

'EXOS' Compact Satellite Transmission System

- The Exos System is a complete, modular, satellite system. Providing two way data transmission, high speed Internet, Comms and broadcast quality MPEG-2 video, with RF PA units for C, X, Ku and DBS bands.
- The rugged, weatherproof packaging eliminates 19 inch racking and flight cases, and is built to withstand the harsh transport and operating environments of portable satellite terminals.
- With individual units weighing only 3 Kg, and combined with Mantis 100 and 120 'one box' flyaway antennas, EXOS becomes the lightest, most portable, fully professional satellite terminal on the market today.
- **Data bridge** for Comms, with Broadband IP modem, point to point or Global Internet "always on" connectivity, for data, audio, telephone, video file transfer and two way talk-back. Built in TCP/IP accelerator for ultra fast file transfers. Instant connection to your corporate network.
- **Video MPEG-2** full Broadcast DVB-S quality 4.2.0/4.2.2 encoder/modulator. Super low delay encoding, with video over IP option.
- **Satfinder** an easy to use tool to allow an unskilled operator to align the system.
- **IRD** 4.2.0/4.2.2 decoder, analogue and digital video and audio outputs, BISS descrambling.
- **Wide choice of RF units**, 4 to 400 W
- Remote control of HPAs from the EXOS unit.
- 10 to 36 VDC, or 87 to 265 VAC operation.
- All Outdoor, or Split IDU/ODU operation.
- Ultra lightweight, meets the latest airline 'check in' weight limits.



Specification

EXOS MPEG EXCITER UNIT

Video Parameters

Inputs

1 composite video: PAL/NTSC

1 SDI: 270 Mb/s (with/without embedded audio) ANSI / SMPTE 259M / ITU-R BT.656.

Encoding

Data Rate

4:2:0 @ 1-15 Mb/s

Delay < 200 ms

Option

4:2:2 @ 2.5-31 Mb/s

Option

Low Delay 50 ms / < 100 ms

Option

BISS scrambling

Data Channel

RS232 @ 9.6/19.2 kbaud

Audio Parameters

Inputs

2 analogue stereo pairs / 4 mono

600 Ω / 20k Ω input impedance

Option 2 dual / 4 mono embedded in SDI

Option AES/EBU (2 pairs) inputs

Encoding

MPEG-2 Layer 1 or 2

Linear PCM

128-384 kbs channel

MODULATION

DVB-S

QPSK 1 – 26.7 Msym/s

FEC

1/2, 2/3, 3/4, 5/6, 7/8

Options

8PSK and/or 16QAM

Output

L band 950 to 1750 MHz

Tuning

1 kHz steps

Output Power Level

L-Band -10 dBm

Gain Adjustment

40 dB min. in 0.1 dB steps

L-Band monitor

N-type

HPA Control

Serial control runs: Xicom, E2V, Paradise

IP DATA BRIDGE

Network Topology

SCPC High speed IP point to point, or TDMA Star IP Network

Interfaces

Data

LAN, RJ45, 10/100 Ethernet

Protocols

TCP, UDP, ICMP, IGMP, RIP Ver 2, DHCP

Tx/Rx IF

950 – 1700 MHz

Modulation

QPSK with Turbo coding

Data Rates

Downlink: 64 kbps – 91 Mbps

Uplink: 64 kbps – 4.2 Mbps

Two way Comms - full duplex

2 x telephone, with DTMF

SATFINDER

Features

GPS and optional compass

Satellite orbit position calculation software

Operator Interface

Satellite location display with beacon audio assisted antenna alignment, and visual lock indicator

Input

950 to 2050 MHz synthesised in 1 kHz steps.

Monitor Point 950 to 2050 MHz (-10 dB on input)

LNB Power

DC on coax, with On/OFF

Beacon receiver

Features and specifications as per BR4000

IRD

2 x RF inputs

Tuning 950 to 2150 MHz

Demodulator QPSK

Decoding 4.2.0/4.2.2

Outputs

video PAL/NTSC, SDI

audio, 4 channels (2 x stereo)

analogue/AES EBU digital

BISS modes 1 and E

Data RS232 4.8/19.2

LNB power 13/17 VDC

PA UNIT

Input Frequency Range

950 to 1750 MHz

10 MHz reference

Output Frequency Range

C band 5.85 to 6.65

X band 7.9 to 8.4

Ku 12.75 to 13.25

Ku 13.75 to 14.5

DBS 17.3 to 18.1 or 17.6 to 18.4

Output Power

C band 5 Watts

Ku band 4 Watts

Options 16 Watts Ku band or 125/400 Watts

with external (Outdoor) TWTA

Input Power Level

-10 dBm nominal, ± 10 dB

Gain

Gain Variation

± 0.5 dB any 40 MHz

± 1.5 dB over 800 MHz

± 0.25 dB over 24 hours @ constant temp

Group delay Variation

± 0.25 ns in any 4 MHz

SSB Phase Noise

6 dB better than IESS 308 @ Ku band

REMOTE CONTROL

PA units

Remote control of outdoor PA units from EXOS Data bridge or Exciter via L band interconnect cable

GENERAL

Powering

10 – 36 volts DC (from external source, battery or standard camera power supply)

87 - 265 VAC, 47-63 Hz (EXOS optional waterproof PSU)

Housing

Weatherproof (IP65)

Dimensions 365 mm x 310 mm x 55 mm

weight 3 Kg each nominal, depending on module

Mantis 1.0m with EXOS

