**Features**

- **Inputs:** QAM (Annex B), IP, DVB-ASI with automatic switchover from QAM to ASI.
- **Optional second RF input port**
- **Outputs:** ASI, SDI or HD-SDI, Analog Component (YPbPr or RGB), Composite (NTSC or PAL), or IP (up to 4 IP transport streams out, SPTS or MPTS).
- **Decodes and displays closed captioning (EIA 608 or EIA 708)**
- **Receives QAM signal via 75 ohm F-connector**
- **MPEG-2 MP@HL compliant video decoder supplies either digital or analog video outputs**
- **Digital video signal compliant with SMPTE-259M/ SMPTE-292M (SDI) with embedded 2 channel audio (SMPTE-299M)**
- **Dolby Digital® AC-3, HE-AAC, and MPEG-1/2 5.1 channel audio decoder**
- **Dolby Digital® AC-3 or PCM stereo audio selectable over BNC connector**
- **Dolby Pro Logic compatible stereo audio output on one XLR connector and one D-sub 9P connector**
- **RGB video signal with 1080i/720p/480p/480i video mode**
- **NTSC/PAL video output available**
- **2 lines by 40 characters LCD display**
- **Down converts HD input to SD out for monitoring**
- **Front panel controls for fast setup**
- **Firmware upgradeable via internet or USB**
- **SNMP (10/100/1000 Base T Ethernet) management**
- **Easy-to-use Web-based GUI**
- **PSIP display – PAT, PMT, MGT, VCT, EIT, STT**
- **Also supports H.264 for future proofing**
- **Now supports AFD**

**Applications**

- **Off air QAM receiver**
- **MPEG-2 HD or SD Decoder**
- **Upgrade from TLV300E-QAM**
- **Content repurposing**

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**Overview**

QAM is the worldwide standard for cable modulation. It is designed to deliver digital streams at up to 38 Mbits per second. The versatile all purpose **TLV400E-QAM** Professional new generation frequency agile receiver demodulates all QAM HDTV frequencies and supplies crystal clear digital or analog video from all formats used by Broadcast Professionals all over the world. It not only functions as a broadcast demodulator but also doubles as a high-end professional MPEG-2 decoder. It features an easy-to-use GUI, plus front panel controls. Both allow you to change settings quickly.

The output of the demodulator is available on a DVB-ASI connector. The output of the decoder is HD-SDI, SDI, YPrPb, RGB, IP, or composite. With its DVB-ASI inputs it is able to decode transport streams up to 45 mbps. Designed to support the QAM Annex B standard, it supports 480i, 480p, 720p and 1080i decoding. Audio support is via embedded audio or via L/R 5 channel XLR connectors.

Audio support includes analog stereo audio output (L, R) on XLR’s. For Dolby Pro Logic audio output there is a front panel control to enable Pro Logic surround sound audio on the two XLR’s. For users looking for digital audio via PCM or compressed audio, the output TS is via the BNC connectors. The outputs are enabled via the MAIN/AUDIO/DIGITAL LCD menu. The compressed audio on the BNC has a Dolby AC-3 with 5.1 channels.

A notable feature is the unit’s ability to change automatically between RF, ASI, and IP inputs.

The GUI has evolved over the years to be highly intuitive. Most engineers like it.
The TLV400E-QAM has decoded PCM audio embedded. Supported modes of SDI are:

<table>
<thead>
<tr>
<th>Video Mode</th>
<th>Frame Rate</th>
<th>Embedded Audio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1080p</td>
<td>29.97 Hz (59.94)</td>
<td>PCM</td>
</tr>
<tr>
<td>720p</td>
<td>30 Hz (60)</td>
<td>Supported</td>
</tr>
<tr>
<td>480p/576p</td>
<td>25 Hz (50)</td>
<td>Supported</td>
</tr>
<tr>
<td>480i/576i</td>
<td>Not defined (480i)</td>
<td>Not Defined (576p)</td>
</tr>
</tbody>
</table>

The SDI has EIA-608 and EIA-708 closed caption (=DTVCC) embedded. It also has line 21 closed caption on 480i mode.

**Specifications**

| Front Display/ Keys | • 2 lines by 40 characters LCD  
|                     | • 18 keys for Easy Control  
|                     | • LOCK, ENTER, EXIT, ARROW, and Numeric Keys  
|                     | • LED (3 colors: Green, Amber, Red)  

**QAM Input**

- Channel: 55-860 MHz RF Selectable
- Connector: 2 x 75 Ohm BNC-type Connector
- Sensitivity:  
  - UHF: > 43.5 dBµV
  - VHF HIGH: > 35.4 dBµV
  - VHF LOW: > 35.4 dBµV

**Optional Second RF Input**

- 8VSB or QAM

**TS Input**

- Format: SMPTE 310M, IP (UDP/RTP, SMPTE 2022), or DVB-ASI (Select ASI or 310M at front panel)
- Connectors: 75 ohm BNC, RJ-45

**Audio Output**

- Signal: AES3-id (Select ASI or 310M or AES3-id output at front panel)
- Connector: Dolby AC-3 audio with 5.1, AAC, MPEG 1/2, PCM  
  - 1st Audio Output: Connector: XLR connector (AES 3-id)
  - Optional 2nd Audio Output (SAP): Connector: D-sub 9p connector
- Audio Levels: Set to +4dBm for -20dBFS digital audio contents when the audio attenuation menu is set to zero. The audio level can be attenuated using the front panel audio configuration menu.
- Digital Audio Output: Choose either PCM mode or COMPRESSED audio output mode for MAIN channel. The chosen audio mode is used for all BNC output ports. You can have PCM mode only for the SUB channel. You may have COMPRESSED audio out of MAIN channel over BNC port and PCM audio out of SUB channel over BNC port.
- Amplifier/Speakers: One 10W amplifier and speaker for L+R channel

**Supported SDI Modes**

**Supported SDI Modes**

- Video Mode: 1080i, 720p, 480p, 576p, 480i, 576i
- Frame Rate: 29.97 Hz, 30 Hz, 25 Hz
- Embedded Audio: PCM, Compressed

**Ordering Info**

TLV400E-QAM  
TLV400E-QAM/2RF – with optional second RF input port