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

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# QMOD HDTV Modulators/ IPTV Encoders

## QMOD-HDMI RGB
- **Video:** HDMI (non-HDCP) 1080p60 to 480i, RGBHV/D815 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
- **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
- **Audio:** 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

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All CR products feature a full three-year warranty.

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