The next-generation QMOD HD Encoder/IPTV Modulators 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 alternate audio and NTSC video inputs. 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 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-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
YPbP, 1080p to 480i
NTSC Video/CC
Audio: SDI embedded AES audio, Groups 1-4
SPIDF optical and coax, stereo RCA

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 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 bitrate 10-25 Mbps, HD, 5-6 Mps 480i, variable bitrate 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	Power button - Setup, Select and directional buttons for menu setup Blue LCD, 2 lines of 20 white characters each
Back	
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	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 encoding and EAS switching

CR products feature a full two-year warranty.