The $5 Memory Keyer
— for lazy cheapskates

Sending CQ can become a tedious task. Some people really indulge and buy an auto-keyer with a memory to do the job for them. But, if you don’t have at least one hundred dollars to spend, it’s doubtful that you will find one at all.

The following project is not a keyer. It cannot be used with a paddle. However, it does have the capability of storing several hundred bits of information in its memory which can be used to key a transmitter with a key terminal voltage of up to four hundred volts and as high as six Amps, which covers just about all modern equipment on the market.

With a regular auto-keyer, many coils and complex circuitry are used to achieve its operation. The device described in this article is considerably less expensive than these units and will allow the operator to send CQ just as quickly and easily. Instead of complex circuitry, this device uses information stored on magnetic tape, which most of you probably already have.

The circuit takes audio pulses from a tape recorder and changes them into on-off keying pulses to key the transmitter. Therefore, whatever you can put on tape, you can put into the “memory” of this new tape keyer. Additionally, a repeating cassette tape can be used, so no rewinding of the tape is necessary. After the tape has completed the CQ, just stop it. If there is no answer, just start the tape again. However, a standard cassette will work fine.

Hookup and Operation
The tape keyer is assembled on a printed circuit board and enclosed in a small box. Parts placement is not critical, and the tape keyer may be hand wired, if desired.

A standard code practice oscillator is used for programming. CQ or anything else is recorded on the tape. Once programmed, the audio output of the tape recorder is fed into the tape keyer. The outputs of the tape keyer are connected to the key terminals of the transmitter (refer to Fig. 1, the block diagram). Polarity of the key terminals must be observed so that SCRI stays reverse biased until turned on by Q1.

The volume of the tape recorder should be turned up until full keying is achieved and complete dots and dashes are heard. For best results, when programming the tape, record directly using no microphone from the oscillator output to the recorder’s microphone input.

Circuit Theory
When the audio signal is positive at the anode of D1, capacitor C1 is charged and Q1 is forward biased. This turns SCRI on and keys the transmitter. When the polarity reverses, C1 discharges, keeping Q1 forward biased. When the audio signal ceases, resistor R1 is used to discharge the capacitor at a fast rate, so that Q1 turns off, which stops SCRI from conducting.