



## QMOD HDTV Modulators



### Applications

- HD-SDI
- Digital Signage
- HD/SD Cable Receivers
- HD/SD Satellite Receivers
- HD/SD Media Sources

CR QMOD™ technology is opening the door to new HDTV applications. Innovative in design and value, QMOD™ HDTV Modulators enable cost-effective distribution of digital signage and HD subscriber sources using existing broadband coax cabling in sports, retail and entertainment facilities, corporate offices, colleges, schools and worship centers.

- Create your own on-site HDTV broadband distribution system using a variety digital signage, HD, SD, and AV sources
- Distribute digital signage, satellite, cable, and media as HD digital cable channels over existing broadband wiring
- View HD sources at any destination using HDTV displays or tuners

#### **QMOD-SDI HD-SDI Modulator**

- HD/SD-SDI auto-syncs video input with embedded audio
- HD Component, and S-Video/Composite video inputs
- Switchable between SDI, Component, and video

#### **QMOD-HDSC HDTV Scaler Modulator**

- In-stream scaler for RGBHV/Component inputs up to 1080p
- Formats and positions video for broadcast
- Converts PAL HD video to NTSC
- SD S-video and composite video
- Buffered RGBHV Out for monitoring RGB input
- Switchable between RGB/Component and composite video

#### **QMOD-HD HDTV Modulator**

- HD RGBHV, Component, and S-Video/Composite video inputs
- Switchable between RGBHV/Component and video

### Shared Features

- Employs pro-grade HD encoding by NTT that minimizes artifacts for motion video and signage “tickers”
- Merges audio with video from stereo, digital optical and coax inputs
- Digital coax/optical and stereo audio inputs
- Switches via GPI inputs to present EAS AV broadcasts
- Creates an HD 720p/1080i or SD 480p/480i MPEG2 stream with MPEG1 stereo audio for broadcast
- Delivers a fully agile QAM 64/256 digital cable channel 2-135
- Amplifies for distribution over an on-site broadband cable system with adjustable output level to 29 dBmV
- Sets up with front-panel buttons and easy to use menus, including inputs, encoding, channel, and RF options
- Fast processing - starts up in less than 4 seconds
- Integrates with RS-232 control and feedback with simple ASCII commands
- Saves power and rack space using efficient design, fan-free cooling, and compact enclosure
- Mounts in optional 1RU single (RK1) or dual (RK2, RK2EZ) 19” rack kits

## QMOD HDTV Modulators



QMOD-SDI Back Panel



QMOD-HDSC Back Panel



QMOD-HD Back Panel

### Specifications

Feature	QMOD-SDI	QMOD-HDSC	QMOD-HD
<b>Application</b>	HD/SD-SDI Video	Digital Signage/PAL Video	HD Analog Media
<b>HD Video</b>	SDI: Female BNC (1080i/720p/480i), auto-sync Embedded SDi audio, selectable for 1+2, 3+4, 5+6, 7+8	RGB In: RGBHV DB-15 female, up to 1080p check crwww.com for resolution specs RGB Out: DB-15 female	RGB In: RGBHV DB-15 female (1080i/720p/480p/480i), 59.94/29.97 Hz
<b>Power Includes</b>	0.8 A maximum PS12-1.0 switching power supply, 1A 12 VDC	1.1 A Maximum PS12-1.5 switching power supply, 1.5A 12 VDC	0.7 A Maximum PS12-1.0 switching power supply, 1A 12 VDC
<b>Shared Features</b>			
<b>Physical</b>	8.5" [216mm] wide x 1.73" [62mm] height (1RU) x 6.0" [153mm] deep 1.5 lbs [0.68kg] +32° to 122° F operating temperature, convection cooled Rack mounting for one or two units side-by-side (RK1, RK2)		
<b>Encoding</b>	MPEG2 Profile:MP@HL for HD, MP@ML for SD 1080i, 720p, 480p, and 480i resolution, depending on input Video Encoding bitrate 18 or 25 Mbps MPEG1, Layer 2 audio Latency 275ms 720p, 550ms 1080i		
<b>Modulation</b>	Switchable 64/256 QAM, J83 Annex B, Interleaving Modes (128,1) MER 38 dB typical FCC Class B, ROHS, meets California standards		
<b>Front</b>	Power button Setup, Select and directional buttons for menu setup Menu LCD, 2 lines of 20 blue characters each		
<b>Back Power Control</b>	2.1mm coaxial jack (inside center conductor positive) 11.5 to 13.5 VDC, 12 VDC typical DB-9 male, RS-232 data link to control system 300 to 19,200 baud (9600 default), 8 data bits, no parity, 1 stop bit 2 GPI contacts on pins trigger EAS		
<b>Analog Video</b>	RGBHV: HD-15, QMOD-HD1080i/720p 29.97/ 59.94 Hz, QMOD-HDSC up to 1920 x 1080 Component: RCA Y, Pb, Pr (1080i/720p/480p/480i) , 59.94/29.97 Hz S-Video: Y(Composite), C (Blue Pb) 480i, 29.97 Hz Composite Video: RCA female (480i), 29.97 Hz		
<b>Audio</b>	Digital SPDIF: Coax and Toslink optical output, PCM 48K sample rate Analog L and R: 2 stereo RCA female jacks Inputs assignable to video inputs		
<b>EAS RF</b>	GPI inputs switch AV to composite video and assigned audio 'F', female, 75 ohm impedance Agile, channels 2-135 (48-860 MHz), standard, HRC, or IRC spacing 6 MHz bandwidth fits any open channel without interference to adjacent channels 1 KHz resolution, +/- 30 ppm accuracy, +/- 35 ppm stability 29 dBmV typical output power, attenuated in 5 steps, approx 4 dB		
<b>Options</b>	RK1 Single Rack Kit , RK1-AC Single Rack Kit with accessory shelf RK2 Dual Rack Kit, RK2 EZ Dual Rack Kit		