



## QMOD HDTV Modulators / IPTV Encoders



The next-generation QMOD HDTV Modulators/ IPTV Encoders set a new standard for sports, motion and digital signage encoding. Dual hardware scalers accept content up to 1080p, shapes digital signage for edge-to-edge presentation, and compensates for non-broadcast and PAL refresh rates. Able to deliver two HD programs in one channel, the Encoder/Modulators can also output the content as a Multicast or Unicast MPEG2 stream. Options include dual-language SAP audio, easy front-panel setup and EAS operation. Web setup, monitoring, and firmware updates are available via USB and Ethernet ports. Two-across mounting offers up to four programs per rack space, with the ability to mix models to handle HDMI, SDI, Component, RGBHV and NTSC video sources.

### QMOD-HDMI 1.5

- One HDMI and one RGBHV/Component input
- Two Composite/CC video inputs for encoding, or captioning,
- Two analog Stereo and two SPDIF coax audio inputs

### QMOD-HDMI 2

- Two HDMI inputs
- Two Composite/CC video inputs for encoding, or captioning,
- Two analog Stereo and two SPDIF coax audio inputs

### QMOD-SDI 1.5

- One SDI (up to 3G) and one Component input,
- One Composite/CC video input for encoding or captioning
- One analog Stereo and one each SPDIF coax and optical audio inputs

### QMOD-SDI 2

- Two SDI inputs, up to 3G
- Two Composite/CC video inputs for encoding, or captioning,
- Two analog Stereo and two SPDIF coax audio inputs

### QMOD-YPB2

- Two Component inputs
- Two Composite/CC video inputs for encoding, or captioning,
- Two analog Stereo and two SPDIF coax audio inputs

### Shared Features

#### Encoding

- Hardware scalers accept up to 1080p content, in broadcast, VGA, and PAL refresh rates, able to zoom, shrink and position content for edge-to-edge presentation, and can follow input resolution or scale video to a fixed resolution
- Creates a high-definition dual-program 720p/1080i MPEG-2/MPEG-4 stream for broadcast over RF and/or IPTV
- Converts stereo and PCM to stereo AC-3, can create dual-language SAP audio for each program
- Decodes Line 21 captioning from composite video inputs

#### Output

- Delivers a fully agile QAM 64 single or QAM 256 dual program digital cable channel 2-135
- Up to 270 HD Programs and 135 Channels per system
- Streams Multicast/Unicast IPTV from GigE Ethernet port
- Distributes channel over an on-site broadband cable system with adjustable output level to 29 dBmV, compatible with all cable format broadband systems

## QMOD HDTV Modulators / IPTV Encoders

### QMOD-HDMI 1.5

**Video:** HDMI (non-HDCP) 1080p to 480i  
RGBHV/DB15 Component Inputs  
Dual NTSC Video/CC inputs  
**Audio:** HDMI embedded PCM  
Dual SPIDF coax, stereo 3.5mm

### QMOD-SDI 1.5

**Video:** SDI input 3G1080p to 480i  
Component, 1080p to 480i  
NTSC Video/CC  
**Audio:** SDI embedded AES audio, Groups 1-4  
SPIDF optical and coax, stereo



### QMOD-HDMI 2

**Video:** Dual HDMI inputs  
Dual NTSC Video/CC  
**Audio:** HDMI embedded PCM  
Dual SPIDF coax, stereo 3.5mm inputs

### QMOD-SDI 2

**Video:** Dual SDI inputs: 3G/HD -and SD-SDI  
Dual NTSC Video/CC  
**Audio:** SDI embedded AES audio, Groups 1-4  
Dual SPIDF coax and stereo 3.5mm inputs

### QMOD-YPB2

**Video:** Dual YPbPr inputs, 1080p to 480i  
Dual NTSC Video/CC  
**Audio:** Dual SPIDF coax, stereo 3.5mm inputs

### Shared Features

- Physical** 8.5" [216mm] wide x 1.75" [44mm] height (1RU) x 6.0" [153mm] deep 1.5 lbs [0.68kg]  
Rack mounting for one or two units side-by-side (RK1, RK2)
- Scaling** Dual hardware scalers for HD, SD, PC and PAL resolutions.  
Accepts 1080p - 480i and VGA resolutions, 29.97 - 60 Hz US and PAL refresh rates  
Edge to edge presentation with zoom, shrink and X/Y axis positioning  
Auto-sync or scales to fixed output resolution, 1080p scaled to 1080i
- Encoding** MPEG2 Profile: MP@HL for HD, MP@ML for SD, 1080i, 720p, 480p, and 480i output resolution  
Video Encoding bit rate 10-25 Mbps, HD, 5-6 Mps 480i, variable bit rate if set for IP output only  
Converts PCM or MPEG1, Layer 2 audio to AC-3  
SAP Dual-language capability, second audio track is MPEG1, layer 2  
Dual-channel operation, two programs in MPEG2 Transport Stream for QAM or IPTV output  
Can be set for single program only
- Modulation** Switchable 64/256 QAM, J83 Annex B, Interleaving Modes (128,1), MER 38 dB typical
- Standards** FCC Class B, ROHS, meets California standards
- Front Panel** Power button - Setup, Select and directional buttons for menu setup  
Blue LCD, 2 lines of 20 white characters each
- Power** 2.1mm coaxial jack (inside center conductor positive) 11.5 to 13.5 VDC, 12 VDC typical
- Ethernet** RJ-45 GigE Ethernet connector for IP control, Multicast/Unicast IPTV and internal Web pages
- Includes** EAS Closure inputs switch to emergency video and audio, PS12-1.5 Power supply, 1.5 A 12VDC
- Options** RK1 Single Rack Kit, RK2-EZ Dual Rack Kit
- Updates** Upcoming free updates for pass-through Dolby Digital and H.264 encoding