

MFJ

Automatic Antenna Tunner

Model MFJ-926

INSTRUCTION MANUAL



CAUTION: Read All Instructions Before Operating Equipment

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MFJ-926 Remote Automatic Antenna Tuner

Introduction

The MFJ-926 Remote Automatic Antenna Tuner is designed to cover all frequencies ranging from 1.8-30 MHz. The multi-signal processing circuit switches inductance and capacitance as needed to match the impedance of the antenna system with your radio. Fast tuning, less than 2 seconds after initial tuning. Two-Hundred memory channels store the minimum SWR value to make tuning fast.

Specification

Working Frequency:	1.8 – 30 MHz
Input Impedence:	50 Ohm
Max. Input Power:	200 Watts PEP
Min. Input Power:	10 Watts
Power Supply:	13.8V +/-10%
Current Drain:	<0.8A
Auto Tuning Time:	Approx. 2 sec. (first time tuning)
Memory Channels:	200
Weight:	4 lbs
Usable Wire Length:	6-30 MHz > 2.4 meters 1.8-30Mhz > 8.0 meters

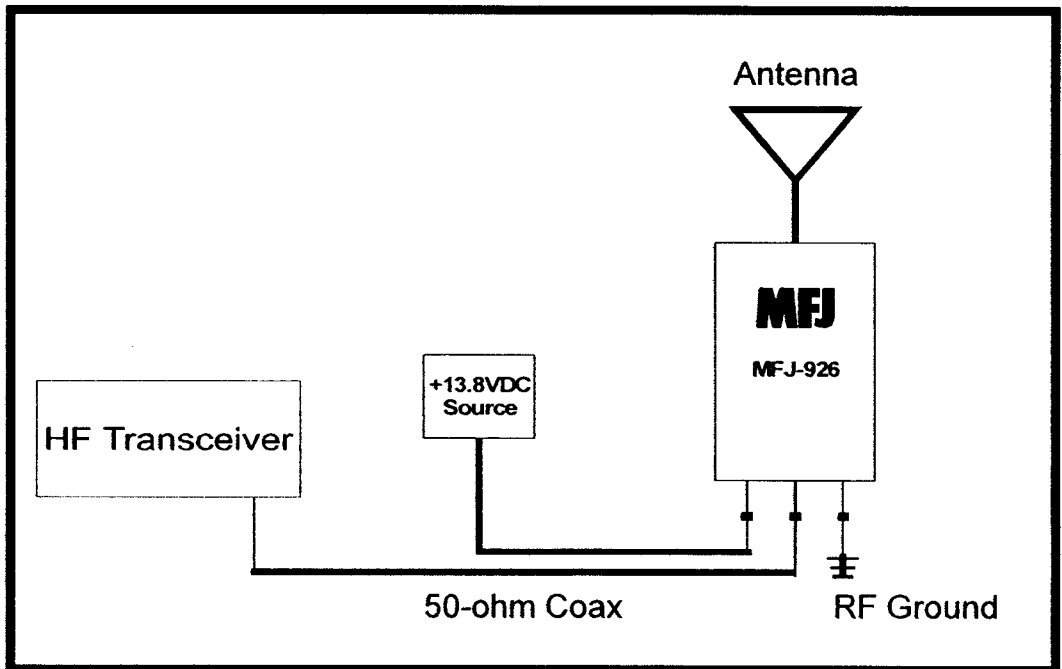
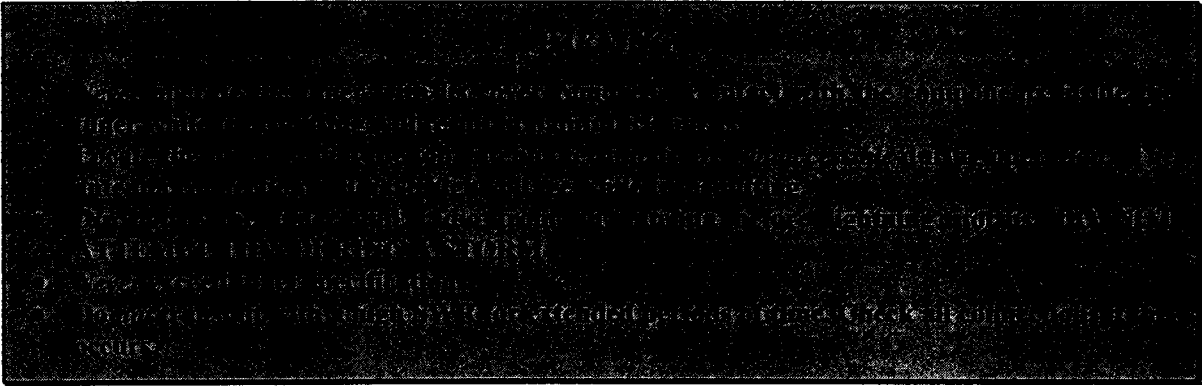


Figure 1. Installation Block Diagram



Installations

The MFJ-926 can be installed for mobile or base station operation. For mobile operation the antenna terminal should be connected to a suitable antenna. The ground should be connected to the body/frame of the vehicle with a short heavy gauge wire or strap. Keep this connection to a minimum. Base station installations may vary but all installations must have a suitable ground and a wire/antenna of suitable length depending on the operating frequency.

Connections

1. Connect the supplied power cable to a 13.8VDC source. The RED wire should be connected to the positive (+) terminal of the source while the BLUE should be connected to the negative (-) terminal. Check the polarity of the cable with a voltmeter before connecting the auto-tuner. The 13.8VDC source must be capable of delivering a minimum of 1 amp of current continuously. If the voltage is too low the tuner will not power on.
2. Connect your transceiver to the SO-239 connector on the antenna tuner using a good quality 50 ohm coaxial cable. The coax should be kept to a minimum length.
3. Connect a wire antenna / mobile whip to the antenna terminal on the top of the tuner. The antenna must be a suitable length for proper tuning. Lower frequencies will require longer antennas while higher frequencies require shorter lengths. If the antenna wire is too short the tuner will not match the impedance of the antenna to the transmitter.
4. Connect a suitable ground to the ground point on the bottom of the tuner. Read the section below on ground systems.

Ground System and Counterpoise

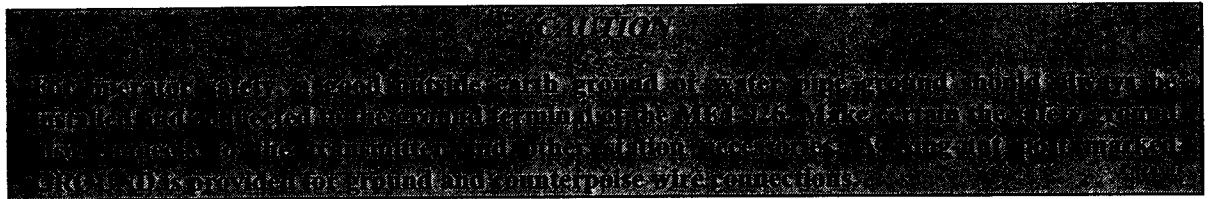
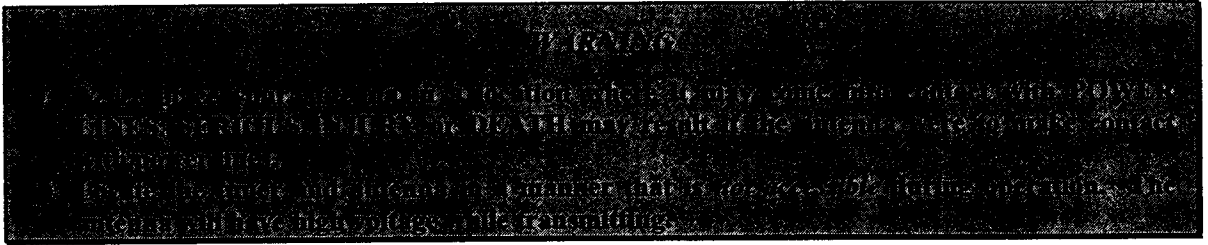
The MFJ-926 must be connected to a good electrical ground. A good ground can prevent accidental shocks, interference to other electronics and keep RF out of your shack. Use a heavy gauge wire or metal strap to connect to a large as possible metal object. In addition to a good ground, a counterpoise wire must be installed at a quarter wave length of the operating frequency.

Caution:

1. To insure the proper tuning, the antenna must have enough length (See Antenna Length Section below).
2. Do not install a balun, it will cause a tuning problem. Calculation of undesirable antenna length:

Length of half wave = $300 / \text{operating frequency (MHz)} \times \frac{1}{2}$.

Please avoid using the antenna length close to that of a half wave or multiple of a half wave in length.



ANTENNA LENGTH

The MFJ-926 Remote Automatic Antenna Tuner will match an antenna of suitable length to any transmitter. Lower frequencies require longer antennas while higher frequencies require shorter lengths. The MFJ-926 does have a limited amount of inductance and capacitance and will only match antennas within its limits. The antenna may be too long if the tuner does not find a match. Simple testing methods can be used to determine how to adjust your antenna.

OPERATION

After verifying each of the connections to the tuner, choose your desired frequency and switch the transmit mode as desired. Press the PTT key, the MFJ-926 will automatically tune. You will hear some "click click" noise, it means the auto tuner is tuning.

When you go back to the frequency which is tuned before, MFJ-926 will pick up the existing L/C combination from memory setting and match the system.

To reset the tuner, just simply disconnect the power from the MFJ-926.

TECHNICAL ASSISTANCE

If you have any problems with this unit, check the appropriate section of this instruction manual. If this does not reference your problem, you may contact *MFJ Technical Service* at 662-323-0549 or the *MFJ Factory* at 662-323-5869. Please have your unit, this manual, and anything else associated with this unit available on your station so the technician can properly answer your questions.

Other ways to contact MFJ are by facsimile at 662-323-6551, by email at techinfo@mfjenterprises.com, or by mail at:

MFJ ENTERPRISES, INC.
300 Industrial Park Road
Starkville, MS 39759

When writing MFJ, please send a complete description of your problem, an explanation of exactly how you are using your unit, and a complete description of your station.