

RF-7000E Microwave RF Repeater

General

Frequency Range	7.125 ~ 7.900 GHz
Linear Amplifier Gain, L1 ¹	58 dB typ., 56 dB min.
Linear Amplifier Gain, L2 ¹	63 dB typ., 61 dB min.
AGC/ALC	15 dB down, 5 dB up fade
Noise Figure ¹	5 dB at max gain
Antenna Ports	WR112 waveguide
W/G Flange	CPR112G
Return Loss	≥ 26 dB

Nominal Transmit Power^{1,2}

Modulation	Level 1	Level 2
FM/FSK/MSK	26.0 dBm	30.0 dBm
4QAM/QPSK/OQPSK	24.0	28.0
16QAM	20.0	24.0
32QAM	18.0	22.0
64QAM/64TCM	16.0	20.0
128QAM/128TCM	14.0	18.0
256QAM	13.0	17.0
512QAM	12.0	16.0
32TCM	17.0	21.0
256TCM	12.0	16.0

Frequency Plan

Channel Bandwidth	30 MHz – High Capacity 15 MHz – Low ~ Medium ³
T-R Spacing	80 MHz, min.
T-T Spacing*	56 MHz, min

* on common feeders

¹ : Not including branching losses, see Operations Manual.

² : See Operations Manual for more details. Modulations listed are a sample only, contact PESi for more.

³ : RF-7000E – Low ~ Medium Capacity

Channel Response: High Capacity, Equalized

Amplitude	± 0.5 dB, $f_0 \pm 15$ MHz
Group Delay	5 nsec P-P, $f_0 \pm 15$ MHz

Channel Response: High Capacity, Un-Equalized

Amplitude	± 1.0 dB, $f_0 \pm 15$ MHz
Group Delay	15 nsec P-P, $f_0 \pm 15$ MHz

Channel Response: Low ~ Medium Capacity, Un-Equalized³

Amplitude	± 1.0 dB, $f_0 \pm 7.5$ MHz
Group Delay	15 nsec P-P, $f_0 \pm 7.5$ MHz

Power Requirements: Duplex, 2 Amplifiers

Nominal Voltage	+12 VDC (+24 VDC Optional)
Voltage Range	+11 ~ +16 VDC
Power Consumption, Level 1	30 W, Solar Rated
Power Consumption, Level 2	35 W, Solar Rated
Polarity	Negative Ground

Dimensions: 1+0, 1+1 and 2+0 Configurations

Height	36.74 in, 933 mm
Width	23.25 in, 591 mm
Depth	22.82 in, 580 mm
Weight	90 lb, 41 kg – 1+0 111 lb, 50.5 kg – 1+1, 2+0 119 lb, 54 kg – 2+0 4-Port

Reliability

MTBF	85,000 hours
MTTR	30 minutes, on-site

Environmental

Ambient Temperature	-40° C ~ +60° C
Relative Humidity	90% - Housing Internal 100% - Housing External
Altitude	15,000 feet, 4600 meters
Enclosure Housing	Weatheright Aluminum

World Headquarters
39 Grand Canyon Lane
San Ramon,
California 94582 USA

Telephone
+1 925 901 0103

Facsimile
+1 925 901 0403

Peninsula Engineering
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