

New Drake TR5 Transceiver



far above average!

COMING SOON:

RV75 Synthesized VFO
featuring the Drake "VRTO"

- Frequency Synthesized for crystal-controlled stability
- VRTO (Variable Rate Tuning Oscillator*) adjusts tuning rate as function of tuning speed
- Resolution to 10 Hz
- Three programmable fixed frequencies for MARS, etc.
- Split or Transceiver operation with main transceiver PTO or RV75

* Patent pending

With the new TR5
versatility and value are spelled **D-R-A-K-E...**

DYNAMIC RANGE

The dynamic range of the TR5 is unexcelled by any transceiver in its class. The TR5's greater than 0 dBm third order Intercept point (85 dB two-tone dynamic range) at 20 kHz spacing can be achieved only by the use of a passive diode-ring double balanced mixer. Drake was the first to bring this technology to the Amateur market with a high-level mixer in the TR7.

RELIABLE SERVICE

When you purchase a TR5, or any Drake product, you acquire a product of the latest production techniques, which provide reliable performance. Yet with a product as sophisticated as one of today's transceivers, after-sales service is a must. Ask any Drake owner. Our Customer Service Department has a reputation second to none.

ACCESORIES

Drake is the only Amateur Radio manufacturer who offers a full complement of accessories to satisfy almost every desire the HF Amateur may have. This wide selection allows any operator to assemble a station which meets his needs, and assures compatible interfacing and styling instead of a desk full of equipment with a variety of styling and poor operation as a system.

KILOWATT AMPLIFIER

Everyone wants to be heard! The accessory L75 and its 3-500Z (1200 watts PEP input) and a decent antenna will do the trick. This rugged self-contained amplifier / power supply will put the TR5 on an even footing with the best of them.

ENGINEERING

The TR5 and all Drake Transceivers, are backed by the best in engineering. The TR5 is the result of an extensive engineering effort, combining proven past techniques and ideas with new state of the art concepts. As a result, the TR5 will not be superseded by a new model every six months. It represents a true radio communications value that will provide many years of operating enjoyment.

See your Drake dealer
or write for
additional information.

R. L. DRAKE COMPANY



540 Richard St., Miamisburg, Ohio 45342, USA
Phone: (513) 866-2421 • Telex: 268-017

Features, availability and prices subject to change without notice or obligation.

TR5 General Information and Specifications

The TR5 is a solid-state, broadband, ssb/cw transceiver which covers all amateur bands from 160 through 10 meters, including the new 12, 17 and 30 meter bands. The TR5 offers excellent sensitivity and selectivity, high dynamic range, digital frequency readout and full break-in cw operation.

A front panel switch allows the operator to select an optional crystal filter independent of the MODE switch. A wide range of optional crystal filter bandwidths are available, and installation of an accessory filter can be accomplished in minutes. The standard bandwidth is 2.3 kHz, and it is automatically selected in transmit to insure proper signal characteristics.

A passive double balanced mixer is employed in the receiver front end. This stage is preceded by a low noise, high dynamic range bipolar rf amplifier to provide good strong signal performance and weak signal sensitivity.

The digital frequency readout of the TR5 is derived from a true frequency counter to assure an accurate display of operating frequency. In addition, the tuning knob dial skirt is calibrated in 1 kHz increments to facilitate short frequency excursions.

The transmitter of the TR5 features a rugged, solid-state power amplifier section which has been designed for continuous duty in the ssb and cw modes. For more demanding duty cycles, such as SSTV or RTTY, the Model FA7 cooling fan is available. The transmitter section also features very low harmonic and spurious output, and is equipped with automatic high VSWR protection.

The VOX GAIN and DELAY controls are conveniently located on the front panel, and full break-in cw operation is obtained via a switch on the VOX DELAY control. VOX operation can be disabled by a front panel switch.

Other features include selectable agc time constants, receiver incremental tuning (RIT), provision for an accessory noise blanker (NBS), and T/R switching connections for an external linear amplifier and/or receiver.

The modular construction of the TR5 reduces service time to a minimum. Each module is designed to perform a specific function, and this feature, combined with the open, accessible layout of the transceiver greatly simplifies any required alignment and troubleshooting. Liberal use is made of cable connectors, simplifying module removal.

GENERAL

Frequency Coverage: 1.8-2.0*, 3.5-4.0, 7.0-7.5, 10.0-10.5, 14.0-14.5, 18.0-18.5*, 21.0-21.5, 24.5-25.0*, 28.0-28.5*, 28.5-29.0, 29.0-29.7* MHz. (*With accessory range crystal).

Modes of Operation: Usb, Lsb, Cw.

Frequency Stability: Less than 1 kHz drift first hour. Less than 150 Hz per hour drift after first hour. Less than 100 Hz change for a $\pm 10\%$ line voltage change.

Readout Accuracy: ± 10 ppm ± 100 Hz.

Power Requirements: 13.6 V-dc regulated, 2 A. 12 to 16 V-dc unregulated, 0.8 V rms maximum ripple, 15 A.

Dimensions:

Depth: 12.5 in. (31.75 cm), excluding knobs and connectors.

Width: 13.6 in. (34.6 cm).

Height: 4.6 in. (11.7 cm) excluding feet.

Weight: 14 lb. (6.35 kg)

RECEIVER

Sensitivity: Less than 0.5 μ V for 10 dB S+N/N except less than 1.0 μ V, 1.8-2.0 MHz.

Selectivity: 2.3 kHz minimum at -6 dB. 4.1 kHz maximum at -60 dB (1.8:1 shape factor).

Ultimate Selectivity: Greater than 95 dB.

Agc: Less than 5 dB output variation for 100 dB input signal change, referenced to agc threshold.

Intermodulation: (20 kHz or greater spacing) *Intercept Point:* Greater than 0 dBm. *Two-Tone Dynamic Range:* Greater than 85 dB.

I-F Frequency: 5.645 MHz

I-F Rejection: 50 dB, minimum.

Image Rejection: 60 dB, minimum below 14 MHz. 50 dB, minimum above 14 MHz.

Audio Output: 2 watts, minimum @ less than 10% THD (4 ohm load).

Spurious Response: Greater than 60 dB down.

TRANSMITTER

Power Input (Nominal): 150 Watts, PEP or cw

Load Impedance: 50 ohms.

Spurious and Harmonic Output: Greater than 40 dB down.

Intermodulation Distortion: Greater than 30 dB below PEP.

Carrier Suppression: Greater than 50 dB.

Undesired Sideband Suppression: Greater than 60 dB at 1 kHz.

Duty Cycle:

Ssb, Cw: 100%.

Lock Key (w/o FA7 Fan): 30%, 5 minutes maximum transmit.

Lock Key (w/FA7 Fan): 100%

Microphone Input: High Impedance

Cw Keying: Instantaneous full break-in, adjustable delay.