

The Compact CMOS Super Keyer II

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HERE IS A TERRIFIC IDEA that can be accomplished with little effort and virtually below \$150, and with positive and negative keying outputs.

Interested in a simple but exciting keyer for CW operation? I have got news for you. I recently completed a keyer known as the CMOS Super Keyer II which appeared in November 1990 *QST*.

After using this rather interesting keyer for a while I thought it would be good to share some of my experiences and impressions with others.

The Keyer

The CMOS Super Keyer II offers a host of features previously not found in morse keyers. But the original circuit has one drawback! The output keying is taken from Q1 which will handle low-voltage and positive keyline transceivers only, and lack of side tone volume control. Therefore, only one solution remained: to modify and implement the circuit.

At the output of Q1 (junction of R16, R18 and R17) a logic level of about 10mV represents the key-down state. This output produces enough current to turn on Q3 and the rest of the keying-interface circuit. See circuit diagram Fig 1.

This remarkable one IC keyer provides:

- An iambic keyer with dot and dash memories.
- Character and real time messages.
- Message loop capacity.
- Contest serial number.
- Adjustable weighting.
- TX key-down function.
- Keyer-status inquiry function.
- Selectable automatic character spacing.
- Input queue to store multiple message activation, and many more.
- Four 48-character messages.
- Analogue and digital speed control.
- Message break-in to allow for paddle inserted text.

How does the Compact CMOS Super Keyer II provide all this? Commands are sent to the keyer in morse code using the paddle. A detailed explanation of the operation and all features of keyer is given in November 1990 *QST*.

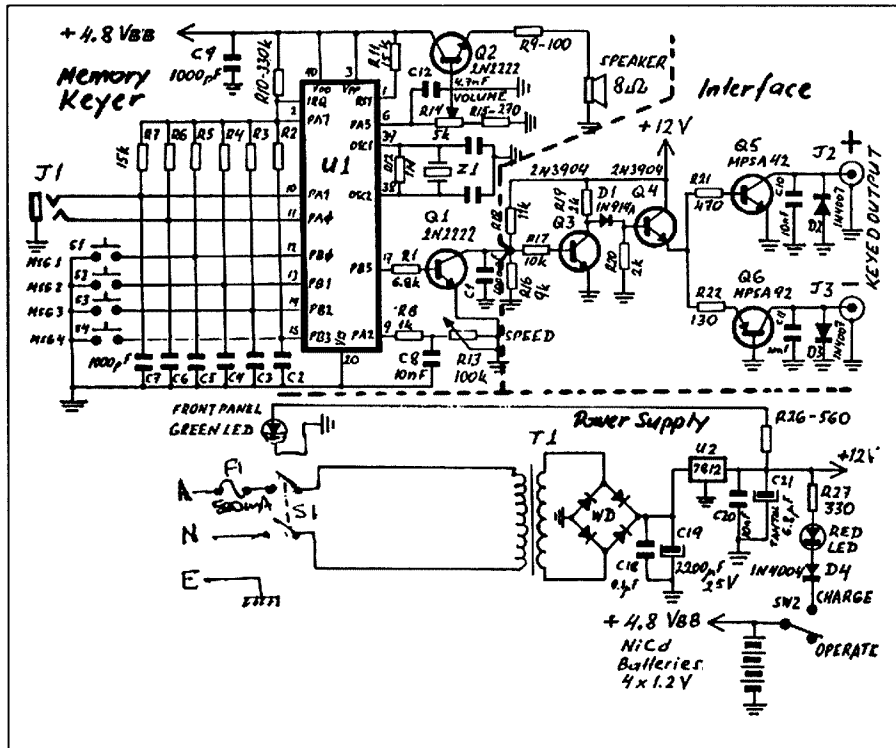


Figure 1

Parts: Keyer

The PC board and associated components are available as a partial kit from Idiom Press, Box 583, Deerfield 60015, USA. The price is \$US45 and \$US5 for surface-mail foreign orders. The rest of the parts are obtainable from several sources. Diecast box, part number 26827PSL, \$14.11 from Farnell Electronics, 72 Ferndell St, Chester Hill, NSW 2162.

S1-24 SPST push-button switch p nr 275-1566 from Tandy. Speaker C-2222, stereo and plug and two RCA sockets from DS Electronics. Linear potentiometers R13-100k and R14-5k from David Reid Electronics, 127 York St, Sydney. Other components not supplied with the keyer are: C12-4.7nF, R15-270 Ohm 1/4W.

Interface

The keying interface will key virtually any modern or vintage transceiver. Use the positive keyed output jack to key cathode keyed and most transistor keyed transceivers. Use the negative keyed

output jack to key grid block keyed transceivers. Please note that transistors Q5 and Q6 are of a type capable of withstanding - or + 300V in the KEY-UP condition, and 200mA in the KEY-DOWN position for the positive output, and 30mA for the grid block. If you connect your transmitter key input to the wrong keyed output, either the transmitter will not key, or it will be keyed continuously. To correct the situation, simply plug the output line into other output jack. No damage should occur to either the transceiver or the keyer if you connect it to the wrong keyed output jack.

Parts: Keying Interface

Q3, Q4-2N3904, Q5-MPSA42, Q6-MPSA92 from Farnell Electronics. R16-R22 1/4W 1% from David Read Electronics. PC board p nr 276-159 from Tandy Electronics.

Power Supply

Regulated and battery DC supplies assure the performance of the keyer is not affected by variation in line voltage