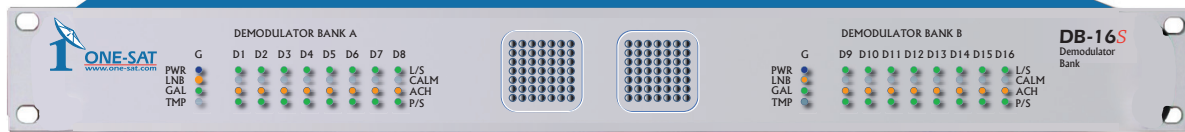


Demodulator Bank



OVERVIEW

Further strengthening ONE-SAT's lead in high density demodulation technologies, the new DB-16S has sixteen individually configurable RS-530 SCPC demodulators in a compact and lightweight 1U chassis.

The DB-16S was designed specifically to terminate SCPC return channels from DVB and MCPC uplinks, at a fraction of the capital cost when compared to using single channel demodulators or modems. Its high density platform and compact size also delivers significant operational savings due to a 16 to 1 reduction in energy, earth station rack space and the associated costs.

It is also ideally suited for full mesh, star and hybrid commercial and government networks providing an easy to implement hub-less solution without all the complexities and restrictions of setting up and managing a hub-based network such as TDMA.

KEY FEATURES

- **8PSK & 16QAM** - QPSK modulation as standard. 8PSK and 16QAM options provide increased efficiency and savings on satellite bandwidth. These options can be purchased initially or later as soft-key upgrades, allowing a unit to be enhanced as required in just a few minutes.
- **16K TPC** - Latest generation 16K Turbo Product Code and Viterbi are included as standard, as are data rates up to 2Mbps per channel simultaneously. This means no expensive and disruptive hardware upgrades are necessary.
- **L-Band & IF Interfaces** - User configurable L-Band and 70/140MHz IF interfaces as standard. This means no L-Band option price premium that is typical on modems and allows for total flexibility by removing the need to return the unit to the manufacturer for costly and time consuming modifications. The DB-16S has two RF inputs so each group of 8 channels can be set with either the same or different RF interfaces. Significant additional savings result by removing the need for external splitters or switch matrices.
- **Redundant PSUs** - Dual power supplies with individual power inlets are fitted as standard for redundancy and enhanced reliability.
- **Compatibility** - The DB-16S is compatible with all major manufacturers' satellite modems including the ONE-SAT OSM-300 series, protecting your existing investment at the remote sites and allowing you to relocate any existing earth station modems to new remote sites.
- **Lower cost entry point** - For smaller applications eight or twelve channel versions of the DB-16S can be purchased to reduce your initial capital expenditure. Simple and fast soft-key upgrades to up to 16 channels can be procured as your requirements change, providing ultimate flexibility.

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SUMMARY SPECIFICATIONS

Number of channels:	Up to 16 independent configurable demodulators
IF Frequency Range / Frequency step size	950 to 2150 MHz / adjustable in 2 MHz steps 50 to 250MHz / adjustable in 2 MHz steps
IF Bandwidth	Up to 160 MHz (2x 80 MHz max). All carriers must lie within each 80MHz band. The centre frequency can be adjusted over the full IF frequency range of each 80MHz band
Receive Carrier Power / Characteristic Impedance:	-10 to -70 dBm at max data rate -10 to -93 dBm at minimum data rate Maximum composite input -5 dBm / 75 Ohms
Receive Acquisition Range/ step size:	Programmable in 1 KHz steps up to 32 KHz either side of carrier frequencies
Frequency Reference:	Internal +/-0.02 ppm
Modulation Schemes:	BPSK, QPSK, 8PSK, 16QAM
Forward Error Correction:	Viterbi k=7 and Turbo Product Code, Rates 1/2, 3/4, 7/8 & 0.95
Data Rates (Viterbi and Turbo Code) adjustable in 1 bps steps	BPSK, 1/2 rate 4.8 to 1024 kbps QPSK, 1/2 rate 2.4 to 2048 kbps, subject to configuration options selected QPSK, 3/4 rate 3.6 to 2048 kbps, subject to configuration options selected QPSK, 7/8 rate 4.2 to 2048 kbps, subject to configuration options selected 8PSK (Turbo Only), 7/8 rate 6.3 to 2048kbps 8PSK (Turbo Only), 0.95 rate 6.8 to 2048kbps 16QAM (Turbo Only), 7/8 rate 9.027 to 2048kbps 16QAM (Turbo Only), 0.95 rate 9.6 to 2048kbps
Scrambling	IESS 308, CCITT V35, true and inverted, TPC
Data Interface	RS-422 / EIA-530 (DB25)
QPSK BER Performance with Viterbi FEC 1/2 rate:	1.E-7 with 6.0 dB Eb/No 1.E-5 with 4.8 dB Eb/No
QPSK BER Performance with Turbo Code FEC 3/4 rate:	1.E-7 with 3.5 dB Eb/No
8 PSK BER Performance with Turbo Code FEC 3/4 rate:	1.E-7 with 6.4 dB Eb/No
16 QAM BER Performance with Turbo Code FEC 3/4 rate:	1.E-7 with 7.4 dB Eb/No
Acquisition Performance:	50 ms at 64 kbps*, QPSK at 1/2 rate FEC with 6.0 dB Eb/No and +/-32kHz acquisition range (* May take an extra 50ms if code ambiguity has to be corrected)
Monitor and Control	Console port RS232 for control, status and local software and firmware upgrade
Network Management	Telnet (VT100 with Colour Support)
LNB Power supply	18 V or 13 V dc at 400mA max multiplexed on Rx coax cable, controlled by M & C.
Connectors:	IF input F type (f) 75 Ohms; data 16 RJ45 with DB25 adaptor cables; console DB9F; Management RJ45; Alarm DB9M
Case Dimensions:	1U, 19 inch rack, 480 x 400 x 44 mm, (19" x 16" x 1.75") approximately
Input Power Requirements:	90 - 264VAC 50/60 Hz, Approx. 30 Watts
Temperature operating / storage	0 to 50°C / -25°C to 85°C
Humidity operation / storage	90% non condensing / 99% non condensing

