

DB4307, DB4308, and DB4309

3 dB Hybrid Couplers

Tuning Instructions

PRODUCT DESCRIPTION

Hybrid couplers DB4307, DB4308, and DB4309 are normally supplied pre-tuned to the user's operating frequency, if known. However, since the user's antenna impedance will differ from the 50 ohm load used in pre-tuning, it is necessary for the user to optimize the tuning upon installation into the antenna system.

EQUIPMENT REQUIRED

- Transmitter at desired frequency
- Receiver tuned to the transmitter frequency or equivalent equipment capable of measuring power levels approximately 40 dB below the transmitter power. If available, a low-level milliwattmeter and dummy load may be used instead of the receiver.

TUNING PROCEDURE

1. Connect the antenna to the "ANT" connector.
2. Connect the transmitter to the "Tx 1" connector.
3. Connect the receiver to the "Tx 2" connector.
4. Connect the dummy load to the "Load" connector.
5. With the receiver set for minimum sensitivity, key the transmitter at low power (less than 5 watts). *Caution: Use of external attenuation is recommended to avoid damage to the receiver.*
6. Increase the receiver sensitivity until a signal is evident.
7. Adjust the two tuning screws alternately while noting a decrease in received signal. As the received signal decreases, increase the sensitivity. Continue tuning until a minimum signal level is obtained.
8. When antenna tuning is optimized, the transmitter power will be equally split between the antenna and the dummy load. The two input terminals will be isolated from one another by at least 40 dB (depending upon antenna impedance).
9. If, at any time, antenna impedance changes (for instance, due to lightning damage), unequal power splits will result. In this event, it will be necessary to repeat the above tuning procedure.

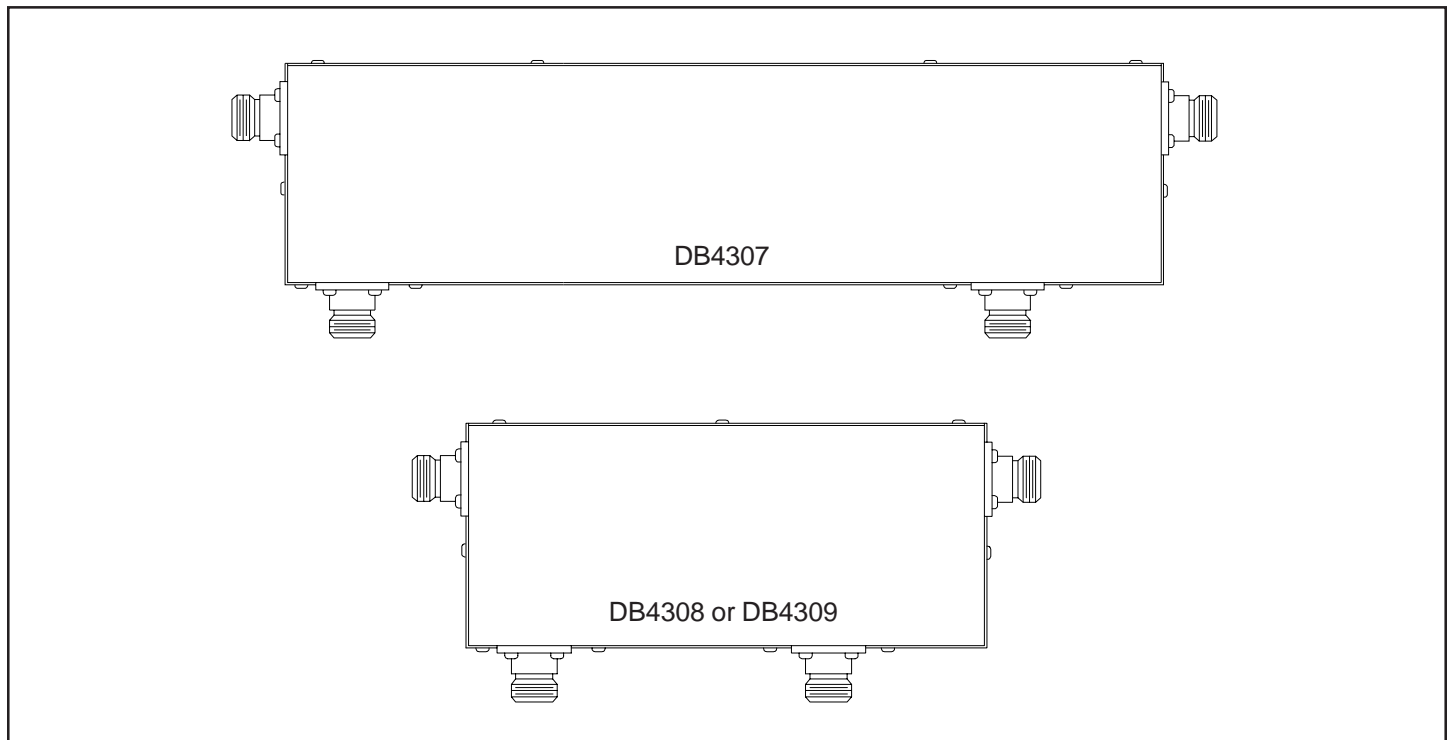


Figure 1 - Hybrid Couplers

