

Model D9752/D9390 Advanced Modulator

Description

Scientific-Atlanta's PowerVu® Advanced Modulator now offers DVB-compliant higher order modulation technology in two unique configurations in order to meet satellite operator needs.



A standalone 1RU, multi-mode D9390 modulator is shown in the diagram. The same technology has been repackaged as a multi-mode, one-card D9752 modulator solution that can be installed in the Originator™ encoding platform. Both products feature DVB-compliant QPSK, 8PSK and 16QAM-capability and also utilize flexible digital signal processing techniques for versatility. The PowerVu Advanced Modulator accepts redundant DVB-ASI (single DVB-ASI in the modulator card) and outputs a QPSK, 8PSK or 16QAM modulated signal. This higher order modulation can save operators money, as it requires less transponder space for a given transmission bit rate, or a higher bit rate in a given bandwidth.

The standalone Advanced Modulator and the Advanced Integrated Modulator card may be used in conjunction with Scientific-Atlanta's PowerVu digital content distribution system or any DVB-compliant encoding or multiplexing product, for single channel or multiple channel applications. The modulator complies with all applicable ITU-R and IESS recommendations and is CE approved.

Key Features

- MPEG-2 Compliant
- DVB-S (EN 300 421) and DVB-DSNG (EN 301 210) compliant
- Switching capability between QPSK, 8PSK and 16QAM operation
- Frequency agile output for operation anywhere within a transponder centered at 70 MHz or 140 MHz IF
- User-friendly menu-driven front panel control for standalone operation
- Card-based solution that fits in the Originator chassis for a complete DSNG system in one 2RU package
- Fully variable selectable symbol rates from 1.042 Mbaud to 35 Mbaud
- Usable information rates from 0.961 Mb/s to 96.0 Mb/s
- Programmable Forward Error Correction (FEC) rates
- 1:1 automatic redundant configuration including DVB/ASI protect, MUX protect and modulator protection
- Redundant power supplies, providing maximum transmission protection
- CW mode for uplink system alignment
- One rack unit high or card based solution for the 2RU Originator™ Encoder
- SNMP Interface
- Ethernet monitor and control ports

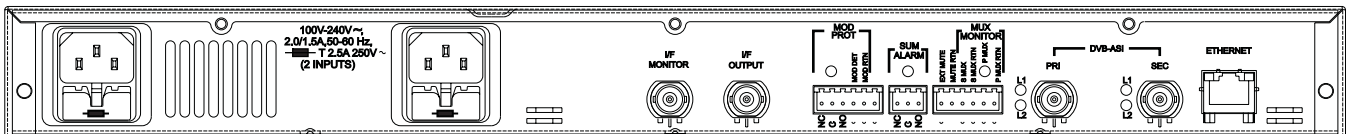


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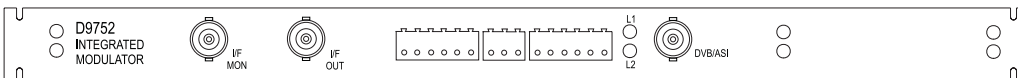


Specifications

Features	Description	
Modulation and Encoding	<p>Modulation: DVB QPSK, 8PSK, 16QAM</p> <p>Framing and Coding: Compliant with DVB-S EN 300 421 and DVB-DSNG EN 301 210 specification</p> <p>Viterbi FEC Rates: QPSK: 1/2, 2/3, 3/4, 5/6, 7/8 (Convolutional Coding) 8PSK: 2/3, 5/6, 8/9 ("Pragmatic" Trellis Coding) 16QAM: 3/4, 7/8 ("Pragmatic" Trellis Coding)</p> <p>Reed Solomon: 204, 188, T=8</p> <p>Convolutional Interleave: Depth of 12</p> <p>Symbol Rate: 1.042 to 35Mbaud (100 baud stepsize)</p>	<p>Usable Information Rate (Ru): QPSK: 0.961 to 56.46 Mb/s 8PSK: 1.92 to 86.03 Mb/s 16 QAM: 2.88 to 96.0 Mb/s</p> <p>Filter Alpha: QPSK: 35% per DVB specification 8PSK/16 QAM: selectable 25% or 35%</p> <p>Output Frequency: 70 MHz (52 to 88 MHz) and 140MHz (104 to 176 MHz)</p> <p>Stepsize: 250 kHz</p> <p>Stability: < ± 1 ppm</p>
Outputs and Monitor/Control	<p>Output connector: BNC (female)</p> <p>Impedance: 75Ω</p> <p>Output Return Loss: -20 dB Max.</p> <p>Output Level: 0 to -25 dBm (0.1 dB stepsize)</p> <p>Output Level Accuracy: ± 0.5 dB</p> <p>Synthesizer Phase Noise: Exceeds IESS-310 requirements <2.048 Mb/s</p> <p>Output Spurious (except CW mode): In-Band: >50 dBc/4 kHz (in-carrier bandwidth) Out-of-Band: >80 dBc/4 kHz (full transponder carrier), >60 dBc/4 kHz (1/4 transponder carrier)</p>	<p>Monitor Connector: BNC (female, 75Ω)</p> <p>Alarms: Summary alarm via contact closure</p> <p>Input Data Interface: Redundant DVB-ASI</p> <p>DVB-ASI Connector: 75Ω, coaxial</p> <p>Monitor and Control: D9752: Via internal control bus on the Originator Encoder D9390: Ethernet (10Base-T) control ports on the PowerVu Network Centre. Supports a SNMP v2c with MIB for third party monitor/control.</p>
Environmental	<p>Operating Temperature: 0°C to 50°C (32°F to 122°F)</p> <p>Storage Temperature: -25°C to 80°C (-13°F to 185°F)</p>	<p>Relative Humidity: 5% to 95% non-condensing</p>
Power Requirements	<p>Voltage Range: 100V to 240V ac ±10% nominal</p> <p>Line Frequency: 47 Hz to 63 Hz auto selectable</p>	<p>Power Consumption: 40W typical</p>



D9390 Standalone Rear Panel



D9752 Integrated Card for Rear Panel of the Originator™ Encoder



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