

Demodulator Bank

New **MAX** version
with additional features
as standard



OVERVIEW

For smaller applications, the new DB-8Lite has eight individually configurable RS-530 SCPC demodulators in a compact and lightweight 1U chassis.

The DB-8Lite 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 an 8 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.

For larger applications, please check out our 16-channel DB-16S.

KEY FEATURES

- **8PSK & 16QAM** - QPSK modulation is standard. On the new DB-8Lite MAX, 8PSK and 16QAM are also standard, providing increased efficiency and savings on satellite bandwidth without additional cost making the DB-8Lite even more exceptionally good value.
- **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.
- **Data Rate** - Faster Data Rates are now standard on the DB-8Lite Max, providing data rates of up to 5.8Mbps, depending on configuration used.
- **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.
- **Compatibility** - The DB-8Lite is compatible with all major manufacturers' satellite modems, protecting your existing investment at the remote sites and allowing you to relocate any existing earth station modems to new remote sites.

DB-8Lite

Please visit www.one-tg.com for further information or to contact us for a quotation.

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Demodulator Bank

SUMMARY SPECIFICATIONS

Item

Shared RF down converter

RF input frequency range/ step size
RF input level range (L-Band)

RF input level range (IF)

Maximum composite input

Down-converter bandwidth (within which all wanted carriers must lie)

Each of 8 demodulator channels

Acquisition Type

Acquisition range/step size

Acquisition performance at 64 kbps, QPSK, 1/2 rate Viterbi, 32 kHz search range

Modulation modes

FEC type/rate

Specification

50 to 250 MHz or 950 to 2150 MHz in 1 Hz steps

0 To -73 dBm at max data rate

0 To -103 dBm at min data rate

-10 To -73 dBm at max data rate

-10 To -103 dBm at min data rate

10 dBm

80 MHz

FFT based, fast acquisition

0 to ± 32 kHz in 1 kHz steps

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)

BPSK, QPSK, 8PSK, 16QAM

Intelsat Compatible Viterbi: 1/2, 3/4, 7/8

Comtech Compatible Turbo: 3/4, 7/8, 0,95

Datum Compatible Turbo: M5 Full 1/2 , M5 Full 7/8, M5 legacy 3/4, M5 Legacy 7/8, M5 Short 3/4

SPL Compatible Turbo: 3/4

Physical and Environmental Specifications

Size 1U, 19 inch rack, 480 x 400 x 44 mm,
(19" x 16" x 1.75") approximately

Weight 4.5 kg

Temperature (operating) 0 to 50°C

Temperature (storage) -25 to +85°C

Humidity (operating) 95% non-condensing

Humidity (storage) 99% non-condensing

Item

Typical BER performance tested at 2048 Kbps

Specification

Demodulation / FEC Type / Rate

QPSK Intelsat Compatible Viterbi 1/2

4.0

5.0

QPSK Comtech Compatible 3/4

3.1

3.4

QPSK Intelsat Compatible Viterbi 3/4

4.9

5.7

QPSK Comtech Compatible 7/8

3.8

3.95

QPSK Intelsat Compatible Viterbi 7/8

5.9

6.8

QPSK Comtech Compatible 0.95

5.1

5.4

QPSK M5 Compatible Full 1/2

2.5

2.8

8 PSK Comtech Compatible 3/4

5.65

6.0

QPSK M5 Compatible Short 3/4

3.85

4.35

8 PSK Comtech Compatible 7/8

6.6

6.75

QPSK M5 Compatible Legacy 3/4

3.1

3.3

8 PSK Comtech Compatible 0.95

8.5

8.9

QPSK M5 Compatible Full 7/8

4.15

4.3

16 QAM Comtech Compatible 3/4

6.9

7.3

QPSK M5 Compatible Legacy 7/8

4.3

4.8

16 QAM Comtech Compatible 7/8

7.7

7.9

16 QAM Comtech Compatible 0.95

9.7

10.1

Data rate, each port

BPSK, 1/2 rate 4.8 to 1024 kbps

QPSK, 3/4 rate 3.6 to 2048 kbps, subject to configuration options selected

8PSK (Comtech Compatible Turbo Only), 7/8 rate 6.3 to 2048kbps

16QAM (Comtech Compatible Turbo Only), 7/8 rate 9.027 to 2048kbps

QPSK, 1/2 rate 2.4 to 2048 kbps, subject to configuration options selected

QPSK, 7/8 rate 4.2 to 2048 kbps, subject to configuration options selected

8PSK (Comtech Compatible Turbo Only), 0.95 rate 6.8 to 2048kbps

16QAM (Comtech Compatible Turbo Only), 0.95 rate 9.6 to 2048kbps

Faster Data Rates

(now a standard feature) provides increased data rates in the following configurations:

Comtech compatible TPC 0.95 goes up to 3870Kbps for QPSK, 8PSK & 16QAM.

Comtech compatible TPC 3/4 goes up to 2260Kbps for QPSK, 8PSK & 16QAM.

Comtech compatible TPC 7/8 goes up to 4680Kbps for QPSK and 5830Kbps for 8PSK & 16 QAM

Scrambling

V35: CCITT, IESS308, true and inverted.

Synchronous (Turbo): various according to code, automatically invoked.

Interfaces and Controls

Serial Console Port

RS232 interface

RS232 Data rates (bps)

RS232 Data format

Command protocols

Connector

RS485 interface

RS485 Data rates (bps)

RS485 Data format

Command protocols

Connector

LAN Network Management Port

Interface

Connector

Command protocols

Full duplex

9600, 19200, 38400, 57600, 115200

No Parity, 8 data bits, 1 stop bit

VT100 Colour Menus (80 Column x 24 Rows), ONE Packet Management Interface

9 pin D type female

4 wire, full duplex

9600, 19200, 38400, 57600, 115200

No Parity, 8 data bits, 1 stop bit

ONE Packet Management Interface

Shares RS232 9 pin D type female

10/100BaseT

RJ45

Telnet VT100 Colour Menus (80 Column x 24 Rows), ONE Packet Management Interface & HTTP

Serial Data Ports

(8 serial ports in all, one per demodulator)

Interface electrical specification

Interface physical specification

Data format

RF Input

70/ 140 MHz / L band RF option input connector

L band LNB supply via coaxial cable

Mains Input

Mains Input Connector

Input voltage range

Approximate power dissipation

RS422/V.11

RJ-45 converted to EIA530, 25 pin D type female via provided cable

DCE Clock, Data & RLSD

75 Ohm F type

13 or 18V, 400 mA max

IEC

90 to 264 VAC 47 to 63 Hz

45 Watts Max with LNB supply active



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