

RA400

400W HF Linear Amplifier



- **1.6 to 30 MHz, Broadband**
- **400W, Continuous Duty**
- **Rugged (MIL-STD-810), Completely Submersible**
- **Vehicular or Fixed Station Usage**
- **High-Speed Tx/Rx Switching**
- **Switched Harmonic Filters**
- **Protective Circuitry**
- **Meter for Current Monitoring**
- **Input Circuit Breaker**
- **Stack Mount Kit Available for Fixed Station Configuration**

The RA400 is a 400W linear HF amplifier designed to be used with military HF/SSB transceivers operating in demanding environments. The amplifier is completely submersible, and meets the requirements of MIL-STD-810 for shock and vibration.

The RA400 can be used with transceivers having an RF output of 40W or greater. When used with the 7000-series transceivers, the 400W output is automatically maintained as long as the input is equal to or greater than 40W. Switching of the amplifier's internal harmonic filters is also automatically accomplished due to the built-in control interface. Other transceivers can also be used with the RA400 as long as the appropriate interface is established.

A version of the RA400, called the RA400-99, includes a pre-driver amplifier, which provides compatibility with exciters having a drive level of 100mW. The RA400-99 is designed specifically for use with DWC's PRC1099A, but can be used with other exciters having the proper interface.

The RA400 uses an on-demand cooling fan and is rated for key-down operation in all modes of service. The fan motor is inside the case and is coupled to the fan rotor through a magnetic coupling. The high performance harmonic filters are controlled automatically by dc switching lines from the exciter. The drive level is regulated by a closed loop ALC system, whose control voltage is derived from a VSWR bridge which also serves to protect the amplifier against antenna port mismatch.

The RA400 is powered from a 24-32Vdc, negative ground, power source. It is designed to be used either on vehicles or in fixed stations. For ac mains operation, the UPS500 Power Supply is available and has enough capacity to power the companion transceiver as well as the RA400 amplifier. The UPS500 is configured such that it and the RA400 are easily mounted using a convenient stack mount kit.

SPECIFICATIONS (RA400)

General

Models	RA400: for use with exciters having drive levels > 40W; RA400-99: for use with exciters having drive levels < 40W.
Frequency Range	1.6 to 30 MHz;
Power Output	400W, PEP and Average
Duty Cycle	Continuous
Tuning	Broadband
Intermodulation Distortion	-30dB, typical (depends on exciter)
Harmonics and Spurious	-50dB, typical
Input Drive Level	40W, minimum (100mW, minimum, with RA400-99 model)
Impedance	50 ohms
ALC output	Compatible with DWC transceivers; automatic protection against high antenna VSWR
Input Primary Power	28Vdc at 20A (PEP); 30-40A (Average)
Protection	Fuse: 50A; Input circuit breaker

Mechanical, Environmental

Size	6.0" x 14.4" x 16.4" (15.2cm x 36.5cm x 41.5cm); H x W x D
Weight	45 lbs (20.4 kg),
Package	OD, Cast Aluminum
Temperature	-30 to +60 degrees C.
Shock, Vibration, Humidity, Fungus, Altitude, Sand & Dust, Salt Spray	Per MIL-STD-810
Watertightness	Submersible

Note: All specifications subject to change without notice



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