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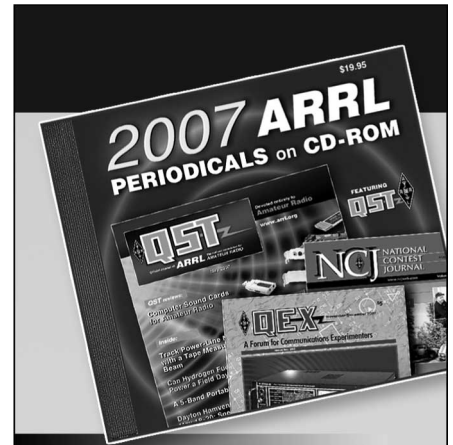
**QST Issue:** Mar 1978

**Title:** CW and the Heath HW-101

**Author:** James Fishbeck, WA1STQ

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# Hints and Kinks

## CW AND THE HW-101

The Heath HW-101 operates on cw in the semi-break-in mode. When the key is depressed, an audio tone is applied to the input of the VOX amplifier. This is amplified and sent to the relay amplifier, which pulls in the transmit-receive relays. If a pause exists between characters beyond the time limit set by the VOX delay, the transceiver will drop back to the receive mode. This can be annoying.

What is needed is an easy way to make the transceiver latch in the transmit mode so that it won't drop back to the receive mode until a release button is pressed. The HW-101 contains a spare phono jack and a spare set of relay contacts on one of the transmit-receive relays, making it easy to implement such a function. The only change required internally is the addition of a wire connected from pin 8 of V12B to the center conductor of the spare phono jack.

A miniature spst toggle switch and a normally closed, push-button switch are mounted in a small metal box measuring 1-3/4 x 2 x 2-1/4 inches (44 x 51 x 57 mm) and connected in series to a pair of wires extending from the box. One of the wires is connected to the center of the phono plug and the other to pin 11 of the power plug. The phono plug is then pushed into the spare phono jack.

The small box may be placed adjacent to the cw key. To operate cw, the toggle switch is put in the cw position. Pressing the cw key down switches the transceiver to the transmit mode in the normal fashion. However, once in the transmit mode, the spare contacts on RL1 are

closed which, via the switch box, ground pin 8 of V12B. This latches the HW-101 in the transmit mode.

To receive, press the release button, which will break the latch and allow the transceiver to drop back to the receive mode. For ssb operation, the toggle switch is placed in the ssb position which prevents the transceiver from latching in the transmit mode. — *James O. Fishbeck, WA1STQ*

## DRESSING SMALL CABLE HARNESES

Dental floss works quite well as lacing cord for small cables found in miniaturized equipment. The rubber tip mounted on the handle of some toothbrushes works well to clear inadvertent solder bridges on printed-circuit boards. After melting the solder with a soldering iron, quickly draw the rubber tip through the solder bridge. — *Duane Latourell, W6IG*

## METAL CARD-FILE BOXES MAKE NIFTY CABINETS

The photograph shown on this page illustrates an idea that may interest those amateurs who have recently priced small cabinets. All the enclosures shown are metal card or index files. Each device shown is the result of a project described in *QST*. Reading left to right in the top row — Wheatstone bridge, *QST*, November, 1976; capacitance meter, *QST*,



Compact testing devices in this photograph are installed in inexpensive card-file cabinets.

December, 1975; and sweep generator for fm, *QST*, January, 1972. These cabinets are 6 x 4 x 4-1/2 inches (152 x 102 x 114 mm) and cost \$1.19 each.

In the front row — frequency calibrator, *QST*, July, 1976; and audio oscillator, *QST*, November, 1974. These cabinets are 5 x 3 x 3-3/4 inches (127 x 76 x 95 mm) and cost just 89 cents each. — *Roy E. Lyon, WA4WZJ*

## ON-OFF INDICATOR FOR BATTERY DEVICE

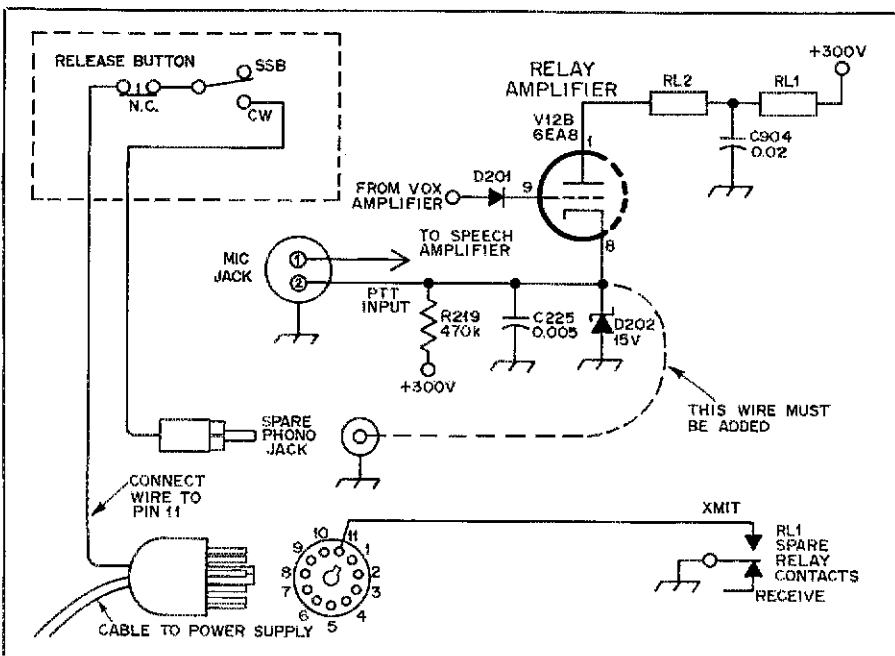
Have you ever wanted an on-off indicator on a battery-operated device but excessive current drain of the incandescent lamp prohibited it? The little-publicized LM3909N flasher/oscillator is a practical solution.

Table 1

Component values for flasher/oscillator. Resistance is in ohms. Capacitance is in  $\mu\text{F}$ . One-watt resistors are used for  $R_s$ .

$V_f$	6	15	100
Nom. Flash Hz	2	2	1.7
$C_f$	400	180	180
$R_s$	1000	3900	43k
$R/b$	1500	1000	1000
$V+$ Range	5-25	13-50	85-200

The LM3909 (available from Digi-Key, Box 677, Thief River Falls, MN 58701, for 69 cents) is an 8-pin DIP requiring only an external electrolytic timing capacitor to set the flashing rate of an LED. It will operate on potentials as low as 1.5 V from an AA battery, and battery life is almost as long as the shelf life.



Useful latching circuit for cw operation with the HW-101.