

# DB4030 / DB4032 Duplexer

## 30-50 MHz Tuning Instructions

### PRODUCT DESCRIPTION

Decibel's DB4030 and DB4032 duplexers are designed for use with duplex stations in the 30-50 MHz band. These models primarily provide minimum isolation when used in systems having a frequency separation of 500 KHz or more. Under certain conditions, these models are suitable for multiplexing two transmitters, two receivers or two push-to-talk stations to a common antenna.

### IMPORTANT

To maintain maximum isolation, use double shielded or solid outer conductor coaxial cable from the duplexer to the transmitter and receiver chassis.

### FIELD TUNING

Decibel factory-tunes the duplexers to the exact operating frequencies before shipment. The units

do not require any further field tuning or adjustment, making them ready for immediate installation. Should it become necessary to change the operating frequency of the duplexers, they may be returned to the factory for retuning or they can be field tuned using the following equipment and procedure.

### Required Equipment:

- A 50 ohm signal generator capable of producing a signal at the transmitter and receiver frequencies.
- A receiver tuned to the desired lower frequency signal.
- A receiver tuned to the desired higher frequency signal.
- Two 50 ohm pads.

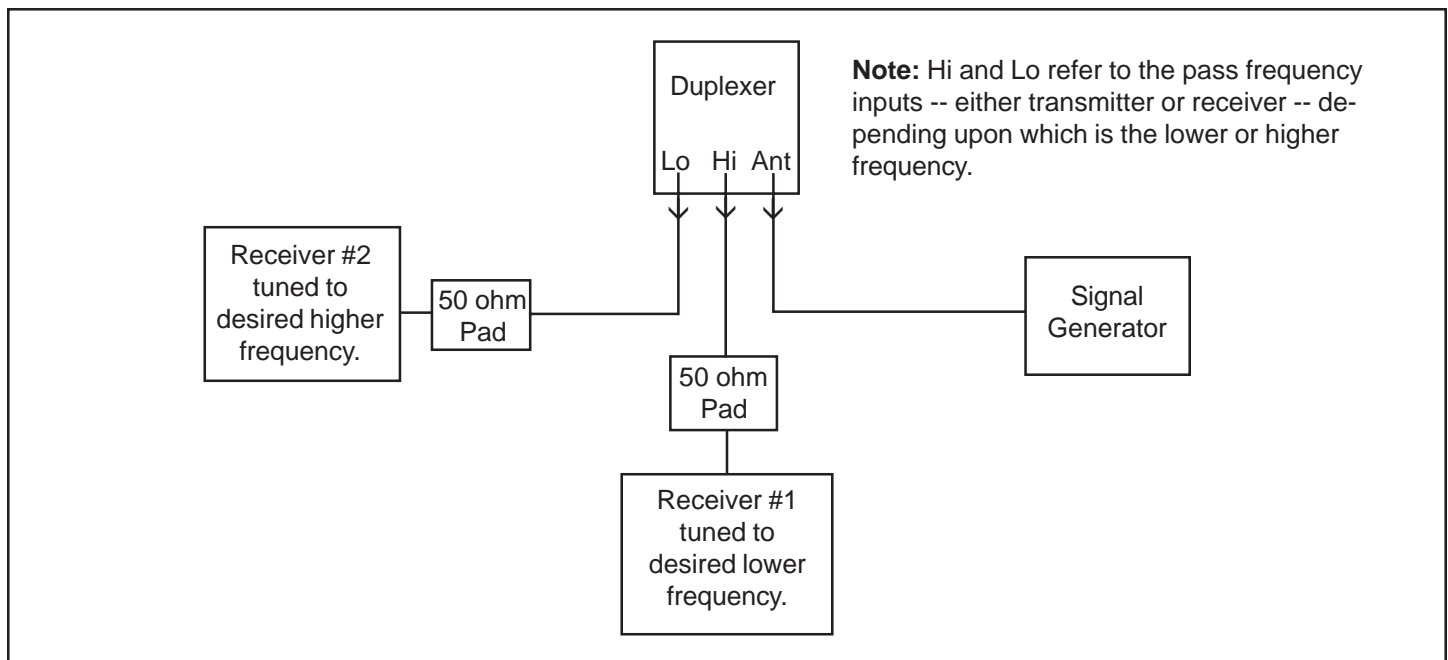


Figure 1 - Equipment Layout



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**Field Tuning Procedure:**

The following outlines the steps for field-tuning the DB4030 and DB4032 duplexers.

1. Connect the equipment as shown in Figure 1.
2. Depending upon the duplexer model being tuned, locate the low and high frequency cavities in Figure 2 or 3.
3. Tune the signal generator to the desired lower frequency.
4. Tune each high frequency cavity for minimum signal into receiver number one. (Turn the tuning screw clockwise to decrease the resonate frequency of the cavity.)
5. Tighten the lock nut on the tuning shaft after tuning each cavity.
6. Tune the signal generator to the desired higher frequency.
7. Tune each lower frequency cavity for minimum signal into receiver number two.
8. Tighten the lock nut on the tuning shaft after tuning each cavity.

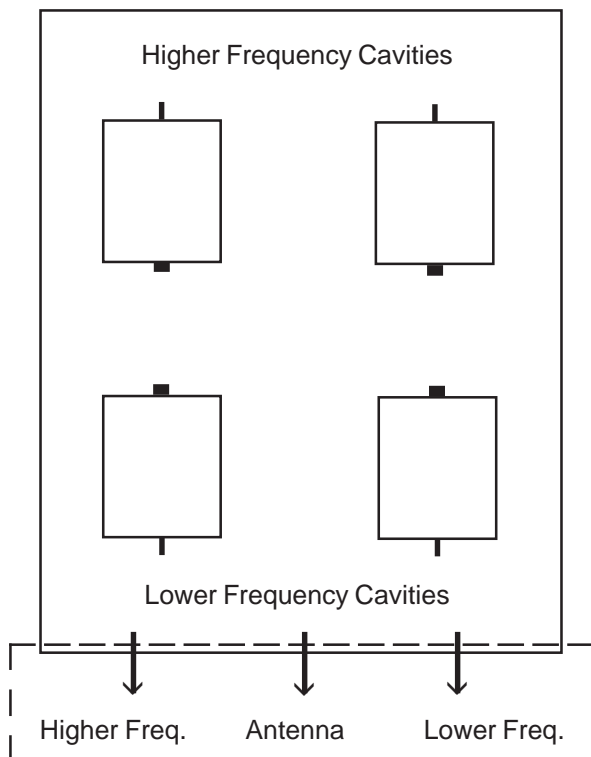


Figure 2  
Layout for DB4030 four-cavity duplexer

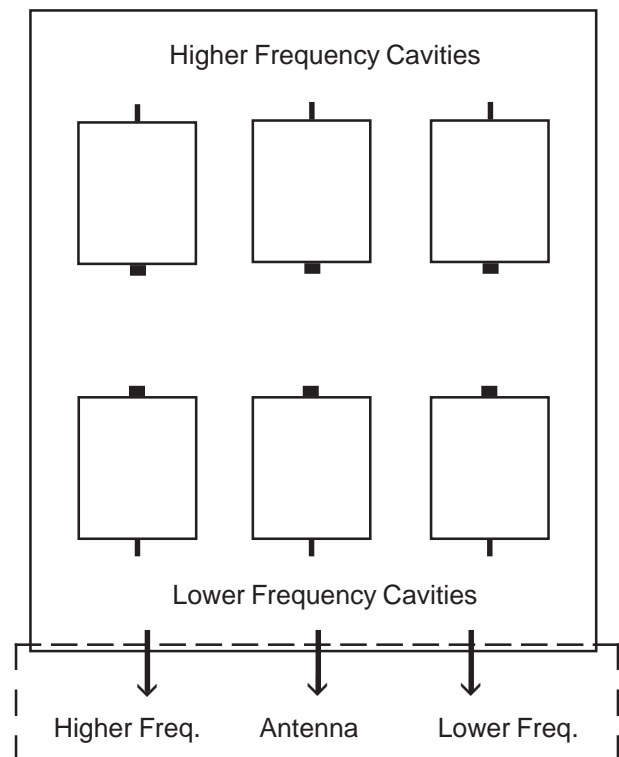


Figure 3  
Layout for DB4032 six-cavity duplexer

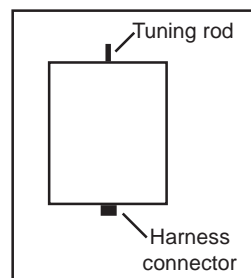


Figure 4  
Key to above Illustrations

