

MOONRAKER AUSTRALIA

Passively simulates marine or land based 10.7m/35ft high power antenna

Tests operation of TX and ATUs without radiating RF signal in a simulated operational situation

Ideal teaching or demonstration unit



TX/RX

ATU

MRAS

Reactances and Resistances

MHz	Magnitude	Phase	Real	Reactive
1.5	12.96	-87.0	23.3	-444.0
2.0	10.36	-86.0	23.0	-328.8
2.5	8.07	-85.3	20.7	-252.4
3.0	6.13	-84.3	20.1	-201.5
3.5	4.15	-82.4	21.3	-159.8
4.0	2.22	-81.9	18.2	-127.8
4.5	-0.59	-78.4	18.8	-91.5
5.0	-3.33	-73.2	19.7	-65.2
5.5	-6.80	-63.6	20.3	-40.9
6.0	-11.22	-37.3	21.9	-16.7
6.5	-11.82	18.7	24.3	8.2
7.0	-5.92	55.2	28.9	41.5
7.5	-1.85	64.0	35.4	72.6
8.0	1.21	67.5	44.0	106.2
8.5	4.13	68.5	59.0	149.7
9.0	6.85	67.2	85.3	202.8
9.5	9.75	64.0	134.7	276.2
10.0	13.50	53.9	278.8	382.3
12.0	16.00	-45.4	443.0	-449.3
14.0	8.43	-67.4	101.4	-243.7
16.0	3.87	-67.9	58.7	-144.7
18.0	0.24	-60.7	50.3	-89.7
20.0	-3.31	-26.1	61.3	-30.1
22.0	-2.08	-7.6	78.0	-10.4
24.0	1.96	-5.4	124.8	-11.8
26.0	2.23	-23.7	118.4	-52.0
28.0	-1.06	-24.9	80.3	-37.3
30.0	-2.78	3.6	72.5	4.6

REAL = $100 \cdot 10^{(M/20)} \cdot \cos(P)$
 REACTIVE = $100 \cdot 10^{(M/20)} \cdot \sin(P)$
 where M=Magnitude and P=Phase

The MRAS 1000 Antenna Simulator is designed to mimic the varying impedance characteristics of a 10.7 metre (35 foot) whip antenna, as commonly used on naval vessels world-wide, based on the application of typical inductive and capacitive reactances and resistances.

This is achieved across the entire MF/HF range from 1.6 to 30 MHz with 1kW continuous power input. The system is fully automatic and no band switching is required.

Easy and safe to operate, it is an ideal classroom aid in the training of HF communications operators or as a demonstration unit. The Antenna Simulator is also a useful aid to communications maintenance operations, making it possible to test the performance of transceivers and antenna tuning units without having to radiate a RF signal.

Designed as a stand alone unit, it may also be mounted on a standard 483mm (19in) rack with a front panel clearance of 266mm (10.5in). RF seals around the lid and all external components provide protection from electro-magnetic interference, and continuous forced air cooling dissipates heat due to RF energy applied to the unit.

On application of AC power, an indicator lamp shows that the unit is operational.

Technical Specifications

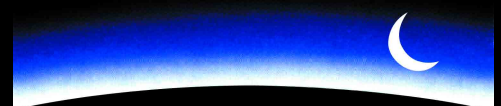
Frequency Range	1.6-30.0 MHz
Power Capability	1kW CW maximum
RF Interface (Input)	MRA-FT150 Feedthrough Insulator and earth lug
Environmental	10-40°C, 95% non-condensing humidity
AC Power Requirement	110-240v AC, single phase, 6A max, 50Hz
Size: overall (w/d/h)	420 x 550 x 240mm (16.5 x 21.7 x 9.5 in), excluding front and rear handles
front panel (w/h)	482.6 x 265mm (19 x 10.4 in)
Weight: unit	21.8kg (48 lbs); packed 48.5kg (106.7 lbs)
Physical Measurements	Maximum deviation 5%

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