Scientific Atlanta

Spectra™ –
QAM Demodulator

Description

The Spectra™ demodulator is a compact QAM demodulator, which can be used for applications where access is needed to the digital stream. Examples are transport stream processing, monitoring and analog re-transmission.

A version is available for DVB (ITU-A), OpenCable (ITU-B) and Japan (ITU-C).

Up to 7 different modules can be mounted into the Galaxy™ subrack without forced cooling, expandable to 12 modules in case a blower unit has been mounted under the chassis.

The operator may control the unit locally from the front panel using the push buttons and LCD or remotely using the ROSA™ management system.

Features

- Demodulator bringing QAM modulated signals back to DVB-ASI
- Complies fully with ITU-T J.83 standards, annex A (DVB), B (OpenCable) and C (Japan)
- Symbol rates selectable from 4 to 7 Mbaud
- Supports all QAM constellations from 4 to 256 QAM
- Ideally suited as front-end for:
  - QAM regeneration (with Quantum RF Modulator/Up-converter)
  - Transport stream manipulation (with Pegasus™ Re-multiplexer)
  - Simulcasting (with Mira™ MPEG-2 Decoder)
  - Monitoring (with Pegasus Re-Multiplexer & Mira MPEG-2 Decoder)
- Performance logging according to ITU-T G.826
- Enhanced signal monitoring (Input signal level, BER, etc.)
- Dual ASI output
- Input tuneable from 50 to 860 MHz
- Compact design allows up to 12 Spectra modules in 3RU Galaxy rack
- LCD front panel control & ROSA remote control
- Hot-swappable
- Software programmable relay contact
- SNMP control through Hermes™ SNMP Bridge
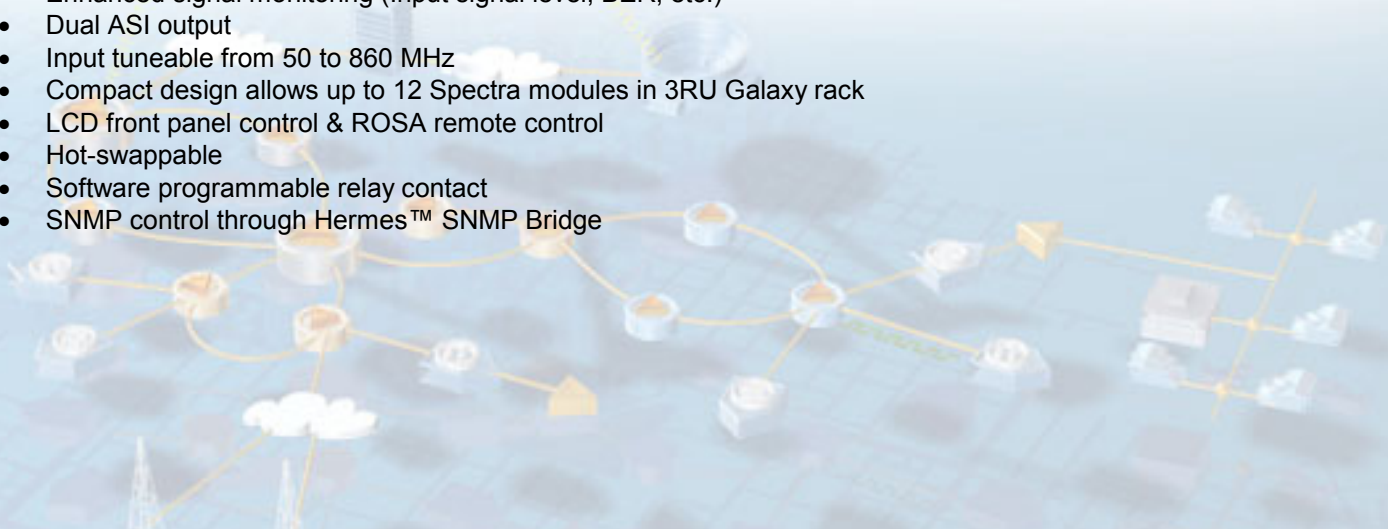
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Specifications

Electrical Specifications	
Modulation format	QAM According to ETS 300 429 and SCTE DVS-031
Symbol rate	4 to 7 Mbaud (ITU-A) 4 to 5.4 Mbaud (ITU-B)
Constellations	4, 16, 32, 64, 128, 128-alt and 256 QAM (ITU-A) 64 and 256 QAM (ITU-B)
RF Input	
Connector (on paddle board)	F-type or BNC (75 Ω)
Frequency	47 to 862 MHz
Signal level	-10 to +15 dbmV
Bandwidth	6 MHz (ITU-B & ITU-C) 7 and 8 MHz (ITU-A)
ASI Output	
Number of outputs	2
Connector (on paddle board)	BNC
Impedance	75 Ω
Interface type	Asynchronous Serial Interface (according to EN 50083-9)
Packet format	204 byte packets RS decoded
Bit rate	Max. 51 Mbit/s (payload)
Syntax	Single or multi-program transport (according to ISO/IEC 13818)
Relay Contact	
Connector (on Galaxy Chassis)	2 x 25 pins female Sub D
Contacts	1 contact (3-pins) per card (COM, NO & NC)
Contact type	Relay
Alarms	Software configurable (with ROSA)

Remote Control	
Connector (on Galaxy Chassis)	9-pins male Sub D
Type	RS-485
Format	RCDS (Scientific-Atlanta specific)
Speed	Up to 19200 bit/s

Front Panel Functions
Configuration
Frequency
QAM constellation
Spectrum inversion
Symbol rate
Channel name
Communications port messages, baud rate and address
Save and recall user settings
Recall factory default settings
Status and Alarm
Input signal loss
FEC sync
Signal to noise
Signal level
BER (before RS)
Reed Solomon uncorrected error count
Reed Solomon corrected error count
Errored seconds
Severely errored seconds
RS uncorrected error count
Temperature monitoring

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Specifications - continued

Environmental Specifications	
Temperature within specs	+50°F to +104°F (10°C to 40°C)
Operating temperature	+32°F to +113°F (0°C to 45°C)
Storage temperature	-4°F to +158°F (-20°C to 70°C)
Power supply (nominal)	-48 V DC
Power consumption (nominal)	8 W

Mechanical Specifications	
Height	3.94 in. / 100 mm
Width	1.18 in. / 30 mm
Depth	7.87 in. / 200 mm
Weight	Approx. 0.57 lbs / 0.26 kg
Module width	6 HP (1 slot in Galaxy rack)

Ordering Information

Spectra	Part Number
Spectra QAM Demodulator ITU-A (DVB)	V9524401
Spectra QAM Demodulator ITU-B (OpenCable)	V9524400
Spectra QAM Demodulator ITU-C (Japan)	V9524404
Paddles for Spectra	
Connector Card, type 1, BNC-75 Ohm connector Input & 2 x BNC Output	V9521350
Connector Card, type 2, F-75 Ohm connector Input & 2 x BNC Output	V9521351
Connector Card, type 3, N-50 Ohm connector Input & 2 x BNC Output	V9521352