

**RF-590A****HIGH PERFORMANCE****LF/MF/HF-SSB****RECEIVER***a versatile receiver**with world-proven**performance*

The RF-590A is a high performance LF/MF/HF receiver ideally suited for a wide range of fixed site, transportable and shipboard communications or surveillance applications.

The low noise synthesizer and high-intercept front end provide high instantaneous dynamic range and result in excellent performance in the face of severe spectral congestion in the LF/MF/HF bands. Addition of the optional internal digitally-tuned preselector further enhances this performance for severe collocation environments.

The receiver covers 10 kHz to 30 MHz in 1-Hz increments and provides memory storage for up to 100 channels of frequency, mode, bandwidth, and AGC time constant settings. Modes of operation include USB, LSB, ISB (optional), CW, AM, and FM and are supported by a range of six IF bandwidths and four AGC speeds, including a LINK 11-compliant DATA selection. Optional filters are available which are fully compliant with LINK 11 and suitable for other high speed HF modems to 9600 bits per second.

The RF-590A is fully remote controllable for applications such as large multi-channel systems and split-site configurations. Essentially all parameters may be controlled and signal strength and BIT results monitored via the MIL-STD-188, RS-232, and RS-422 interfaces provided.

Built-in test features diagnose and isolate malfunctions to the module level allowing for rapid troubleshooting and module replacement, minimizing time to repair.



## Specifications for the RF-590A

<b>General</b>	
<b>Frequency Range</b>	10 kHz to 29.999999 MHz in 1 Hz steps
<b>Frequency Stability</b>	$\pm 1$ part in $10^6$ – Standard $\pm 1$ part in $10^8$ – Optional
<b>External Frequency Standard</b>	1/5/10 MHz, 0.5 VRMS
<b>Channel Memory</b>	100-channel capacity
<b>Modes of Operation</b>	USB (J3E, A3J), LSB (J3E, A3J), 2-ISB (B8E, A3B) (optional), CW (A1A, A1), AM (A3E, A3), FM (F3E, F3)
<b>Sensitivity</b>	For 10 dB (S+N)/N, above 50 kHz SSB: 0.35 $\mu$ v CW: 0.15 $\mu$ v (300 Hz) AM: 1.5 $\mu$ v (6 kHz)
<b>IF Bandwidths</b>	Mode      3 dB BW (kHz) USB        2.8 LSB        2.8 CW         0.3 CW         1.0 AM         3.2 AM         6.0 AM/FM    16
<b>Intermodulation</b>	In Band: –50 dB or better for (2) –7 dBm signals within the IF passband Out of Band: –50 dB or better for (2) 0 dBm signals separated 30 kHz or more
<b>Reciprocal Mixing</b>	$\leq -107$ dBc in 3 kHz @ $\geq 100$ kHz separation
<b>Image and IF Rejection</b>	–100 dB
<b>Spurious Rejection</b>	Internal $\leq -123$ dBm, external –80 dB
<b>Maximum Signal Input</b>	Receiver protected to 100 watts available power input
<b>AGC</b>	Range: $\leq 3$ dB audio output variation for 1 $\mu$ v to 1v input Attack Time: <20 msec Hang/Decay Times: Short, <30 msec.; Medium, 200 $\pm$ 50 msec.; Long, 2.5 $\pm$ .5 sec. Data
<b>BFO</b>	$\pm 9.99$ kHz in 10Hz steps
<b>Hum and Noise</b>	< –50 dB
<b>Ultimate (S+N)/N</b>	50 dB
<b>Audio Outputs</b>	Line Output: –16 to +10 dBm/600 ohms Phone: +10 dBm/600 ohms Internal Speaker: 2.0 W/8 ohms External Speaker: 2.5 W/8 ohms
<b>Environmental</b>	
<b>Temperature</b>	Operating: –10°C to +55°C Non-Operating: –62°C to +71°C
<b>Humidity</b>	0 to 95%
<b>Installation</b>	
<b>Power Supply</b>	115/230 VAC $\pm 20\%$ , 47 to 420 Hz,
<b>Power Consumption</b>	75 watts
<b>Size</b>	5.25" H x 19" W x 19.5" D max (13.3H x 48.3W x 49.5D cm)
<b>Weight</b>	40 lb (18.2 kg)

### Internal Options for the RF-590A

High stability frequency standard – RF-593	Digitally-tuned preselector – RF-596A-02
2-Channel ISB – RF-595A-01	Noise blanker – RF-597A
2-Channel ISB (Delay compensated filters) – RF-595A-02	AFSK converter – RF-599A
Syllabic squelch – RF-597A-02	

Specifications are subject to change without notice.



next level solutions

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