



VHF & UHF Couplers for the PowerMaster and PowerMaster II Installation and Operation Manual

Models: VHF-1.5K (2m), VHF-1.5K-2 (1.35m), UHF1.5K (440-450 MHz), UHF-1.5K-2 (420-440 MHz)

Installation and Operation Manual



1-1 Introduction

The Array Solutions VHF and UHF couplers extend the frequency range of the PowerMaster Series Digital RF Power & VSWR Indicator to the 2 m, 1.35 m and 70 cm amateur bands.

The VHF and UHF series couplers are precision dual directional couplers. They have dual pickup loops to provide simultaneous forward and reflected power measurements.

2-1 Installation Procedure

The PowerMaster VHF and UHF couplers may be inserted in the antenna feedline at any convenient point. The end of the coupler that is marked “ANT” is connected to the feedline that goes to the antenna. The other end is connected to the transceiver or linear amplifier.

The cable with 1/4” phone plug is plugged into the PowerMaster or PowerMaster II display unit.

To use the PowerMaster with any coupler, first verify that the latest firmware is loaded in the PowerMaster. The firmware may be downloaded from the Array Solutions web site: www.arrayolutions.com/

Coupler Model	Frequency (MHz)
VHF-1.5K	144 - 148
VHF-1.5K-2	220 - 225
UHF-1.5K	440 - 450
UHF-1.5K-2	420 - 440

Enter the trim factor for both forward and reflected power, The trim factors are marked on each coupler. Refer to the PowerMaster/PowerMasterII Manual for instructions on setting the trim factors.

3-1 Operation

With the proper firmware loaded, operation and display features are the same as with a HF coupler. Refer to the Array Solutions PowerMaster Series Digital RF Power Meter manual for instructions on the PowerMaster Series operating procedures and display features.

4-1 Care and Maintenance

There is no maintenance required for the VHF/UHF couplers. There are no user adjustable components inside the couplers. Do not remove the coupler cover or disassemble it in any way as calibration will be lost.

Avoid anything that would apply a significant shock to the couplers such as dropping them or hitting them with any object. A mechanical shock can cause movement in the pickup loops which may affect the accuracy of the couplers.

Should you suspect a problem with your VHF or UHF coupler call Array Solutions for instructions on how to return the unit for repair and calibration.

5-1 Specifications

MODEL VHF-1.5K (2m) and VHF-1.5K-2 (1.35 m)
Frequency Ranges: 144-148 MHz or 222 - 225 MHz
Line Impedance: 50 ohms nominal
Insertion Loss: 0.05 dB or less
Line Connections Type N Female (UG-5), UHF (SO-239) optional
Power Range: 1-1,500 watts
Directivity: >25 dB typical 144-148 MHz, >22 dB typical 222-225 MHz
Accuracy: $\pm 5\%$ of reading

MODEL UHF-1.5K and UHF-1.5K-2
Frequency Range 440 - 440 MHz and 420 - 440 MHz
Line Impedance: 50 ohms nominal
Insertion Loss: 0.1 dB or less
Line Connections: Type N Female (UG-58)
Power Range: 1 - 1500 W continuous
Directivity: >23 dB typical
Accuracy: $\pm 5\%$ of reading