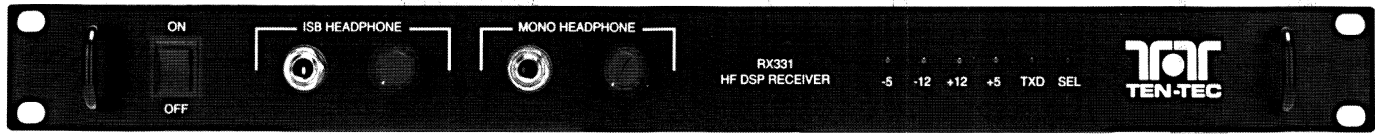


# RX-331

**TEN-TEC**



## HF DSP Receiver - Model RX-331

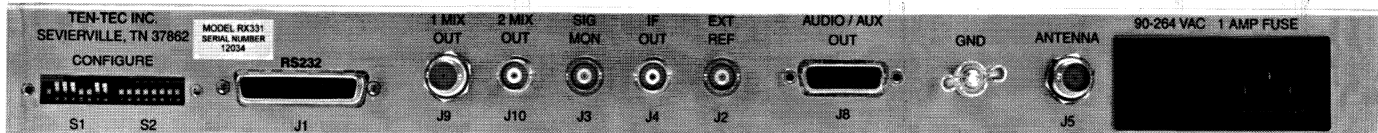
The TEN-TEC RX-331 is a multi-mode HF receiver operating from 5 kHz to 30 MHz, fully synthesized and utilizing state-of-the-art Digital Signal Processing. DSP technology brings the performance and repeatability of expensive military grade communications receivers into the more economic range of commercial receivers.

The design flexibility of DSP provides 57 standard selectivity choices from 100 Hz to 16 kHz. It is also practical to customize filter bandwidths, shape factors and time delays to match unique customer requirements.

The RX-331 is designed specifically for remote controlled applications. Multi-drop RS-232 interface permits simultaneous operation of multiple receivers on a single network at baud rates from 300 to 19,200. Receiver may be controlled by either internal or external frequency reference and an optional high stability internal reference is available.

This receiver is a compact, rack mount unit only 1 3/4" high - ideal when available rack space is at a premium. Power consumption is a nominal 30 watts which can provide a measured advantage when comparing recurring system costs. All connections are arranged on rear panel. Front panel provides ON/OFF switch, headphone jacks with independent volume controls, serial port status indicators and power supply indicators.

Built-in Test (BITE) allows quick field verification of major subsystems. Built-in software provides a "field test" mode to allow complete receiver operation from a simple terminal without need of customer's complete control system.



back view

### TECHNICAL SPECIFICATIONS\*

**FREQUENCY COVERAGE:** 50kHz - 30 MHz at typical sensitivity. Tunable down to 0 MHz with degraded performance.

**MODE:** USB, LSB, ISB, CW, AM, Synchronous AM, FM; all standard.

**TUNING RESOLUTION:** 1 Hz steps.

**FREQUENCY STABILITY:** +/- 1 PPM per degree C within operating range 0 - 50 degrees C using internal reference. Optional TCVCXO provides +/- 1 PPM over entire operating range.

**ACCURACY:** All internal oscillators are locked to either internal or external frequency standard. The internal reference is adjustable by a continuously variable trimmer to allow calibration to any desired accuracy.

**EXTERNAL FREQUENCY REFERENCE:** 1, 2, 5, or 10 MHz (+/- 1 PPM, 200 mv p-p into high impedance load). Receiver automatically switches to this reference upon application, at power up or after any serial link activity.

**SPURIOUS RESPONSES:** All spurious less than -119 dBm equivalent input - preamp on.

**IMAGE REJECTION:** 90 dB typical, 80 dB minimum

**BFO:** Tunable in CW mode only, +/- 8 kHz. Tuning in 10 Hz steps with a tuning accuracy of +/- 10 Hz of desired frequency setting. Fixed frequency in SSB/ISB (455 kHz), disabled in AM and FM.

**SYNTHESIZER LOCK TIME:** 10 msec typical

**ANTENNA INPUT:** 50 ohm, unbalanced, BNC connector. 2.5:1 VSWR max @ receiver's tuned frequency.

**SELECTIVITY:** 57 bandwidths selectable from .1 kHz - 16.0 kHz. Shape factor 1.5:1 or better. (6 to 60 dB) Bandwidth is fixed at 3.2 kHz in ISB mode, and at 6 kHz in SAM mode. Minimum bandwidth is 600 Hz in FM mode.

**GROUP DELAY:** no more than .1 ms variation over passband of 300 Hz to 3050 Hz.

**ULTIMATE REJECTION:** 70 dB minimum regardless of filter selected.

**LO PHASE NOISE:** -120 dBc/Hz @ 20 kHz offset typical, -110 dBc/Hz maximum.

**IF REJECTION:** 90 dB typical, 80 dB minimum.

**MEMORIES:** 100 memory store and recall.

**OPERATING TEMPERATURE RANGE:** 0 - 50 degrees C @ full specification. -10 to 60 degrees C with degraded performance.

**MADE IN USA**

\*Applicable from 500 kHz - 30 MHz unless otherwise stated