

CPM Portable Microwave Link



CPM Rev. 2K10

GENERAL DESCRIPTION

The portable multi-channel microwave system CPM is Elber's designers latest product. The working frequency can be any 500 MHz band between 2 GHz and 15 GHz and the modulation can be either analogue (FM) or digital (COFDM). An external IF input for different or back-up signals is also available. These features makes the CPM the ideal equipment for fast and reliable mobile links, even in hard weather conditions. The COFDM section includes a SD 4:2:0/4:2:2 encoder with a low delay mode of less than 95 ms. Alternatively any external HD encoder can directly feed the ASI input on the control unit. In addition, an FM modulator and demodulator realised with Software Radio Technique are provided. The output power, depending on the frequency band, can be 1 W, 2 W or 4 W. The system can be composed of indoor and outdoor units or outdoor units only. The outdoor equipment is composed of a Tripod complete with Panoramic Head, Base Plate, Orthomode Transducer, Parabolic Dish complete with feeder and one or two RF Heads. The outdoor control units have the same dimensions of the RF heads and can be placed under the equipment, connected through a RG-216 cable. The indoor control units are 1U 19" standard rack and can be lodged in a van. The weatherproof RF heads that can be installed on the base plate can be (depending on the application) single Transmitting or Receiving Head (Simplex), two Transmitting or two Receiving Heads (Double Simplex) or a Transmitting and a Receiving Head (Duplex).

FEATURES

- Simplex, Double Simplex or Duplex Configuration
- Analogue and Digital
 - COFDM 2k/8k
 - FM
 - External IF
- Standard DVB-T COFDM Transmission (QPSK, 16-QAM, 64-QAM)
- Frequency Band 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:
 - CPM/T/02 +36 dBm ±1 dB
 - CPM/T/05 +33 dBm ±1 dB
 - CPM/T/10 +30 dBm ±1 dB
 - CPM/T/14 +30 dBm ±1 dB
- SD-MPEG-II 4:2:2/4:2:0 integrated encoder
- Video inputs: composite or component video, SDI, DVB-ASI
- Audio Inputs: four analogue channels
- External HD encoder/decoder available
- Weatherproof RF Heads
- Carrying case
- RS232, RS485 and SNMP remote control interfaces

SPECIFICATIONS

General

Centre frequency:	2 GHz ÷ 15 GHz
Frequency Span	500MHz
Channels Spacing	To be specified at order
Number Of RF Channels	Depending on channel spacing
Frequency Stability	± 20ppm (standard stability) ± 2ppm (high stability)
IF/DC Connector	LEMO (ERA.3T.275.CTL)

Transmitting Head CPM/T/xx:

Saturated RF Output Power	
CPM/T/02	+36 dBm ±1 dB
CPM/T/05	+33 dBm ±1 dB
CPM/T/10	+30 dBm ±1 dB
CPM/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

Receiving Head CPM/R/xx:

Noise Figure	< 5 dB
RF Input Connector	Female N-type
RF Input Return Loss	> 20 dB
Image Rejection	> 75 dB
IF Impedance	75 Ohm

Physical:

Cabinet Waterproof

ORDERING INFO

Parabola: Pxx/yy

Field	Option	Tag	Description
XX	Diameter	60	60 cm Dish
		90	90 cm Dish
		120	120 cm Dish
YY	Frequency	02	1,7 to 2,7 GHz
		07	5 to 8 GHz
		10	10 to 13,25 GHz
		14	13,25 to 15 GHz

Orthomode: OMT2/xx

Field	Option	Tag	Description
XX	Frequency	07	5 to 8 GHz
		10	10 to 13,25 GHz
		14	13,25 to 15 GHz

RF Head: CPM /xx/yy

Field	Option	Tag	Description
XX	Device	T	Transmitting Head
		R	Receiving Head
YY	Frequency	02	1,7 to 2,7 GHz
		07	5 to 8 GHz
		10	10 to 13,25 GHz
		14	13,25 to 15 GHz

Cabinet Rack:

Width	158 mm
Height	168 mm
Depth	251 mm

Electrical:

Input Voltage:	DC: 22V to 65V negative to ground
Max Power Consumption:	CPM/T 65W CPM/R 40W

Control Unit:

IF Frequency	70 MHz
IF/DC Connector	LEMO (ERA.3T.275.CTL)
Controls:	Front Panel (LCD Display 20x2, Keypad) RS-232 RS-485 SNMP
Electrical:	
Input Voltage:	AC: 230V/50Hz or 115V/60Hz DC: 22V to 65V
Power consumption:	10 W

Environmental:

Operating Temperature Range:	-10 to 60°C
Relative Humidity:	0 to 95%, non condensing

Compliance:

CE mark

Transmitter Control Unit: TCU/XX/YY/ZZ

Field	Option	Tag	Description
XX	Type	R	Rack Mount Control Unit
		W	Outdoor Weatherproof
YY	Modulation	I	Input IF Only
		A	FM Analogue
		D	Digital COFDM
		DE	Digital COFDM + Encoder
ZZ	Remote Control Type	RS	RS485 *
		SNMP	SNMP *

Receiver Control Unit: RCU/XX/YY/ZZ

Field	Option	Tag	Description
XX	Type	R	Rack Mount Control Unit
		W	Outdoor Weatherproof
YY	Modulation	I	Input IF Only
		A	FM Analogue
		D	Digital COFDM
		DE	Digital COFDM + Decoder
ZZ	Remote Control Type	RS	RS485 *
		SNMP	SNMP *

* Not available in weatherproof control unit mode.



*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.

ELBER Srl. Via Pontevecchio, 42W - 16042 Carasco (GE) Italy
Phone +39.0185.351333 fax +39.0185.351300
www.elber.com - elber@elber.it