

## MFJ-1020B Active Antenna

The MFJ-1020B Active Antenna provides reception of radio signals without an outside antenna. The MFJ-1020B receives from 300KHz to 30MHz which includes all international short-wave and high-frequency bands. This antenna also functions as a pre-selector for inside and outside wire antennas through the use of FET and bipolar circuitry with a tuned input section. The tuned circuit in the Active Antenna gives RF selectivity and reduces noise outside the tuned band. This circuit can be bypassed without disconnecting the unit by using the On/Off Bypass switch. Use a 9V battery and the telescoping antenna for portable operation.

### Installation

1. An optional MFJ-1312B AC adapter or a 9-12 Vdc power supply should be connected to the power jack on the rear of the MFJ-1020B. The power jack accepts a 2.1mm coaxial plug with the center conductor positive and the sleeve ground. A standard 9 volt battery can be connected to the battery snap inside the cabinet for portable operation.
2. A shielded cable should be connected from an **Output** jack on the MFJ-1020B to the antenna input on the receiver. Use either the RCA phono output or the SO-239 output depending on the connector on your radio.
3. Connect the **Gnd** post on the MFJ-1020B to a good RF or earth ground, such as a metal cold-water pipe or a metal rod driven into the earth. Proper grounding will help eliminate oscillation that may occur.
4. The internal telescoping antenna should be fully extended prior to use. **Do not connect an external antenna when the internal antenna is extended.**
5. If the unit is to be used as a pre-selector, use a shielded cable to connect your external antenna to the **Input** jack on the rear of the MFJ-1020B and retract the internal antenna. Use either the RCA phono input or the SO-239 input depending on the connector on your radio.

**NOTE:** *Fluorescent lamps, electric motors, microwave ovens, televisions, and other electrical or electronic devices can generate noise that may be picked up by the MFJ-1020B. The MFJ-1020B should be located as far as possible from these devices or interfering devices should be turned off while the MFJ-1020B is in use.*

### Front Panel Controls

**On, Off/Bypass:** Power is applied to the circuit when this switch is depressed. Signal from the antenna are connected directly to the **Output** jack when the power is off.

**Gain:** This control adjusts the gain in the amplifier section of the Active Antenna.

**Band:** This control is used to select the tuning band for the desired frequency coverage.

**Tune:** This control adjusts the frequency of the tuned circuit within the selected tuning band. The frequencies on the tuning dial are to assist in faster tuning. Proper tuning procedures are described in the operation section.

**Operation**

The **On-Off** switch should be depressed after the MFJ-1020B is properly connected. The LED will light, indicating circuit operation. Set the **Band** control to the desired tuning range.

The **Tune** control scale is used as a guide. Set the **Tune** control to the same frequency as your radio. Adjust **Tune** for maximum signal strength with the receiver's tuning meter or for the clearest audio.

**Note:** The **Tune** control may be inadvertently set to a receiver image or to a strong undesired signal. In the presence of such signals the receiver may overload. In this case best circuit operation may be achieved at less than the maximum **Gain** setting.

Oscillation may occur at some frequencies if **Gain** is set too high. This type of oscillation is particularly common with portable receivers using plastic cabinets. Oscillations may be recognized by one or more of the following symptoms:

1. Unmodulated carriers are noticeable when tuning through a frequency range with the **Tune** control on the Active Antenna.
2. When the MFJ-1020B **Tune** control is adjusted, different stations appear and disappear as if the radio is being tuned.
3. Stations other than the desired station appear.

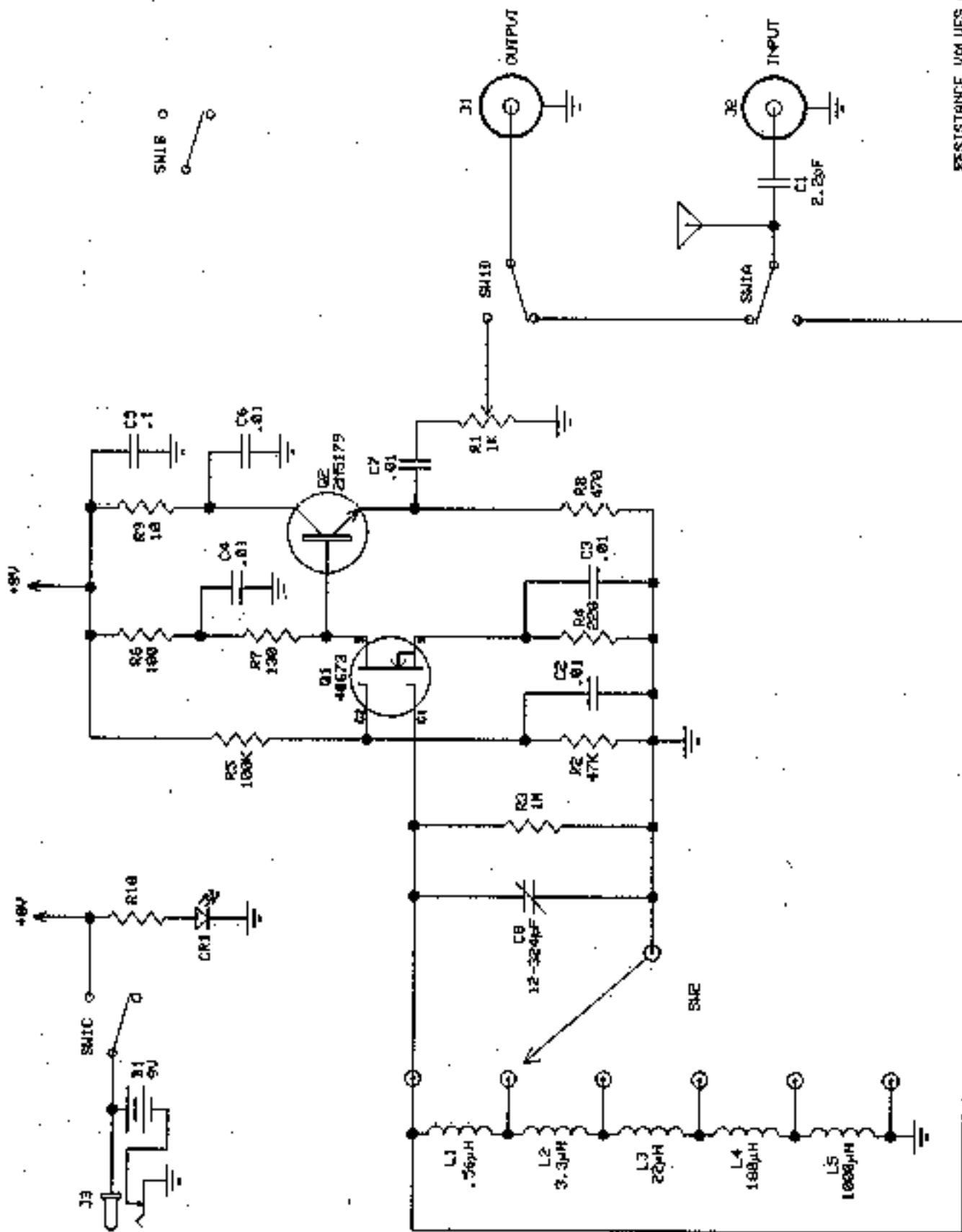
If this happens, connect a ground wire from the ground post of the MFJ-1020B to a ground post, a jack, or the telescopic antenna on the receiver.

**NOTE:** *External antennas should be disconnected from the input jack when operating the MFJ-1020B with its internal antenna. The MFJ-1020B **Tune** dial may be slightly less accurate when operating with an external antenna.*

## FULL 12 MONTH WARRANTY

MFJ Enterprises, Inc. warrants to the original owner of this product, if manufactured by MFJ Enterprises, Inc. and purchased from an authorized dealer or directly from MFJ Enterprises, Inc. to be free from defects in material and workmanship for a period of 12 months from date of purchase provided the following terms of this warranty are satisfied.

1. The purchaser must retain the dated proof-of-purchase (bill of sale, canceled check, credit card or money order receipt, etc.) describing the product to establish the validity of the warranty claim and submit the original of machine reproduction or such proof of purchase to MFJ Enterprises, Inc. at the time of warranty service. MFJ Enterprises, Inc. shall have the discretion to deny warranty without dated proof-of-purchase. Any evidence of alteration, erasure, or forgery shall be cause to void any and all warranty terms immediately.
2. MFJ Enterprises, Inc. agrees to repair or replace at MFJ's option without charge to the original owner any defective product under warrantee provided the product is returned postage prepaid to MFJ Enterprises, Inc. with a personal check, cashiers check, or money order for **\$7.00** covering postage and handling.
3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof of purchase and a **\$5.00** personal check, cashiers check, or money order must be provided to cover postage and handling.
4. This warranty is **NOT** void for owners who attempt to repair defective units. Technical consultation is available by calling (601) 323-5869.
5. This warranty does not apply to kits sold by or manufactured by MFJ Enterprises, Inc.
6. Wired and tested PC board products are covered by this warranty provided **only the wired and tested PC board product is returned**. Wired and tested PC boards installed in the owner's cabinet or connected to switches, jacks, or cables, etc. sent to MFJ Enterprises, Inc. will be returned at the owner's expense unrepai red.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ products.
8. **Out-of-Warranty Service:** MFJ Enterprises, Inc. will repair any out-of-warranty product provided the unit is shipped prepaid. All repaired units will be shipped COD to the owner. Repair charges will be added to the COD fee unless other arrangements are made.
9. This warranty is given in lieu of any other warranty expressed or implied.
10. MFJ Enterprises, Inc. reserves the right to make changes or improvements in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
11. All MFJ products to be serviced in-warranty or out-of-warranty should be addressed to **MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, Mississippi 39759, USA** and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase.
12. This warranty gives you specific rights, and you may also have other rights which vary from state to state.



RESISTANCE VALUES ARE IN OHMS  
CAPACITANCE VALUES ARE IN MICROFARADS  
UNLESS OTHERWISE SPECIFIED

MODEL NO.	REVISION	DATE	DESCRIPTION
MFJ-1020B	0	06-1-1980B	HEET 1 OF 1
DATE	DESIGNED BY	DESIGNED BY	DESCRIPTION
01/09/94	N1120B-0		MFJ Enterprises Inc. PO BOX 494 C. PERRY MISS. STATE, MS. 39762