☐ Leave the Crystal Calibrator switch in the ON position to control the Calibrator from the front panel of the receiver

☐ Remount the bottom plate and reinstall the receiver in the cabinet.

You are now ready to use the Crystal Calibrator with your receiver. Simply turn the OFF-STBY-RCV-CAL switch to CAL and calibrate your receiver as explained in the Crystal Calibrator manual.

INFORMATION FOR SHORT WAVE LISTENERS

WHEN TO LISTEN

Under normal atmospheric conditions, with patience and practice, it's possible to hear stations from all over the world in a single evening—at times even within a few minutes. All you need is your receiver, a good antenna, a knowledge of *where* and *when* to listen—plus persistence.

Short-wave radio transmitters include land communications stations, maritime stations, aeronautical stations, Amateur (Ham) stations, and broadcasting stations. Of these, the broadcasting and Amateur (Ham) stations are of most interest to the short-wave listener (SWL). However, there are many other "specialties" to listen to such as international radio telegraph or telephone point-to-point communications; shipping and coastal radio; plane and ground communications; weather station reports and time signals; special expeditions, and other unusual events.

By international agreement, each type of station is assigned certain bands for operations.

You'll find that the short-wave portions of the dial on your receiver are calibrated in megacycles. A megacycle is 1000 kilocycles (kc).

Short-wave stations operate in these megacycle bands—5.95 to 6.20 mc; 7.0 to 7.3 mc amateur band; 9.5 to 9.8 mc; 11.7 to 12.0 mc; 14.0 to 14.3 mc amateur band; 15.10 to 15.45 mc; 17.5 to 17.7 mc and 28.0 to 29.7 mc amateur band. Sometimes these bands are given in terms of meters (m)—such as the 49, 41, 50, 31, 25, 20, and 19 meter bands. Thus, *megacycles* refer to *frequency; meters* refer to *wavelength.*

Reception conditions on each of the short-wave broadcast bands vary a lot at different times of the day and night, and also at different seasons of the year. Experience will teach you when to listen on each band.

In general, for SWL's in North America, the best reception on each of these bands during the fall and spring months should be:

The 6 mc band—evening for Latin America and Europe.

The 7 mc bands—late afternoon and evening for Europe; evening and early morning for Amateur stations.

The 9 mc band—morning (6 to 8 a.m. your local time) for Asia and Australia; afternoon for Europe and Africa; evening for Europe and Latin America.

The 11 mc band—morning (6 to 9 a.m. your local time) for Asia and Australia; afternoon for Europe and Africa; evening for Latin America.

The 14 mc band—late morning and afternoon for Amateur stations.

The 15 mc band—morning and afternoon for Europe and North America; evening for North and South America.

The 29 mc band—daylight hours for Amateur stations.

During the winter months, the best bands for evening reception are lower than during the fall and spring. For instance, the 9 mc band becomes poor for reception from Europe during the evening hours, and the 6 mc band becomes the best band for European reception. However, the 29 mc Amateur band is best during winter months, especially at the peak of the sunspot cycle.

In the summer months, the best evening reception shifts to the higher bands. Evening reception from Europe becomes good in the 11 mc band, although the 9 mc band remains good for reception from that area.

Year-around DX (Distant reception) bands are the 9 mc and 11 mc bands, although consideration there must be given to receiving different parts of the world best in summer or winter.

The expected reception just outlined is for normal conditions. The factors which affect long-distance radio transmissions vary from day to day. On some days, for instance, reception will be quite good, but at times, generally for periods of several consecutive days, transmission conditions will be "disturbed" and only the more powerful stations can be heard.

But don't get discouraged because normal conditions will return after the disturbance has ended, and reception will again be good.

Here's a special caution: Short-wave broadcasting stations often change their schedules and/or frequencies with little or no prior notice. Always be on the alert for announcements of such changes.