



2-Radio Headphone Selector/Mixer

Model MFJ-640



INSTRUCTION MANUAL

CAUTION: Read All Instructions Before Operating Equipment !

MFJ ENTERPRISES, INC.

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DISCLAIMER

Information in this manual is designed for **user purposes only** and is *not* intended to supersede information contained in customer regulations, technical manuals/documents, positional handbooks, or other official publications. The copy of this manual provided to the customer will *not* be updated to reflect current data.

Customers using this manual should report errors or omissions, recommendations for improvements, or other comments to MFJ Enterprises, 300 Industrial Park Road, Starkville, MS 39759. Phone: (662) 323-5869; FAX: (662) 323-6551. Business hours: M-F 8-4:30 CST.

Introduction

The MFJ-640 2-Radio Mixer and Switch was designed as an economical way to mix the audio from two sources for DXing or Contest Work. With this in mind the MFJ-640 includes all features that follow:

HamProaudio Quality – As with all the hamProAudio series of products the MFJ-640 was designed to be used in an RF environment by Hams for Hams.

Ease of Use – Just hook up your 2 radios and plug in a pair of stereo headphones.

Choice of Output - No need for output adapters, both ¼ inch and 3.5 mm stereo jacks are there for you to use.

4 Audio Output Choices – You can choose Mix, Radio 1, Stereo, or Radio 2.

Mix Control – In this Mix mode, you can fade between the audio of both radios.

Stereo Mode – In stereo mode the audio for one radio is in the left ear, and the audio for the other radio is in the right ear.

Rugged Construction - Attractive all-metal cabinet and conservative component selection ensures solid performance for years to come. Fully covered by MFJ's "No Matter What" one year limited warranty.

<p>Before attempting to operate your MFJ-640, please read this manual thoroughly. It contains important detail about setting up your unit to obtain the best performance.</p>

Front Panel Controls:

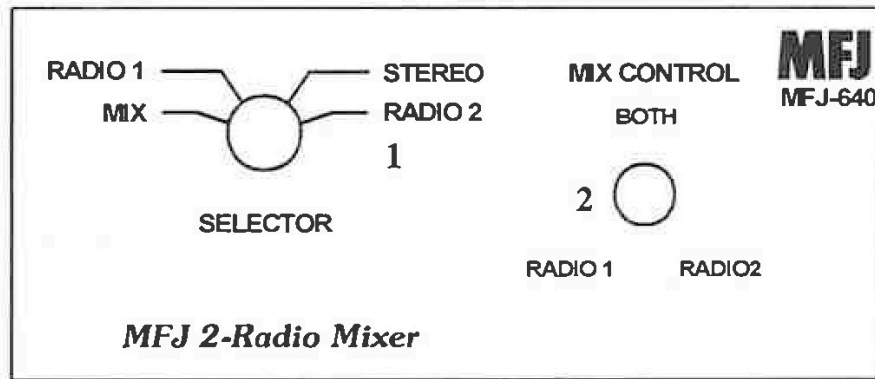


Figure 1: MFJ-640 Front Panel Controls

1. **Selector:** This switch allows the operator to select the way in which audio sources are output.
 - a. **Mix:** Audio streams from both radios are mixed and heard simultaneously on both left and right sides. Fading between sources can be done with the Mix Control (2).
 - b. **Radio 1:** Audio from Radio 1 is output on both left and right sides.
 - c. **Stereo:** Audio from Radio 1 is output on the left while audio from Radio 2 is simultaneously output on the right.
 - d. **Radio 2:** Audio from Radio 2 is output on both the left and right sides.
2. **Mix Control:** When the Selector switch (1) is in the Mix position. Audio levels from Radios 1 and 2 are heard simultaneously. Volume levels are dependent on knob position.
 - a. **Radio 1:** Audio from Radio 1 is output.
 - b. **Both:** Audio from Radio 1 and Radio 2 is output simultaneously at equal levels.
 - c. **Radio 2:** Audio from Radio 2 is output.
 - d. **Anywhere else:** The knob acts as a fader, allowing radios with different levels of output to be heard at the same level, or allowing priority to be given to the listening of one radio over another.

Rear Panel Jacks:

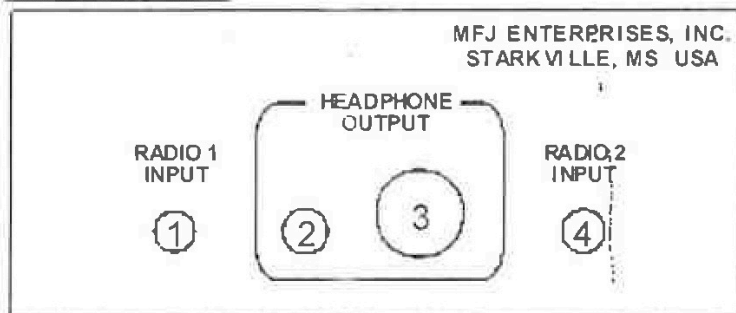


Figure 2: MFJ-640 Rear Panel Jacks

1. **Radio 1 Input:** Input for Radio 1 audio. 3.5 mm mono jack.
2. **Headphone Output:** Output for unit 3.5 mm stereo jack.
3. **Headphone Output:** Output for unit ¼ inch stereo jack.
4. **Radio 2 Input:** Input for Radio 2 audio. 3.5 mm mono jack.

EASY START INSTRUCTIONS

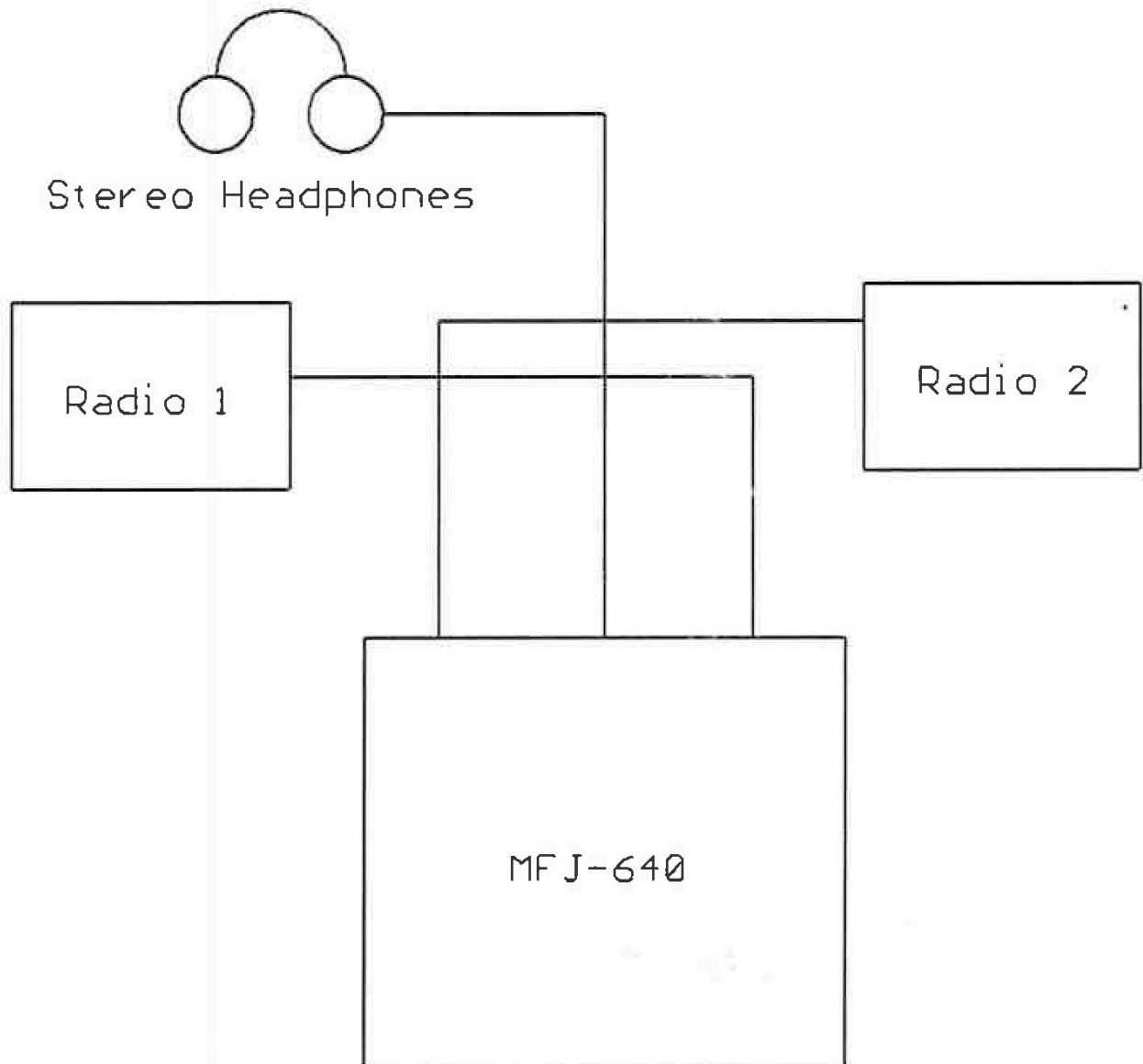


Figure 3: MFJ-640 Block Diagram

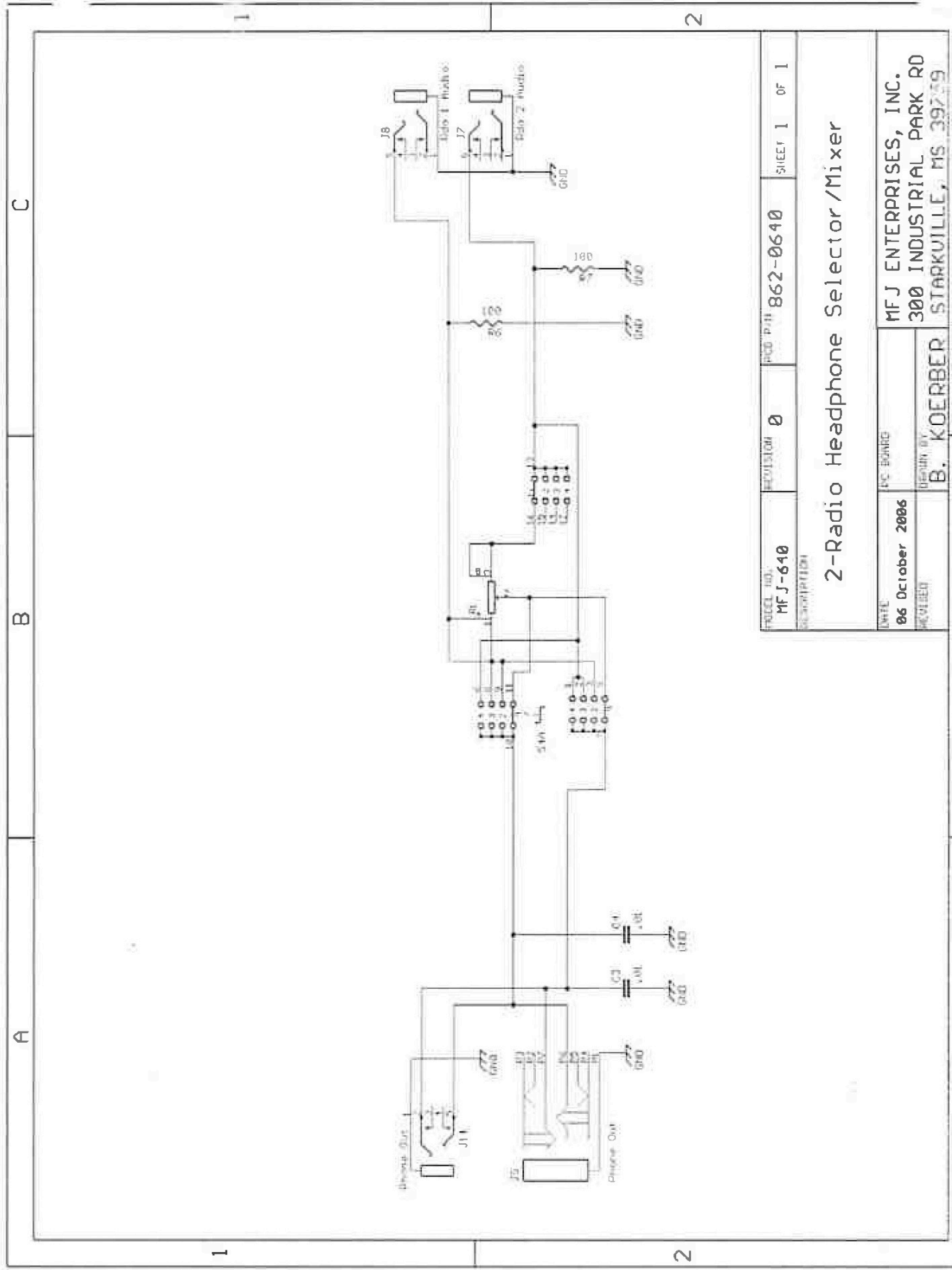
Simply attach the audio output from radio 1 and radio 2 to the appropriate input on the MFJ-640 and plug in your headphones.

Place the switch in the Radio 1 position and turn on radio 1. Set the volume to a comfortable level.

Place the switch in the Radio 2 position and turn on radio 2. Set the volume to a comfortable level.

Place the switch in the Stereo position and the radios should be equal in volume Radio 1 in the left ear, and Radio 2 in the right ear.

Place the switch in the Mix position and move the Mix control from radio 1 to radio 2 and you will see how the radios are continuously variable in volume.



PROJECT NO. MFJ-640	REVISION 0	DOC. PART 862-0640	SHEET 1 OF 1
DESCRIPTION 2-Radio Headphone Selector/Mixer			
DATE 06 October 2006	EC. BOARD	MFJ ENTERPRISES, INC. 300 INDUSTRIAL PARK RD STARKVILLE, MS 39749	
DESIGNED BY	DESIGNED BY	B. KOERBER	

Figure 4: Schematic Diagram

IN CASE OF DIFFICULTY

[] **No audio heard on output:**

1. Check switch positions, ensure they are in place for desired operation.
2. Ensure all connections are properly made.
3. Ensure that when headphones are connected directly to either radio audio is heard.

[] **Noisy audio, Hum:**

Magnetically induced hum can be caused to any modern piece of audio equipment by proximity to unshielded power transformers or equipment that radiated strong AC fields. Another source of hum can be caused by a ground loop. This is when equipment is connected together but do not have their grounds well connected. The use of "Daisy Chain" grounding techniques can contribute to this problem. The use of a single point ground is always recommended in Amateur Radio installations. RF floating in the shack can also contribute to distortion. To determine if you have this problem simply transmit into a Dummy Load. If the distortion goes away then you have RF in the shack.

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 is your problem is not solved by reading the manual, 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 technician may ask.

You can also send questions by mail to MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, MS39759; 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.

Limited 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 or machine reproduction of 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 warranty provided the product is returned postage prepaid to MFJ Enterprises, Inc. with a personal check, cashier's check, or money order for \$8.00 covering postage and handling.
3. This warranty is NOT void for owners who attempt to repair defective units. Technical consultation is available by calling the Service Department at 662-323-0549 or the MFJ Factory at 662-323-5869.
4. This warranty does not apply to kits sold by or manufactured by MFJ Enterprises, Inc.
5. 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 unrepaired.
6. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ products.
7. 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.
8. This warranty is given in lieu of any other warranty expressed or implied.
9. 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.
10. 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.

11. This warranty gives you specific rights, and you may also have other rights which vary from state to state.