



4K MODULATOR

4K Content Over RF

Blonder Tongue's cost-effective and easy-to-deploy **4K Modulator** enables distribution of 4K content over RF networks by mapping transport streams containing 4K (with H.265 encoding) onto RF QAM channels. The unit accepts up to 4xSPTS in H.265, H.264 or MPEG-2 formats, and outputs 4xQAM RF channels via an IP interface.

Comprehensive remote monitoring and control is accomplished using any standard Web browser via a front-panel 100/1000 Ethernet connection.

4K/UHD TV's supporting H.265 decoding on the RF inputs, can directly receive and decode 4K content. For 4K/UHD TV's without RF input H.265 decoding, Blonder Tongue offers a 4K Decoder model option to provide 4K delivery via an HDMI interface.



Features

- Receives up to 4x SPTS individually via IP interface
 - Each SPTS cannot exceed 38.8 Mbps
 - Each SPTS can contain an H.265, H.264 or MPEG-2 program
- Each SPTS maps to an individual RF QAM channel
- Small form-factor - stand-alone unit, or fits up to three units in standard 1RU
- Web-based management port for local and remote control
- Supports Blonder Tongue's S4KD 4K Decoder

Ordering Information

Model	Stock #	Description
4K MOD	6540	4K Modulator: 4xIP inputs; 4xQAM outputs
HDE-3MCH	6389	1RU Rack mount chassis; holds 3 4K Modulators in 1RU



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Specifications

Input

IP	Connector: RJ-45
	Standard: 1000Base-T Ethernet
	Packet Format: 4x UDP SPTS
	Protocols: IGMPv2 Supported

Output

QAM	
No. of Output Modules:	1x Quad-QAM (total of 4 QAM channels)
Connector:	1x "F" Female (rear-panel; for combined output)
Modulation:	QAM 16, 32, 64, 128, and 256
Standards:	ITU-T J.83; Annex A and B
DVB Symbol Rate:	Variable; up to 7 MSymbol/sec (MBaud)
Frequency Range:	54 to 1002 MHz
Tuning:	CATV Channel Selectable (Ch. 2 to 158)
RF Level:	+40 dBmV
RF Level Adjustment Range:	+35 to +42 dBmV (1 dB increments)
Frequency Tolerance:	± 0.5 kHz @ 77 °F (25 °C)
Frequency Stability:	± 5 kHz over 32 to 122 °F (0 to 50 °C)
Amplitude Flatness:	± 0.25 dB (over 6 MHz channel)
Phase Noise:	-98 dBc (@ 10 kHz)
Spurious:	-60 dBc
Broadband Noise:	-70 dBc (@ +40 dBmV output level, 5.5 MHz bandwidth)
Impedance:	75 Ω
Spectral Inversion:	Auto Recognition
Carrier Suppression:	45 dB
Return Loss:	14 dB typical
Signal-to-Noise Ratio (SNR):	40 dB typical
MER:	40 dB typical
I/Q Phase Error:	Less than 1 degree
I/Q Amplitude Imbalance:	Less than 1%

General

Dimensions (W x D x H):	5.65 x 14.1 x 1.72 inches (143.5 x 358.1 x 43.7 mm)
Power:	+12 VDC External Power Supply
Power Dissipation:	16 W
Weight:	1.75 lbs (0.79 kg)
Operating Temperature:	32 to 122 °F (0 to 50 °C)
Storage Temperature:	-13 to 158 °F (-25 to 70 °C)
Operating Humidity:	0 to 95% RH @ 35 °C max, non-condensing
Storage Humidity:	0 to 95% RH @ 35 °C max, non-condensing

Alarms/Monitoring/Control

Local Monitoring:	1x Power LED 1x Status LED
Local Control:	1x IP Reset button
Remote Monitoring/Control:	GUI-based menu via Web browser (1x RJ45 front-panel connector; 100/1000Base-T)