Industrial VGA Splitter/Extender via CAT5 with M12 Connectors

**VOPEX®**

Drive up to 16 displays 600 feet (183 meters) away from one computer in rail transportation and industrial environments

- Supports resolutions up to 1920x1440.
- Easily expandable. Add remote units as you add monitors.
- Optional audio can be broadcast to self-powered stereo speakers at the local unit and each remote location.
- Meets the electrostatic discharge (ESD) immunity requirements of IEC/EN 61000-4-2.
- High quality rugged steel construction with durable powder coat finish.
- M12 connectors resist vibration and provide reliable connectivity in harsh environmental conditions.
- Integrated mounting brackets for easy surface/wall mounting.
- Ideal for digital signage, passenger information systems on mass transit, train stations, industrial environments, airports, and other applications that require multiple displays with reliable robust connections.

VOPEX-M12V-4 Local Unit (Front & Back) and ST-M12V-R-600 Remote Unit

- Vibration resistant
- Robust Screw Terminal Power Connection
- High quality rugged steel construction
- Meets EN 50155 Standards

The VOPEX® Industrial VGA Video Splitter/Extender simultaneously broadcasts high-resolution video from one computer to 4, 8, or 16 remote monitors located up to 600 feet (183 meters) away using CAT5/5e/6 cable with M12 connectors. The robust M12 connector system is ideal for rail transportation and harsh industrial environments where reliable connections are required.

VGA video splitter/extender system has two components: the VOPEX-M12V-x VGA broadcast unit, which connects to the host computer and also supplies video to a local monitor, and an XTENDEX® ST-M12V-R-600 remote unit for each remote monitor. The units are interconnected by CAT5/5e/6 cable terminated with M12 connectors.
### Local Unit

**Video Input**
- Supports a computer with VGA video.
- Male 15-pin HD connector.
- Input frequency ranges:
  - Horizontal: 15 to 130 kHz.
  - Vertical: 30 to 150 Hz
- Supports Separate and Composite TTL level sync and Sync on Green.
- Input impedance: 75 Ohms.
- Maximum input levels: 1.45 p-p.
- Video is DC coupled.

**Video Output**
- Female 8-pin A-Coded M12 connectors for CAT5/5e/6 cable to remote units.
- Female 15-pin HD connector for local monitor.
- Crisp and clear 1920x1440 video resolution.
- Output impedance: 75 Ohms.
- Maximum output level: 1.45Vp-p

**Optional Audio**
- Terminal block for stereo audio connections.
- Frequency response: 20 Hz to 20 kHz, ±1dB.
- Signal-to-Noise Ratio (SNR): 76 dBA.
- Total Harmonic Distortion and Noise (THD+N): 0.017%.
- Stereo Crosstalk: -70 dB.
- Input impedance: 10k Ohms.
- Line level output; supports multimedia speakers.
  - CD quality audio output.
- Maximum I/O levels for audio: 3.1 Vp-p (line level).

**Cables**
- 3-foot (0.91-meter) VGA cable included.
- Use CAT5, CAT5e or CAT6 UTP straight through cable for TIA/EIA-568B wiring terminated with 8-pin male M12 connectors (not included).
  - Use M12-8PWTP-M-FA to terminate both ends of CAT5/5e/6 cable.

**Power**
- 18~36 VDC via 3-pole detachable screw terminal.
- Power consumption: <5W

**Dimensions**
- 4-port WxDxH (in): 5.63x3.46x1.71 (143x88x43 mm)
- 8-port WxDxH (in): 5.63x3.46x3.00 (143x88x76 mm)
- 16-port WxDxH (in): 11x3.46x3.00 (279x88x76 mm)

**Environmental**
- Operating temperature: -4 to 158°F (-20 to 70°C)
- Storage temperature: -40 to 185°F (-40 to 85°C)
- Operating and Storage Relative Humidity: 17 to 90% non-condensing RH

**Regulatory Approvals**
- CE, RoHS
- EN51055, EN50121-3-2

### Remote Unit

**Video Output**
- Female 15-pin HD connector.
- Supports resolutions up to 1920x1440.
  - When using CAT6 cable, some degradation may be experienced, depending on the construction of the cable.
- Output impedance: 75 Ohms.
- Video quality adjustment for different lengths of CAT5/5e/6 cable done manually.

**Optional Audio**
- Terminal block for stereo audio connections.
- Frequency response: 20 Hz to 20 kHz, ±1dB.
- Signal-to-Noise Ratio (SNR): 76 dBA.
- Total Harmonic Distortion and Noise (THD+N): 0.017%.
- Stereo Crosstalk: -70 dB.
- Line level output; supports multimedia speakers.
  - CD quality audio output.
- Maximum output levels: 3.1Vp-p (line level).

**Power**
- 18~36 VDC via 3-pole detachable screw terminal.
- Power consumption: <5W

**Dimensions**
- WxDxH (in): 3.48x3.08x1.45 (88x78x37 mm)

**Environmental**
- Operating temperature: -4 to 158°F (-20 to 70°C)
- Storage temperature: -40 to 185°F (-40 to 85°C)
- Operating and Storage Relative Humidity: 17 to 90% non-condensing RH

**Regulatory Approvals**
- CE, RoHS
- EN51055, EN50121-3-2
**Industrial VGA Splitter/Extender via CAT5 with M12 Connectors**

**VOPEX®**

Drive up to 16 displays 600 feet (183 meters) away from one computer in rail transportation and industrial environments

### Distances and Resolutions for CAT5/CAT5e and CAT6 Cables

<table>
<thead>
<tr>
<th>Cable</th>
<th>Distance (feet)</th>
<th>Maximum Resolution</th>
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</thead>
<tbody>
<tr>
<td>CAT5/CAT5e (UTP)</td>
<td>600</td>
<td>1024x768 at 60Hz</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>1280x1024 at 60Hz</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>1600x1200 at 60Hz</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>1920x1440 at 60Hz</td>
</tr>
<tr>
<td>CAT5/CAT5e (STP) CAT6 (UTP)</td>
<td>300</td>
<td>1024x768 at 60Hz</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>1280x1024 at 60Hz</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>1920x1440 at 60Hz</td>
</tr>
</tbody>
</table>

### Distances and Resolutions for CAT5 EXANE cable

<table>
<thead>
<tr>
<th>Distance (feet)</th>
<th>Maximum Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>1280x1024 at 60Hz</td>
</tr>
<tr>
<td>100</td>
<td>1920x1440 at 60Hz</td>
</tr>
<tr>
<td>50</td>
<td>1920x1440 at 60Hz</td>
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</table>

### Industrial VGA Splitter/Extender via CAT5 with M12 Connectors

<table>
<thead>
<tr>
<th>NTI Part #</th>
<th>Supported Features</th>
<th>Desktop or Rackmount</th>
<th># of Ports</th>
<th>Size WxDxH (In)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOPEX-M12V-4</td>
<td>VGA Video</td>
<td>Desktop</td>
<td>4</td>
<td>5.63x3.46x1.71</td>
</tr>
<tr>
<td>VOPEX-M12V-8</td>
<td>VGA Video</td>
<td>Desktop</td>
<td>8</td>
<td>5.63x3.46x3.00</td>
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<tr>
<td>VOPEX-M12V-16</td>
<td>VGA Video</td>
<td>Desktop</td>
<td>16</td>
<td>11x3.46x3.00</td>
</tr>
</tbody>
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### Industrial VGA Splitter/Extender with Stereo Audio via CAT5 with M12 Connectors

<table>
<thead>
<tr>
<th>NTI Part #</th>
<th>Supported Features</th>
<th>Desktop or Rackmount</th>
<th># of Ports</th>
<th>Size WxDxH (In)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOPEX-M12VA-4</td>
<td>VGA Video, Stereo Audio</td>
<td>Desktop</td>
<td>4</td>
<td>5.63x3.46x1.71</td>
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<tr>
<td>VOPEX-M12VA-8</td>
<td>VGA Video, Stereo Audio</td>
<td>Desktop</td>
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<td>5.63x3.46x3.00</td>
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<tr>
<td>VOPEX-M12VA-16</td>
<td>VGA Video, Stereo Audio</td>
<td>Desktop</td>
<td>16</td>
<td>11x3.46x3.00</td>
</tr>
</tbody>
</table>

### Industrial CAT5 VGA Video Extenders, Remote Units

<table>
<thead>
<tr>
<th>NTI Part #</th>
<th>Supported Features</th>
<th>Desktop or Rackmount</th>
<th># of Ports</th>
<th>Size WxDxH (In)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST-M12V-R-600</td>
<td>VGA Video</td>
<td>Desktop</td>
<td>NA</td>
<td>3.48x3.08x1.45</td>
</tr>
<tr>
<td>ST-M12VA-R-600</td>
<td>VGA Video, Stereo Audio</td>
<td>Desktop</td>
<td>NA</td>
<td>3.48x3.08x1.45</td>
</tr>
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