QIO Expansion Module

This optional board adds multiple in- and outputs to the HDQLINE display platform and therefore increases the flexibility and the number of possible applications for this family of professional broadcast displays. Among them are 2x 10GigE SMPTE ST 2110/ST 2022 Video-over-IP (up to 3 channels each) interfaces.

Complete list of interfaces:
- 2x 10GigE interfaces supporting ST2110/ST2022
- 2x 2x 3G SDI input/output*
- 2x 6G SDI input*
- 2x 3G SDI input/output*
- 1x GigE

*Remark: Some features mentioned in this document may not be released yet. Please contact SONOVTS Media for availability.

LAN
Debug and monitoring of QIO board

<table>
<thead>
<tr>
<th>SFP 3, SFP cage</th>
<th>Mode LED</th>
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<td>SFP 4, SFP cage</td>
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<td>SFP 5, SFP cage</td>
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<td>SFP5, SFP cage</td>
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SDI 3 input
Prepared for up to 6G SDI

SDI 4 input
Prepared for up to 6G SDI

SDI 5 input/output
Prepared for up to 3G SDI

SDI 6 input/output
Prepared for up to 3G SDI

2x 10GigE module, MSA pinout
Red: SFP inserted, Green: Link established

2x Fiber (SFP+ modules not included)

2x 2x 3G SDI input/output* (copper or fiber, Non MSA) 1.5, 3.0G

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## Technical Specifications

### General
- **Model**: QIO Expansion Module Media over IP Option for HDQLINE Broadcast displays

### Video over IP
- SMPTE ST 2022-6 SDI over IP
- SMPTE ST 2110-10/20 Video over IP
- Up to 3 IP video inputs
- Receive via dual 10GE
- SMPTE ST 2022-7 supported

### Audio over IP
- SMPTE 2110-30 Linear PCM audio over IP (video stream has to be present)
- Up to 16 IP audio input streams
- Receive via dual 10GE
- SMPTE ST 2022-7 supported

### Video format
- **SD-SDI**: Not supported yet
- **HD-SDI**: SMPTE ST 292/ST 296/ST 274
  - 1920 x 1080i: 25/29.97/30
- **3G-SDI**: SMPTE 424 (Level A)/ST 274
  - 1920 x 1080p: 50/59.94

### Timing
- **PTP profile support**: SMPTE 2059-2 PTP profile
- **Media Timing**: SMPTE ST 2059-1, SMPTE ST 2110-10

### Electrical / Mechanical
- **Operating Temperature**: 5 °C - 35 °C
- **Power Requirement**: DC 12 – 24V, supplied by HDQLINE display
- **Power consumption typ (±5% tolerance)**: 22W
- **Dimensions (Width x Height x Depth)**: 157mm x 172mm x 18mm (fits into HDQLINE option slot)
- **Weight**: approx. 200g

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