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QST Issue: Sep 1968
Title: HW-12 a Carrier Null Adjustment
Author: Dave J. Crockett, WB4DFW

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CLIP LEAD IMPROVEMENT

Clip leads are a vital part of every amateur and commercial electronics lab. However, because several leads frequently have to be connected to one point, such as ground, B-plus and so forth, the resulting jumble of clips may fall off the terminal or short to other parts of the circuit. To help alleviate this situation, it is suggested that some leads be made up with a clip in the middle of the wire as well as a clip on each end. In this way, one clip can feed two circuits instead of only one. — *Melvin Leibowitz, W3KET*

HW-12 A CARRIER NULL ADJUSTMENT

After making the carrier null adjustment to my Heath HW-12A outside the cabinet, I was quite satisfied that it was as low as possible. However, when the unit was placed in the case, the carrier level began to creep up somewhat, apparently due to the large amount of heat generated by the tubes. An inspection of the cabinet showed that there are three holes on each side of the case for mounting a mobile gimble bracket. By inserting a small screwdriver through the rearmost hole on the right side and making the tip of the screwdriver catch in the milled edge of the carrier null control knob, I found it was possible to adjust the control. Using this method, I can renull the carrier without removing the cabinet and invalidating the adjustment. — *Dave J. Crockett, WB4DFW*

PIPE SIZES

There is, I find, a considerable amount of confusion about the real sizes of iron pipe. For instance, one-inch pipe is not one inch in diameter, either inside or outside. Here is a little chart which sheds light on the situation. All sizes are in inches.

Nominal Pipe Size	*Outside Diameter*	*Inside Diameter Standard*	*Inside Diameter Extra Heavy*
¼	.54	.364	.302
⅜	.675	.493	.423
½	.84	.622	.546
¾	1.05	.824	.742
1	1.315	1.049	.957
1¼	1.66	1.38	1.278
1½	1.90	1.61	1.50
2	2.375	2.065	1.939

— *W1IKE*

DRILLING HINT

In modifying equipment, many hams drill holes without any concern for where the chips might fall. Then they wonder why their rigs don't work the same as usual.

Being blind, I have had to modify all my equipment so that I could use an audio comparator to read the meters. It has been necessary to drill two holes near each meter and install jacks for the meter reader. To prevent chips of metal from causing possible shorts, I made pockets of masking tape under where the drill would come through. Then when the holes were drilled, I turned the chassis upside down and pulled off the masking tape, chips and all. — *Horace R. Perry, W1AI*

USING THE HD-10 WITH AN EXTERNAL PADDLE

When using an external paddle with the Heath HD-10 electronic keyer, I found that the keyer had a tendency to make dots when dashes were called for. However, normal operation was obtained when using the internal paddle.

Checking the voltage at the base of the dash clamp transistor, Q_6, with an oscilloscope, I found that a large, rapid transient developed at this point whenever external dash contact was made. Normally, operation of the dash contact caused Q_6 to be turned off, thereby removing the clamp from the dash flip-flop, Q_4Q_5, and permitting dashes to be produced. With the transient present, Q_6 stayed on for the duration of the transient and kept a clamp on Q_4Q_5 during this time. However, since the dot clamp, Q_3, was also turned off by the dash contact, dots were produced instead of dashes.

The transient was eliminated by bypassing the base of Q_6 to ground with a 0.1-μf. capacitor. Several keyers using external paddles have experienced this same problem, but all have performed perfectly after this modification. The capacitor value doesn't seem to be very critical; values of 0.1 to 0.2 μf. have been used with excellent results. — *Fred Manganelli, Jr., W1TCJ*

INTEGRATED CIRCUIT HEAT SINK

When soldering semiconductor devices, it is good practice to use a heat sink on each lead. However, it can be a difficult and time-consuming job to connect an individual heat sink to each lead of an integrated circuit, especially when several modules are used. When an integrated circuit is contained within a dual in-line package, the problem is easily solved as shown in Fig. 2. Bend a small sheet of copper — say 2 × 2 inches — over a suitable drill bit or wooden dowel so that the heat sink formed will make firm contact with all the leads of the integrated circuit when the heat dissipator is force-fitted over the package. Of course, don't forget to remove the heat sink after the soldering is completed.

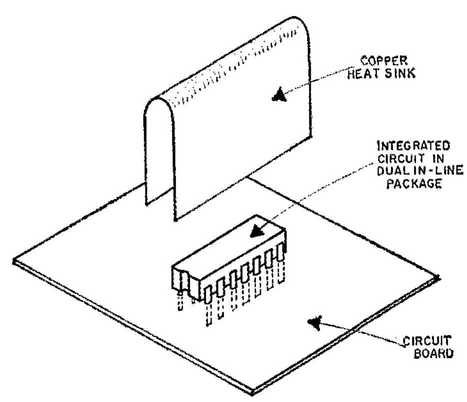

Fig. 2—Heat sink for integrated circuits that come in dual in-line packages.