

iSDV-200CTR

4K HDR SDVoE IP combo transceiver supports 10G copper & fiber



Features

- » Encoder/Decoder hybrid and copper/fiber combo device
- » Visualization hardware design for IP management
- » Flexible software, iSDV Network Video Orchestrator, for TX/RX configuration and applications

Specifications

System	
CPU	BlueRiver® AVP2000T
Memory	2 x 128M x16 2Gb DDR3 SDRAM onboard
Appearance	
Dimension	238 x 166 x 44.5 mm
Net Weight	1235g
I/O Interface	
Ethernet	2 x LAN : 1 x 1GbE RJ45, 1 x 10GbE RJ45
	1 x SFP+ : 10GbE
I/O Interface	4 x HID
	1 x IR In
	1 x IR Out
	2 x HDMI™ 2.0 : 1 x In, 1 x Out
	2 x 3.5mm audio jack : 1 x In, 1 x Out
	2 x RS-232
Control button	2 x Trigger & Tuning : 1 x Reset button, 1 x USB switch
Indicator	Description: 6 x LED indicator
Video Processing	
Video Format	HDMI™ 2.0 supporting all resolutions up to 594MHz
	4K60 RGB and 4:4:4 8-bit
	4K60 4:2:2 10-bit for broadcast and medical applications
	4K60 4:2:0 10-bit and 12-bit HDR
Display	
LCD Size	65 x 15 mm
LCD Color	Monochrome
Power	
Power Consumption	40W
Power Supply	12V DC In, 3.3A
Environment	
Operating Temperature	-20°C ~ 50°C w/o air flow
	-20°C ~ 60°C w/ air flow
Operating Humidity	20% ~ 95%, non-condensing
Functionality	
Application Mode	Transmitter / Receiver
	Extension / Switching / Video Wall / Multi Viewer / KVM supported

Software Support	
Software	Free management software (iSDV Network Video Orchestrator) supported
Compatible OS	Linux Ubuntu 18.04 LTS+
	Microsoft Windows 10 64-bit
	Microsoft Windows 11 64-bit
	QNAP NAS QTS 5
Certifications	
Safety & EMC	CE, FCC, CCC

Ordering Information

iSDV-200CTR-R10	SDVoE Transmitter&Receiver, Semtech BlueRiver® AVP2000T, 2x128M16 DDR3, 1x1GbE RJ45, 1x10GbE RJ45, 1x 10GbE SFP+, 2xIR, 2xHDMI™ 2.0, 2x3.5mm audio jack, 4xUSB 2.0, 2xRS232, RoHS
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4K HDR AV over IP Transceiver

SFP+ and RJ45 Combo Port, Zero Latency

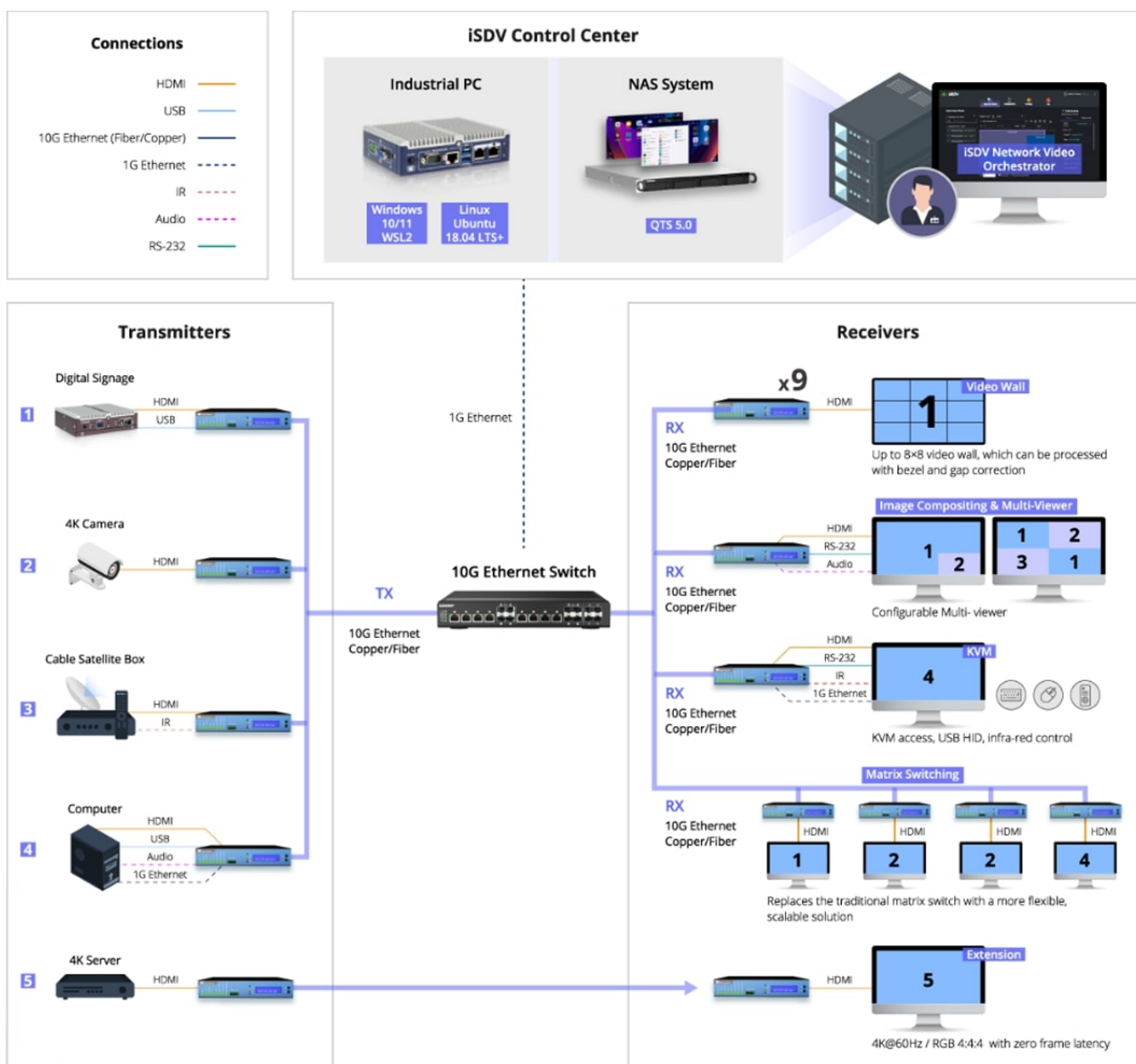
IEI's new 4K video solution, iSDV-200CTR, is a high performance, zero latency, and 4K@60Hz (4:4:4) AV over IP video streaming transceiver, and is compliant with SDVoE technology. With its transceiver function, the iSDV-200CTR can act as a transmitter (Tx) and also a receiver (Rx) to deliver excellent flexibility of deployment by software utility for different video scenarios. This transceiver built with the 10GbE combo port design is able to stream over copper cable or fiber cable in one device. Moreover, to offer a complete 4K video solution, IEI develops a value-added software utility, iSDV Network Video Orchestrator featuring intuitive user interface for centralization management, and enabling easy configuration of all iSDV-200CTR devices. As a leading 4K video streaming transceiver, the iSDV-200CTR delivers advanced capabilities for live event, video wall or situation room.



Seamless Switching, Video Wall, Multi-view and KVM Functions

IEI iSDV-200CTR transceiver can be configured and reconfigured via iSDV software to suit users' evolving needs in a cost-effective way without the need for any further third party, outboard processing equipments. The total savings over time can be massive due to its flexibility that reduces the cost of hardware upgrade. Moreover, the iSDV-200CTR equips a powerful AV processing unit, SDVoE (Software Defined Video-over-Ethernet), enabling real-time audio-visual functions.

iSDV Application Block Diagram



Wide Applications

Improving Healthcare IT Systems

IEI's advanced 4K video streaming solution with iSDV-200CTR offers real-time high-resolution video sharing over hospital IP networks. It features zero latency and high efficiency of encode/decode allowing healthcare professionals to smoothly share live surgical or diagnosis video to improve medical outcomes.



Building Control Rooms with Improved Security and Reliability

IEI's iSDV-200CTR offers a scalable control room solutions. The security personnel are able to receive all high-resolution images from different IP cams, and simply manage video resources into multi-viewer, image compositing, or video wall with IEI's free software, iSDV Network Video Orchestrator, to support guards receiving any critical issues in the meantime and ensure dead spots can be avoided.



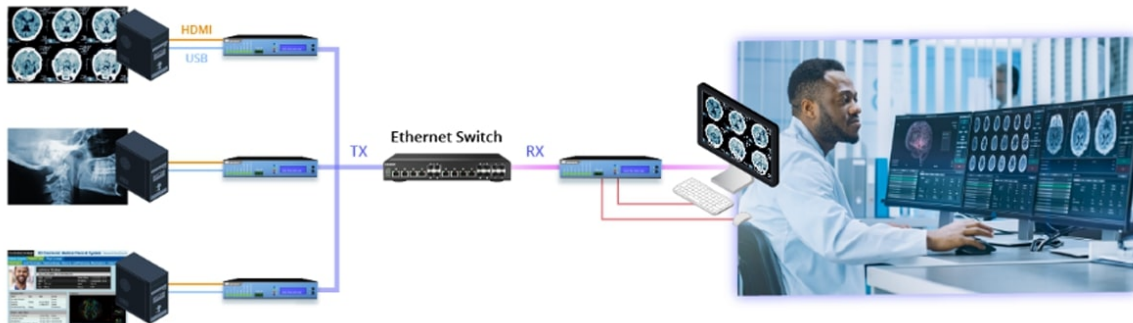
Maintain Fidelity and Synchronized Content in Live Events

To provide the best performance and experience of live conditions at concerts, IEI's iSDV-200CTR delivers maximum stability and high speed in switching of Pro AV solution to stream 4K@60Hz video over the 10GbE SFP+ ports.



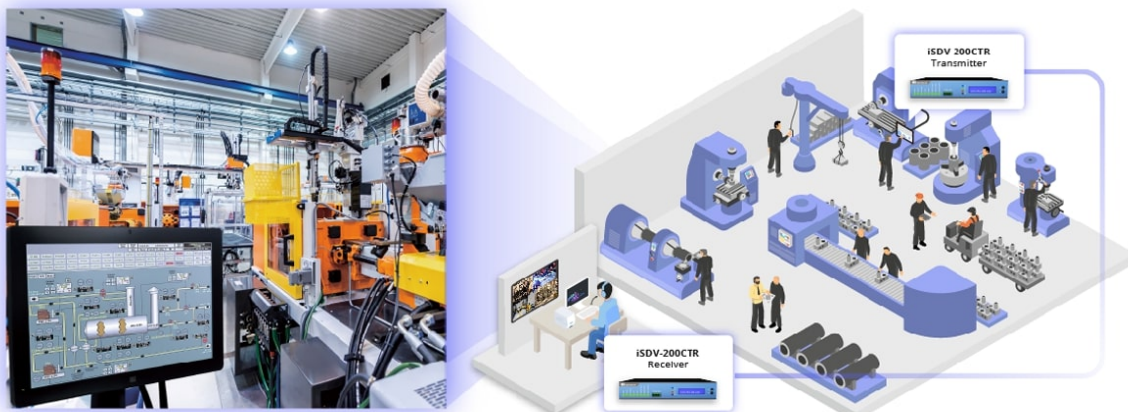
Enabling Medical AV with Surgical Precision

With IEI iSDV-200CTR solution, any video source up to 4K resolution is available anywhere at any time. Content from surgical scopes, X-ray and CT/MRI scans, patient records, and even custom signage and infotainment can be distributed via low cost 10G Ethernet networks to provide the most flexible medical AV systems. Moreover, the iSDV featuring USB capability offers a full support of USB HID. This means sophisticated KVM applications can be deployed to workstations to control over keyboard and mouse.



Extension for Factory Automation Connectivity

In an industrial setting, connectivity is essential to guarantee faultless performance and control. The iSDV-200CTR addresses all the major challenges for connectivity in the plant floor: distance limitations, cable quality and cost, complex installations, latency and interactivity. IEI iSDV enables the use of a single category cable to meet all of industrial requirements, offering video & audio, Ethernet, controls and USB HID over 100m/40km via CAT 6A/fiber optics cables.



iSDV Control Center

iSDV Network Video Orchestrator

Simply log into the iSDV Network Video Orchestrator, a web-based application, to manage all your iSDV devices from a central console. It can run in different platforms, such as Windows 10/11, Ubuntu 18.04 LTS+, QNAP NAS QTS 5. Its intuitive user interface allows you to setup Tx and Rx modes, quickly configure display array or other settings, and check the status of all devices in real-time.

- » Intuitive web-based GUI
- » Control over matrix, video wall, and multi-viewer modes
- » Simple installation procedure and intuitive user interface
- » Display real-time status and setting of all connected transmitters and receivers



Display Configuration

The iSDV software provides a highly-customizable display layout. You can create display matrix according to your needs or choose from the built-in options. With drag-and-drop operation, you can easily arrange receivers from the device list onto the display layout. For signal routing, simply drag a transmitter to the display zone of the desired receiver to assign source to display.

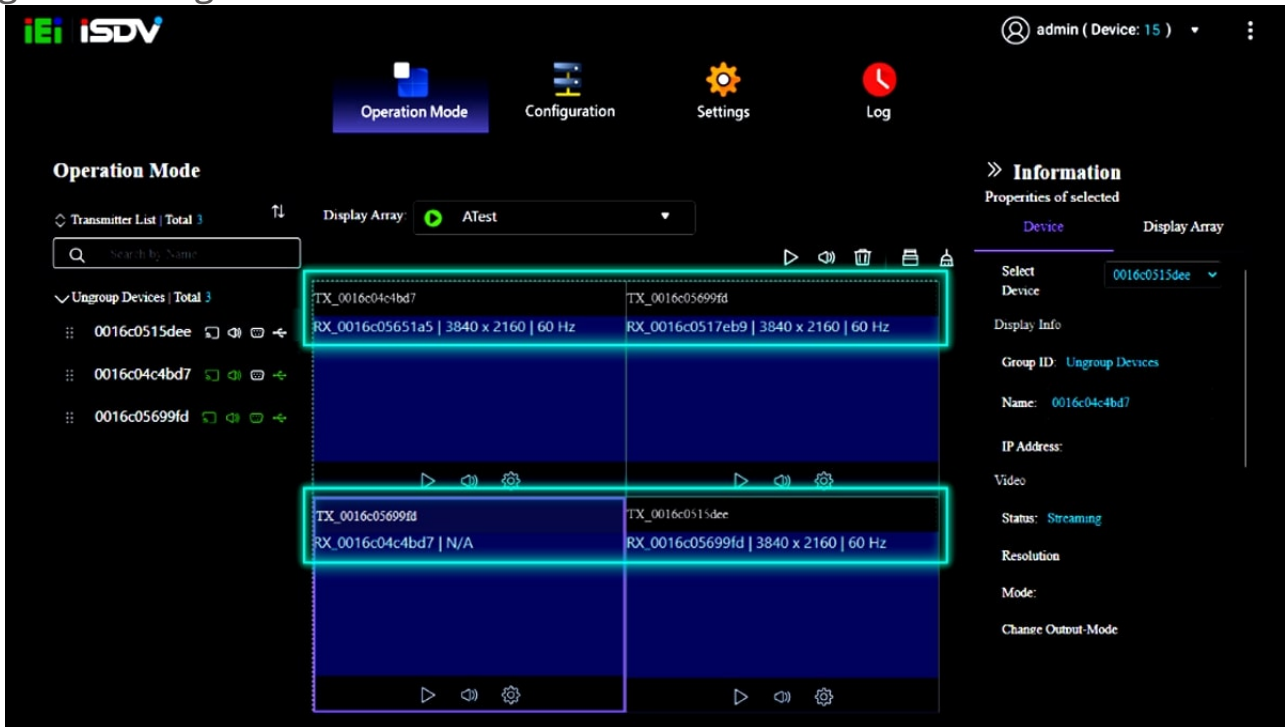
Receiver Arrangement

The screenshot shows the iSDV Network Video Orchestrator web interface. The top navigation bar includes 'Operation Mode', 'Configuration' (selected), 'Settings', and 'Log'. The left sidebar has 'Device Setup', 'Display' (selected), and 'Device Summary'. The main area displays a 2x2 display array with four receiver slots. A search bar on the left shows 'Receiver List | Total 1' with a search result '0016c0515dec' highlighted. A red arrow points from this result to the top-left slot of the display array. The display array slots contain the following information:

Slot	Device ID	Resolution	Firmware	IP
Top-Left	RX_0016c0517eb9	3840 x 2160 60 Hz	1.3.1.0	192.168.1.110
Top-Right	RX_0016c05651a5	3840 x 2160 60 Hz	1.3.2.0	192.168.1.109
Bottom-Left	RX_0016c04c4bd7	N/A	1.3.1.100	192.168.1.119
Bottom-Right	RX_0016c05699fd	3840 x 2160 60 Hz	1.3.2.0	192.168.1.197

On the right, the 'Information' panel shows properties for the selected device (RX_0016c0517eb9), including Group ID, Device Name, IP, Video status, Resolution, and Mode.

Signal Routing

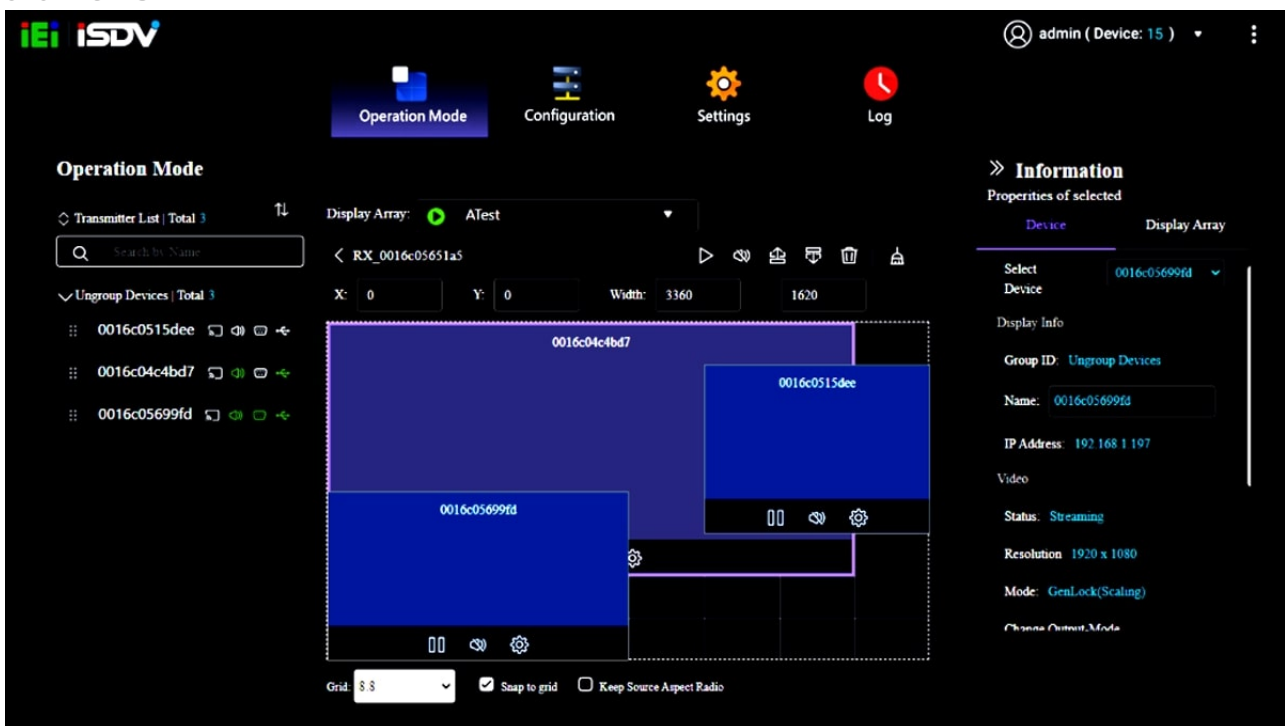


Flexible Deployment

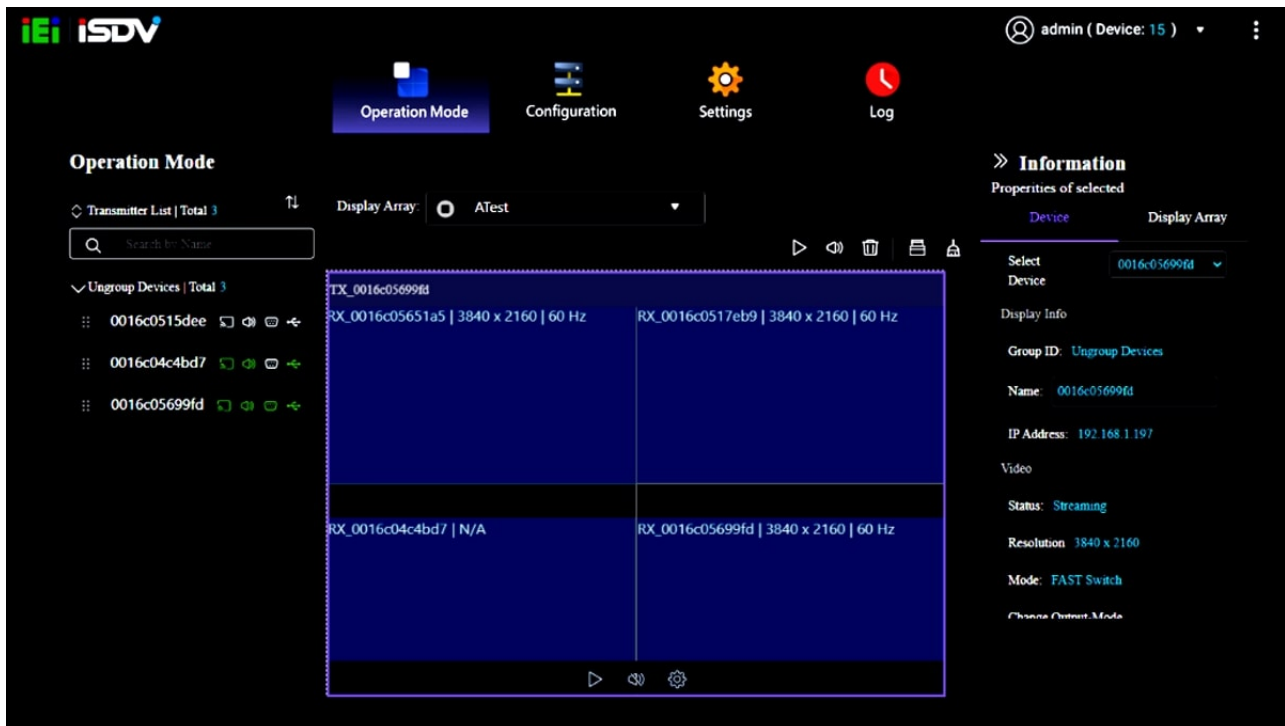
iSDV makes creating multiviews and video walls simple and straightforward. Different video sources supplied by iSDV transmitters can be displayed on a multiview layout through one receiver. The iSDV software supports up to 32 video sources to meet your high-volume requirements.

With iSDV software, creating video walls of arbitrary size has never been easier. Just assign a transmitter to multiple receivers on the video wall layout, and you can build a video wall with perfectly synchronized outputs.

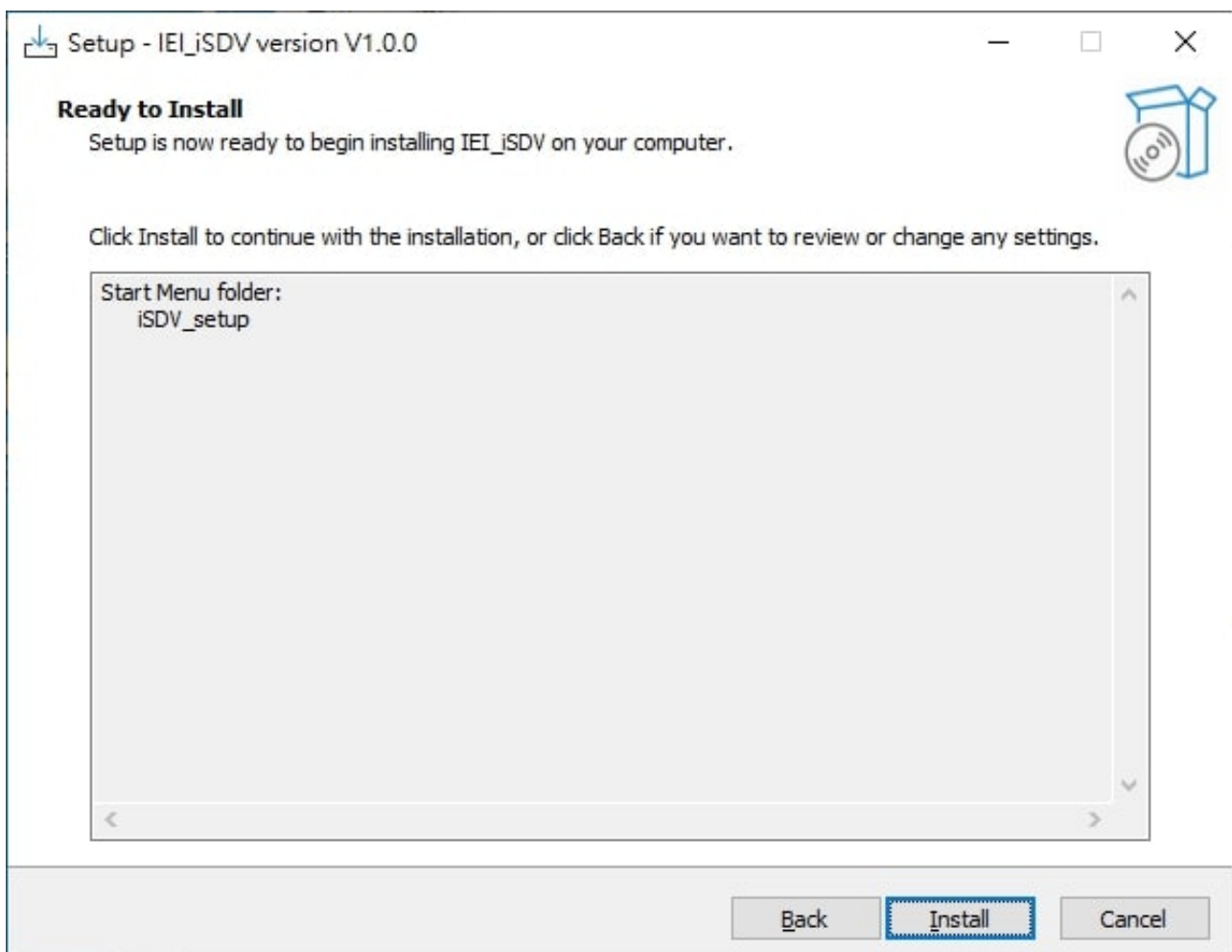
Multiviews



Video Walls



Download iSDV Software



Windows

Step 1: Double-click iSDV Installer to begin the installation.

Step 2: Follow the steps of the setup wizard to complete the installation.

Step 3: Once installed, click the iSDV web app to start using iSDV Network Video Orchestrator.

Step 4: Log in the app using the default username and password:

Username: admin

Password: admin

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root@user-9451:/home/user# apt-get install net-tools docker.io docker-compose unzip
Reading package lists... Done
Building dependency tree
Reading state information... Done
net-tools is already the newest version (1.86-gitt28101110.90d889-1ubuntu1).
unzip is already the newest version (6.0-21ubuntu1.1).
unzip set to manually installed.
docker.io is already the newest version (20.10.7-ubuntu5-18.04.3).
The following packages were automatically installed and are no longer required:
  linux-hwe-5.4-headers-5.4.0-108 linux-hwe-5.4-headers-5.4.0-104
  linux-hwe-5.4-headers-5.4.0-42
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  golang-docker-credential-helpers python-backports.ssl-match-hostname
  python-cached-property python-certifi python-chardet python-docker
  python-dockerpty python-dockerpycreds python-docopt python-functools
  python-functools32 python-josepy python-mock python-openapi python-pbr
  python-requests python-texttable python-urllib3 python-websocket python-yaml
Suggested packages:
  python-functools32 python-doc python-openapi-doc python-openapi-dbg
  python-sonob python-slim
The following NEW packages will be installed:
  docker-compose golang-docker-credential-helpers
  python-backports.ssl-match-hostname python-cached-property python-certifi
  python-chardet python-docker python-dockerpty python-dockerpycreds
  python-docopt python-functools python-functools32 python-josepy
  python-mock python-openapi python-pbr python-requests python-texttable
  python-urllib3 python-websocket python-yaml
0 upgraded, 21 newly installed, 0 to remove and 174 not upgraded.
Need to get 1399 kB of archives.
After this operation, 5907 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ftw.archive.ubuntu.com/ubuntu bionic/universe amd64 python-backports.ssl-match-hostname all 3.5.0.1-1 [7024 B]
Get:2 http://ftw.archive.ubuntu.com/ubuntu bionic/universe amd64 python-cached-property all 1.1.1 [2404 B]
Get:3 http://ftw.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 golang-docker-credential-helpers amd64 0.5.0-2ubuntu0.1 [477 kB]
Get:4 http://ftw.archive.ubuntu.com/ubuntu bionic/universe amd64 python-dockerpty all 0.2.1-1 [4136 B]
Get:5 http://ftw.archive.ubuntu.com/ubuntu bionic/main amd64 python-certifi all 2018.1.18-2 [34 kB]
Get:6 http://ftw.archive.ubuntu.com/ubuntu bionic/main amd64 python-chardet all 3.0.4-1 [98.9 kB]

```

Ubuntu

Step 1: Go into Ubuntu 18.04 Desktop Version

Step 2: Install tools to create an environment for iSDV Network Video Orchestrator.

sudo su

apt-get update

apt-get install net-tools docker.io docker-compose unzip bash

setup.sh

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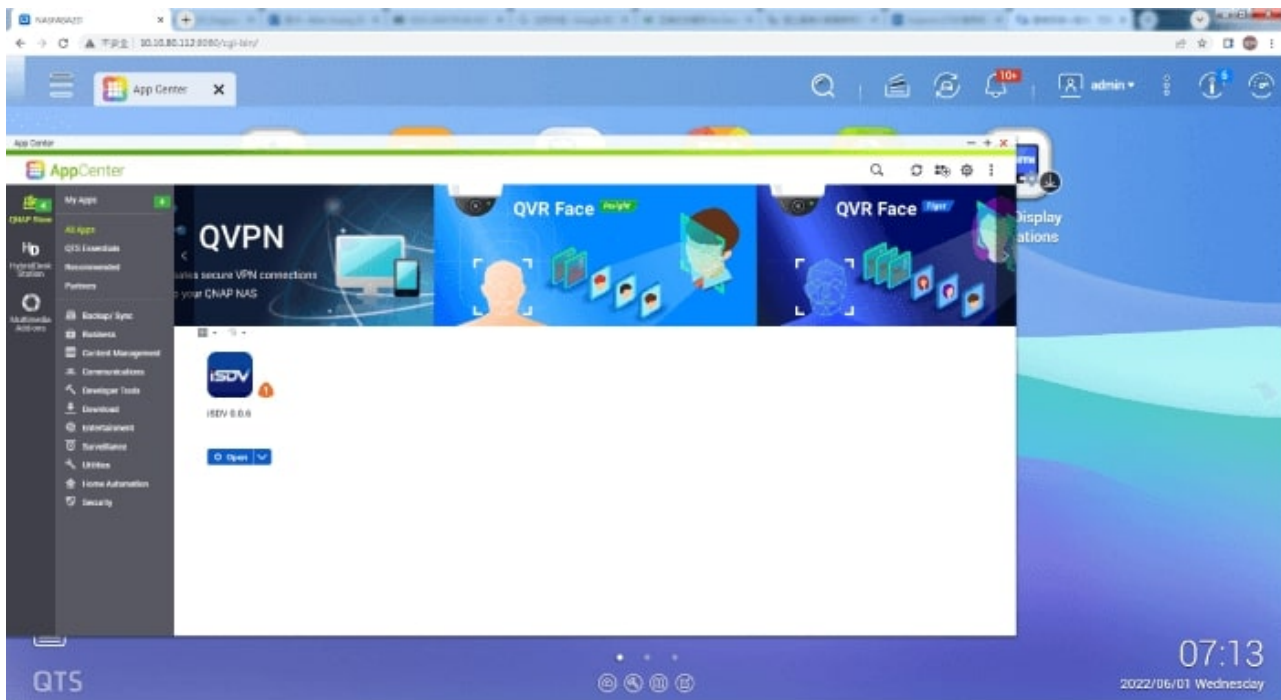
Step 3: Install iSDV Network Video Orchestrator

unzip ieiDocker.zip

cd ieiDocker

bash setup.sh

Step 4: Open the iSDV webpage by using the URL: <https://localhost:1212>



QTS 5

Step 1: Launch App Center in QNAP QTS 5

Step 2: Search for “iSDV”.

Step 3: Click the Install button to install the iSDV application.

Step 4: Once installed, click the Open button to launch the app.

Hardware Key Strengths

Transceiver

The iSDV-200CTR is a next generation transceiver which is unique in that it can be both an encoder and a decoder simultaneously, delivering ultimate performance, flexibility and cost savings. Furthermore, the TRX can transmit and receive up to 4K60 video simultaneously.



10GbE SFP+ and RJ45 Combo Port

To meet diverse network switch requirements, the iSDV-200CTR supports both SFP+ (fiber) and RJ45 (copper) ports for servicing a range of network needs.

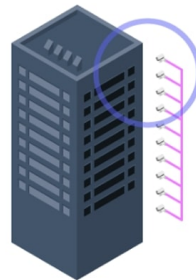
* The SFP+ transceiver module is not included in the package.

* The SFP+ and RJ45 ports can't be used simultaneously.



Up to 100m over Cat-6a UTP copper cable

Extends the transmission over Cat-6a cable up to 100m from the HDMI™ source at Ultra-HD 4K2K@60 4:4:4 and extends flawless signal quality across a room or an entire facility.



Up to 40km over single mode fiber

Extends the transmission over optic cable up to 40km, and go beyond the limits of normal AV signal extensions to support massive building to building installations.

* The SFP+ transceiver module is not included in the package

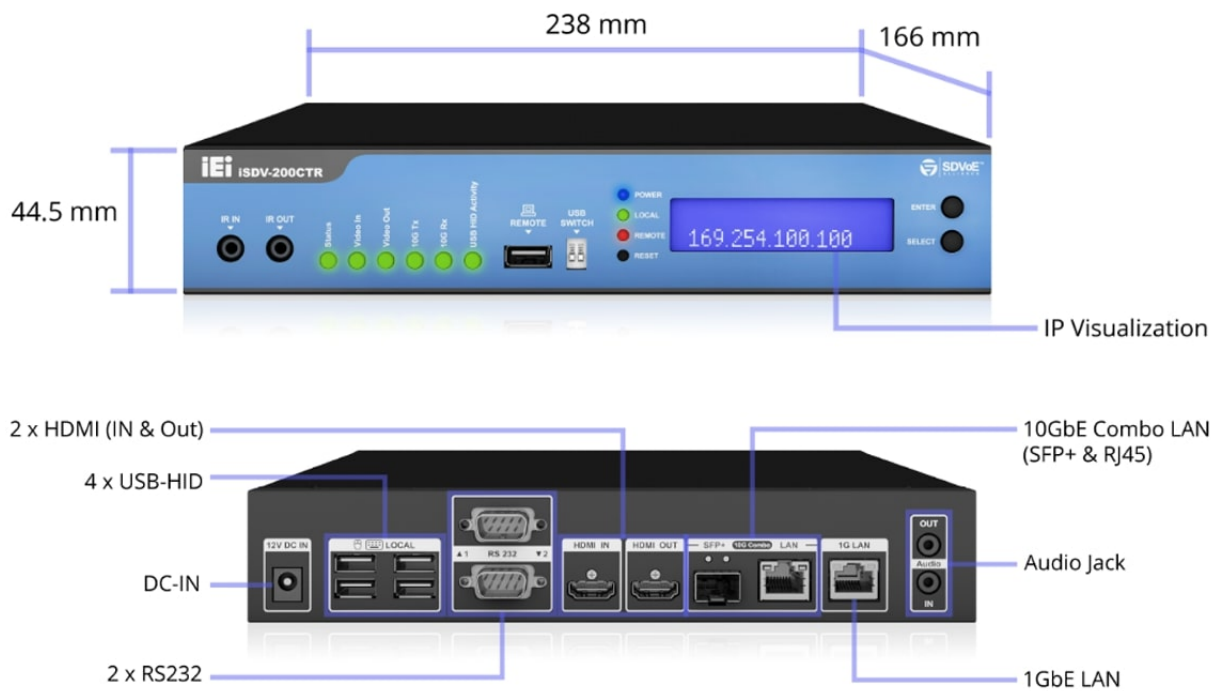


Management Visualization

For easier management, the iSDV-200CTR is designed with a LCM to show the IP address of the device, and various LED indicators are provided on the front panel for you to check the device status on site directly.



Hardware I/O & Dimensions



Selection for SDVoE Total Solution

We provide a total solution for your 4K SDVoE deployment, including embedded systems for control centers, high-performance NAS for storage and web-managed switches for network management.

Embedded System & NAS



IDS-310-AL

Fanless Ultra-compact
Digital Signage system



ITG-100-AL

Fanless Ultra-compact
Size Embedded System



TS-464

QNAP Quad-core
Rackmount NAS

QNAP 10GbE Managed Switch



QSW-IM1200-8C

Industrial-grade Fanless full
10GbE Switch



QSW-M1208-8C

Layer 2 Web Managed
Switch with four 10GbE
SFP+ ports and eight 10GbE
SFP+/RJ45 combo ports



QSW-M1204-4C

Layer 2 Web Managed
Switch with eight 10GbE
SFP+ ports and four 10GbE
SFP+/RJ45 combo ports



QSW-M804-4C

Layer 2 Web Managed
Switch with four 10GbE
SFP+ ports and four 10GbE
SFP+/RJ45 combo ports

Maximum Compatibility and Stability

Fully Standard and SDVoE™ Alliance Compliant

To meet the universal market demands of 4K video solution, IEI complies with SDVoE technology and standard to offer 4K video streaming platforms with maximum compatibility, stability, and zero latency extension and switching.



SDVoE™ Alliance, the leading AV technology provider with complete ecosystem, integrates various expert teams of manufactures, system designers, software developers, and system integrators to accelerate the replacement of point-to-point connectivity and the matrix switch with Ethernet-based AV distribution, and achieve an excellent AV experience for users.