

## MFJ-1048 PASSIVE PRESELECTOR

### Introduction

The MFJ-1048 Passive Preselector is designed to reduce receive overload from strong out of band signals. It contains selective circuits that cover 1.6 to 33 MHz in six steps, providing the greatest selectivity on the lowest frequencies where overload is most common.

The MFJ-1048 also features internal transmit-receive switching with adjustable time delay. A rear panel jack is available for an external control that will switch the MFJ-1048 into a bypass mode (we strongly recommend using the external control line for switching to avoid pull in timing errors).

The MFJ-1048 has two rear panel SO-239 connectors for RF connections and a standard 2.1mm power receptacle for 10 to 16 volt DC voltage. If DC voltage is not applied, the MFJ-1048 will remain in a bypass mode.

### Installation

Connect the MFJ-1048 Passive Preselector between your antenna and receiver or transceiver antenna connector as shown in Figure 1. The **Radio** connector goes directly to the transceiver or receiver with a short well shielded lead; the **Antenna** connector goes to the antenna through any amplifier, TVI filter, or any other station equipment.

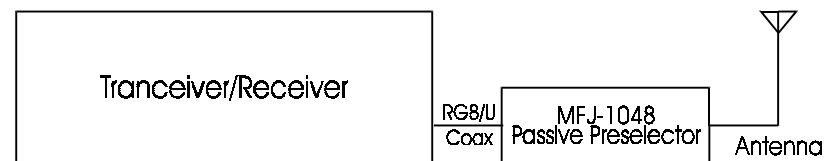


Figure 1

**WARNING:** NEVER connect an amplifier or radio with more than 200 watts output to the MFJ-1048 Passive Preselector. NEVER use an internal antenna tuner to correct for high SWR if the tuner is in the radio or on the radio side of the MFJ-1048 Passive Preselector. Failure to follow this warning may allow your MFJ-1048 Passive Preselector or other equipment to be damaged.

The **Control** line connects to the transceiver's normally open S/R (T/R) relay contact, and bypasses the passive preselector when transmitting (See Figure 2).

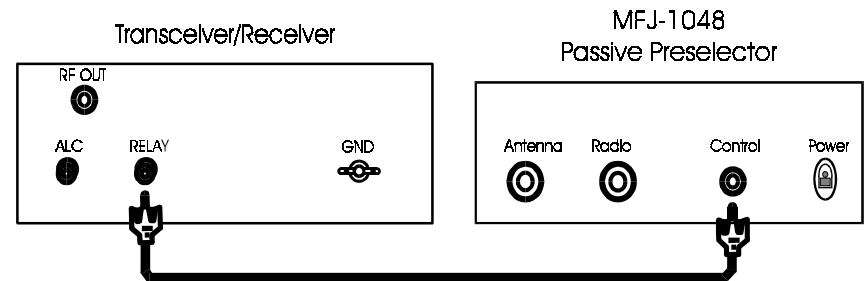


Figure 2

**Note:** We highly recommend you use the transceiver's T/R connection instead of the internal RF switching circuit. This will normally prevent or reduce the chance of "hot-switching" the MFJ-1048 Passive Preselector's relay.

## Operation

With the MFJ-1048 Passive Preselector properly connected, simply turn the **Band** switch to the desired band and adjust the **Tune** control for maximum signal level. With the **Power** switch depressed and power applied, the MFJ-1048 Passive Preselector becomes active.

Adjust the **Tune** control for maximum signal level. The maximum loss on the desired amateur band is less than 5dB if the correct frequency range is selected.

**Note:** Always use the highest frequency band range that covers the desired band for minimum loss.

Typical frequency response is shown in Figure 3.

A: Transmission Loss

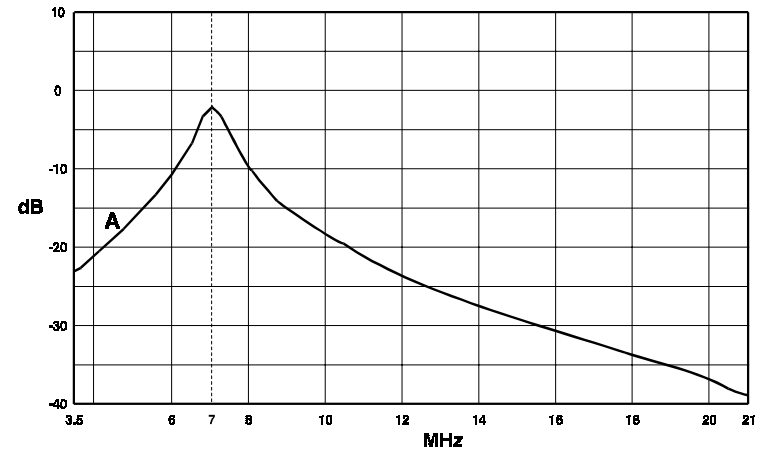


Figure 3

## 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 Technical Service* at **601-323-0549** or the *MFJ Factory* at **601-323-5869**. 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; by Facsimile to 601-323-6551; or by email to [techinfo@mfjenterprises.com](mailto:techinfo@mfjenterprises.com). Send a complete description of your problem, an explanation of exactly how you are using your unit, and a complete description of your station.

**Parts List**

<b>Designator</b>	<b>Description</b>	<b>P/N</b>
R8, R9, R10, R11	Resistor, 1206, 10 Ohm	100S-1100
R1	Resistor, 1206, 150 Ohm	100S-2150
R3, R4	Resistor, 1206, 10K Ohm	100S-4100
R2	Resistor, 1206, 47K Ohm	100S-4470
R7	Resistor, Pot, LT, 1M Ohm	162-6100-1
C7	Capacitor, Disc Cer., 22pF	200-1018
C8	Capacitor, 0805, 68pF	200S-0068
C5	Capacitor, 0805, .001uF	200S-1010
C3	Capacitor, 0805, .01uF	200S-1110
C1, C2	Capacitor, 0805, .1uF	200S-1210
C4	Capacitor, Elec., 10uF	203S-1210
C6	Capacitor, Air Var., 6-200uF	204-5160
D1, D2, D3	Diode, SOT-23, CMPD-914	300S-0914
D5	Diode, SMB, CMR1-02	300S-4001
D4	Diode, Zener, SOT-23, 5.1V	301-5231
Q2	Transistor, SOT-23, 3904	305-3904-SM
Q1	Transistor, SOT-23, 2N7002	305-7002-SM
L2	Inductor, Grn-Blu-Gld, 5.6uH	401-3560
L1	Inductor, Brn-Grn-Blk, 15uH	401-4150
L5	Inductor, Brn-Grn-Slv, .15uH	401-2150
L3	Inductor, Red-Red-Gld, 2.2uH	401-3220
L4	Inductor, Blu-Gry-Slv, .68uH	401-2680
L6	Inductor, Choke, 1A, 39uH	401-4390-1
RLY1	Relay, 12VDC	408-2142
T1, T2	Bead, Ferrite, 4T, #73	412-3801
SW2	Switch, Rotary, 2P6P	500-1565
SW1	Switch, Vert., 2P2P, Lock	504-4022
CTRL	Jack, RCA Phono, Ch. Mt.	600-1003
PWR	Jack, DC Coax, Ch. Mt.	601-6121 B
ANT, RADIO	Connector, UHF, 4 Hole Mt.	610-2005

## **Schematic**