MFJ MFJ-828

MFJ-828 Digital SWR/Wattmeter/Frequency Counter User Manual

Model: MFJ-828

1. Introduction

The MFJ-828 is a versatile Digital SWR/Wattmeter and Frequency Counter designed for amateur radio and RF applications. It provides accurate measurements of Forward Power, Reflected Power, SWR, and Frequency across a wide range from 1.8 MHz to 54 MHz, handling power levels up to 1500 Watts. This manual provides essential information for the proper setup, operation, and maintenance of your MFJ-828 unit.

2. Safety Information

Please read and understand all safety instructions before operating the MFJ-828. Failure to do so may result in damage to the unit, other equipment, or personal injury.

- **Power Supply:** Ensure the correct DC power supply (not included) is used. Incorrect voltage or polarity can damage the unit.
- **RF Exposure:** Always observe proper RF safety guidelines when transmitting. High RF power can cause burns or other injuries.
- **Ventilation:** Do not block ventilation openings. Ensure adequate airflow around the unit to prevent overheating.
- **Environment:** Operate the unit in a dry environment, away from moisture, extreme temperatures, and direct sunlight.
- **Servicing:** Refer all servicing to qualified personnel. Do not attempt to open or repair the unit yourself.

3. Package Contents

Carefully unpack your MFJ-828 and verify that all items are present and undamaged. If any items are missing or damaged, contact your dealer immediately.

- MFJ-828 Digital SWR/Wattmeter/Frequency Counter Unit
- User Manual (this document)
- *Note: A 12V DC power supply is required for operation and is typically sold separately.*

4. Setup

Follow these steps to set up your MFJ-828 for operation:

1. **Placement:** Place the MFJ-828 on a stable, flat surface, ensuring adequate ventilation around the unit.
2. **Antenna Connection:** Connect your antenna system to the "ANTENNA" (or "OUTPUT") SO-239 connector on the rear panel of the MFJ-828.
3. **Transceiver Connection:** Connect your transceiver's RF output to the "TRANSCEIVER" (or "INPUT") SO-239 connector on the rear panel of the MFJ-828. Use high-quality coaxial cables with appropriate connectors.
4. **Power Connection:** Connect a suitable 12V DC power supply (not included) to the DC input jack on the rear panel. Ensure correct polarity. The unit requires a stable 12V DC supply.
5. **Initial Power On:** Press the **POWER** button on the front panel to turn on the unit. The digital display should illuminate.

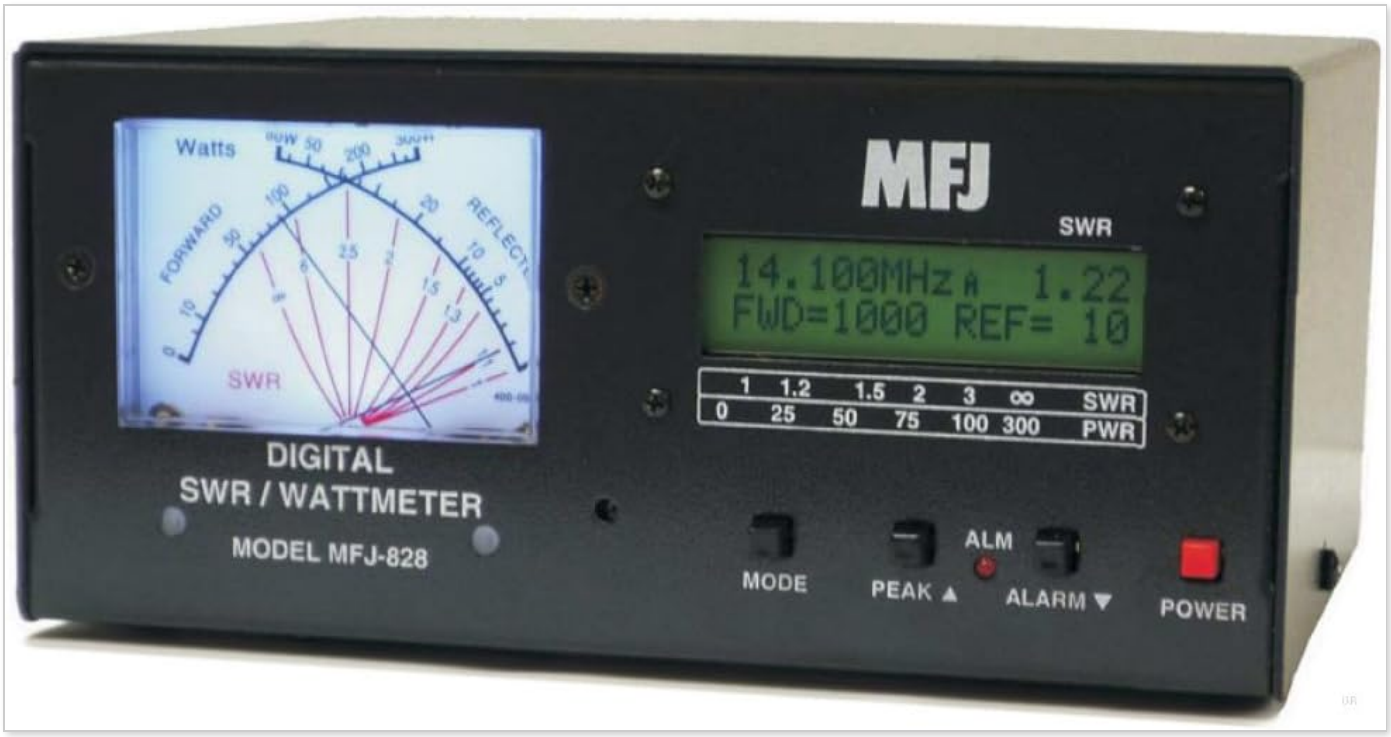

Figure 4.1: Front view of the MFJ-828 Digital SWR/Wattmeter/Frequency Counter, showing the analog SWR/Wattmeter display on the left and the digital LCD display on the right. The digital display shows frequency, forward power (FWD), and reflected power (REF) readings. Below the digital display are buttons for MODE, PEAK, and ALARM, and a POWER button.

5. Operating Instructions

The MFJ-828 provides both analog and digital readouts for SWR, power, and frequency.

5.1. Power On/Off

- To turn on the unit, press the **POWER** button.
- To turn off the unit, press the **POWER** button again.

5.2. Reading SWR and Power

The MFJ-828 displays SWR and power on both the analog meter and the digital LCD.

- **Analog Meter:** The large analog meter on the left provides a quick visual indication of Forward Power (Watts) and SWR. The SWR scale is typically located at the bottom of the meter.
- **Digital Display:** The LCD on the right provides precise digital readings.
    - **Frequency:** Displays the operating frequency in MHz.
    - **FWD (Forward Power):** Shows the forward power in Watts.

- **REF (Reflected Power):** Shows the reflected power in Watts.
- **SWR:** Displays the Standing Wave Ratio numerically.

5.3. MODE Button

The **MODE** button cycles through different display modes or measurement parameters on the digital screen. Consult the specific mode functions by pressing the button and observing the display changes.

5.4. PEAK Button

The **PEAK** button (often labeled "PEAK ▲") is used to activate or reset the peak hold function for power readings. When active, the display will hold the highest power reading detected until reset or a higher peak is measured. This is particularly useful for CW (Morse Code) or SSB (Single Sideband) transmissions to capture peak power.

5.5. ALARM Button

The **ALARM** button (often labeled "ALARM ▼") is used to set or clear SWR or power alarms. When an alarm is set, the unit may beep or display an error message if SWR or power exceeds a predefined threshold. Refer to the manufacturer's detailed instructions for setting alarm thresholds.

6. Maintenance

Proper maintenance ensures the longevity and accuracy of your MFJ-828.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the unit. Do not use abrasive cleaners or solvents.
- **Storage:** When not in use for extended periods, store the unit in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Connections:** Periodically check all coaxial and power connections to ensure they are secure and free from corrosion.

7. Troubleshooting

If you encounter issues with your MFJ-828, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Unit does not power on.	No power supply connected, incorrect power supply, faulty power cable, unit not switched on.	Ensure 12V DC power supply is connected and functional. Check power cable. Press the POWER button.
Incorrect SWR/Power readings.	Loose coaxial connections, faulty cables, incorrect power range selected (if applicable), unit malfunction.	Check all RF connections. Test with known good cables. Ensure proper operation of transceiver and antenna.
Frequency counter erratic (e.g., during CW).	Nature of CW signal (pulsed), internal processing limitations.	This behavior may be inherent to the design for certain signal types. Focus on average readings or use for continuous signals.
"Oops error" or beeping at high power.	Exceeding the maximum power handling capacity (1500W).	Reduce transmit power. The unit is designed for a maximum of 1500 Watts.

If the problem persists after attempting these solutions, contact MFJ customer support or your dealer for further assistance.

8. Specifications

Feature	Detail
Model	MFJ-828
Frequency Range	1.8 to 54 MHz
Maximum Power Handling	1500 Watts
Display Type	Analog Meter and Digital LCD
Power Input	12V DC (Power supply not included)
Connectors	SO-239 (UHF Female)
Dimensions (Approx.)	14 x 10 x 5 inches (Package Dimensions)
Weight (Approx.)	6.61 pounds
Color	Black

9. Warranty and Support

MFJ Enterprises, Inc. products are typically covered by a limited warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official MFJ website. For technical support, service, or parts, please contact MFJ customer service directly. Have your model number (MFJ-828) and purchase information ready when contacting support.

Contact information can usually be found on the manufacturer's website or on the product packaging.

Related Documents - MFJ-828

	MFJ-1204 USB Radio Interface Instruction Manual - Connect Your Radio to Computer Comprehensive user manual for the MFJ-1204 USB Radio Interface, detailing setup, connection, configuration, and troubleshooting for Ham Radio digital modes.
	MFJ-939 Plug&Play IntelliTuner Automatic Antenna Tuner Instruction Manual This instruction manual provides comprehensive guidance for the MFJ-939 Plug&Play IntelliTuner™ Automatic Antenna Tuner. It is designed to help amateur radio enthusiasts install, configure, and operate the tuner with various compatible radio models from brands such as Icom, Alinco, Kenwood, and Yaesu.

	[MFJ-422E/422EX Electronic Keyer Paddle with Memory Instruction Manual] Instruction manual for the MFJ-422E/422EX Electronic Keyer Paddle with Memory, detailing its features, operation, installation, and troubleshooting for amateur radio enthusiasts.
	[MFJ-1204 USB Radio Interface User Manual - Ham Radio Digital Communication] User manual for the MFJ-1204 USB Radio Interface, providing detailed instructions on setup, features, radio compatibility, jumper configurations, troubleshooting, and warranty for ham radio digital communication.
	[MFJ-1204 USB Radio Interface Instruction Manual - Ham Radio Digital Communication] Comprehensive instruction manual for the MFJ-1204 USB Radio Interface. Learn about features, connecting to your radio and computer, digital communication modes, jumper configurations for various transceivers, troubleshooting, and warranty details.
 MFJ-422D ELECTRONIC KEYER PADDLE	[MFJ-422D/422DX Electronic Keyer Paddle Instruction Manual] This manual provides detailed instructions for the MFJ-422D and MFJ-422DX Electronic Keyer Paddle. It covers setup, control functions, installation, connections, operation, Morse code charts, and jumper settings for amateur radio operators.