

MT-MR RF Heads



GENERAL DESCRIPTION

The MT and MR are the transmitting and receiving parts of a split type microwave link.

The external weatherproof RF heads operate in a double frequency conversion configuration, thus offering a multi-channel operation.

Therefore the system is frequency agile: coupled with wideband branching filters, a maximum coverage of 500 MHz (depends on frequency band) can be achieved and the operative frequency band can be anyone in the 2 GHz to 15 GHz range.

The MT and MR are the ideal products for the transport of both analogue and digital (with modulation schemes up to 256QAM) modulated signals. Such performance is possible due to the perfect hardware equalization of the filters and the low phase noise of the synthesised oscillators.

The transmitting head MT is designed to convert the IF signal at 70 MHz to a microwave frequency in the RF range from 2 GHz to 15 GHz.

Salient characteristics of the system are the group delay (less than 10 ns), the receiver's Noise Figure (less than 5 dB) and the RF power output of the transmitter (up to 36 dBm, depending on the frequency band of the link).

The outdoor RF heads are coupled with internal slim line control units, housed in a 19" 1U rack standard, that have various input/output configurations depending on the specific requirements. See TCU/RCU datasheet for more information.

FEATURES

- Frequency: 2 GHz ÷ 15 GHz
- 70 MHz Input/Output IF
- Analogue or digital modulated input IF signal
- Up to 500 MHz frequency agile
- Low phase noise
- ALC control for digital transmission
- Power output @ 1 dB compression point:
 - MT/07 (5 to 8 GHz) +33 dBm ±1 dB
 - MT/10 (10 to 12.5 GHz) +30 dBm ±1 dB
 - MT/14 (12.5 to 15 GHz) +30 dBm ±1 dB
- Very high spurious suppression
- Excellent noise figure
- Low power consumption

SPECIFICATIONS

General:

Configuration:	Double Frequency Conversion
Centre frequency:	5 to 8 GHz 10 to 12.5 GHz 12.5 a 15 GHz
Frequency Span:	500 MHz max
Frequency Resolution:	250 kHz
Channel Bandwidth:	28 MHz
Frequency Stability:	± 20 ppm (<i>standard stability</i>) ± 2 ppm (<i>high stability</i>)
IF Impedance:	75 Ohm

Transmitter T SL:

Saturated RF Output Power:	MT/07 +33 dBm ± 1 dB MT/10 +30 dBm ± 1 dB MT/14 +30 dBm ± 1 dB
RF Output Connector:	MT/07 Female N-type MT/10 IEC PBR 120 MT/14 IEC PBR 140
RF Output Return Loss:	> 26 dB
Spurious Output Content:	< -65 dBc
IF Input Level:	0 dBm ± 1.5 dB
IF Input Return Loss:	> 28 dB
IF Input Connector:	BNC Female

Receiver R SL:

RF Input Connector:	MR/07 Female N-type MR/10 IEC PBR 120 MR/14 IEC PBR 140
RF Input Return loss:	> 26 dB
Noise Figure:	< 5 dB
IF Output Level:	-3 dBm ± 1 dB
IF Output Return loss:	> 28 dB
IF Output Connector:	BNC Female

Mechanical:

Cabinet Weatherproof RF Head	
Dimensions:	Width 168 mm Height 260 mm Depth 366 mm

Environmental:

Operating Temperature Range:	-10 to 65°C
Relative Humidity:	0 to 95% non condensing

Compliance:

CE Mark

ORDERING INFO

MT/WW/XX

Field	Option	Tag	Description
WW	Frequency Band	07	5 to 8 GHz
		10	10 to 12.5 GHz
		14	12.5 to 15 GHz
XX	IF Input	70	70 MHz
		140	140 MHz

MR/XX/YY

Field	Option	Tag	Description
XX	Frequency Band	07	5 to 8 GHz
		10	10 to 12.5 GHz
		14	12.5 to 15 GHz
YY	IF Output	70	70 MHz
		140	140 MHz

APPLICATIONS

