

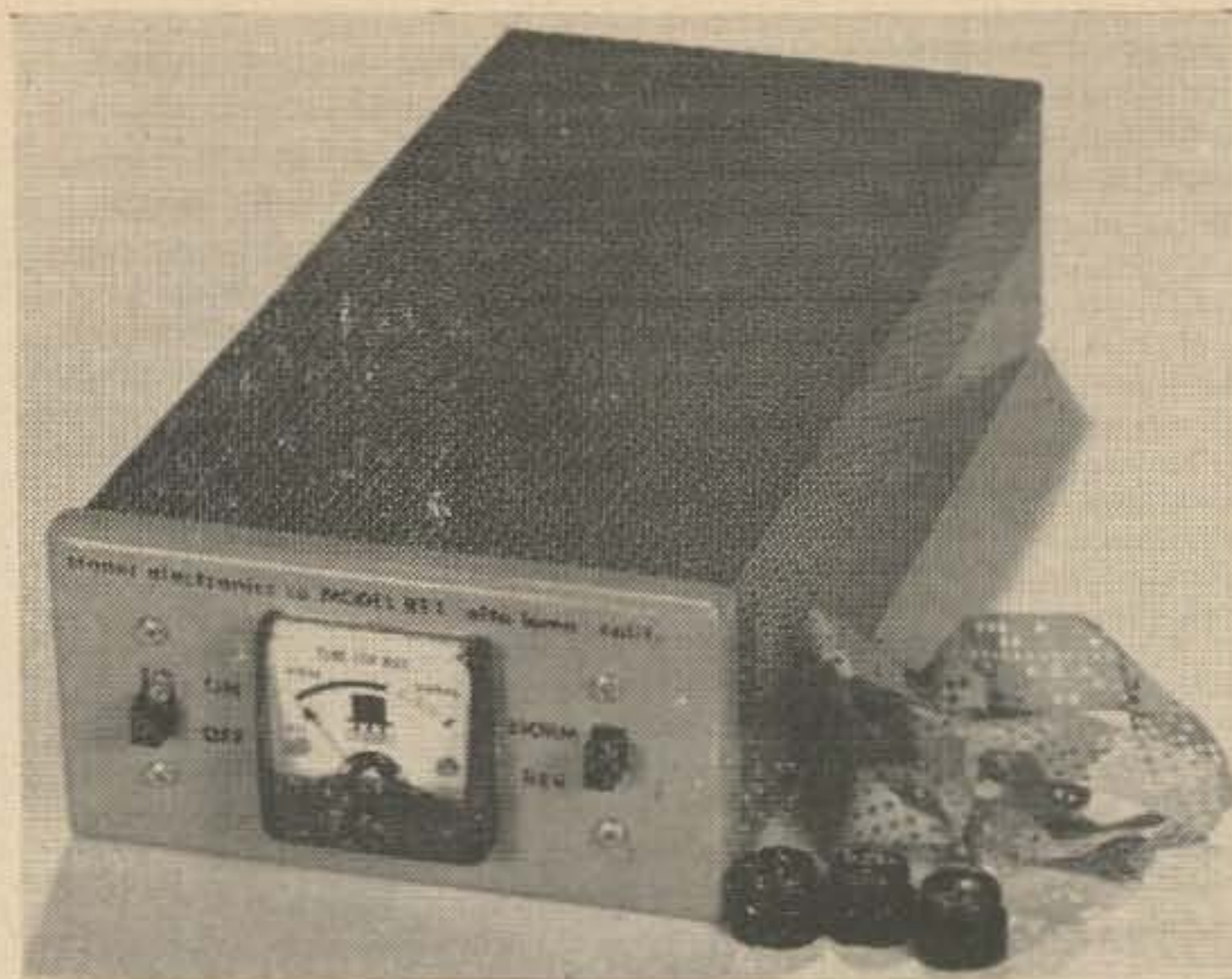
The Stoner RT-1 RTTY Converter

ized, it is quite small and light-weight. For more information, write to Stoner Electronics, Alta Loma, California. . . . WA6BSO

The new Stoner RT-1 radioteletype converter provides a simple and economical way of getting on the local RTTY net. If you have a receiver and a printer, the RT-1 is the only accessory necessary to copy ham RTTY qso's, press stations and other 60 WPM radioteletype transmissions. This is particularly advantageous because with many converters, both commercial and homebrew, a separate bias supply is required to furnish 60 mils of printer magnet current; with the RT-1 the necessary supply is built in.

This converter is very simple to use and if you already have the receiver and printer, it only takes about five minutes to hook up and start copying RTTY signals. All you have to do is connect the converter between the 500 ohm output of the receiver and the printer. In the event your receiver does not have a 500 ohm output, a matching transformer should be inserted in the line. After the RT-1 is properly connected, there is one adjustment that has to be made; this is the adjustment for exactly 60 ma of printer magnet current. This is quickly and easily done with a control mounted on the rear of the converter. This unit is completely transistorized and has a built in meter so an accessory tuning indicator such as an oscilloscope is not required for proper tuning.

The operation of this converter is very straight-forward; the audio signal from the receiver is fed into an impedance matching transformer which steps the 500 ohm line up to 10K to feed the transistor circuitry. The first transistor in the circuit limits and amplifies the audio signal. The amplified tone is taken from the collector and fed to two toroidal filters, one tuned to 2125 Hz (space), the other



to 2975 Hz (mark). The tuned circuits are link coupled to the mark and space detectors. The output of these transistorized detectors consists of a square wave which varies in step with the keyed RTTY signal. A meter is inserted into the circuit so that it sums the detector collector currents. When an RTTY signal is properly tuned in, the two currents are approximately equal and the meter reads a steady upward deflection.

The square wave outputs from the class B transistor detectors are used to key a two transistor squaring stage. The output from this squaring circuit is a nearly perfect square wave replica of the original RTTY keying signal. This square wave is the correct shape to drive the printer magnet, but has insufficient current to actuate the armature; therefore it must be run through a d-c amplifier. The necessary amplification is accomplished in a switch driver and the amplified output used to initiate operation of the printer magnet switching transistor. Normally this stage is conducting continuously and the RTTY pulses interrupt the current flow to initiate printing. A transistor current regulator is connected in series with the switching transistor and is set for 60 ma through the printer magnet coil.

Although the Stoner RT-1 converter was designed specifically for 850 Hz frequency shift keying, shifts of other than 850 Hz may be copied by setting it for single channel operation. Simply tune the receiver to where the printer magnet chatters the loudest (with the printer drive motor off). If the copy is still garbled, change the "normal-reverse" switch and retune the receiver. If the copy is still garbled, chances are the RTTY keying information is being transmitted at other than 60 words per minute, the standard for amateur operation.

If you are contemplating RTTY operation, for \$99.50 the RT-1 appears to provide a simple and economical approach to the converter problem. It eliminates the bulky printer magnet current supply and being transistor-

