

## MFJ-1020C      ACTIVE ANTENNA

### FEATURES

The compact MFJ-1020C Active Antenna provides amplified reception of broadcast, short wave, or amateur radio signals from 300 KHz to 40 MHz. It can be used with the supplied telescoping antenna or with an external wire antenna of your choice. The MFJ-1020C provides gain, selectivity, and better reception, both at home, and as a portable unit in the field.

### SPECIFICATIONS

#### Front Panel Indicators

ON/OFF..... LED mounted on the front panel (activated when a band is selected with the Band switch).

#### Front Panel Controls

Gain Control..... Adjusts Gain from -10 dB to +10 dB  
 Bypass Switch ..... Selects bypass mode  
 Band Switch ..... Six Position for OFF and 5 Bands from .3 MHz to 40 MHz  
 Tune Control ..... Maximizes the Gain for each of the 5 Bands

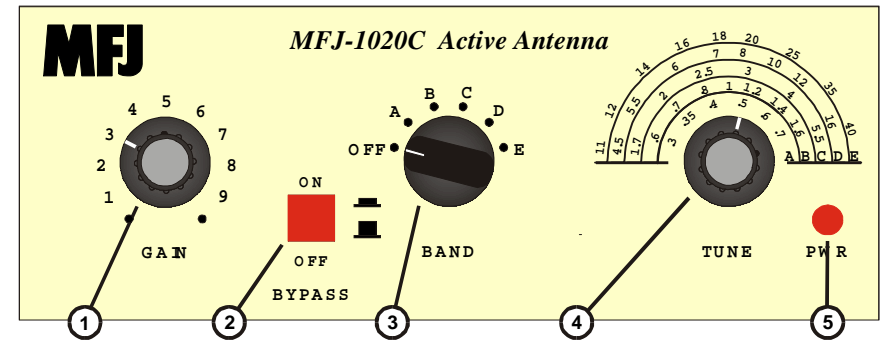
#### Rear Panel Connectors

Input ..... SO-239 Connector  
 Output..... SO-239 Connector  
 AC Adapter IN ..... 9-12 VDC Input @ 45 mA (3.5 mm plug)  
 Ground..... Wing-nut, rear panel

#### Other

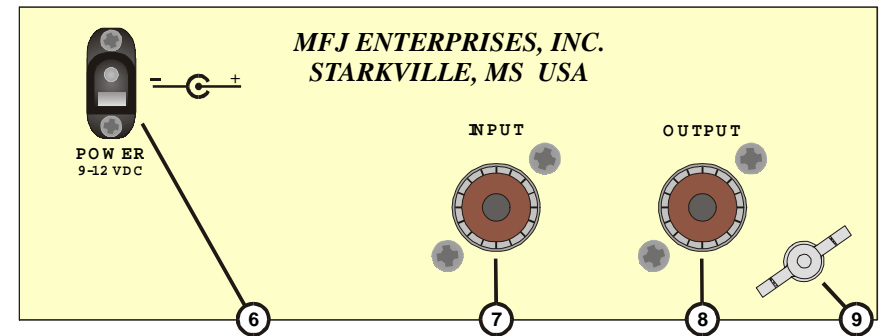
Frequency Coverage..... 300 KHz to 40 MHz  
 Antenna ..... 20" Telescoping Antenna - mounted through hole in the top (connected to input SO-239 connector). An external wire antenna plugged into the SO-239 input requires the removal of the telescoping antenna.  
 Dimensions..... 2.5" H x 6.4" W x 3.3" D  
 Weight..... 1 lb.

**FRONT PANEL CONTROLS**



1. GAIN CONTROL:.....Adjust the gain of the MFJ-1020C from -10 dB to +10 dB.
2. BYPASS SWITCH:.....Connects the Input SO-239 directly to the Output SO-239.
3. TUNE CONTROL:.....Optimizes Peak Tuning for each of the 5 bands.
4. BAND SWITCH:.....Power rotary switch that selects the 5 bands from 300 KHz to 30 MHz.
5. POWER LED.....Illuminates when power is on.

**REAR PANEL CONNECTIONS**



6. POWER: .....3.5mm barrel connector for power to MFJ-1020C 9-12 VDC with center positive. Inserting the plug into the rear jack automatically disconnects the internal battery. MFJ offers an optional 12 VDC adapter (AC-12).

7. INPUT: .....Either wire antenna or telescoping antenna on the top cover. **(Not both at the same time.)** Input is connected to the spacer where the telescoping antenna will be used.
8. OUTPUT: .....SO-239 connector for output to radio receiver.
9. GROUND: .....Post/Wing-nut type ground connector.

## **OPERATION**

Carefully unpack your MFJ-1020C from the packing carton and inspect it for signs of damage. If any damage is apparent, notify the transportation carrier or dealer immediately. We recommend keeping the packing carton for moving, storing, or reshipping the tuner.

### **Installation Procedures**

1. You may connect either the telescoping antenna provided or an external wire antenna of your choice. To connect the telescoping antenna; screw the antenna end through the top cover and into the spacer located on the PC board. If you chose to use external wire antenna; plug it into the INPUT SO-239 connector located on the back of the unit. **(DO NOT HAVE BOTH ANTENNAS CONNECTED AT THE SAME TIME!)**
2. Connect a cable from the output of the MFJ-1020C to your receiving equipment.
3. Connect a wire (#18 ga. approx.) from the wing-nut ground to the receiver ground which, in turn, should be connected to an earth ground. If the unit is operated in a portable application, this ground need not be connected.

### **Tuning**

1. Make sure the MFJ-1020C BYPASS switch is in the ON position.
2. Select the band and frequency of desired operation on your receiving equipment.
3. Set the GAIN and POWER controls on your receiving equipment to the desired settings before applying power to the MFJ-1020C. Actual setting may vary from antenna to antenna.
4. Turn the MFJ-1020C GAIN control full counter-clockwise.
5. Set the MFJ-1020C BAND Selector Switch to the selected band. The red LED will light.

6. Turn the BYPASS switch off.
7. Increase the GAIN Control to approximately midway (12 o'clock).
8. Rotate the TUNE Controls for maximum noise or signal as heard on your receiver.
9. You will notice that pushing the BYPASS Switch to the "ON" position while listening to a station bypasses the gain and selectivity stages of the MFJ-1020C. This will decrease the received noise level. Turning the bypass back "OFF" will raise the level of received signals which will be determined by:
  - (A) GAIN CONTROL ADJUSTMENT
  - (B) TUNE ADJUSTMENT
  - (C) PROPER BAND SELECTION
10. With some antennas connected externally to the MFJ-1020C, a high GAIN setting may make the unit appear to chirp or whistle as the TUNE is rotated. Turn down the GAIN adjustment until these are removed or disappear.

### **Notes**

1. Connection of the AC Adapter automatically disconnects the internal battery.
2. Use a Heavy Duty 9V alkaline battery.
3. Use *only the amount of gain needed* to receive the desired station.
4. *Never* use an external antenna and the telescoping antenna at the same time.

### **TECHNICAL ASSISTANCE**

If you have any problem with this unit first check the appropriate section of this manual. If the manual does not reference your problem or your problem is not solved by reading the manual you may call MFJ at 662-323-5869. You will be best helped if you have your unit, manual and all information on your station handy so you can answer any questions the technicians may ask.

You can also send questions by mail to MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, MS 39759 or by Fax to 662-323-6551. Send a complete description of your problem, an explanation of exactly how you are using your unit, and a complete description of your station.

### **SCHEMATIC**