Desktop/Remote Four-Position Antenna/Transceiver Switch

INTRODUCTION

The **MFJ-4724** is a versatile multiple antenna/transceiver switch designed to switch up to four 50-ohm antenna systems or four transceivers in any combination. It handles high power, up to 1500 Watts and sealed relays offer excellent life and connection reliability. The unit is operational from 1-60 MHz and useable to 150 MHz. See Table 1 and 2 for the best Antenna/Transceiver combination for your particular frequency.

The MFJ-4724 Desktop/Remote Antenna/Transceiver Switch uses two simple rotary switches to select one-of-four antennas or four transceivers in any combination. Use the MFJ-4724 Desktop/Remote Antenna/Transceiver Switch on your desk or place it out-of-way under your desk or in another room and use a remote control. In the OFF/Remote position, all inputs are grounded or control is transferred to the MFJ-4724RC Remote Control. All unused inputs are grounded. You can connect a sense line to your transceiver so when it's off all inputs are automatically grounded.

The MFJ-4724 will work well in nearly any system requiring switching of coaxial lines, especially those requiring good quality 50-ohm RF switches, so you can select one-of-four radios to one feedline or one-of-four antennas to a radio.

MFJ-4724 Desktop/Remote Antenna Switch Features

- **High Power Capability:** Handles 1500 Watts/50-75 Ohm load.
- **Wide Frequency Range:** 1-60 MHz. Useable to 150 MHz.
- **Easy-to-Use:** Two simple rotary switches allow you to select one-of-four antennas and one-of-four transceivers.
- **Versatile:** Use on your desk or place it out-of-way under your desk or in another room and use a Remote Control.
- **Lightening Protection:** Ultra-fast gas discharge tube lightning surge protector protects transceiver and safely shunts static electricity and lightning induced surges safely to ground. All unused inputs are grounded. Does not protect against a direct lightening hit.
- **Radio Sense:** You can connect a sense line to the 12VDC accessory jack on your transceiver so when it's off all inputs are automatically grounded.
- **Standard Connectors:** Uses SO-239 connectors.

ELECTRICAL CHARACTERISTICS

	SWR for each Antenna Connection			
Frequency (MHz)	1	2	3	4
1.8	1.0	1.0	1.0	1.0
3.5	1.0	1.0	1.0	1.0
7.1	1.0	1.0	1.0	1.0
14.1	1.1	1.0	1.0	1.1
21.0	1.1	1.1	1.1	1.1
29.7	1.1	1.1	1.1	1.1
54.0	1.8	1.5	1.5	1.8
150.0	1.7	1.5	1.5	1.7

Table 1: *SWR for each Antenna Connection on Selected Frequencies*

	SWR for each Transceiver Connection			
Frequency (MHz)	A	B	C	D
1.8	1.0	1.0	1.0	1.0
3.5	1.0	1.0	1.0	1.0
7.1	1.0	1.0	1.0	1.0
14.1	1.1	1.0	1.0	1.1
21.0	1.1	1.1	1.1	1.1
29.7	1.1	1.1	1.1	1.1
54.0	1.8	1.5	1.5	1.8
150.0	1.7	1.5	1.5	1.7

Table 2: *SWR for each Transceiver Connection on Selected Frequencies*

Tables 1 & 2 show the SWR for each Antenna and Transceiver Connection. To determine the best Antenna and Transceiver combination for your particular frequency, simply choose the connections with the best SWR on the desired frequency and match them.
For Example: At 150MHz, the best Antenna connection is 2 or 3 and the best Transceiver connection is B or C. Therefore, I will connect my Antenna to connection 2 or 3 and my Transceiver to connection B or C.

INSTALLATION

1. The unit can be located at any convenient location, as long as it is not exposed to moisture. It should be grounded to the station ground, and preferably powered from a separate wall adaptor.

2. Connect your antennas to the SO-239 coax connectors numbered 1-4. Note which antenna is connected to each connector.

3. Connect your transceivers to the SO-239 coax connectors labeled A-D. Note which transceiver is connected to each connector.

4. Connect a feedline from the TRANSMITTER COMMON connector to the ANTENNA COMMON connector.

5. Connect the station ground to the GROUND connector.

6. If your Transceiver is equipped with a 12VDC accessory jack, you may connect it to the Antenna/Transceiver Switch using a RCA plug so when your Transceiver is off, all inputs are automatically grounded.
   You may also connect the Antenna/Transceiver Switch to your power supply using a RCA plug, so when you turn off the power supply, all inputs are automatically grounded.

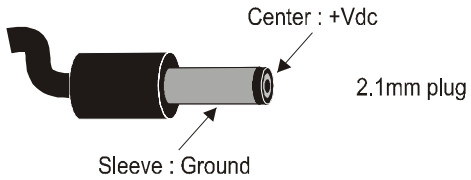
7. If you are using the MFJ-4724RC Remote Control, connect the RJ-45 modular jack from the ANTENNA jack on the Remote Control to the ANTENNA REMOTE jack on the back of the unit and connect the RJ-45 modular jack from the TRANSCIEVER jack on the Remote Control to the TRANSCIEVER REMOTE jack on the back of the unit using a CAT-5 cable.

8. If your Transceiver is equipped with a 12VDC accessory jack, you may connect it to the Remote Control using a RCA plug so when your Transceiver is off, all inputs are automatically grounded.

9. An additional remote mount option is to remove the cover, remove the knob-shaft coupler using an Allen wrench and remove the knob. Now, the unit can be placed facedown if desired.

OPERATION

1. Connect a 2.1mm plug DC power supply to the 12VDC jack on the back of the unit. The supply must be capable of supplying 300mA continuous at 12-15 volts DC. This unit is polarity sensitive. It requires the following power connection:



   The sleeve is negative, and can be grounded or floated at the power supply. The center pin is positive, and MUST be ground isolated.

2. Rotate the Selector Knobs to choose the desired antenna and transceiver. The switch positions are numbered and lettered on the front of the control panel and a space is provided to pencil in the designation for each antenna. Once the antenna or transmitter is selected, you may transmit into the selected antenna.

3. If you are using the MFJ-4724RC Remote Control, turn the Selector Knob on the MFJ-4724 to the OFF/Remote position.

   a. Connect the 2.1mm plug DC power supply and the RJ-45 modular jack to the Remote Control.

   b. Rotate the Selector Knobs to choose the desired antenna and transceiver. The switch positions are numbered and lettered on the front of the control panel and a space is provided to pencil in the designation for each antenna.

IMPORTANT:	NEVER switch antennas with RF power applied to the Master feedline. Damage to the switching contacts may result from “hot-switching”.

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 reading the manual does not solve your problem, you may call *MFJ Technical Service* at **662-323-0549** or the *MFJ Factory* 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; by Facsimile (FAX) to 662-323-6551; or by email to 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.

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