resolution. • If the EDID resolution is set to 1080i, the video may not be output to the display device that does not support the interlaced signals. • Some monitors for PCs do not support the resolutions for TVs. Some LCD TVs do not support PC resolutions (VGA to WXGA).	29
	[2] Verify that signals are output from the input device. If the "SIGNAL" LED on rear panel lights, check [3] to [5]; if the LED turns off, check and [6] to [7].	14
	[3] If signals protected by HDCP are input, does the sink device support the HDCP? If the sink device does not support HDCP, copyright-protected signals are not displayed. Check whether the sink device supports the HDCP. You can also disable HDCP output to the source device by an input setting.	54
	[4] If a long cable is connected for input or output, replace it with a 5 meter/16.4 feet or shorter cable. A 5 meter/16.4 feet or longer cable can be connected for digital input/output for the VAC, but some cables fail HDCP authorization or EDID acquisition depending on the quality of the cable and connected devices.	16
	[5] Verify that unsupported signals are not being input.	60
	[6] Verify that No-signal input monitoring time ([F16]) is not too short.	33
[7] Check the video output setting of the source device.	—	

Problem	Check item	Page
<b>Video output</b>		
Interference or noise appears on video.	Transmission clock of Deep Color signals is faster than normal signals. If poor-quality or long cable is connected at the time of signal input or output, noise may appear on the video. The color depth of input signals can be controlled in the EDID setting.	35
	If you turn ON/OFF peripheral equipments during video transmission, the video image may be interrupted. If this is the case, please place those peripheral equipments away from the unit and operate when the unit is turned OFF. By using shorter twisted pair cable or changing it to STP cable and ground properly, the symptom may be solved.	19
	If you transmit DVI signal with HDCP, please use HDC which supports DVI signal with HDCP.	23
Video blinks.	If interlace signals are input to a sink device that does not support interlace signals, the video blinks. Check the supported resolution of the sink device.	29
The dual monitor function cannot be set or it is canceled automatically.	When the No-signal input monitoring function works, the dual monitor function may not be enabled correctly. In this case, turn off this monitoring function.	33
<b>Audio output</b>		
Audio is not output.	Verify that audio output is set to ON.	46
	If there are multiple output connectors on input device, please make sure input device setting	—
	Verify that the selected sampling frequency is supported by the connected sink device. Some LCD monitors cannot output high-sampling frequency audio (88.2kHz or higher). Audio signals output from the source device can be controlled by setting EDID.	36 to 42
Even though multi-channel audio is played, only audio signals of 2 channels are output.	For multiple channel play, change the EDID setting which is set to 2 channels by default.	43



Problem	Check item	Page
<b>Audio output</b>		
Audio is not output.	Verify that audio output is set to ON.	46
	Connected sink device or AV amp select the resolution which can output audio? If you select PC resolutions (VGA to WUXGA), there is a case those units cannot output audio.	29
	Connected sink device or AV amp support output sampling frequency? There is a case that LCD monitor cannot output higher sampling frequency such as higher than 88.2kHz. If this is the case you can limit output sampling frequency from input by EDID.	36 to 42
Compressed audio (such as Dolby Digital and DTS) is not output from the source device.	Inputting compressed audio is limited by the EDID setting(factory default). In order to use compressed audio, change the EDID setting.	36 to 42
	Verify audio output setting of input device	—

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

1. The problem occurs in all connectors?
2. Connect the devices using genuine cables without connecting the HDC

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