Connect CATx cables between the Extender devices and the L3 Switch. Connect a control PC to the L3 switch for fine tuning of the VINX devices. Optionally for USB extension: connect USB devices to the USB ports of the Encoder. Optionally for Audio extension: connect an audio amplifier to the Analog audio output port of the Decoder.

Box Contents
- WP-VINX-110P-HDMI-ENC (Encoder)
- WP-VINX-110P-HDMI-DEC (Decoder)

Important Safety Instructions
Please read the supplied safety instruction document before using the product, and keep it available for future reference.

Introduction
WP-VINX-110P-HDMI-ENC encoder is a multimedia extender to extend HDMI video from a local source to a remote sink. The devices can be connected either via a direct CATx cable connection or through a Gigabit Ethernet Switch (L3-switch is necessary) in between. The maximum delivery distance can reach up to 200 m with minimal latency and support a high-quality, proprietary wavelet-transform-based image compression. The device can also be powered over Ethernet (PoE). As a wall plate, it saves space and blends in more, while still enabling easy signal transmission. Optionally, USB signal transmission is also available.

Compatible Devices
The WP-VINX-110P-HDMI-ENC is compatible with all previous VINX devices (VINX-120-HDMI-ENC and VINX-110-HDMI-DEC) and also includes the VINX AP-series.

Power Supply Options
The encoder can be powered in either one of the following ways:
1. Local adapter
2. PoE remote powering via Ethernet switch

Supported Resolutions
<table>
<thead>
<tr>
<th>Resolution</th>
<th>Refresh rate (Hz)</th>
<th>Resolution</th>
<th>Refresh rate (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>640x480</td>
<td>50/59.94/60/72/75</td>
<td>1440x1050</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>720x480</td>
<td>50/59.94/60/60/60</td>
<td>1920x1200</td>
<td>50/59.94/60/60/60</td>
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<tr>
<td>720x576</td>
<td>50/59.94/60/60/60</td>
<td>1920x1080</td>
<td>50/59.94/60/60/60</td>
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<tr>
<td>800x560</td>
<td>50/59.94/60/60/60</td>
<td>1920x1200</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1024x768</td>
<td>60/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1152x870</td>
<td>50/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1280x720</td>
<td>50/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1280x800</td>
<td>50/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1280x960</td>
<td>50/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1280x1024</td>
<td>50/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1280x1080</td>
<td>50/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1280x1200</td>
<td>50/59.94/60/60/60</td>
<td>2560x1600</td>
<td>50/59.94/60/60/60</td>
</tr>
<tr>
<td>1360x768</td>
<td>60/59.94/60/60/60</td>
<td>3840x2160</td>
<td>25/24/24/24/24/24/24/24</td>
</tr>
<tr>
<td>1366x768</td>
<td>60/59.94/60/60/60</td>
<td>3840x2160</td>
<td>25/24/24/24/24/24/24/24</td>
</tr>
</tbody>
</table>

*Only in 4:2:0 mode as case of 60 Hz refresh rate.

Further Information
The document is valid with the following firmware version: 3.0.1. The user’s manual of this appliance is available on www.lightware.com. See the Downloads section on the dedicated product page.

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How to Connect to a VINX Device to Control?

When the VINX device and a control device (PC, laptop, mobile device) are connected to the same network, the VINX can be configured via a web browser (Google Chrome and Mozilla Firefox are recommended) or by consulting Lightware Device Controller (LDC).

Step 1 – Make the VINX and the control devices meet

The following cases may occur in case of a factory default device:

a. There is a DHCP server in the network: the VINX device got an IP address from the DHCP server. Make sure the control PC is connected to the same network.

b. There is no DHCP server in the network: the VINX device generates an IP address in the 169.254.x.x range (AutoIP). Set the IP address of the control PC to match with this range (with subnet mask 255.255.0.0).

Step 2 – Establish the connection

Connect to the VINX via any of the following ways:

a. Connecting via the Lightware Device Controller Software

b. Connecting via the Built-in Web Page

If you do not have the chance to install a software or you would access the built-in webpage from a mobile device, type the IP address of the desired device to the address line of the browser.

Preparing the Network – The Requirements of the Switch

The recommended type of network device: 1Gbit Ethernet network with Layer 2 or 3 switch. Gigabit Ethernet. In TCP/IP terminology, Layer 2 is the data link layer that is responsible for splitting up the information coming from higher layers in the TCP/IP stack into Ethernet frames. An Ethernet frame contains labeling information with source and destination physical addresses (called source and destination MAC address). These physical addresses uniquely identify the source and destination physical devices (e.g. a VINX encoder and a VINX decoder). Ethernet frames often require error resilience by incorporating a redundancy check field through which transmission errors can easily be detected. The device that only uses the physical address information found in the Ethernet frame to route the packet from one of its input ports to one or more of its output ports is an unmanaged switch.

A managed switch, on the other hand, can handle the traffic and forward input packets to output packets by utilizing information from higher layers. This gives the managed switch more flexibility and also allows for more sophisticated functions like multicast forwarding. Since even a simple VINX network, where one VINX encoder supplies more VINX decoders, relies on multicasting, a multicast capable switch (i.e. a managed one) is a must. The managed switch shall offer the following capabilities:

- IGMPv2
- IGMP snooping, IGMP fast leave, IGMP querier
- Multicast filtering
- Jumbo frames

For more information about the requirements and technologies, please see the Application Note on our website.

Installation Checkpoints

The following help to have a successful install: check the settings listed below.

- Check the settings as described in the Preparing the Network section.
- Use only CAT5 FTP AWG23 cables: the maximum allowed cable length is 100m.
- Power the devices by local adaptors or by PoE: the feature is enabled on the RJ45 ports by default.
- Power on the devices as the final step of the cabling:
  1. Power on the L3 switch first. Wait a few minutes for the device to be ready.
  2. Power on the VINX devices.

Audio source

- Deep embedded audio

Video Layout Examples

The following examples show how the VINX devices can be arranged into video wall applications. See more details in the User’s Manual available at www.lightware.com.

Multicast Mode with Video Wall

Features of the system:
- Displaying one of the two video signals on the video wall and on a sink.
- Displaying the other video signal on a sink.
- The other video signal can be displayed on the video wall by using software tools (built-in web or LW3 protocol commands).

Two Video Walls and Local Monitors with One Encoder

Features of the system:
- One Encoder is enough to supply the Decoders.
- Displaying one video signal on two different video walls (e.g. in different rooms).
- Displaying the video signal on 1-1 single sinks.

### Mounting Steps

Thanks to the design of Lightware devices, WP-VINX-110P-HDMI-ENC wall plate encoder can be mounted easily into an industrial standard box as the figures to the right show. B225R switch/outlet box is not supplied with the product, it can be purchased separately.

1. Install the front side of the extender to the B225R outlet box and position it to get the holes aligned.
2. Install the front side of the extender to the B225R outlet box by fitting the four flat-headed mounting screws.
3. Place the cover on the front side of the extender and position it to get the holes aligned.
4. Fasten the cover to the front side of the extender by fitting the four round-headed fixing screws.

Factory Default Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP address</td>
<td>Dynamic (DHCP is enabled)</td>
</tr>
<tr>
<td>Crosspoint setting</td>
<td>Port 1 on all outputs</td>
</tr>
<tr>
<td>Video stream ID</td>
<td>1</td>
</tr>
<tr>
<td>HDCP mode</td>
<td>Auto</td>
</tr>
<tr>
<td>Output video mode</td>
<td>Graphical mode</td>
</tr>
<tr>
<td>Color space / color range</td>
<td>Auto / Auto</td>
</tr>
<tr>
<td>HDMI mode</td>
<td>Auto</td>
</tr>
<tr>
<td>Emulated EDID</td>
<td>Fail / (Unreal EDID)</td>
</tr>
<tr>
<td>User EDID memory</td>
<td>Empty (cleared)</td>
</tr>
<tr>
<td>Connecting method</td>
<td>Multicast mode</td>
</tr>
<tr>
<td>Available video walls</td>
<td>Empty (cleared)</td>
</tr>
<tr>
<td>Audio source</td>
<td>Embedded audio</td>
</tr>
</tbody>
</table>