



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 1080p60, 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/H.264 streams. Options include dual-language SAP audio, Dolby AC-3 pass-through, 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 RGB

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

### QMOD-HDMI 2

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

### QMOD-SDI HDMI

- SDI (up to 3G) 1080p60 to 480i and HDMI, 1080p60 to 480p input,
- Two Composite/CC video inputs for encoding, or captioning,
- Two analog mini Stereo and two SPDIF coax audio inputs

### QMOD-SDI 2

- Two SDI (up to 3G) 1080p60 to 480i inputs
- Two Composite/CC video inputs for encoding, or captioning,
- Two analog mini Stereo and two SPDIF coax audio inputs

### QMOD-YPB 2

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

## Shared Features

### Encoding

- Hardware scalers accept up to 1080p60 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
- Create a high-definition dual program MPEG2/H.264 stream for broadcast over RF
- Encodes audio as AAC or 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 MPTS/SPTS 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-HDMI RGB

**Video:** HDMI (non-HDCP) 1080p60 to 480i  
RGBHV/DB15 Component Inputs  
Dual NTSC Video/CC inputs  
**Audio:** HDMI embedded PCM and AC-3  
Dual SPDIF coax, stereo 3.5mm inputs

### QMOD-SDI HDMI

**Video:** SDI 3G 1080p60 to 480i  
HDMI, 1080p60 to 480i  
Dual NTSC Video/CC  
**Audio:** SDI embedded AES audio and AC-3  
HDMI embedded AC-3 or PCM  
Dual SPDIF coax, stereo 3.5mm inputs



### QMOD-HDMI 2

**Video:** Dual HDMI inputs (non HDCP)  
Dual NTSC Video/CC  
**Audio:** HDMI embedded PCM and AC-3  
Dual SPDIF 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 SPDIF coax and stereo 3.5mm inputs

### QMOD-YPB 2

**Video:** Dual YPbPr inputs, 1080p60 to 480i  
Dual NTSC Video/CC  
**Audio:** Dual SPDIF coax, stereo RCA 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 1080p60 - 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** H.264 or MPEG2 Profile: MP@HL for HD, MP@ML for SD, 1080i, 720p, 576i, 480p, and 480i output resolution  
MPEG2 Video Encoding bit rate 10-20 Mbps, HD, 4-8 Mbps, 480i, variable bit rate if set for IP output only  
H.264 Video encoding bit rate 5-10 Mbps, HD, 2-4 Mbps, 480i, or variable bit rate.  
Converts PCM or MPEG1, Layer 2 audio to AC-3 or AAC  
SAP Dual-language capability, second audio track is MPEG1, layer 2  
Dual-channel operation, two programs in MPEG2 or H.264 Transport Stream for QAM or IPTV output

**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** 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, MPTS/SPTS Multicast/Unicast IPTV and internal Web pages

**Includes** EAS Closure inputs switch to emergency video and audio, PS12-2 Power Supply, 2.0 A 12VDC

**Options** RK1 Single Rack Kit, RK2-EZ Dual Rack Kit

*All CR products feature a full three-year warranty.*