

The Ten-Tec 2591 2 Meter Talkie

What's this? An American-made 2 meter talkie challenging the imports? Indeed so, and the new Ten-Tec 2591 is a little gem that's loaded with useful features. It's small and lightweight, it's attractive and serviceable, and it's easy to operate almost anytime or anywhere. Every part of this unit is U.S. manufactured, and it carries Ten-Tec's well-known one-year warranty. If you've ever heard anyone talk about a Ten-Tec problem, you probably know their service is second to none. That consideration is reassuring when you're looking for your talkie and it hits the ground with a horrendous thud, or when you need a case or unusual part replacement at some later date.

Weighing in at slightly less than one pound, the Ten-Tec talkie is 6.67 inches high by 2.6 inches wide by 1.6 inches thick. Combine those specs with a switch selectable r.f. output of 2.5 or 0.3 watts, and you have a unit small enough to fit comfortably in your hand yet powerful enough to provide reliable 2 meter communications. The talkie is supplied with a rubber-ducky antenna, 14-hour wall charger, NiCad battery pack, belt clip (with mating screws), plus plugs for an external mike and speaker. The complete package truly adds new enjoyment to one's v.h.f. activities. If you're one of the few amateurs who hasn't yet experienced the fun of 2 meter f.m. via a hand-held talkie (or if you're looking for a super new "bells and whistles" unit), Ten-Tec's 2591 is an ideal way to join the action.

Initial inspection of the 2591 talkie reveals a smoothly constructed and tight-fitting case with a well-balanced feel. The talkie's front and rear covers are completely flat without any protrusions to catch on coat pockets (a true "brick"). The unit's "traditional" layout is complemented by a middle-located clear-plastic window which covers the LCD frequency readout, and a small pushbutton that activates two small lamps directly behind the display for easy night viewing. A red LED beside the display illuminates during transmit and flashes intermittently when the 8.4 volt 450 maH NiCad battery pack needs recharging. That feature is a definite "plus" when using the talkie while wearing sunglasses (which slightly attenuate continuous light from a red LED). The battery pack slides on/off the talkie's bottom section and is equipped with a "wall charger" jack, charge-monitoring LED, and recessed screw terminals for mating with the Ten-Tec 2992 drop-in charger.

There are top-panel switches for transmitter offset, scanner hold or skip (carrier-operated or time-actuated squelch), keyboard lock,



The Ten-Tec 2591 2 meter talkie is lightweight, powerful, and loaded with special features.

and high or low power output. There are also jacks for an external earphone and/or microphone on the panel.

A Closer Look

The Ten-Tec talkie covers 143.500 to 148.995 MHz in front-panel-selected steps of 5, 10, 15, 25, or 30 kHz. There are 10 programmable memories which store both the operating frequency and transmitter offset. The tenth memory can be used for oddball splits. Memory backup during "off" periods draws less than 75 microamps from the battery pack, and a capacity storage setup allows 30-second battery-pack swaps without losing memories (we've tried that, and it works great). Band scanning and memory scanning are also included (along with some new and unique features which will be detailed presently), and the front keypad functions as a two-tone auto-patch encoder during transmit.

Technically speaking, the talkie employs a dual-conversion receiver with the popular 10.7 and 0.455 MHz i.f.'s. The sensitivity of 0.4 uv for 20 dB quieting is more than adequate, and intermod rejection is surprisingly good. The transmitter employs a popular varicap modulation scheme, with conventional circuitry and Motorola solid-state devices being used in most stages. Indeed, the unit's block diagram and schematic are easy to see and understand within a couple of minutes. Nice! Operationwise, the transmitter's high-power cur-

rent drain of nearly 700 ma and average receiver drain of 120 ma yield comparatively long operating periods between battery charges. An extremely heavy hour's use, for example, might be visualized and compared with other talkies as follows. Fifteen minutes total transmitting time equals one-quarter of 700, or 175 ma. Thirty minutes receive time equals roughly one-half of 160, or 80 ma. Fifteen minutes squelched time equals approximately one-quarter of 25, or 7 ma. The total drain of 262 ma only depleted the battery pack to slightly less than half charge—a noteworthy consideration for emergency operations. Faithfully carrying a talkie such as this might truly prove its worth at some unexpected time.

Bells and Whistles

This little unit is chock-full of useful features and frills, many of which are keyboard activated with a simple "one-two punch." Either manual or automatic band scanning is provided in 5, 10, 15, 25, or 30 kHz steps. Upper and lower scan limits are also programmable (enter the lower frequency, tap **F**, **LWR**, enter the upper frequency, tap **F**, **UPR**, then hit **F** and **PS**), and the unit's ten memories should prove more than adequate for storing located frequencies of interest. Since the talkie recognizes only programmed memories, it is easily adapted and changed according to one's needs.

One of the unit's most impressive and useful features is its memory-lockout capability. Assuming one desires to check area activity when one or two repeaters are busy with long-winded conversations, those frequencies can be locked out by punching **F** twice and then tapping **MS** (memory scan). The locked-out memories can be recalled when desired by tapping **F**, **9** (lock clear), and **MS**. Individual memories can be separately recalled by pressing **MR** (memory recall) and the desired number. This is the first talkie with that feature.

Operating the Ten-Tec Talkie

On-the-air activity with the 2591 is a true delight, and the talkie's "bells and whistles" are quite useful. The capability of storing repeater frequencies and their transmitter offsets in some memories and "direct" frequencies in other memories is superb, and there are usually some leftover memories which can be programmed for listening on repeater inputs. Any of those frequencies can easily be locked out for regular scanner operations, yet they can instantly be checked by tapping **MR** and their related memory number. Scanning any portion of the band beginning with any frequency recalled from memory can be accomplished merely by pushing the keypad's **UPR** or **LWR**

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General

Frequency Range: 143.5–148.995 MHz
Channel Steps: 5, 10, 15, 25 or 30 kHz
Memories: 10
Non-standard Split: One
Emission Type: F3
Voltage Requirement: 8.4 vdc, 450 maH (NiCad battery pack)
Antenna Impedance: 50 ohms unbalanced—BNC type connector
Case Size: 6.67"H × 2.6"W × 1.6"D
Weight: 17.5 ounces with battery pack

Transmitter

R.f. Output Power: Hi—2.5 watts, Lo—300 mw.
Modulation: Variable reactance direct modulation
Frequency Deviation: ± 5 kHz
Spurious Radiation: More than 60 dB below carrier
Microphone: Built-in condenser type
Current Drain: Hi power—less than 700 ma, Lo power—less than 375 ma
Memory Drain: Less than 15 ua

Receiver

Circuit Type: Double conversion superheterodyne
Intermediate Frequencies: 10.7 MHz, 455 kHz
Sensitivity: Better than .5 uV for 20 dB quieting; squelch less than .4 uV
Selectivity: More than ± 7.5 kHz @ -6 dB, less than ± 15 kHz @ -60 dB
Spurious Response: Better than 50 dB
Audio Output: 325 mw @ 8 ohms
Current Drain: Squelched - 25 ma, maximum audio - 175 ma

Table I—Basic specifications for the Ten-Tec 2591 2 meter talkie.

complete and very understandable, Ten-Tec also includes with each unit a single pocket reference sheet of condensed operating instructions. Using that guide a new owner can have the talkie buzzing like a nimble sports car within a couple of minutes.

Both receive and transmit audio of the Ten-Tec 2591 are good with very slightly more high-frequency response or articulation than some talkies (we've used and compared them all). Autopatch dialing from the talkie is also trouble-free and enjoyable. The squelch action is positive and sharp, not "sneezy sounding" like some units.

Checking the unit from our local "intermod alley" (which on many talkies sounds like a cross between a New Year's Eve party and a 20 meter pileup) revealed a noticeably quieter and well-designed receiver section.

Conclusion

The Ten-Tec 2591 talkie seems to be a tremendous little unit containing almost every operating feature one could visualize or want. The fact that it's the first American-made talkie and that the company is readily available for service generates considerable interest when it's used on the air. The talkie is supported by a variety of related accessories, including the Model 2202 leather case, 2201 subaudible tone encoder, 2425 25-watt power amplifier, 2700 speaker/mike, 2991 extra 450 maH battery pack, 2992 5-hour drop-in charger, 2993 12-volt d.c. adapter pack, and 2994 extra a.c. wall charger. What else could one desire?

For more information on the Ten-Tec 2591 2 meter f.m. talkie, contact Ten Tec, Inc., Sevierville, Tennessee 37862. 

buttons while tapping **MR**, and that memory's number returns to the originally stored frequency. Likewise, switching the talkie to scanning its programmed memories can easily be accomplished anytime by tapping the **MS** but-

ton. Please don't assume that this talkie is difficult to operate. It isn't. I'm merely detailing specific keystrokes for "bells and whistles" enthusiasts.

While the talkie's supplied manual is quite

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