

Agile QAM Modulator

AQM



Digital

The AQM is designed to accept an MPEG-2 ASI (Asynchronous Serial Interface) digital transport stream and modulate it into a QAM (Quadrature Amplitude Modulation) signal. The QAM modulator in the AQM achieves state-of-the-art performance with capabilities to improve bandwidth efficiency by supporting advanced QAM modes like 256, 512 & 1024 QAM. The built in advanced bit stuffing circuitry ensures that Null Packets are inserted into the ASI transport stream if needed to ensure the correct baud rate is transmitted.

Excellent RF performance is vital to the health of every cable system. Incorporating digital signals into that cable system increases the complexity required to keep it operating smoothly. The AQM's integrated upconverter is designed to accomplish this very goal. The BT Agile QAM Modulator incorporates a custom design approach utilizing the latest generation technology available to ensure extremely low phase noise and a highly stable output signal. This eliminates the hassles and potential for problems caused by module based interconnects, especially when using products without integrated upconverters.

The AQM is easily accommodated in Blonder Tongue's standard HE Series of micro-modular rack chassis units and MIPS power supply units. This allows existing modulators or demodulators to coexist effortlessly.

○ Features & Benefits

- AQM Unit Integrates the QAM Modulator and a High Performance Upconverter
- Compact Design allows 6 Modules in a 2 RU Rack Chassis
- DVB MPEG-2 ASI Input, Complies with DVB ASI Standards
- Improve Bandwidth Efficiency with Support for All Advanced QAM Modes including 512 & 1024 QAM
- RF QAM Output Channel 2—135 (54—860 MHz)
- Self Test PRBS Mode Built In
- Optional IF Output Available via Special Order
- Optional LVDS Input Available via Special Order

○ Specifications

QAM Modulator

QAM Modulation Modes: 16, 32, 64, 128, 256, 512 & 1024 QAM

Symbol Rate: Variable, up to 10 Mbaud

Input: ASI (Asynchronous Serial Interface per EN 50083-9)
LVDS Parallel Input Option Available (Low Voltage Differential Signaling)

FEC Encoder: Complies with ITU-T J.83 Standards, Annex A (DVB) & Annex B (DigiCipher® & OpenCable/DOCSIS)

Spectral Inversion: Auto Recognition

Carrier Suppression: 55 dB

MER: 40 dB

I/Q Phase Error: <1 degree

I/Q Amplitude Imbalance: <1 %

RF Output

Channel Range: 2 to 135

Frequency Range: 54-864 MHz

Frequency Step: 6 MHz (Channel Center)

Frequency Stability: ± 5 kHz

Output Level: +40 dBmV

Output Level Control Range: 10 dB

Amplitude Flatness: ± 0.25 dB (over 6 MHz CH)

Output Impedance: 75 Ohm

Phase Noise @ 10 kHz Offset: -98 dBc/Hz

Spurious (54-1000 MHz): -60 dBc/Hz

Broadband Noise: -77 dBc (@ +40 dBmV Output, 4 MHz BW)

Controls & Connectors

Liquid Crystal Display (LCD): 5 Interactive Navigation/Enter Push Buttons

ASI Input: BNC 75 Ohm

RF Output: 'F' type Female

Power Headers: 3 Pin +5/+12 VDC

General

Power Requirements:
Voltage: +5 / +12
Power (Max): 9 W

Operating Temperature Range: 0 to +50° C

Humidity: 0 to 90 % RH

Mechanical

Dimensions:
2.3 x 3.5 x 7.50 Inches
58 x 89 x 191mm

Weight: 2.3 lbs.

○ Ordering Information

Model	Stock No.	Description
AQM	6271	Agile QAM Modulator (Consult Factory for Optional LVDS Input & IF Output versions)

Accessories

MIPS12C	7722C	Power Supply
MIRC-12V	7715	Chassis