Video Decoder
Quick Guide

Manual Version: V1.00

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

Copyright

Trademark Acknowledgement

Disclaimer

CAUTION!

The default password is used for your first login. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).

contents of this manual are subject to change without prior notice. Update will be added to the new version of this manual.

- Use of this manual and the product and the subsequent result shall be entirely on the user's own responsibility. In no event shall we be reliable to you for any special, consequential, incidental, or indirect damages, including, among others, damages for loss of business profits, business interruption, or loss of data or documentation, or product malfunction or information leakage caused by cyber attack, hacking or virus in connection with the use of this product.

- Video and audio surveillance can be regulated by laws that vary from country to country. Check the law in your local region before using this product for surveillance purposes. We shall not be held responsible for any consequences resulting from illegal operations of the device.

- The illustrations in this manual are for reference only and may vary depending on the version or model. The screenshots in this manual may have been customized to meet specific requirements and user preferences. As a result, some of the examples and functions featured may differ from those displayed on your monitor.

- This manual is a guide for multiple product models and so it is not intended for any specific product.

- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Safety and Compliance Information

Safety Symbols

The symbols in the following table may be found on installation-related equipment. Be aware of the situations indicated and take necessary safety precautions during equipment installation and maintenance.

Symbol	Description
⚠️	Generic alarm symbol: To suggest a general safety concern.
⚠️	ESD protection symbol: To suggest electrostatic-sensitive equipment.
⚡	Electric shock symbol: To suggest a danger of high voltage.

The symbols in the following table may be found in this manual. Carefully follow the instructions indicated by the symbols to avoid hazardous situations and use the product properly.

Symbol	Description
⚠️ WARNING!	Indicates a hazardous situation which, if not avoided, could result in bodily injury or death.
ⓘ CAUTION!	Indicates a situation which, if not avoided, could result in damage, data loss or malfunction to product.
📝 NOTE!	Indicates useful or supplemental information about the use of product.

Safety Information

Installation and removal of the unit and its accessories must be carried out by qualified personnel. Please read all of the safety instructions below before installation and operation.

- This device is a class A product and may cause radio interference. Take measures if necessary.
- While shipping, the device should be packed in its original packing.
- Verify that installation is correct. Incorrect cable connection may cause personal injury or device damage.
- The installation must be made by qualified personnel and should conform to all the local codes.
- If the product does not work properly, please contact your dealer. Never attempt to disassemble the device yourself. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- Ensure a proper operating environment, including temperature, humidity, ventilation and power supply. Make sure the device is properly grounded and the lightning protection meets requirements. Keep the device from moisture, dust, strong electromagnetic radiation and vibration.
- Power down the device before connecting and disconnecting accessories and peripherals.
- Protect the power cable from being stepped on or pressed, particularly at the plug, receptacle, and the part leading out of the device.
- Strictly follow the procedure to shut down the device. Sudden power failures can cause disk damage and functional abnormalities. In an environment where power supply is frequently interrupted, use an Uninterrupted Power Supply (UPS).
- Improper use or replacement of the battery may result in hazard of explosion. Use the manufacturer recommended battery.
- Take necessary measures to ensure data security and protect the device from network attack and hacking (when connected to Internet). Possible risks and consequences are at user's sole discretion.

Regulatory Compliance

FCC Part 15

This equipment has been tested and found to comply with the limits for 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.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

LVD/EMC Directive

$\mathsf{C} \, \mathsf{E}$

This product complies with the European Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

WEEE Directive–2002/96/EC

The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.

Contents

1 Overview

The video decoder (referred to as the device in this manual) is a new-generation network media terminal designed mainly for remote video surveillance. The device is applicable to monitoring and listening to remote sites in real time, and can be widely applied to real-time surveillance applications in security protection, transportation monitoring, and electricity industry.

For more information about its technical specifications, see Table 4-1.

Appearance

The appearance described in this manual is for reference only.

Figure 1-1 Front view
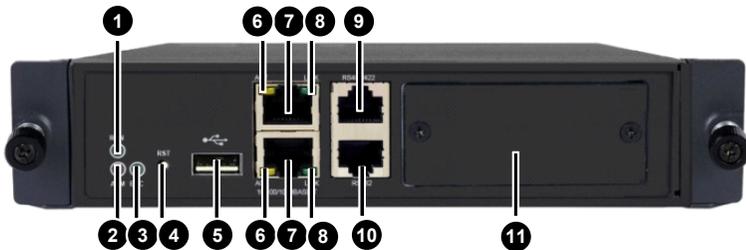
1: Running LED	2: Alarm LED
3: Decoding LED	4: Reset button
5: USB port	6: Active LED
7: Ethernet port	8: Link LED
9: RS-485/422 port	10: RS-232 port
11: Blank filler panel for the subcard slot	

Figure 1-2 Rear view
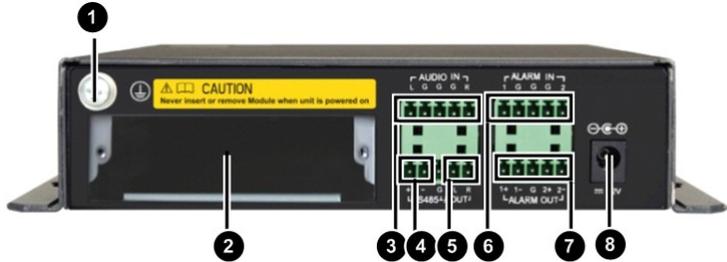
1: Ground terminal	2: Video output card slot	3: Audio in port
4: RS-485 port	5: Audio out port	6: Alarm in port
7: Alarm out port	8: 12 VDC power input	

LEDs

Table 1-1 LEDs descriptions

LED	State	Meaning
RUN	Blinking	The device is starting up.
	On	The device is operating normally.
	Off	The device is powered off.
ALM	On	At least one device alarm (for example, temperature alarm) is present.
	Off	No device alarm is present.
DEC	Blinking	The device is decoding.
	Off	The device has stopped decoding.
ACT	Blinking	There is data being transmitted.
	Off	There is no data being transmitted.
LINK	On	A link is present.

LED	State	Meaning
	Off	No link is present.

Ports and Buttons

Table 1-2 Description of ports/buttons on the front panel

Port/Button	Quantity	Description	Remarks
RST	1	Reset button	- If you press the button for less than three seconds, the device reboots. - If you press and hold the button for more than three seconds and then release it, the device will reboot and restore the factory-default configuration.
USB	1	USB2.0	Reserved for connecting to storage devices
Ethernet port	2	10M/100M/auto-negotiation Half duplex/full duplex auto-negotiation RJ45 port	Connects to Ethernet
RS-485/422	1	RJ45 port	Provides interactive control with the connected device, for example, the third-party device. This port is compatible with RS-485 and RS-422 standards.
RS-232	1	RJ45 port	Commissions and maintains the device

Port/Butt on	Quantity	Description	Remarks
Subcard slot	1	Slot for the dual-port SFP subcard	Holds subcard after the blank filler panel is removed

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📝 **NOTE!**

Please select appropriate 1000-Mbps optical module according to the ambient temperature. If the Ethernet optical port is used outdoors, the upper temperature limit of the used optical module should be more than 85°C (185°F).

Table 1-3 Description of ports on the rear panel

Port	Quantity	Description	Application
Video out card slot	1	A slot where the recommended HDMI or VGA output card is installed. For details, see Installing the Video Output Card.	Outputs analog or digital video signals to analog signal display devices, such as monitors.
RS-485	1	Phoenix contact	Provides interactive control with the connected device, for example, the third-party device.
AUDIO IN	1	Phoenix contact, audio signals input 2V (P-P)	Reserved for inputting audio signals
AOUT	1	Phoenix contact, left channel output 2V (P-P)	Outputs audio signals

Port	Quantity	Description	Application
ALARM IN	2	Phoenix contact, which supports line detection	Inputs alarm signals
ALARM OUT	2	Phoenix contact, which is the output of the delay switch of an internal relay	Outputs alarm signals
DC 12V	1	Power port, 12 VDC	Connects to the power adapter

2 Installing the Device

Preparation

Checking the Device Package

Unpack the container and remove the items out carefully. Check items against the packing list and ensure all items listed are included in the container.

⚠️ **WARNING!**

Do not remove the dismantlement-preventive seal from the chassis cover without permission. If you want to open the chassis, contact your dealer. Otherwise, we shall not be held liable for any consequence caused thereby.

Checking the Installation Environment

When installed outdoors, the device must be fixed in an outdoor protective box while meeting outdoor lightning protection and grounding requirements.

● Ensure that appropriate lightning protection facilities are chosen for device power supply, audio and video signals, and the RS-485 port.

- Ensure that the device is correctly grounded through a grounding screw. For details, refer to the *Encoder and Decoder Cable Connection Guide*.

When installed indoors, the device must also meet lightning protection and grounding requirements by using the same methods as described above.

Installation Flow Chart

Before installing the device, make sure it is disconnected from the power source.

Figure 2-1 Installation flow
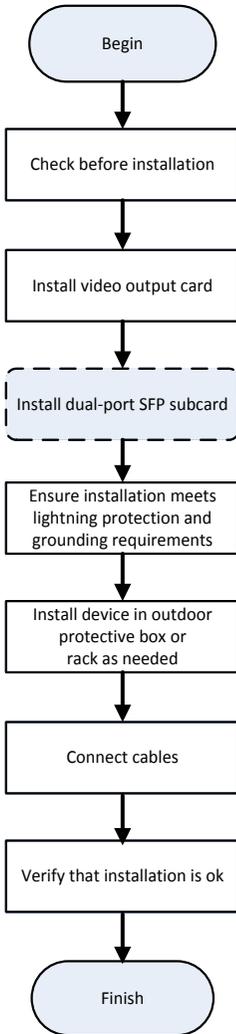
Installing the Video Output Card

Table 2-1 describes the types of video output cards supported by the device.

Table 2-1 Video output cards

Type	Description
HDMI	Provides a HDMI audio/video output port to connect a HDMI digital device such as a PC or TV set to output digital audio/video signals.
VGA	Provides a VGA video output port to only connect a YPbPr-enabled device such as a PC or TV set or a VGA-enabled device to output analog video signals.

Figure 2-2 and Figure 2-3 show how to install various video output cards on the device.

Figure 2-2 Installing the HDMI video output card

Figure 2-3 Installing the VGA video output card

Installing the Dual-Port SFP Subcard

As shown in Figure 2-4, remove screws, take down the blank filler panel, insert the recommended dual-port SFP subcard, and then fasten captive screws.

Figure 2-4 Installing the dual-port SFP subcard

Installing the Device in an Outdoor Protective Box

NOTE!

The outdoor protective box must meet certain conditions. For details, refer to the *Encoder and Decoder Cable Connection Guide*.

Horizontally insert the device into an outdoor protective box vertically mounted on the wall.

As shown in Figure 2-5, place the two sides with waist-shaped wall mounting holes close to the inner wall of the protective box, and fix the device inside the protective box with screws. Then ventilation holes are at the top and bottom of the device to better facilitate air convection. Ensure that the top and bottom ventilation holes are at least 10 cm away from the surrounding wall.

Figure 2-5 Vertical view of the device

1: Mounting hole
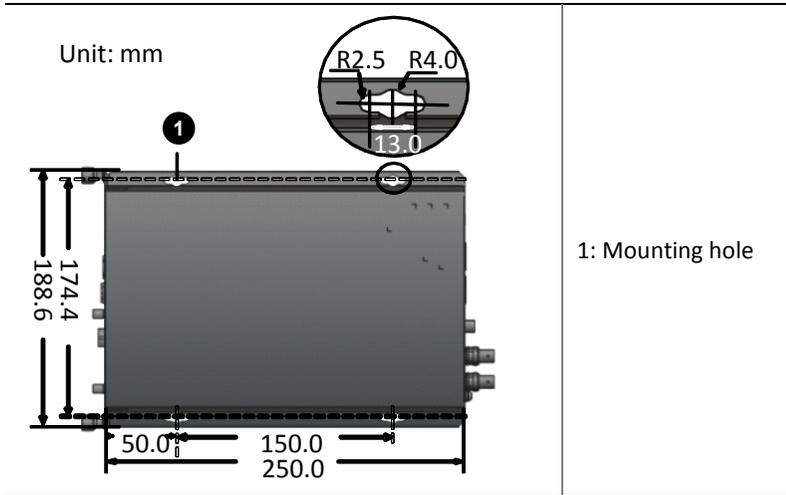
Installing the Device in a Rack

Installing the Device in a Rack with a Frame

1. As shown in <u>Figure 2-6</u>, install the mounting brackets of the device.

Figure 2-6 Installing the mounting brackets

2. To install the device in a rack with frames, refer to *Video Encoder/Decoder Frame Installation Guide*.

Installing the Device in the Rack with Holders

1. As shown in Figure 2-6, install the mounting brackets of the device.

2. To install the device in a rack with holders, refer to *1U Holder Installation Manual*.

Installing the Device in the Rack Directly

To install the device in the rack directly, you need to fix the device to the rack securely. Keep a clearance around the air vents on the two sides of the device for heat dissipation, and do not stack other devices on the device.

Connecting the Cables

ⓘ **CAUTION!**

● Before connecting the cables, ensure that the device is already powered off to avoid bodily injury or equipment damage caused by incorrect cable connection.

● Ensure that all external cables of the device meet relevant standards. For details about cable selection, refer to the *Encoder and Decoder Cable Connection Guide.*

Connecting Cables to Ports on the Front Panel

Figure 2-7 Install cables to ports on the front panel

1: Connecting to a network through a network cable	
2: Connecting to a serial device (such as a PC) through a serial cable	
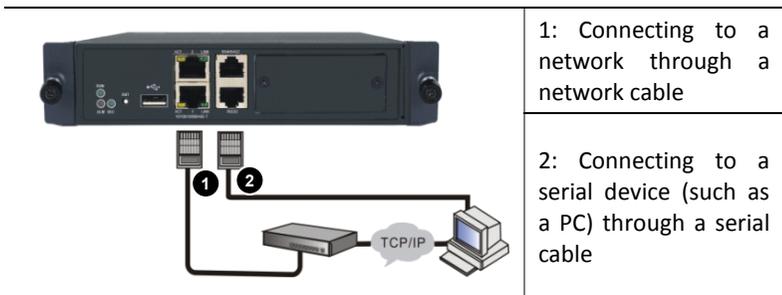
Connecting Cables to Ports on the Rear Panel

Connect to other devices as needed. For how to connect to another device, refer to related documents of the device.

Figure 2-8 Install cables to ports on the rear panel

1: Monitor	
2: Alarm input device	
3: Ground	
4: Speaker	
5: Alarm output device	
6: Power source	
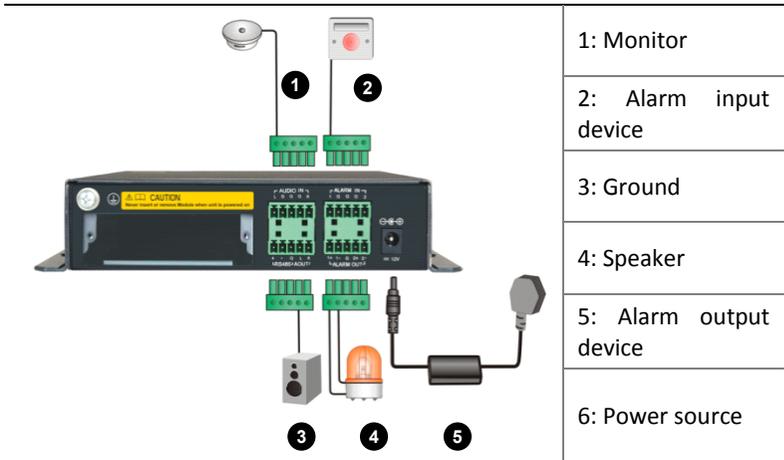
Connecting Audio Cable and Alarm Cable

Figure 2-9 Audio cable connection

1: Audio output device (for example, speaker)
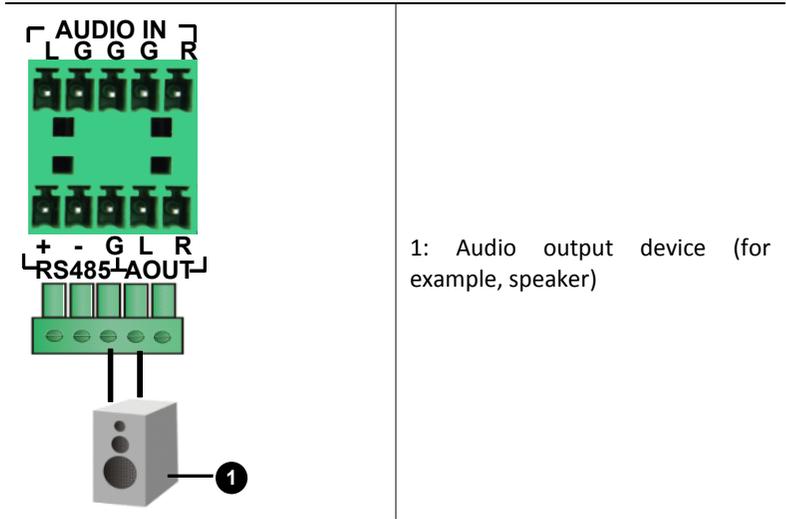
Figure 2-10 Alarm cable connection
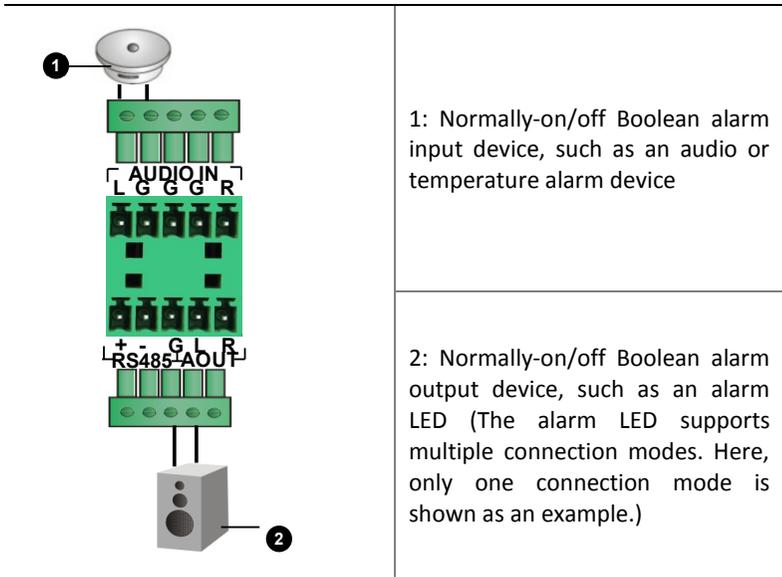
	1: Normally-on/off Boolean alarm input device, such as an audio or temperature alarm device
	2: Normally-on/off Boolean alarm output device, such as an alarm LED (The alarm LED supports multiple connection modes. Here, only one connection mode is shown as an example.)

📝 **NOTE!**

- The operating voltage and current of the Boolean alarm output device connected to the device should not exceed 12 VDC/0.7 A, respectively.
- Figure 2-10 shows the alarm cable connection for the device without line detection. If the device needs to support line detection, the alarm cable connection is different. For details, refer to the *Encoder and Decoder Cable Connection Guide*.

Table 2-2 Phoenix contact port description

Terminal	Description	Terminal	Description
AUDIO IN:L,R	Connect an audio input device (for the reserved left channel and right channels)	ALARM IN: 1-2	Connect two alarm input devices.

Terminal	Description	Terminal	Description
AOUT:L,R	Connect an audio output device **Note**: Currently only the left audio channel is available.	ALARM OUT: 1+, 2+	Connect two alarm output devices.(with alarm signal output is positive)
ALARM OUT:1-, 2-	Connect two alarm output devices. (with alarm signal output is negative)	G	Ground
RS-485:+, -	RS-485 signal transmit (positive and negative)		

Connecting a Third-Party Device

The device can connect a third-party device through its RS-485 port. Just connect the RJ45 connector or a Phoenix terminal to the third-party device. For details about how to connect the serial cable, refer to the *Encoder and Decoder Cable Connection Guide*.

RS-232 Serial Cable Connection

As shown in , connect the device to a serial device such as a PC through its RS-232 port. For details about how to connect the serial cable, refer to the *Encoder and Decoder Cable Connection Guide*.

Verifying the Installation

⚠️ **WARNING!**

After the device is installed, verify the correctness of the installation to avoid bodily injury or equipment damage caused by incorrect cable connection.

- Check that the device is installed securely with all screws fixed tightly.
- Check that the device is grounded properly, and all cables are connected correctly and firmly.
- Check that the power supply voltage is stable.

Starting Up the Device

After completing the installation, connect the power supply to start up the device. Check the operation status of the device according to Table 1-1.

3 Logging In to and Out of the Device

You can manage and maintain the device through the Web interface.

Before logging in to the device, ensure that:

- The device is operating normally.
- The PC and the device can communicate with each other.
- The PC is installed with Microsoft Internet Explorer 7.0 or higher.
- No proxy is set for the IE browser on the PC.

NOTE!

- Of the device, the default IP address is 192.168.0.14, the subnet mask is 255.255.255.0, and the default gateway address is 192.168.0.1.
- For your first login, use **admin** as both the username and password. We recommend you to change the default password by selecting **Device** > **Password** after your first login.

Follow the steps below to log in to the Web interface of the device:

1. Use the IE browser on your PC to visit the IP address of the device.

2.   On the login page, enter your username and password to access the Web interface.

📝 **NOTE!**

- You can select a node in the navigation tree and then click a tab on the right pane to enter the corresponding configuration page.
- For information about initial configuration and other configurations, please click the **Help** in the navigation tree.

To log out of the device, click **Exit** in the navigation tree and confirm your operation.

4 Technical Specifications

Table 4-1 Technical specifications

Item	Device
Video decoding standard	H.264
Audio decoding standard	G.711µ
Video decoding standard	1080P@25, 1080P@30, 1080I@50, 1080I@60, 720P@60, XGA@60, SXGA@60
Maximum video decoding frame rate	25 frames per second (1080P@25, 1080I@50) 30 frames per second (1080P@30, 1080I@60, SXGA@60) 60 frames per second (720P@60, XGA@60)
Dimensions (W × D x H)	189 mm × 270 mm x 40 mm (7.44" × 10.63" x 1.57")
Weight	< 2 kg (4.41lb)
DC input voltage	12 VDC

Item	Device
Maximum consumption	12 W (with subcard) 10 W (without subcard)
Operation temperature	0°C to 60°C (32°F to 140°F)
Operation humidity (non-condensing)	5% to 95%
Storage temperature	−40°C to +70°C (−40°F to +158°F)
Storage humidity (non-condensing)	5% to 95%
Altitude	−60 to +4000 m (−196.85 to +13123.36 ft.)

5 Relationship Between Video Input Cards, Video Output Cards, Video Standards, and Display Device Ports

> **NOTE!**
>
> Table 5-1 describes only the relationship between subcards, video standards, and cable ports. For detailed support information, refer to the document for the central server that the device is connected to (if applicable).

Table 5-1 Relationship between video input cards, video output cards, video standards, and display device ports

Video Input Subcard	Input Signal Cable	Input Standard	Video Output Subcard	Output Standard	Display Device Port
SDI	Standard HD-SDI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	VGA	720P@60 1080P@25 1080P@301 080I@50 1080I@60	YPbPr port

Video Input Subcard	Input Signal Cable	Input Standard	Video Output Subcard	Output Standard	Display Device Port
SDI	Standard HD-SDI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	VGA	XGA@60 SXGA@60	VGA port, RGBHV BNC
SDI	Standard HD-SDI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	HDMI	XGA@60 SXGA@60	DVI-D DVI-I
SDI	Standard HD-SDI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	HDMI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	HDMI port
HDMID	HDMI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	VGA	720P@60 1080P@25 1080P@301 080I@50 1080I@60	YPbPr port
HDMID	HDMI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	VGA	XGA@60 SXGA@60	VGA port, RGBHV BNC
HDMID	HDMI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	HDMI	XGA@60 SXGA@60	DVI-D DVI-I
HDMID	HDMI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	HDMI	720P@60 1080P@25 1080P@301 080I@50 1080I@60	HDMI port

Video Input Subcard	Input Signal Cable	Input Standard	Video Output Subcard	Output Standard	Display Device Port
DVI	DVI VGA to DVI-I	XGA@60	VGA	XGA@60 SXGA@60	VGA port, RGBHV BNC
DVI	YPbPr to DVI-I	720P@60 1080P@25 1080P@301080I@50 1080I@60	VGA	720P@60 1080P@25 1080P@301080I@50 1080I@60	YPbPr port
DVI	DVI VGA to DVI-I	XGA@60	HDMI	XGA@60 SXGA@60	DVI-D DVI-I
DVI	YPbPr to DVI-I	720P@60 1080P@25 1080P@301080I@50 1080I@60	HDMI	720P@60 1080P@25 1080P@301080I@50 1080I@60	HDMI port

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