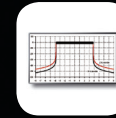


## XPM Portable HD Microwave Link



XPM Rev.2 2K16



### GENERAL DESCRIPTION

The portable microwave system XPM is the latest product developed by Elber R&D group. It's a digital link working either in COFDM technique (standard DVB-T) or single carrier wideband (standard DVB-S2), selectable by software. It is a split type (2 boxes) system composed by a RF head, waterproof IP65 (transmitter or receiver) and a rack mount lightweight control unit, whose name is Cleber. Cleber can host up to six different boards plug-in, such as encoders, decoders, modulators or demodulator with standards DVB-S, DVB-S2, DVB-T. Encoders and decoders can be programmed for both MPEG-2 and H.264 compression, High and Standard Definition, 4:2:0 and 4:2:2 for high quality audio/video contribution; the end-to-end latency can be 150ms, which makes the system the best for newsgathering and sport events. The RF box is installed on a tripod, for simplex transmission, and a base plate for two boxes with orthomode transducer is available for double simplex and full duplex configurations. Moreover, the transmitter can be equipped with an external power amplifier box to get higher distances. Connection between control units and RF heads is performed through a RG-216 cable with LEMO connectors, with distance of up to 200 meters.

### FEATURES

- Simplex, Double Simplex or Duplex
- Modulations:
  - DVB-T COFDM 2k/8k (QPSK, 16-64QAM)
  - DVB-S/S2 (QPSK, 8PSK, 16-32 APSK)
- Frequency Band 1.2 ÷ 15 GHz
- Up to 500 MHz frequency agile (step size to be established with the user)
- Very Low phase noise
- Power Output @ 1 dB Compression Point:
  - XPM/T/01 +34 dBm ±1 dB
  - XPM/T/02 +36 dBm ±1 dB
  - XPM/T/07 +33 dBm ±1 dB
  - XPM/T/10 +30 dBm ±1 dB
  - XPM/T/14 +30 dBm ±1 dB
- Codecs:
  - MPEG-2 SP@ML, MP@ML, 422P@ML, MP@HL, 422P@HL
  - H.264 High 422 10 bit, High@Level4.1, High@Level3.0
- Video interfaces: CVBS, HD/SD-SDI
- Audio interfaces:
  - 4 x AES-EBU
  - 4 x analogue
- ASI input/output interface
- Optional external amplifier, dockable
- Weatherproof RF Heads
- Carrying case

## SPECIFICATIONS

### General

Central frequency:	1.2 - 15 GHz
Frequency span:	500 MHz
Channel spacing:	to be specified at order
Number of RF channels:	depending on channel spacing
Frequency stability:	$\pm 2$ ppm
IF/DC connector:	LEMO (ERA.3T.275.CTL)
Supply:	100-240 V~ 50/60 Hz IEC 320 12-36 V DC or 22-65 V DC
Power consumption:	<120 W
Operating temperature:	-10 $\div$ 55°C
Relative humidity:	0 - 95% not condensing

### Transmitter

#### Saturated RF Output Power:

▪ XPM/T/01	+34 dBm $\pm 1$ dB
▪ XPM/T/02	+36 dBm $\pm 1$ dB
▪ XPM/T/07	+33 dBm $\pm 1$ dB
▪ XPM/T/10	+30 dBm $\pm 1$ dB
▪ XPM/T/14	+30 dBm $\pm 1$ dB

RF Output Connector:	Female N-type
RF Output Return Loss:	> 20 dB
Spurious Output Content:	< -65 dB
IF Impedance:	75 Ohm

### Receiver

Noise Figure:	< 5dB
RF Input Connector:	N (f)
RF Input Return Loss:	> 20 dB
Image Rejection:	> 75 dB
IF Impedance:	75 Ohm

### Tripod

Height:	Maximum 125 cm Minimum 80 cm
Weight:	13.5 Kg
Rotator plate:	+/- 160°

### Cleber - Control Unit

Width:	482.5 mm
Height:	43.65 mm
Depth:	380.65 mm (without connectors)
Weight:	5 Kg
Plug-in slot:	6

### EHD: Encoder

Video:	
▪ Encoding	H.264 and MPEG-2
▪ Profile:	MPEG-2 SP@ML, MP@ML, 422P@ML MP@HL, 422P@HL H.264 High 422 10 bit,

Audio:	
▪ Resolution	High@Level4.1, High@Level3.0 1080p   1080i   720p   PAL   NTSC
▪ Inputs	HD/SD-SDI, CVBS
▪ Encoding	MPEG-1 L1 and L2 Dolby pass-through
▪ Inputs	4 x SDI-embedded 2 x stereo pairs analogue & AES3
▪ Output	DVB-ASI (TS)

### DHD: Decoder

Input:	DVB-ASI (TS)
Video:	
▪ Decoding	H.264 MPEG-2
▪ Profile	HP 422 10 bit and lower (H.264) 422P@HL 8 bit and lower (MPEG-2)
▪ Resolution	1080p   1080i   720p   PAL   NTSC
▪ Outputs	HD/SD-SDI, CVBS
Audio:	
▪ Formats	MPEG-1 L1 and L2 Dolby pass-through
▪ Outputs	4 x SDI-embedded 2 x stereo pairs analogue & AES3

### MS2: Modulator

Standard Constellation	DVB-S/DVB-S2/DVB-T QPSK, 8PSK, 16APSK, 32APSK COFDM 2k-8k (QPSK, 16-64QAM) according to standard up to 49.5 MBaud (DVB-S2)
FEC Symbol Rate Inputs	
▪ BNC	2 x ASI (Multistream in DVB-S2)
▪ Internal	2 x balanced ASI lines 10 MHz reference
Outputs	
▪ BNC	IF 70 MHz
▪ Internal	2 x balanced IF lines

### DS2: Demodulator

Standard Constellation	DVB-S/DVB-S2/DVB-T QPSK, 8PSK, 16APSK, 32APSK COFDM 2k-8k (QPSK, 16-64QAM) all as per standard (auto)
FEC Symbol Rate	1-45 Msymb/s (DVB-S) 2-45 Msymb/s (DVB-S2)
Inputs	
▪ BNC	1 x IF 70 MHz
Outputs	
▪ BNC	2 x ASI (Multistream in DVB-S2)
▪ Internal	2 x balanced ASI lines



*\*Elber reserves the right to make changes to specifications of products described in this datasheet at any time without notice and without obligation to notify any person of such changes.*

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