

RF-1140B Series**1KW HF-ISB
TRANSMITTER**

*a versatile high
performance,
1kW HF Transmitter*

The RF-1140B is ideally suited for very high performance fixed, transportable, or shipboard applications.

The RF-1140B consists of the RF-1310A Exciter, the RF-1110D Power Amplifier, and the RF-1124D Power Supply. The RF-1310A Exciter provides a high signal-to-noise ratio and superior spectral purity, which can be even further enhanced via an optional internal postselector. The power amplifier uses the latest MOSFET technology for very low distortion and high key-down "around-the-clock" reliability, and the power supply provides a high power factor, minimizing prime power demands.

Complete coverage of the 1.6 to 29.99999 MHz frequency range is provided in 10 Hz increments. Modes of operation include USB, LSB, two-channel ISB, FSK, CW, MCW, AME, and FM. Low delay distortion filters for high-speed data applications, including LINK-11, are standard.

A redundant modular architecture allows the unit to continue functioning at reduced power in the event one of the identical power amplifier or power supply modules malfunctions.

The built-in line flattener provides for full power operation into 3:1 or better antenna VSWR, and reduced power operation for VSWRs greater than 3:1.

Full remote control and monitoring capability is provided via an asynchronous serial data interface in accordance with MIL-STD-188C, EIA RS-232C or RS-422 standards. Controllable functions include frequency, mode, keying, power output, clipping, channel programming and selection, and BITE.

Built-in test diagnoses and isolates malfunctions to the module level. For fast switching systems, such as Link II, a high-speed T/R switch is available. The RF-1140B HF-ISB Transmitter is fully compatible with the RF-2601 Fast-Tune Antenna Coupler which provides matching of 15- to 35-foot whip antennas, and long-wire antennas with the optional RF-625A Long-Wire Adapter.



General

Frequency Range	1.6 to 29.99999 MHz in 10 Hz increments
Frequency Stability	1 part in 10 ⁸ for any 24-hour period using the internal 1 MHz standard
Channel Memory	100 channel capacity, capable of being loaded locally or remotely with complete exciter parameters
Standard Modes	USB (J3E, A3J or R3E, A3A) CW (A1A, A1) LSB (JE3, A3J or R3E, A3A) MCW (R2A, A2A) ISB (B8E, A3B) 2 channel AME (H3E, A3H) FSK (F1B, F1) FM (F3E, F3)
FSK Shifts	Internally selectable: 85, 170, 425, and 850 Hz
Power Output	1kW PEP and average (Adjustable to -50 dB in 1 dB steps) for antenna VSWR ≤3:1. Reduced power output for antenna VSWR >3.0:1
Sideband Characteristics	≤3 dB 300 to 3000 Hz, Link II-compliant delay distortion
Intermodulation Distortion	36 dB minimum below PEP
Sideband Suppression	-60 dB
Harmonic Suppression	-55 dB
Spurious Suppression	-75 dB
VSWR Protection	Stable and fully protected for all VSWR conditions
Tuning Time	Memory Tune: Less than 850 milliseconds Learn Tune: 2.2 seconds typical, 6 seconds maximum

Environmental

Temperature	-10°C to +55°C (operating); -62°C to +71°C (non-operating)
Humidity	0 to 95% RH, non-condensing per MIL-STD-810E, Method 507.3 Procedure III - Aggravated
Shock	ASTM D1093-91, Section 10.1.3 Method C, Raised Edge Free Fall Drop Test. Drop height of 6 inches when secured to shipping pallet.
Vibration	MIL-STD-810E, Method 514.4 Procedure I when secured to shipping pallet. (non-operating)

Installation

Power Supply	180 to 264 VAC, 47 to 63 Hz, single phase Other line voltages available by special order.
Power Consumption	4900 watts, 5450 VA maximum (0.9 power factor minimum)
Size	50H x 22W x 30 in (127H x 56W x 76D cm)
Weight	320 lb (145 kg) (RF-1140B-03)

RF-1140B Configurations

Version	Power Supply	PPS	Rack	Line Voltage	Notes
RF-1140B-03	RF-1124D-01	none	standard	220 single phase	standard 1 kW Tx in rack
RF-1140B-04	RF-1124D-02	none	standard	208 3 phase	special order 1 kW Tx in rack
RF-1140B-05	RF-1124D-02	none	standard	380 to 440 3 phase*	special order 1 kW Tx in rack
RF-1140B-06	RF-1124D-01	none	none	220 single phase	special order 1 kW Tx w/o rack
RF-1140B-07	RF-1124D-02	none	none	208 3 phase	special order 1 kW Tx w/o rack
RF-1140B-08	RF-1124D-02	none	none	380 to 440 3 phase*	special order 1 kW Tx w/o rack
RF-1140B-09	RF-1124D-01	RF-1132	tall	220 single phase	special order 1 kW Tx in tall rack with power postselector
RF-1140B-10	RF-1124D-02	RF-1132	tall	208 3 phase	special order 1 kW Tx tall in rack with power postselector
RF-1140B-11	RF-1124D-02	RF-1132	tall	380 to 440 3 phase*	special order 1 kW Tx tall in rack with power postselector

*Includes RF-1143 Isolation Transformer.
Specifications are subject to change without notice.

