



# Hints and Kinks

## For the Experimenter



### MODIFYING TUNING RANGE OF THE BC-348

It is a fairly simple task to modify the tuning range of the BC-348 to add the 10-meter band, and to obtain full bandspread of the 20- and 40-meter bands. Bandswitch Positions 6, 5, and 4, respectively, are used.

Only in Band 6 is it necessary to change the coils in any way. On all other bands the changes involved are in the size of the padding and trimming condensers shown in Fig. 1, which repre-

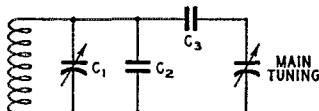


Fig. 1 — Basic tuning circuit used in the BC-348. By modifications described in the text, full bandspread of the 20- and 40-meter bands is obtained, and by also changing the coils of Band 6, 10-meter coverage is gained.

sents the basic circuit used. Two and one-half turns are removed from each coil in Band 6, and the remaining turns are spaced evenly along the length of the coil form. The job can be done without removing the form, by unsoldering the bottom lead of the coil and taking off the required number of turns. In addition, 4 turns are removed from the coupling coil between the oscillator grid and the converter cathode circuit. Without this change, the oscillator is loaded too heavily and will not function properly. Again, the coil form need not be removed.

Changes in the values of capacity needed are shown in the accompanying tabulation. The re-

|                             | $C_1$         | $C_2$         | $C_3$         |
|-----------------------------|---------------|---------------|---------------|
| 10 M., Band 6, Osc.         | 25 $\mu$ fd.* | None          | 30 $\mu$ fd.  |
| 10 M., Band 6, Other Stages | 25 $\mu$ fd.* | None          | 20 $\mu$ fd.  |
| 20 M., Band 5, Osc.         | No Change     | No Change     | 20 $\mu$ fd.  |
| 20 M., Band 5, Other Stages | No Change     | No Change     | 20 $\mu$ fd.  |
| 40 M., Band 4, Osc.         | 50 $\mu$ fd.* | 395 $\mu$ fd. | 140 $\mu$ fd. |
| 40 M., Band 4, Other Stages | 50 $\mu$ fd.* | 200 $\mu$ fd. | 65 $\mu$ fd.  |

\* Exchange the 25- $\mu$ fd. Band 4 padder with the 50- $\mu$ fd. Band 6 padder.

sulting tuning ranges obtained are as follows: Band 6 — 27,987 to 30,052 kc.; Band 5 — 13,395 kc. to 14,405 kc.; Band 4 — 6963 kc. to 7347 kc. These frequencies were checked with a BC-221 frequency meter. Greater tuning range can be obtained by increasing the value of  $C_3$ . A signal

<sup>1</sup> Chambers, "The Monitone — Model 1951B," *QST*, May, 1951.

generator and an output meter were used while values were adjusted until the ones were found that gave uniform sensitivity over the entire range. — Jack G. Hines, W5GAB

### LETTERING ON ALUMINUM

ALTHOUGH many amateurs are unaware of it, labeling of a permanent nature may be done with a fountain pen on unpainted aluminum panels and chassis. First wipe the surface clean with alcohol, thinner, or cleaning fluid. When dry, moisten the surface slightly with a detergent solution (saliva will do). In most cases the surface will now take the lettering, but some experimentation may be needed to determine if you are on the right track.

Allow the ink to dry thoroughly, and then apply a thin coat of clear nail polish to complete the job. — Neil Johnson, W2OLU

### ANOTHER "MONITONE" IDEA

AFTER using the "Monitone"<sup>1</sup> described in a recent *QST* for a time, I wanted to do something to reduce the gain of the receiver while the key was closed. The scheme shown in Fig. 2 does

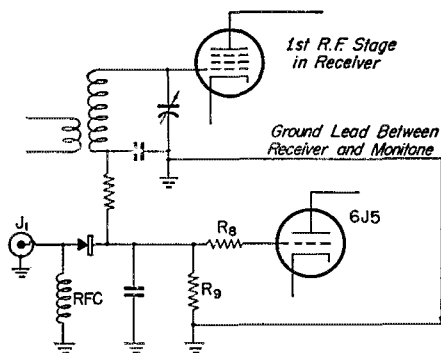


Fig. 2 — A simple way to reduce receiver gain during key-down periods. The grid resistor of the first r.f. stage is lifted and connected to a point in the Monitone. No changes need be made in the values of any of the resistors in either the Monitone or the receiver.

the trick nicely. The negative bias developed across  $R_9$  in the Monitone is applied to the grid of the first r.f. stage in the receiver. No changes are made in the Monitone circuit.

In operation, when the key is closed the normal tone is heard in the headphones, but the receiver gain drops sharply, preventing the S-meter from being driven off scale by the transmitted signal. This makes for better break-in, because the receiver takes less time to recover. — W. Fraser, GM3BL

(Continued on page 100)