

## MFJ-204B ANTENNA BRIDGE

Thank you for purchasing the MFJ-204B Antenna Bridge. The MFJ-204B provides an inexpensive and simple way to tune your antenna to match the feed-line and transceiver from 160M thru 10M. The MFJ-204B also can be used to adjust the matching device to the impedance of the feedline and enable you to obtain proper load to your transmitter at any frequency using an antenna tuner without having to key your transmitter while tuning

A 9V battery or a 12V DC adapter (MFJ-1312) can be used to power the MFJ204B. To install the battery, remove all screws on both sides of the box and open the case. Place the battery in the holder and connect the battery snap.

The RESISTANCE control is marked with letters from A thru G. These letters correspond to the resistance value on the calibration chart on the bottom of the MFJ-204B. Each mark is individually calibrated for better accuracy. A frequency counter can be connected to the Frequency Output of the MFJ-204B to get an accurate reading.

### USING THE MFJ-204B ANTENNA BRIDGE

#### I. Measure antenna impedance at the antenna feed point.

1. Turn on the MFJ-204B.
2. Set the Band switch on the MFJ-204B to the desired band.
3. Turn your receiver to the desired frequency.
4. Connect a short piece of RG-58U or RG-8U with PL-259 (use your wattmeter patch cable if desired) to the Coax Antenna connector of the MFJ-204B.
5. Hold one end of the coax patch cable close to the antenna input of your transceiver. Do not make physical connection.
6. Tune the TUNE control on the MFJ-204B until the oscillator can be heard on the receiver. Make note of this TUNE control setting on the [MFJ-204B](#). DO NOT re-adjust.
7. Disconnect the patch cable.
8. Relocate the MFJ-204B close to the antenna feed point. Connect the MFJ-204B to the antenna feed point with a RG-8U or RG-58U. Make this cable as short as possible.
9. Turn the RESISTANCE control until a maximum dip on the meter can be achieved. Note that a complete dip to "0" on the meter may not be possible. In any case try to obtain the minimum meter reading.
10. Read the antenna resistance on the RESISTANCE control.

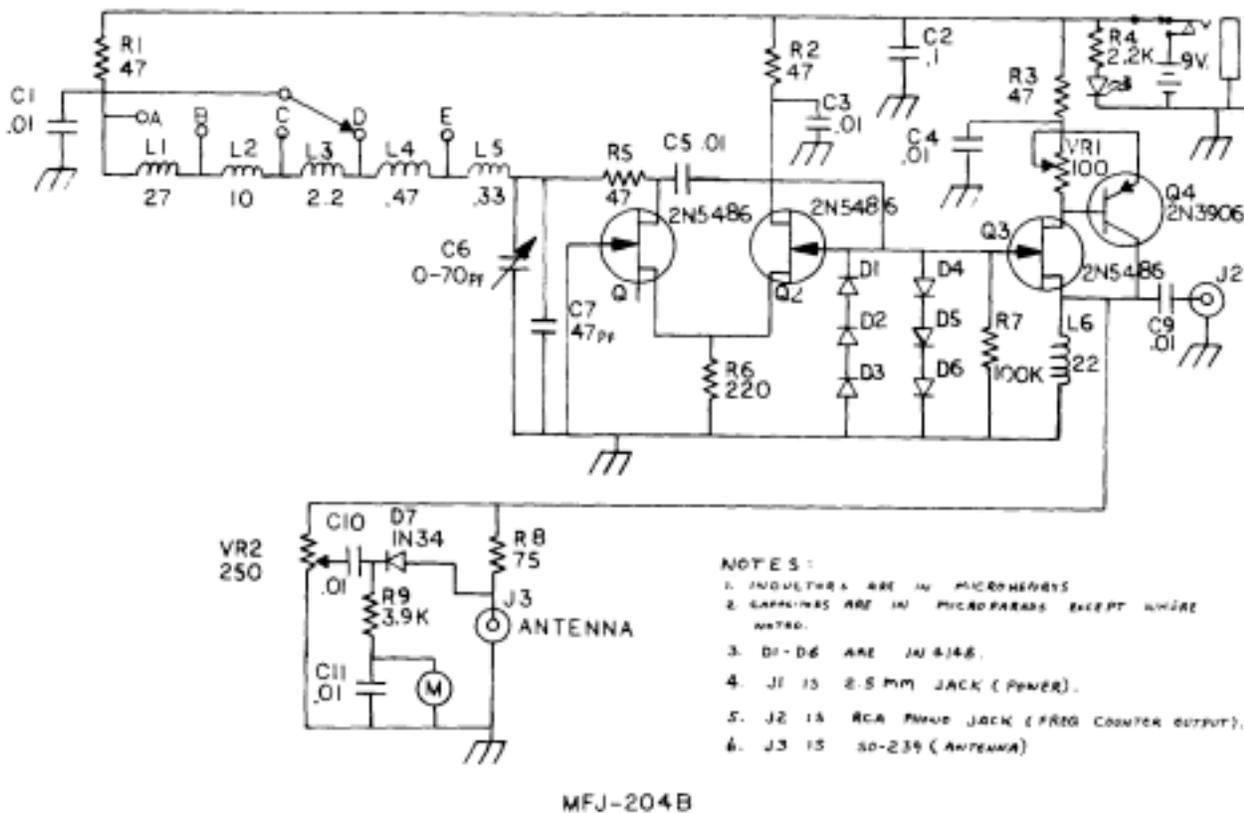
#### II. Adjust the antenna for resonance frequency.

1. Follow step from 1 thru 9 on section I.
2. If the resistance does not read 50 ohm, set the RESISTANCE control to 50 ohm.
3. Adjust your antenna until the meter of the MFJ-204B reads minimum. At this point the feed point impedance of the antenna is 50 ohm at the frequency which was selected.

#### III. Using the MFJ-204B to tune an antenna tuner.

1. Turn on the MFJ-204B.
2. Set the Band switch on the MFJ-204B to the desired band. 3. Turn your receiver to the desired frequency.

4. Connect a short piece of RG-58U or RG-8U with PL-259 (use the wattmeter patch cable if desired) to the Coax Antenna connector of the MFJ-204B.
5. Hold one end of the coax patch cable close to the antenna input of your transceiver. Do not make physical connection.
6. Tune the TUNE control on the MFJ-204B until the oscillator can be heard on the receiver. Make note of this tune control setting on the [MFJ-204B](#). DO NOT re-adjust.
7. Disconnect the patch cable.
8. Connect the antenna to your antenna tuner, then connect the MFJ204B to the tuner.
9. Set the RESISTANCE control to 50 ohm.
10. Tune the antenna tuner until the meter of the MFJ-204B reads minimum
11. Your antenna tuner is now set for 50 ohm at that frequency.
12. Disconnect the MFJ-204B from the antenna tuner. Connect your transceiver to the antenna tuner. Check the antenna tuner setting for best SWR with a SWR meter. A slight retuning of the tuner may be necessary to insure minimum SWR.



- NOTES:
1. INDUCTORS ARE IN MICROHENRS
  2. CAPACITORS ARE IN MICROFARADS EXCEPT WHERE NOTED.
  3. D1-D6 ARE 1N4148.
  4. J1 IS 2.5 MM JACK (POWER).
  5. J2 IS RCA PHONO JACK (FREQ COUNTER OUTPUT).
  6. J3 IS SO-239 (ANTENNA)

