KanexPro®

NetworkAV™ over IP Sender & Receiver w / Central Control & PoE

EXT-NETAVTX

EXT-NETAVRX

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EXT-NETAVRX_V1.0

Statement

Read this user manual carefully before using the product. Pictures shown in this manual is for reference only. Different models and specifications are subject to real product. This manual is only for operation instruction only. The functions described in this version are updated as of May 31st, 2018. In the constant effort to improve our product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

Safety Precaution

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.
Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

- Do not dismantle the housing or modify the module to avoid electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Do not expose the unit to rain, moisture or install this product near water.
- Install the device in a place with fine ventilation.
- Do not twist or pull by force ends of the CAT5e/CAT6a cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Refer all servicing to qualified service personnel.

Customer Service

We provide limited warranty for the product within three years. Contact us at (888)-975-1368 For more details, please contact your distributor or dealer. Or email us directly to support@kanexpro.com

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Revision History

Version No.	Date	Changes
V1.0		

Table of Contents

1. Introduction

The KanexPro EXT-NETAV is a total solution package for those looking to distribute multiple HD content to multiple HD displays over IP with an easy to use built-in controller over a standard 1G network switch.

Compliant with HDCP, this set of Sender and Receiver offers configurable high quality, low-bandwidth H.264 compression video supporting resolutions up to 1920x1080@60fps. It's a great solution for those looking to upgrade the traditional DVI/HDMI matrix switchers.

2. Features

● Encode & Decode AV over IP up to 495ft. (120m)
● Create a Video Wall or a Multiview experience with 100's of screens
● Unicast, Multicast, Matrix, Video Wall and Multi-viewer (up to 5 windows)
● Unlimited scalability (based on network topology)
● Low 1.5 frames per second latency
● Video resolution up to 1080p/60Hz (4:4:4)
● Supports Audio Embedding on the Sender
● Supports Audio De-embedding on the Receiver
● Works with 1G standard managed network switch
● Works with IP Camera
● H.264 Encoding/Decoding compression
● Local HDMI output on sender
● Control via RS-232 & Web-based GUI controller built-into the Sender
● POE - No power supply needed if using POE managed network switch
● Compact design for an easy and flexible installation to rack
● Backed by KanexPro 3-year parts and labor warranty

3. Package Contents

1 x NetworkAV™ Decoder
1 x DC 12V Power Adaptor
1 x User Manual

4. Specifications

Technical	
HDMI Compliance	HDMI 1.4b
HDCP Compliance	HDCP 1.4
Video Bandwidth	4.95Gbps
Video Resolutions	640x480p@60Hz ~ 1920x1080p@60Hz
Output Video Type	H.264/MPEG-4 AVC
Encoding Data Rate	Up to 30Mbps, configurable
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
Color Depth	8-bit
HDMI Audio Formats	LPCM 2CH, 48KHz
L/R Audio Formats	Analog Stereo 2CH
ESD Protection	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)
Connections	
Sender	Inputs: 1x HDMI Type A [19-pin female] 1x L/R Audio In [3.81mm Phoenix connector] 1x RS-232 [3.81mm Phoenix connector] Outputs: 1x LAN [RJ45 connector] 1x HDMI Type A [19-pin female] 1x L/R Audio Out [3.81mm Phoenix connector] 1x Debug [3.81mm Phoenix connector]
Receiver	Inputs: 1x LAN [RJ45 connector] Outputs: 1x HDMI Type A [19-pin female] 1x L/R Audio Out [3.81mm Phoenix connector] 1x RS-232 [3.81mm Phoenix connector] 1x Debug [3.81mm Phoenix connector]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	200mm [W] x 103mm [D] x 20mm [H]
Weight	Sender: 530g, Receiver: 526g
Power Supply	Input: AC100 - 240V 50/60Hz Output: DC 12V/1A (US/EU standards, CE/FCC/UL certified)

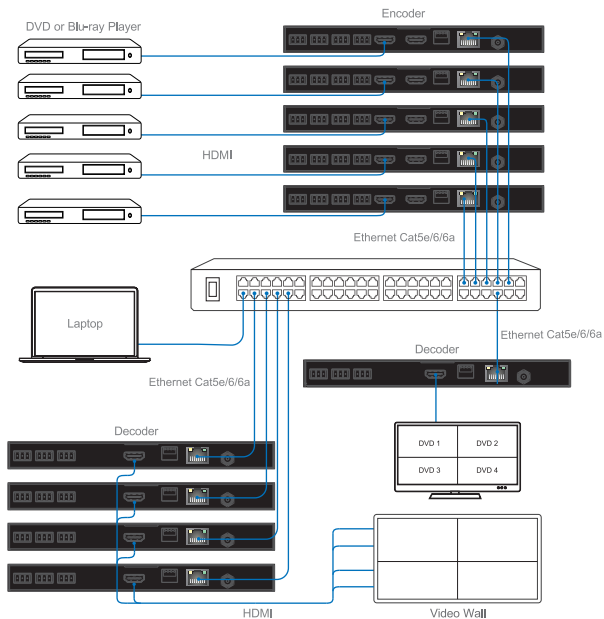| Power Consumption | Sender: 5.7W (Max), Receiver: 5.6W (Max) |
Operation Temperature	32 - 104°F / 0 - 40°C
Storage temperature	-4 - 140°F / -20 - 60°C
Relative Humidity	20 - 90% RH (no condensation)

5. Operation Controls and Functions

5.1 Sender

Items	Name	Description
1	POWER	System power status LED
2	STATUS	System working status LED One second period flickering means product working normally. Always on means system worked abnormally, this time you need to reset product by pressing reset button on the front panel or plugging power supply on the rear panel (you need plug CAT cable if product is using POE for power supply).
3	RESET	System reset button. Short pressing (<5 seconds) will reset product. Long pressing (over 5 seconds) will let product enter firmware upgrade mode.
4	RS-232	Connect third-party control system to control this product utilizing our API commands or control other devices be connected to our products (including Senders and Receivers) via RS-232 port (this is called RS-232 pass-through).

5	DEBUG	System debug port
6	AUDIO OUT	Analog stereo audio output
7	AUDIO IN	Analog stereo audio input
8	HDMI IN	HDMI input port, connect to HDMI source device
9	HDMI OUT	HDMI loop out (default video only no audio, you can enable audio from Web GUI or API)
10	CHANNEL	Reserved use
11	LAN(POE)	Connects with Hub or router for sending data to Receiver.
12	DC 12V	Connects with 12V/1A power adapter supplied in the package or doesn't need this if an IP switcher/router/hub with POE feature be connected.

5.2 Receiver

Items	Name	Description
1	POWER	System power status LED
2	STATUS	System working status LED One second period flickering means product working normally. Always on means system worked abnormally, this time you need to reset product by pressing reset button on the front panel or plugging power supply on the rear panel (you need plug CAT cable if product is using POE for power supply).

3	RESET	System reset button. Short pressing (<5 seconds) will reset product. Long pressing (over 5 seconds) will let product enter firmware upgrade mode.
4	RS-232	Connect third-party control system to control this product utilizing our API commands or control other devices be connected to our products (including Senders and Receivers) via RS-232 port (this is called RS-232 pass-through).
5	DEBUG	System debug port
6	AUDIO OUT	Analog stereo audio output
7	HDMI OUT	HDMI output port, connect to HDMI display device
8	CHANNEL	Reserved use
9	LAN(POE)	Connects with Hub or router for receiving data to Sender.
10	DC 12V	Connects with 12V/1A power adapter supplied in the package or doesn't need this if an IP switcher/router/hub with POE feature be connected.

6. Connection Diagram

DVD or Blu-ray Player

Encoder

HDMI

Ethernet Cat5e/6/6a

Laptop

Ethernet Cat5e/6/6a

Decoder

Ethernet Cat5e/6/6a

Decoder

| DVD 1 | DVD 2 |
| DVD 3 | DVD 4 |

HDMI

Video Wall

7. Installation & Setup

7.1 Basic Instructions

1. The set of sender and receiver can form a complex AV over IP system that supports Web-based GUI controlling and management.
2. Any Sender can be turn into master controller just by selecting the master controller option from the web-based GUI management system.
3. Once the master controller role is assigned to sender, then the same sender can be used to configure all the sender and receiver connected in the network.
4. Master controller can be accessed using the default login credentials.

A step by step configuration for first time installation

(1) Choose a Sender box as "Master Controller", you can connect sender to your laptop through CAT5e/6 cable directly or through a managed network switch as shown below:
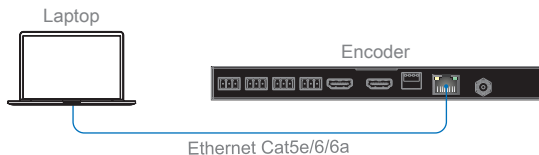
Figure 1: Laptop connects to Controller directly
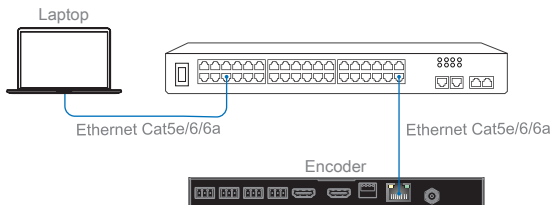
Figure 2: Laptop and Controller both connect to switcher

Note: If you have configured the connection as described above then please have only one Sender (Master controller) connected to the switch.

All Senders have the same default IP address: 192.168.1.28.
All Receivers have the same default IP address: 192.168.1.38.

Kindly update the IP address of sender which you have decided to make the master controller. Once the IP address of the Master controller is changed then you can configure all the senders and receivers connected in the network.

(2) Set your laptop IP setting to the same domain with Controller so that you can login Controller's Web page, for instance set laptop IP address to 192.168.1.111
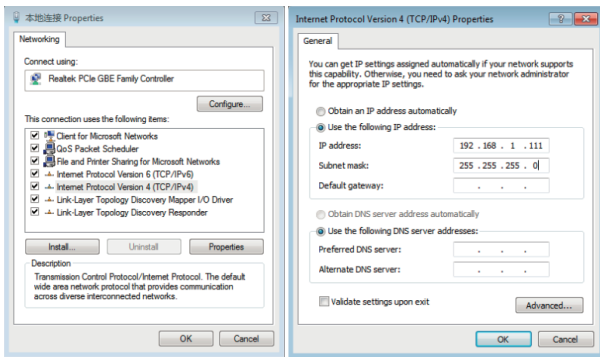
(3) Login Master Controller Web page by typing in your default IP address (192.168.1.28) in your internet browser.

Username: admin
Default don't need password to login.

As per the screen shot of the Dashboard below, please click searching devices icon (Right to the Device List) to search all Senders and Receivers in the network.

Device List   C

Please go to Setup page and change the default sender IP address to any other IP Address. For instance, 192.168.1.61 as shown in the image below.

Once the Main controller (Sender) IP address is changed then you can change the other sender and receiver IP address.

Note: During changing Senders and Receivers IP address, you can see their MAC address on the Web page (as below picture). Receiver will display its own IP address and firmware version information on the corresponding display. So, you would easily identify which Receiver you're changing.

If all the sender's are connected at the same time, each sender's ip address need to change as per the Mac address labeled at the bottom of the housing.

Otherwise, connect each sender at a time and change the IP address accordingly.

SETUP

Rename Sender/ Receiver

You can also label the sender and receiver IP address for as per your sources and display connected. Please use the Field NAME on the right of New IP address.

(4) Now you can put other Senders into system, and click "searching devices" icon:

Please change every one's IP address and name like above steps:

(5) Please set video wall parameters according to your system setup. For instance set to 2x2.

Go to Main page, you can see below 3x3 video wall layout, and you should drag each Receiver (put your cursor on the RX's IP address position) to each window position firstly. Then you also can drag each Sender to the RX window you want.
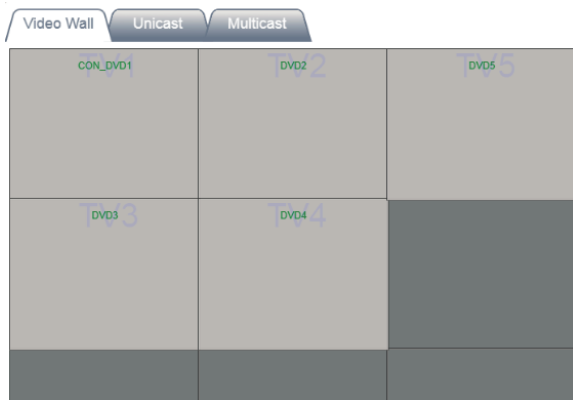
You can drag one video source cross to 4 RX windows (max up to 4x4 16 RX windows) to create a video wall like below.
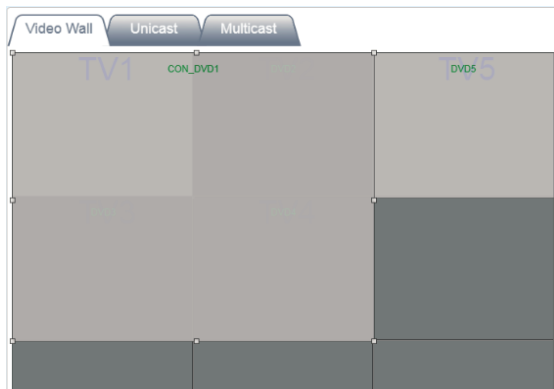
You also can set multi-view mode by clicking 4x or 5x icon for each Receiver box:

(6) After you complete all system configurations, current settings would be saved into current Controller box, it will be run automatically at next system power up. Of course, you can also save current configurations to a scene and take a name you want by clicking "Add Scene" icon. You can recall different scenes to reload different system configurations according to your applications.
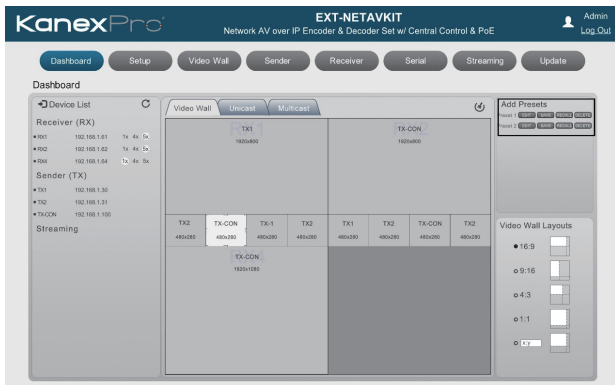
7.2 Firmware Update

Open the Update tab to update the firmware of sender and receiver.
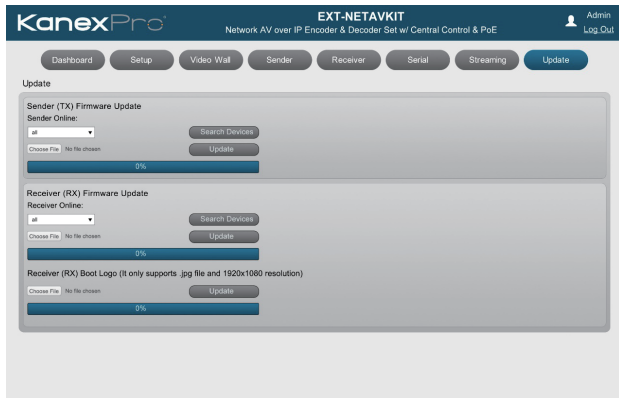
Firmware update can be done for all the sender and receiver by selecting option ALL.

Firmware update can also be performed as per each sender or receiver.

7.3 Control Using Third-party controller

Please contact supplier for the API commands documents.

Customer Services

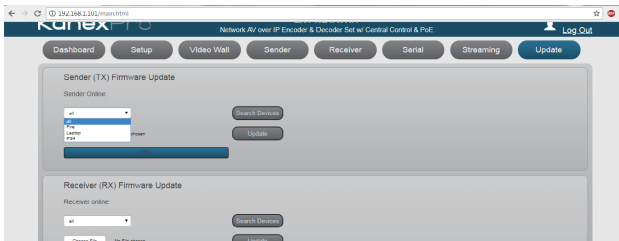The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

① **Warranty**

The limited warranty period of the product is fixed 3 (three) years.

② **Scope**

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

③ **Warranty Exclusions:**

Warranty expiration.

Factory applied serial number has been altered or removed from the product.
Damage, deterioration or malfunction caused by:

√ Normal wear and tear.

√ Use of supplies or parts not meeting our specifications.

√ No certificate or invoice as the proof of warranty.

√ The product model showed on the warranty card does not match with
   the model of the product for repairing or had been altered.

√ Damage caused by force majeure.

√ Servicing not authorized by distributor.

√ Any other causes which does not relate to a product defect.

Shipping fees, installation or labor charges for installation or setup of the product.

④ **Documentation:**

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

Remarks: For further assistance or solutions, please contact your local distributor or email directly to us at support@kanexpro.com

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