**PacketAV**

**E4100 Encoder • D4100 Decoder**

**4K UHD Over IP Network - Encoder • Decoder**

**Visionary Solutions** 4K UHD over IP cinema quality, ultra-low latency (~1 frame - visually lossless), encoder and decoder bypass the constraints of traditional switch matrix systems by harnessing the flexibility and scalability of converged IP networks.

- **Distribute 4K video over Gigabit Ethernet Network**
- **Unlimited Distribution**
- **Low-Cost network switches are used**
- **No fiber or 10 Gigabit switch required**
- **Any number and combination of inputs/outputs**
- **Standard network cabling (CAT5e/6)**
- **Utilize existing network resources**
- **Rapid deployment**
- **Single network for AV and IT**

**How It Works**

An encoder is connected to an AV source signal (HDMI), (camera, media player, PC or Server, BluRay or digital signage player).

The signal is converted into a packetized network stream that's compatible with off-the-shelf IGMP enabled Gigabit Ethernet (GbE) switches (Jumbo Frames enabled).

Using existing Cat5e/6 infrastructure, users can connect Cat5e/6 to any decoder anywhere on the same GbE network.

The decoder takes the IP packets received over Cat5e/6 cables, converts them back into an HDMI signal connecting directly to a display, delivering visually lossless video along with RS232 controls.

Any signal from any encoder can be sent to any combination of decoders on the network. The signals can easily be controlled with the software provided to create different outputs on the display side; including video wall or matrix switching.

- **In Room Magnification / Image Magnification**
- **Sports bars**
- **Reception areas**
- **Boardroom systems**
- **Commercial & Residential AV systems**
- **Retail**
- **Live venues**
- **Classroom/Education**
- **Collaborative PC systems**
- **Stadiums**
- **Digital Signage**
- **Command & Control Rooms**
- **Luxury Transport**
- **Courtrooms**

Visionary Solutions, Inc.
Network AV Solutions

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Features

- **HDMI over IP** - Transport 4K Ultra-High-Definition (UHD) 2160p60 (4:2:0) / 2160p30 (4:4:4) over Gigabit Ethernet Networks
- **High Dynamic Range (HDR)**
- **Point-to-Point, Point-to-Multipoint, and Multipoint-to-Multipoint capable**
- **Auto Video Scaler** - 4K in / 1080P out, 1080P in / 4K out
- **Audio embedding and de-embedding** - supports digital and stereo analog audio
- **HDMI 2.0 and HDCP 2.2 Compliant**
- **Adjustable bitrate** - 10 - 200 Mbps or Auto (850Mbps max)
- **POE**
- **Scalable**
  - Extensible AV Distribution - escape traditional fixed matrix limits
  - Expand the video matrix by adding encoders or decoders
  - Allows for practically any combination of inputs and outputs
- **Matrix and Built in Video Wall functions**
  - A Single platform to support distributed displays and Video Walls; without separate expensive video wall processors & controllers
  - Enhanced Video Wall functionality - supports video rotation 180/270 degrees
  - Easily Create Video Walls using normal commodity displays
  - Built-in processor that allows you to build up to a 8x16 Video Wall
- **Seamless Fast Switching** - tearing free, no black screen, no frame lock
- **Control** - A Control System lets you select what content is displayed - 3rd Party Control Drivers (QSC, Symetrix, Crestron, AMX, etc.) *API providing access to the full range of features on the encoders and decoders offered to qualified System Integrators.
- **RS232 over IP** - control any device with an RS232 interface
- **USB 2.0 over IP** - control practically any remotely located device using USB devices and interfaces. Also supports KVM over IP.

Specifications

<table>
<thead>
<tr>
<th>E4100</th>
<th>D4100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>123/147mm(w/Flange)(W) x 132mm(L) x 40mm(H), 370g</td>
</tr>
<tr>
<td><strong>Ethernet Port</strong></td>
<td>POE, UTP/STP 1000Mbps (8K Jumbo Frame required)</td>
</tr>
<tr>
<td><strong>Protocol</strong></td>
<td>IP, UDP, TCP, ICMP, IGMP</td>
</tr>
<tr>
<td><strong>HDMI Port</strong>*</td>
<td>19 pin type A female</td>
</tr>
<tr>
<td><strong>RS232 Port</strong></td>
<td>5.0/DC5V, 2A</td>
</tr>
<tr>
<td><strong>Audio Jack (Line In/Out)</strong></td>
<td>Phoenix Euro Block 3.81mm pitch - 5 pins</td>
</tr>
<tr>
<td><strong>USB Port</strong></td>
<td>Type-B USB2.0</td>
</tr>
<tr>
<td><strong>LAN Bandwidth</strong></td>
<td>120Mbps (UTP) between 2 devices (Encoder/Decoder/Ether Switch)</td>
</tr>
<tr>
<td><strong>Max. Supported Timing</strong></td>
<td>Downscale to 1/2 Upscale from horizontal pixels &lt; = 1920</td>
</tr>
<tr>
<td><strong>Max. Distance</strong></td>
<td>~1 frame</td>
</tr>
<tr>
<td><strong>Latency</strong></td>
<td>~17ms at 60 fps, ~33ms at 30fps</td>
</tr>
<tr>
<td><strong>Video Wall</strong></td>
<td>Up to 8 x16 display Image rotation (180/270°) Accurate frame gap compensation Tearing free</td>
</tr>
<tr>
<td><strong>USB Redirection</strong></td>
<td>KM over IP: dedicated for KVM application, USB over IP: support any kind of USB HID devices</td>
</tr>
<tr>
<td><strong>HDMI Audio Redirection</strong></td>
<td>2 Ch LPCM &amp; 8 Ch LPCM 5.1 Ch NLPCM 7.1 Ch NLPCM</td>
</tr>
<tr>
<td><strong>HDMI Audio Extraction</strong></td>
<td>2 Ch LPCM (32KHz–96KHz)</td>
</tr>
<tr>
<td><strong>Stereo Audio Redirection</strong></td>
<td>LINE IN (switch off HDMI audio) LINE OUT</td>
</tr>
<tr>
<td><strong>RS232 Redirection</strong></td>
<td>Transparent binary data transmission</td>
</tr>
<tr>
<td><strong>HDMI 3D Support</strong></td>
<td>HDMI 2.0 3D: TnB, SbS, F.P.</td>
</tr>
<tr>
<td><strong>Compression Technology</strong></td>
<td>JPEG2000 based visually lossless video compression algorithm</td>
</tr>
<tr>
<td><strong>Certificate</strong></td>
<td>CE/FCC</td>
</tr>
<tr>
<td><strong>Compliance</strong></td>
<td>HDMI 2.0/HDCP 2.2/RoHS</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>0–70°C</td>
</tr>
<tr>
<td><strong>Operating Humidity</strong></td>
<td>10–85% RH (no condensation)</td>
</tr>
<tr>
<td><strong>Storage Temperature</strong></td>
<td>-10–80°C</td>
</tr>
<tr>
<td><strong>Storage Humidity</strong></td>
<td>5–95% RH (no condensation)</td>
</tr>
</tbody>
</table>

Visionary Solutions, Inc. sets the industry standard for high-quality video transport over IP networks, and has been developing IPTV technologies for over a decade. Visionary is known for solid performance of embedded appliances, system-level understanding and customer-focused problem solving.