

# TLV400E-QAM™

**Broadcast Quality Frequency Agile High Definition Clear QAM Receiver Demodulator with MPEG-2 HD/SD Decoder (2.5-45 Mbps). Decodes DVB-ASI or IP and Demodulates QAM 16, 64, 256 and Converts it to SDI, HD-SDI, RGB, YPrPb, or Composite Output. Transport Streams Play Out in HD or SD Format. Optional Secondary SD Decoder with Composite Output Only. Dolby AC-3 and MPEG Audio Decode with XLR Connectors. Cost Effective MPEG-2 Decoder/Receiver. Additional Features Include SNMP Management. Upgrade to TLV300E-QAM™.**



## Features

- Inputs: QAM (Annex B), IP, DVB-ASI with automatic switchover from QAM to ASI in
- Optional second RF input port
- Supports SMPTE 2022 FEC on IP input
- 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

## 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 system'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.



**Computer Modules, Inc.**

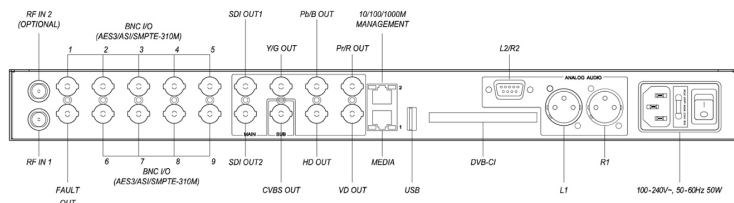
**11409 West Bernardo Court**

**San Diego, CA 92127**

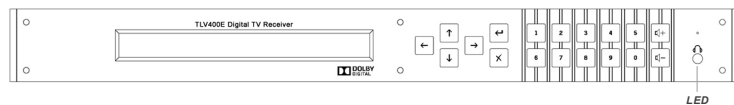
**Tel: (858) 613-1818 Fax: (858) 613-1815**

[www.dveo.com](http://www.dveo.com)

## Rear View



## Front Panel View



## Specifications

<b>Front Display/Keys</b>	<ul style="list-style-type: none"> <li>2 lines by 40 characters LCD</li> <li>18 keys for Easy Control</li> <li>LOCK, ENTER, EXIT, ARROW, and Numeric Keys</li> <li>LED (3 colors: Green, Amber, Red)</li> </ul>
<b>QAM Input</b>	
Channel:	55-860 MHz RF Selectable
Connector:	2 x 75 Ohm BNC-type Connector
Sensitivity:	> 43.5 dBμ V (UHF) > 35.4 dBμ V (VHF HIGH) > 35.4 dBμ V (VHF LOW)
<b>Optional Second RF Input</b>	8VSB or QAM
<b>TS Input</b>	
Format:	SMPTE 310M, IP (UDP/RTP, SMPTE 2022), or DVB-ASI (Select ASI or 310M at front panel)
Connectors:	75 ohm BNC, RJ-45
<b>Audio Output</b>	
Signal:	AES3-id (Select ASI or 310M or AES3-id output at front panel)
Connector:	75 ohm BNC
Format:	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
<b>Audio Levels:</b>	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.
<b>Digital Audio Output</b>	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.
<b>Amplifier/Speakers</b>	One 10W amplifier and speaker for L+R channel

## Ordering Info

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

## Supported SDI Modes

The TLV400E-QAM has decoded PCM audio embedded. Supported modes of SDI are:

Video Mode	Frame Rate			Embedded Audio	
	29.97 Hz (59.94)	30 Hz (60)	25 Hz (50)	PCM	Compressed
1080i	Supported	Supported	Supported	Supported	Supported
720p	Supported	Supported	Supported	Supported	Supported
480p/576p	Not defined (480p)	Not defined (480p)	Not defined (576p)	Not Available	Not Available
480i/576i	Supported for 480i	Not supported (480i)	Supported (576i)	Supported	Supported

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

<b>TS Output</b>	
Format:	SMPTE 310M, DVB-ASI, or IP (up to 4 IP TS out, SPTS or MPTS – does not alter the source program)
Connectors:	75 ohm BNC, RJ-45
<b>Component Video Output</b>	
Formats:	1080i/720p/576p/480p/576i/480i
Connectors:	BNC connector, YPbPr/RGB Selectable
<b>Preview Out (Composite)</b>	
Signal:	NTSC/PAL – Supports RF mode of analog PAL – PAL B/G/I/D/M/N (for PAL, set frame rate to 25/50Hz mode)
Connector:	75 ohm BNC
<b>Digital Video Output (SDI, HD-SDI)</b>	SMPTE-259M/SMPTE-292M with embedded audio (SMPTE-299M), with screen formatting including AFD
<b>Ethernet Output</b>	10/100/1000 Mbps MPEG over RTP/UDP
<b>USB 2 for Software Updates</b>	Connector: Type “A” Ethernet adapter available
<b>Fault</b>	Relay contact on signal loss
<b>Conditional Access</b>	BISS-1/E and DVB-CI
<b>Network Management</b>	NMS supported through SNMP
<b>CPU and RAM</b>	MIPS 300 MHz 32 bit RISC
<b>Unit</b>	1 RU 19-inch rackmountable
<b>Operating Temperature</b>	+0 ~ +45°C (32 to 113°F)
<b>Storage Temperature</b>	-20 ~ +50°C (-4 to 122°F)
<b>Operating Humidity</b>	10 to 90%, non-condensing
<b>Power Supply</b>	AC 100-240V ~ 50-60 Hz 50W Max
<b>Dimensions</b>	HxWxL: 1.7 x 19 x 13.6 inches (4.3 x 48.26 x 34.55 cm)
<b>Weight</b>	10 lbs. (4.54 kg)
<b>Conformities</b>	FCC, RoHS CE Mark: Electromagnetic Compatibility Directive 2004/108/EC Low Voltage Directive 2006/95/EC