

Radio/Modem

by

ODA Enterprises, LLC

Description:

Our Radio/Modem operates in the 900 MHz region and uses the latest in encryption technology called FHSS - Frequency Hopping Spread Spectrum. It is housed in a 8.7" X 7.445" X 3.9" rugged, waterproof polypropylene enclosure. It's internal power supply consists of eight "AA" batteries - to supply 12 volts. Located on the top panel is an ON/OFF switch with red LED for power, an RPSMA connector for the antenna, and a DB9 connector for input/output. This connector is labeled with either 'computer' or 'slave', denoting which Radio/Modem is connected to the computer and which is connected to the Slave. Also on the top panel are two more LED's - green and yellow. These will blink on and off when transmitting or receiving data.

Operating Instructions:

Fresh batteries will power the radios for approximately 48 hours in standby mode, drawing 50 mA/Hr, and about 6 hours in transmit/receive mode. However it is recommended to remove and store the radios without batteries and install new/fresh ones when ready to use.

Install the antenna by simply screwing it onto the RPSMA connector - finger tight. Connect the DB9 cable to the radio and the computer and/or slave. That's it.

When the radio is turned ON the red LED will turn on and the green and yellow LED's will flash once - indicating all is good.

The radios are both transmitters and receivers. As a matter of fact, they are identical except for a DIP switch setting.

For example, when performing cue testing, the radio connected to the computer will transmit data to the receiving radio connected to the slave. The slave will perform the testing and then transmit the data back to the radio connected to the computer.

The two most important factors that must be present for good data communication is 'Line of Sight' and 'Antenna Height'. 'Line of Sight' means there should be no physical obstructions (no trees, no houses, etc.) between the transmitting and receiving antennas (or antennae if you prefer).

'Antenna Height' will determine distance/quality of transmission. Rule of thumb for our radios is: 4 feet above ground will yield approximately 1/2 mile, 8 feet above ground will yield 1 1/2 miles, and 24 feet above ground - 8 miles. As you can see the higher the better.

A DIP switch can be found internally on the interface board. Basically only position #1 is of importance to the user. This switch selects between RS232 and RS485 operation. Computers use RS232 protocol and therefore you want the Radio/Modem connected to the computer to have the DIP switch #1 in the 'on' position. Our Slaves use RS485 protocol and therefore the Radio/Modem connected to the Slave should have the DIP switch #1 in the 'off' position.

All other switches should be in the 'off' position.