

**RF-1165A****SOLID-STATE  
5 KW HF-ISB  
TRANSMITTER**

*a DSP-based,  
state-of-the-art,  
5 kW HF transmitter*

The entirely solid-state RF-1165A is ideally suited for very high performance long-haul applications such as naval shore stations and HF data links at rates up to 9600 bits per second. The transmitter is controlled by the DSP-based RF-5570 Exciter which provides a high signal-to-noise ratio and superior spectral purity that can be even further enhanced via an optional internal postselector. The power amplifier uses the latest MOSFET technology together with advanced feedback systems for very low distortion and high key-down "around-the-clock" reliability. The real-time waveform adaptively controlled power supply increases efficiency and provides a high power factor, minimizing prime power demands.

Complete coverage of the 2.0 to 29.99999 MHz frequency range is provided in 1 Hz increments. Modes of operation include USB, LSB, two-channel ISB, CW, AME, and FSK. Low delay distortion DSP filters for high-speed data applications, including LINK-11 and 9600 bit per second HF modems, are standard. An entirely digitally tuned output network provides rapid tuning compatible with Automatic Link Establishment or other applications requiring rapid rechanneling, and also allows full forward power to be maintained into antenna VSWRs as high as 3:1.

The RF-5570 Exciter incorporates front panel programmable audio and keyline source selection, easing installation and operation, and full remote control and monitoring capability via an asynchronous serial data interface in accordance with RS-422 standard. Controllable functions include frequency, mode, keying, power output, channel programming and selection, and BITE.

A redundant modular architecture allows the transmitter to continue functioning at reduced power in the event one of the identical power amplifier modules malfunctions, while built-in test diagnoses and isolates malfunctions to the module level. All major transmitter modules are replaceable from the front for low mean time to repair.



**General**

<b>Frequency Range</b>	2.0 to 29.99999 MHz in 1 Hz increments (1.5 to 29.99999 MHz optional)
<b>Frequency Stability</b>	1 part in 10 <sup>8</sup> for any 24-hour period using the internal standard
<b>Channel Memory</b>	100 channel capacity, capable of being loaded locally or remotely with complete exciter parameters
<b>Standard Modes</b>	USB (J3E, A3J or R3E, A3A)      CW (A1A, A1) LSB (J3E, A3J or R3E, A3A)      AME (H3E, A3H) ISB (B8E, A3B) 2 channel      FSK (F2B, F2)
<b>FSK Shifts</b>	Selectable: 85, 170, and 850 Hz
<b>Power Output</b>	5 kW PEP and average (Adjustable to -50 dB in 1 dB steps) for antenna VSWR ≤3.0:1. Reduced power output for antenna VSWR >3.0:1.
<b>Sideband Characteristics</b>	≤3 dB 300 to 3050 Hz, Link II-compliant delay distortion
<b>Intermodulation Distortion</b>	36 dB minimum below PEP, 33dB minimum ≤ 2.0 MHz
<b>Sideband Suppression</b>	-60 dB
<b>Harmonic Suppression</b>	-60 dB
<b>Spurious Suppression</b>	-70 dB
<b>VSWR Protection</b>	Stable and fully protected for all VSWR conditions
<b>Tuning Time</b>	Less than 2 seconds from memory

**Environmental**

<b>Temperature</b>	-10°C to +55°C (operating); -40°C to +70°C (non-operating)
<b>Humidity</b>	0 to 95% RH, non-condensing per MIL-STD-810E, Method 507.3 Procedure III — Aggravated
<b>Shock</b>	MIL-STD-810E, Method 516.4 Procedure II when secured to shipping pallet. (non-operating)
<b>Vibration</b>	MIL-STD-810E, Method 514.4 Procedure I when secured to shipping pallet. (non-operating)

**Installation**

<b>Power Supply</b>	208 VAC ±10%, 47 to 63 Hz, three phase Other line voltages available by special order.
<b>Power Consumption</b>	17 kW, 18 kVA (0.95 power factor)
<b>Size</b>	78H x 23.5W x 36D in (198H x 60W x 91D cm)
<b>Weight</b>	900 lb (409 kg)

Specifications are subject to change without notice.

