

XPM Portable HD microwave link



XPM rev1 2k13



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 of 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 "plug-in boards" 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 through 200 metres.

FEATURES

- Simplex, Double Simplex or Duplex Configuration
- Modulations:
 - DVB-T (COFDM 2k/8k)
 - DVB-S/S2 (QPSK, 8PSK, 16-32 APSK)
- Frequency: 2 ÷ 15 GHz
- Frequency agility: Up to 500 MHz
- Very Low phase noise
- Power Output @ 1 dB c.p.:
 - XPM/T/02 +36 dBm ±1 dB
 - XPM/T/05 +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
- Optional external booster
- Weatherproof RF Heads
- Carrying case

SPECIFICATIONS

General

Central frequency	2 - 15 GHz
Frequency span	500 MHz
Channel spacing	to be specified at order
Number of RF channels	depending on channel spacing
Frequency stability	± 20 ppm (standard stability) ± 2 ppm (high stability)
IF/DC connector	LEMO (ERA.3T.275.CTL)
Supply	100-240 V~ 50/60 Hz IEC 320
Power consumption	<120 W
Operating temperature	-10 ÷ 55°C
Relative humidity	0 - 95% not condensing

Transmitter

Saturated RF Output Power	
XPM/T/02	+36 dBm ±1 dB
XPM/T/05	+33 dBm ±1 dB
XPM/T/10	+30 dBm ±1 dB
XPM/T/14	+30 dBm ±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	< 5 dB
RF Input Connector	Female N-type
RF Input Return Loss	> 20 dB
Image Rejection	> 75 dB
IF Impedance	75 Ohm

Tripod

Physical	Height max plate: 125 cm Height min plate: 80 cm
Weight	13.5 kg
Rotator plate on 360°	

Cleber - Control unit

Physical Width	482.5 mm
Height	43.65 mm
Depth	380.65 mm (without connectors)
Weight	5 kg

EHD: Encoder

Video	Encoding Profile	H.264 and MPEG-2 MPEG-2 SP@ML, MP@ML, 422P@ML MP@HL, 422P@HL H.264 High 422 10 bit, High@Level4.1, High@Level3.0
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Resolution	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 (H.264) 422P@HL 8 bit (MPEG-2)
Resolution	1080p 1080i 720p PAL NTSC
Outputs	HD/SD-SDI, CVBS
Formats	MPEG-1 L1 and L2 Dolby pass-through
Outputs	4 x SDI-embedded 2 x stereo pairs analogue & AES3

MS2: Modulator

Standard	DVB-S/DVB-S2/DVB-T
Constellation	QPSK, 8PSK, 16APSK, 32APSK COFDM (QPSK, 16-64QAM)
FEC	according to standard
Symbol Rate	up to 49.5 MBaud
Inputs	2 x ASI (Multistream in DVB-S2) 10 MHz reference
Outputs	1 x L-band (-7 to +10dBm) 1 x IF 70 MHz L-band monitor

DS2: Demodulator

Standard	DVB-S/DVB-S2/DVB-T
RF input	level 0 to 100 dBuV
Symbol Rate	1-45 Msymb/s (DVB-S) 2-45 Msymb/s (DVB-S2)
FEC	all (auto)
Constellation	QPSK, 8PSK, 16APSK, 32APSK COFDM (QPSK, 16-64QAM)
Outputs	2 x ASI (Multistream 2 ISI)



*Elber reserves the right to modify this datasheet without notice.

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