

Operations Manual for Bird Electronic

Model 4324 Peak Reading Thruline Wattmeter

The Model 4324 Peak Reading Thruline Wattmeter, hereafter referred to as the "Wattmeter" is designed to read both Peak Envelope Power and Average Power. The necessary d.c. voltage used to operate the 4324 Wattmeter is a positive and negative 15 volts to be furnished by the user. This d.c. supply is fed to the amplifier and connected by soldering the correct leads to the feed thru capacitors indicated on the diagram on a separate sheet. In turn the meter cables are also attached to their respective connections on the chassis of the amplifier. The amplifier chassis should be mounted to a metal panel, this assures good ground continuity.

The pulse cable, with a miniature female snap on connector is affixed to the mating male receptacle on the amplifier chassis and the opposite end which is the d.c. connector, is assembled to the line section. This d.c. connector has a sensing finger that picks up the signal that is sensed by the plug-in element. Due to constant extraction and insertion of the plug-in elements, the spring contact in the line section may need adjusting. This is done with a pair of tweezers moving it out to where it just allows the plug-in element to enter the socket entirely. This will insure more accurate readings.

Once the proper connections and mounting of the amplifier chassis are achieved, the model 4324 Peak Reading Thruline Wattmeter is ready to function.

The amplifier, with the "Peak Read Button" left out allow the Wattmeter to maintain a steady "Peak Reading state, and will monitor the "Peak Envelope Power" constantly. When "Average Power is required to be read, the "Peak Read Button" must be depressed gently and turned clockwise locking the amplifier out of the Peak mode and present the Average Power Mode for monitoring the Average RF Transmission.

When the 4324 Peak Reading Wattmeter is in the Peak Mode, the directional element senses the RF power traveling through the line from the Transmitter to the load and presents the highest peak of the signal to the amplifiers first stage comprised of a dual transistor that magnifies this signal 100:1 this signal is then presented to the second stage. This stage is comprised of a differential amplifier that magnifies the signal 1000:1 sequentially presenting this signal to the output stage that is fed to the meter. There is a feed back loop from the output stage back to the first stage that keeps the signal constant and yielding unity closed loop gain. In this manner "Peak Power is indicated.

DIAGRAM FOR LEAD HOOK-UP
FOR MODEL 4324 PEAK READING WATTMETER

