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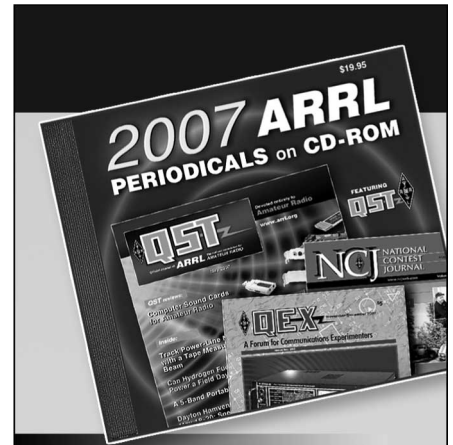
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Author: James Calandriello, WA1UBX

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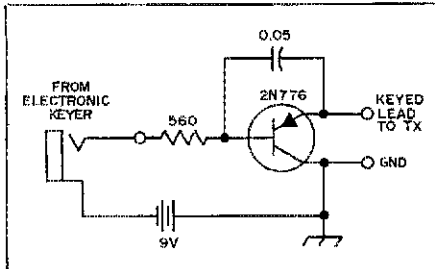


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KEYING FOR A DX-100

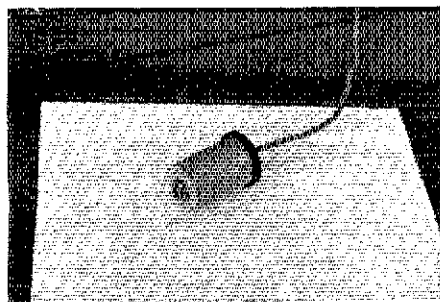
Here is a circuit which I use to key my Heath DX-100 transmitter. My electronic keyer can handle no more than 35 mA. But, with this simple transistorized circuit the problem of keying the DX-100 is solved. Battery drain is only 1 mA. — *Mike Lonneke, W0AAD*



This single transistor circuit permits an electronic keyer to be used with a DX-100.

FILM CONTAINER USEFUL FOR JACKS

Those plastic containers for 35-mm film make excellent protective covers for 1/4-inch jacks to be used on speaker extension cables. Since the plastic is flexible, it will stand abuse. — *Julian Meyer, W0YDC*



A 35-mm film container used to protect speaker-extension jack.

NOVICE STATION — ECONOMY STYLE

Many Novices are lacking in the "financial department," and cannot afford commercial equipment. Some may not realize that radios and television sets, which have been discarded, contain a large part of the components needed to build a basic Novice radio station. Such pieces of equipment may be had for the asking from friends and neighbors and even from the town dump. Many earlier-model TV sets contained one or more heavy-duty power transformers.

For the Novice who goes the "salvage route," here is some advice. When something is acquired, don't immediately attack it with wire cutters. Stripping of the chassis should be done systematically. Tubes should be removed carefully, identified and tested. Discard the weak ones. Resistors and capacitors should be unsoldered from mounting points, keeping the leads long. Tube sockets may be removed after drilling out the mounting

rivets. Identify and tag transformer leads. Avoid cutting transformer and choke leads short. Bolts, screws and miscellaneous hardware are always handy to have: These items should be sorted for keeping in marked storage trays or boxes.

CAUTION: The picture tube in a TV set can be dangerous if handled roughly. Do not carry the tube by the neck. Place it in a large carton for the sake of safety.

With a little guidance from a more experienced fellow amateur, the Novice who is willing to build his equipment from stripped components will find he can do so at minimum cost. This learning experience will go a long way toward developing self-reliance and a better understanding of one's station equipment. — *Michael Bauer, WD9ACX*

GIVE YOUR NEXT PRINTED CIRCUIT A FACE LIFT

Through my XYL's involvement in the hobby of arts and crafts, I found a very simple and easy way to make printed-circuit masks from drawings in magazines. The key to the process is a product sold in craft stores known as *Decal-It*. The cost is less than \$2 per bottle, one of which will provide enough fluid to produce many masks.

To make a mask, you must start with a black-and-white full-size print such as provided in most electronic-magazine construction articles. Cut out the pattern and tape it to a piece of wax paper. Caution! Be sure you have made a copy of the article before you cut. Then, apply six coats of fluid in alternate directions with a brush, allowing 15 minutes between each coating and a minimum of two hours after the last one. After the two-hour drying period, immerse the whole affair in warm soapy water and allow it to soak for 15 to 30 minutes. After removing it from the water, place it face down on a flat surface, such as a cutting board. With a wet finger, gently start rubbing off the paper backing. At first glance you won't believe it, but you do have a perfect etching mask.

Use the appropriate etching techniques depending on whether the original was a positive or negative. A full set of instructions appears on the bottle. — *Charles "Chip" McCoy, WB9OZX*

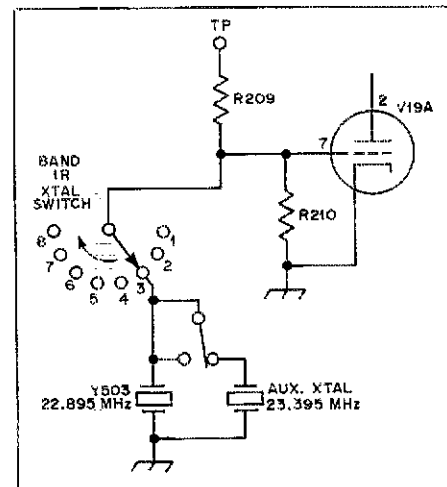
WWV ON THE HEATH HW-101

Wish you could receive the 15-MHz transmissions of WWV on your HW-101? Ever want to pipe the 14- to 15-MHz output of a vhf converter into it? Then try this modification. It involves an easy one-hour installation of an additional crystal and one small slide or toggle switch. The needed crystal, cut for 23,395 MHz, should be of the third-overtone type. A suitable crystal is available from the International Crystal Manufacturing Co., Inc., 10 North Lee St., Oklahoma City, OK 73102. Part number is 031310.

First, locate Y503, the 22,895-MHz crystal, situated on the crystal-switch board. With the use of a small Swiss file, carefully cut the foil between the crystal and the no. 3 position of the rotary switch as shown in the drawing. Mount the new crystal on a small

piece of perforated board. Solder a length of wire to each pin of the crystal. By means of an L bracket, mount the perforated board on the metal shield extending from the front to the rear of the bottom of the HW-101 chassis. Connect one lead from the new crystal to ground and the other lead to the switch as shown. The remaining connections to the new switch are then completed according to the diagram. Mounting of the switch may be done as the last step.

To adjust the HW-101, place the band switch in the 20-meter position and the new switch for WWV. With a VTVM read the negative voltage at point TP on the band-pass circuit board while carefully tuning L-603 (the 20-meter heterodyne oscillator coil). The voltage should be approximately -1.5 for either Y503 or Y503A, the new crystal. Make this adjustment with the coil cover on. With these changes, WWV should be at one's fingertips on the HW-101. — *James Calandriello, WA1UBX*



The simple modification of an HW-101 to receive WWV.

USE FOR SHAFT-BEARINGS FROM OLD POTENTIOMETERS

One Sunday I needed panel bearings for a construction project. Because the stores were closed, the only alternative seemed to be the junk box. There I found several old potentiometers equipped with good sleeve bearings which I extracted and installed in my project. I have since learned that shaft bearings are not easy to find in my area. Therefore, I'm saving all old pots, whether they're good or not. — *John N. Cox, K5WZI*

FOR RESTORING KNOBS

Secretaries and typists use a product called *Wite Out*, made by Wite Out Products, Inc., Beltsville, MD. While it is mainly for corrections on original or master copies, it is also great for restoring dots or graduations on control knobs. A touch of it also makes dimly lighted dial pointers stand out. Those who restore antique gear will find the product indispensable. It is easy to use and is water-soluble until dry. — *Victor Woodling, W9JNH*