

The TE-144 Deluxe CMOS Keyer

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Price Class: \$76

TRAC down this good value keyer.

The TE-144 is a deluxe CMOS electronic keyer from TRAC Electronics, Inc. There are six different models of keyers that TRAC manufactures, of which the TE-144 is the middle-of-the-line. It offers dot and dash memory, sidetone, a tune function, and speed (5-50 WPM) and weight controls.

Dot and dash memory only remembers that a dot/dash is sent in a specific order and outputs it in the proper order, (if the operator gets ahead of the output). This memory assures accurate output, but can't be recalled or programmed. The sidetone feature includes a

"The sidetone has tone and volume control."

tone and volume control. Sidetone capability permits the keyer to be used as a practice code oscillator. If sidetone is not required, TRAC suggests turning the volume to minimum to prolong battery life. The weight control allows you to add a distinction, or thickness, to the dot and dash for different operating conditions.

The input and output are 1/4" jacks. In the TE-144, the tip of the plug is common, a somewhat unusual configuration. The schematic and instructions do not specify which connector is for the dot and dash, which re-

quires a little detective work.

To tune, put the SEMI-AUTO/AUTO switch (positioned in the back of the box), in the SEMI-AUTO position. This is somewhat awkward if the back side of the box is not easily accessible in the shack. The only other adjustment on the back is the POS/NEG (grid block) switch. Unless there are other changes in the shack, it only needs to be adjusted at installation.

Circuit Workings

The CMOS circuitry allows the TE-144 to draw low current from the battery, thus eliminating the need for an on/off switch. A single 9 volt battery will last one year under normal operation.

The circuit is described as follows: A clock oscillator establishes the basic speed of the dots or dashes selected by the paddle-controlling IC. A clock division in another IC establishes precision timing control of the dots' intra-character spacing and the dashes. A third IC with its weight control, allows some "stretching" of the dots and dashes as desired by the operator. This weight-modified code gates on the audio oscillator, whose tone (frequency) is operator-variable with the TONE control. This audio version of the code is

brought to a suitable output level by a transistor amplifier using VOLUME to control the level. A fourth IC, in addition to gating on the audio oscillator (sidetone), controls the transistor switch MPSA92 and MPSA42, which provides contact-to-ground output for one SW (POS/NEG grid block switch) position and a positive output voltage for the other SW position (for the requirements of the transmitter to be operated).

All the chips are on sockets and solid wire is used for all interconnects. The unit is housed in a heavy aluminum box with "feet" on the bottom to prevent marring. (I recommend scraping some paint away from where the cases connect (at the screws) to improve the bonding.) The integrated circuits (ICs) are easily available at most electronics stores.

With the TRAC TE-144 connected between my Bencher Paddle and IC-430S, the keyer functions well and reliably. The TRAC TE-144 is competitively priced and is a good looking, good operating piece of equipment. **73**

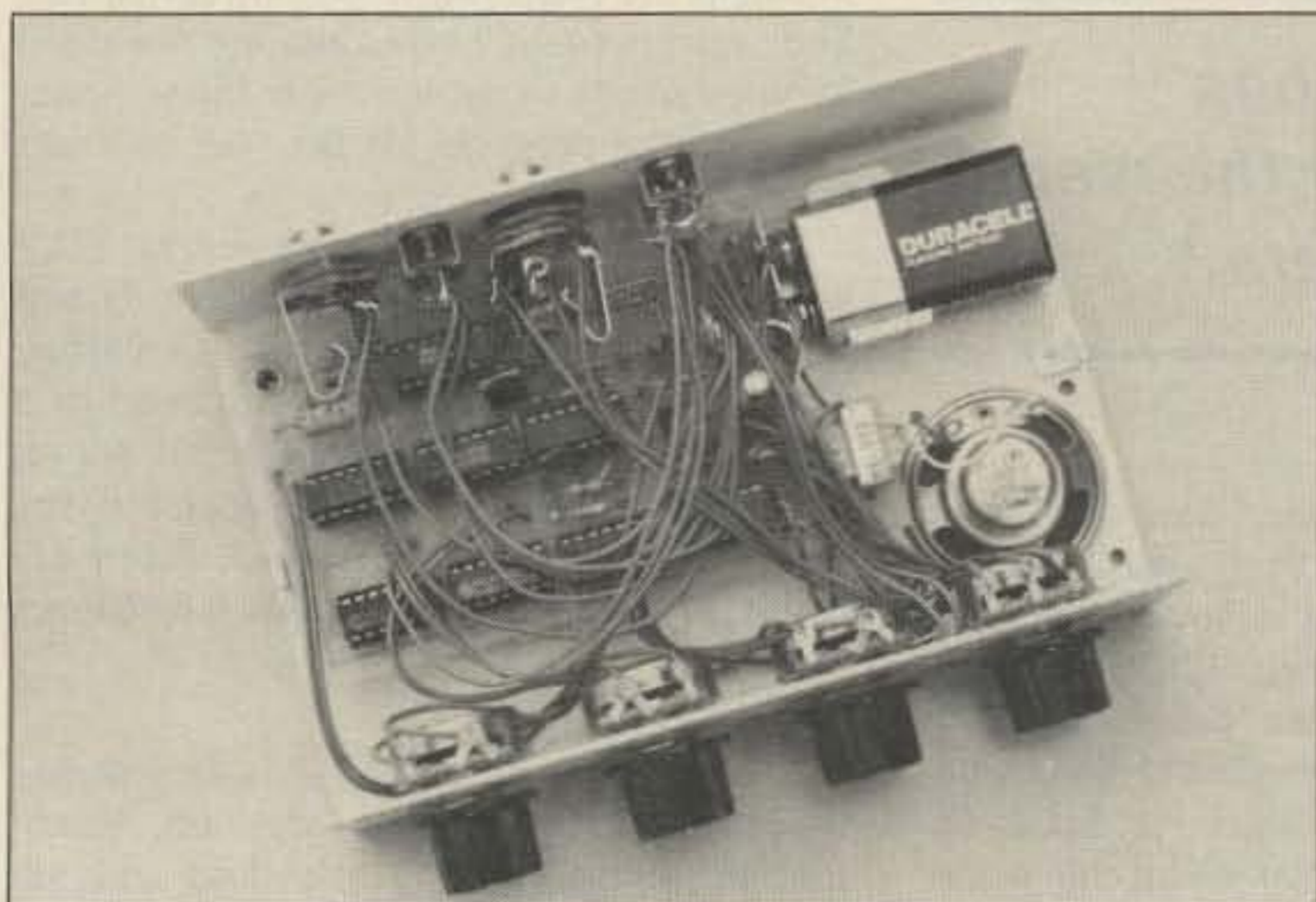


Photo A. Internal view of the TRAC TE-144.



Photo B. The back panel showing the positions of the switches.