

### RF Modular and Demodulate Replacement

RFI Line Items									
ECPU:ESTIMATED COST P/UNIT	PMP:POTENTIAL MINIMUM PURCHASE	PAP:POTENTIAL ANNUAL PURCHASE	PF:PURCHASE FREQUENCY	ETD:ESTIMATED DELIVERY TIME					
Product name	MFR	MFR product #	ECPU	Min qty	PMP	PAP	PF	ETD	Details
QMOD-SDI 2 Dual Channel HD-SDI Modulator & IPTV Encoder with Scaling	Contemporary Research	5095-001		2			1	1	Front Panel: Menu Setup with front panel Select and Directional buttons Menu LCD, Blue with 2 lines of 20 white characters each Back Panel: Power: 2.1mm coaxial jack (inside center conductor positive) 1.1A maximum, 11.5 to 13.5 VDC, 12 VDC typical EAS: 3 GPI Pins for latching control, SW(NO) for closure, V+ 5-12 VDC, Ground Ethernet: RJ-45 GigE Ethernet connector for IP control, updates, Unicast or Multicast IPTV, and internal Web page SDI: Two BNC Female inputs SD-SDI @ 270Mb/s, HD-SDI @ 1.485Gb/s, 3G SDI Level A @ 2.970Gb/s Coax cable auto-equalizer for SD up to 460m, HD up to 230m (RG6) 3G Resolutions 1080p at 50/59.94/60Hz, HD 1080psf, 1080i at 25/29.97/30Hz, 720p at 59.94/60Hz, or SD 480i at 29.97Hz Video Format YCbCr 4:2:2 Accepts SDI embedded Stereo/AC-3 48/44.1KHz audio Widescreen option for 480i Composite Video/CC: RCA female (480i), 29.97 Hz, supplies Line 21 captioning Digital Audio: Two coax SPDIF inputs Analog Audio: Two stereo 3.5mm inputs Inputs assignable to video inputs RF: 'F', female, 75 ohm impedance Agile, channels 2-135 (57-861 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 Modulation: Switchable 64/256 QAM, J83 Annex B, Interleaving Modes (128,1) MER 38 dB typical 8VSB Encoding: MPEG2/H.264 Profile: MP@HL for HD, MP@ML for SD 1080i, 720p, 576i, 480p, and 480i output resolution MPEG2 Video Encoding bitrate 10-20 Mbps, HD, 5-6 Mbps 480i, variable bitrate if set for IP output only H.264 Video Encoding bitrate 5-10 Mbps, HD, 2-4 Mbps 480i, or variable bitrate if set for IP output only Converts PCM or MPEG1, Layer 2 audio to stereo AC-3, AAC or MP12, pass-through AC-3 SAP Dual-language capability, second audio track is MPEG1, Layer 2 Dual encoders can stream a simultaneous MPEG2 or H.264 QAM MPTS stream and separate IP SPTS streams, or one encoder can process an MPEG2 stream for QAM, and the second can process an H.264 IP stream Scaling: Dual hardware scalers Accepts 480i 1080p video Edge to edge presentation with zoom, shrink and X/Y axis positioning Native or scales to fixed output resolution, 1080p scaled to 1080i Additional Specs: Dimensions: 8.5" [216mm] wide x 1.73" [62mm] height (1RU) x 6.0" [153mm] deep Weight: 1.5 lbs [0.68kg] Operating Temperature: +32 to 122 F convection cooled Rack mounting for one or two units side-by-side optional (RK1, RK2EZ) For HRF Half-Racks, use the RK2EZ kit to mount each modulator Fan cooled,with variable speeds Included Accessories: PS12-2 Switching power supply, 2A 12VDC, standard AC cord for power strips, RKU, Universal Rack Mount Kit Warranty: 2 Years
QMOD-SDI HDMI HD-3G SDI and HDMI QAM Modulator with Scaling	Contemporary Research	5104-001		1			1	1	Front Panel: Menu Setup with front panel Select and Directional buttons Menu LCD, Blue with 2 lines of 20 white characters each Back Panel: Power: 2.1mm coaxial jack (inside center conductor positive) 1.1A maximum, 11.5 to 13.5 VDC, 12 VDC typical EAS: 3 GPI Pins for latching control, SW(NO) for closure, V+ 5-12 VDC, Ground Ethernet: RJ-45 GigE Ethernet connector for IP control, updates, Unicast or Multicast IPTV, and internal Web page SDI: One BNC Female input SD-SDI @ 270Mb/s, HD-SDI @ 1.485Gb/s, 3G SDI Level A @ 2.970Gb/s Coax cable auto equalizer for SD up to 460m, HD up to 230m (RG6) 3G Resolutions 1080p at 50/59.94/60Hz, 1080psf24/23.97, HD 1080i at 25/29.97/30Hz, 720p at 59.94/60Hz, or SD 480i at 29.97Hz Video Format YCbCr 4:2:2 Accepts SDI embedded Stereo/AC-3 48/44.1KHz audio Widescreen option for 480i HDMI (non-HDCP): One HDMI 1.4a input, up to 1080p, as well as, various computer graphics resolutions Composite Video/CC Inputs: RCA female (480i), 29.97Hz, supplies Line 21 captioning Audio Inputs: Two coax SPDIF digital audio inputs Analog: Two stereo 3.5mm inputs Inputs assignable to video inputs RF: 'F', female, 75 ohm impedance Agile, channels 2-135 (57-861 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 Encoding: MPEG2/H.264 Profile: MP@HL for HD, MP@ML for SD 1080i, 720p, 576i, 480p, and 480i output resolution MPEG2 Video Encoding bitrate 10-20 Mbps, HD, 5-6 Mbps 480i, variable bitrate if set for IP output only H.264 Video Encoding bitrate 5-10 Mbps, HD, 2-4 Mbps 480i, or variable bitrate if set for IP output only Converts PCM or MPEG1, Layer 2 audio to stereo AC-3, AAC or MP12, pass-through AC-3 SAP Dual-language capability, second audio track is MPEG1, Layer 2 Dual encoders can stream a simultaneous MPEG2 or H.264 QAM MPTS stream and separate IP SPTS streams, or one encoder can process an MPEG2 stream for QAM, and the second can process an H.264 IP stream Scaling: Dual hardware scalers Accepts 480i 1080p video and various computer graphics resolutions Edge to edge presentation with zoom, shrink and X/Y axis positioning Native or scales to fixed output resolution, 1080p scaled to 1080i Modulation: Switchable 64/256 QAM, J83 Annex B, Interleaving Modes (128,1) MER 38 dB typical Additional Specs: Dimensions: 8.5" [216mm] wide x 1.73" [62mm] height (1RU) x 6.0" [153mm] deep Weight: 1.5 lbs [0.68kg] Operating Temperature: +32 to 122 F Rack mounting for one or two units side-by-side with included RKU or optional RK1 & RK2EZ For HRF Half-Racks, use the RK2EZ kit to mount each modulator Fan cooled, with variable speeds Included Accessories:PS12-2 Switching power supply, 2A 12VDC, standard AC cord for power strips RKU, Universal Rack Mount Kit Warranty: 2 Years
ATSC-SDI 4i HDTV Tuner with SDI & HDMI Outputs & IP Streaming	Contemporary Research	5111-001		1			1	1	Front Panel: LCD Text display, white text on blue background Power, Menu, Setup, and Select buttons Up and Down (Channel Up and Down) buttons Left and Right (Volume Up and Down) buttons IR Sensor, Mini USB-B port Control: RJ-45 10/100 Ethernet for Web page access, Telnet, and UDP control DB9 male RS-232 1200 to 230K baud, 8 data bits, no parity, 1 stop bit IR Input 3.5mm TRS jack for optional IR-RXC IR Receiver A/C 3.5mm control output for optional RF-AB Air/Cable Selector Switch Tuning: Air/Cable Input 'F', female, 75 ohm impedance, -10 to 25 dBmV typical Off-Air 2-69 (8-VSB and NTSC) and CATV 1-135 (64QAM, 256QAM, 8-VSB, NTSC) Standard, HRC, and IRC Parental option for channels and/or rating Additional Specs: SDI and HDMI, AC-3/PCM/PCM variable level SPDIF Coax and optical output, AC-3/PCM/PCM variable level Analog Stereo RCA variable level Includes: ATSC-SDI 4i HDTV Tuner with SDI - Part Number: 5111-001, PS12-1.5 Power Supply, 1.5A, maximum, 12 VDC, RKU Universal Rack Mount Kit Warranty: 2 Years
Totals									