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.

### 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.