

Calibrating a new coupler or an additional coupler for LP-100A

Power and SWR calibration of the LP-100A is done in menus on the meter. There are power adjustments for Master (affects all bands equally) and Fine (affects each band separately). SWR is derived from magnitude and phase of the reflection coefficient. The adjustments allow you to set R value to 50.0 ohms and phase angle to 0.0 degrees.

It is not a difficult procedure, but it is somewhat time consuming since you have to make up to 12 power adjustments and 22 SWR related adjustments. Here is the basic procedure. Read it through completely before beginning the procedure.

Before starting, make sure that you have the correct coupler type selected in the Setup (not Calibrate) menus. Also, if using the dual coupler option, make sure that you have the correct channel selected when changing any setting.

Set your rig power to the nominal 100W setting, set the meter to Average mode and briefly transmit on each band with a dummy load connected to the LP-100A using the original coupler (or CH 1 if adding a second coupler). Log the readings for each band on paper. Then change to the new coupler and/or CH 2.

Go to the Calibration mode on the meter. Hold the Mode button for 1 second. This will take you to Setup mode. Then hold it again for 1 second and it will take you to Calibrate mode. The first screen in Calibrate mode will be a warning. To advance through the screens, tap the Mode button. There are four screens you will need to adjust. You will see other screens as well, but only these need to be adjusted. They are...

Gain Zero: Adjust this on each band while transmitting into a dummy load so that the resultant value is 50.0 (ohms).

Phase Zero: Adjust this on each band so that the resultant phase angle is 0.00 (degrees).

These adjustments will provide the correct SWR reading for each band. You will see the band displayed on the meter as you transmit on each band. The meter remembers both the band and settings and recalls the correct setting when you transmit.

Power Mstr Trim: Overall master setting that affects all bands equally. Normally this is set this while transmitting on 80m. Adjust the meter so that your reading matches the value you wrote down with the old coupler (or CH 1), then continue to the Fine Trim.

Power Fine Trim: Adjusts the power setting for each band. While still on 80m, check that Power Fine Trim is set to 1.000. If it's not, adjust it to 1.000 and then go back to Power Mstr Trim and readjust it for the proper power reading. Note that to get from Fine Power Trim to Mstr Power Trim, you will need to go all the way to the end of the menus. The menus wrap around, so after the last menu (Freq Counter), the next screen will be the warning screen at the beginning. If the 80m trim value is 1.000, then proceed to the other bands and adjust the fine trim to match the readings from your hand written table.

Remember, that you need to transmit for the meter to display the correct values for the band you're adjusting. If you can't count on your rig always producing the same power when you switch bands, you can insert another meter between the LP-100A coupler and the dummy load. If you log the difference between the LP-100A and the reference meter on each band, you can adjust for the same difference later. It doesn't matter if the second meter is accurate since you are adjusting for the difference.