MFJ

White Noise Generator

Model MFJ-5014

INSTRUCTION MANUAL

CAUTION: Read All Instructions Before Operating Equipment

MFJ ENTERPRISES, INC.

300 Industrial Park Road
Starkville, MS 39759 USA
Tel: 662-323-5869 Fax: 662-323-6551

MFJ-5014 White Noise Generator

Introduction:
The MFJ-5014 is a general purpose White Noise Generator that provides broadband RF noise across the HF and lower VHF spectrum. It's the perfect tool for checking receiver sensitivity, tuning and testing filters, adjusting networks, and may also be used with a directional coupler to measure return loss. The MFJ-5014 comes in a compact rugged aluminum case, runs from a self-contained 9-V battery, and features BNC and SO-239 output connectors.
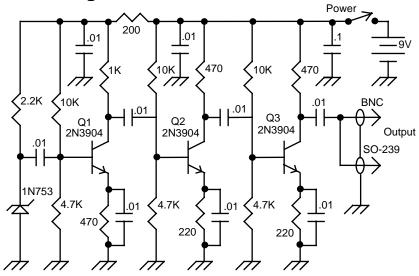
Set Up and Operation:
The power source for the MFJ-5014 is a standard 9-volt alkaline battery (not supplied). To install, remove the two screws on the side of the case and carefully separate the cover from the chassis. The battery holder is installed on the inside of the cover. Connect the snap clip to the battery and install in the holder with the wires exiting toward the center of the box. Reinstall the cover.

Connections may be made using a PL-259 or BNC type shielded patch cable. To activate the generator, press the POWER switch ON (button in). There's no pilot LED, so always confirm the POWER switch is turned OFF (button out) each time you finish testing in order to prolong battery life. Always remove the battery when storing the unit for an extended period.
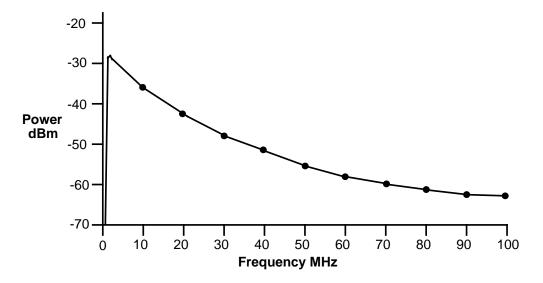
Theory of Operation:
The MFJ-5014 uses a reverse-biased zener diode operating in the junction breakdown mode to generate RF noise across a wide frequency spectrum. The signal is then amplified by a three-stage broadband amplifier (Q1-Q3) to increase power output. Normal operating range is from 1.5 MHz to 50 MHz with usable output to 150 MHz.

Schematic Diagram:

Output Level:

The plot below shows typical output level into a 50-Ohm load.

Important Warning: Never connect an RF-power source or accidentally transmit into the MFJ-5014 output connectors. Doing so will cause irreversible damage and destroy the unit!

Specifications:

Typical Output:	-45 dBm into 50 Ohms at 10 MHz
Output Connector:	BNC or SO-239 connectors (parallel connection)
Power Source:	Alkaline, 9-V
Case:	Aluminum, black finish
Dimensions:	3-1/4" W x 1-1/4" H x 4" D (8.25 x 3.18 x 10.16 cm)
Weight:	6.4 oz (.18 kg)

Technical Assistance:

If you have any problem with your MFJ-5014, first reread the manual. If it doesn't reference the problem or fails to solve it, 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 the unit, manual, and all other pertinent information handy so you can answer any questions the technicians may ask.

You may also submit questions by mail to MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, MS 39759, or by email to techinfo@mfjenterprises.com. Send a complete description of your problem along with an explanation of exactly how you are using your generator.

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 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. 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.