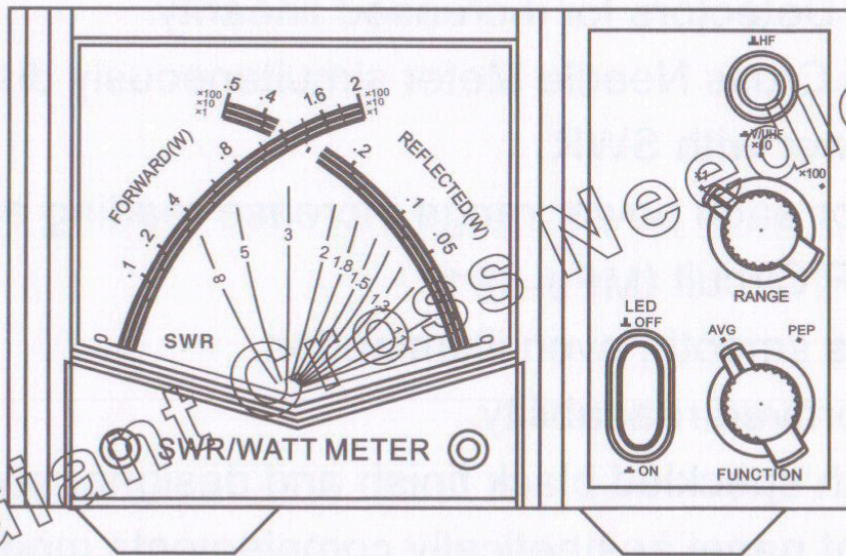


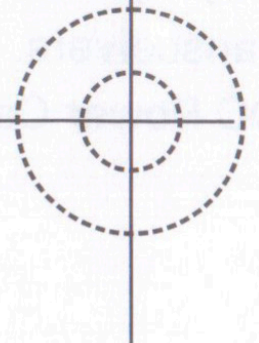
# MFJ

## SWR/WATT METER USER MANUAL



- MFJ-891
- MFJ-892
- MFJ-893
- MFJ-894
- MFJ-896

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## ■ Product Main Feature

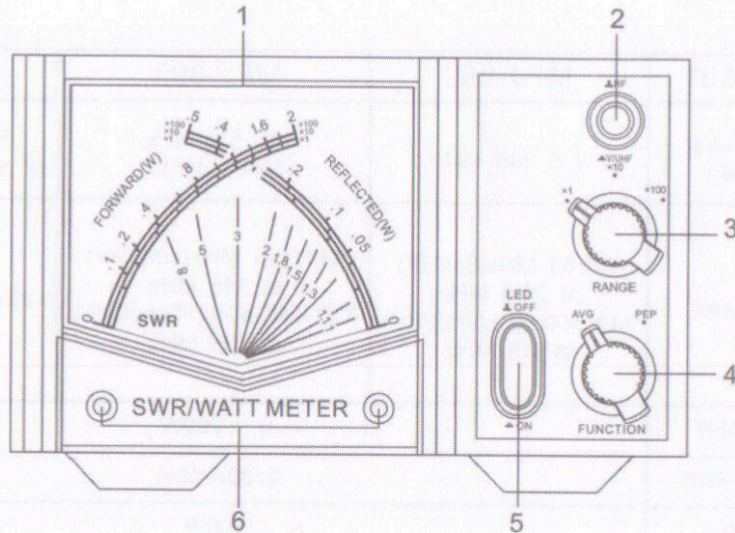
This wattmeter series offer many innovative features typically not found at this price level

- DC Grounded Antenna connector prevents electrostatic buildup.
- True Directional Coupler for increased accuracy over frequency.
- Low Bias Schottky Diode Detectors for increased linearity.
- Precision, large (104mm) Cross Needle Meter simultaneously displays forward and reflected power with SWR.
- Individual Meter Scales for each power range increase reading accuracy.
- Precision True Active PEP Circuit (MFJ-891)
- LED backlighting provides smooth, even illumination.
- Three Color Scale for improved readability.
- Rugged metal cabinet with speckled black finish and designer style grey injection molded front panel aesthetically complements modern transceivers.
- DC Power Cable Included.

## ■ Specifications

MODEL	MFJ-891	MFJ-892	MFJ-893	MFJ-894	MFJ-896
Frequency Range	1.6-60 MHz (6m/HF)	1.6-200 MHz	125-525 MHz (70cm/UHF)	1.6-525 MHz (2 sensors,102,402)	26-30 MHz
Center Calibrated	28.5 MHz	1.6-60 MHz(6m/HF) at 28.5 MHz 140-150 MHz(2m/VHF) at 145 MHz	140-150 MHz(2m/VHF) at 145 MHz 430-440 MHz(70cm/UHF) at 435 MHz	28.5/145/435 MHz	27 MHz
Power Range	0 - 2KW	0 - 200W			0 - 2KW
Power Scale	20/200/2KW	2/20/200W			20/200/2KW
Maximum Power	2KW	200W			2KW
Accuracy	± 10% of Full Scale or better				
Insertion Loss	Less than 1.2 : 1				
Min. Power (Forward)	1W				
Testing Function	Forward Power, Reversed Power, SWR, and PEP (MFJ-891's active PEP)				
Input/Output Impedance	50 ohm				
Connectors	M type		M type (N type optioned)		M type
Input power	9-14 VDC 200 mA maximum				
Dimension (W/H/D)	184(W) X118(H) X131(D) mm				
Weight (Net)	900g	910g	920g	1070g	840g

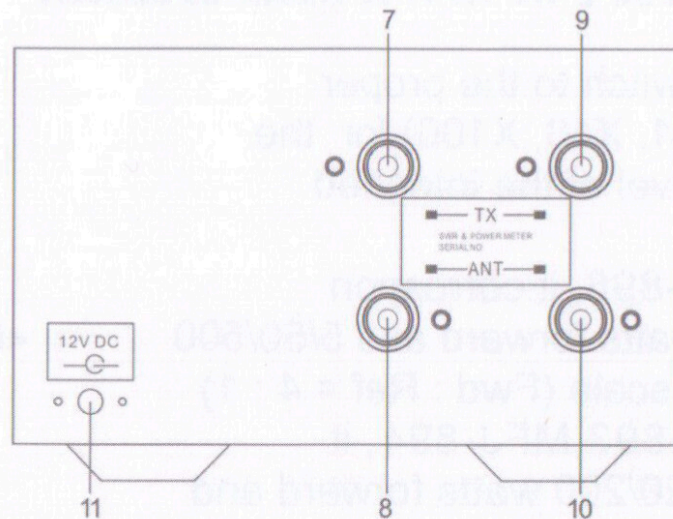
## ■ Front Panel



### <DESCRIPTION>

1. Indicator Display : Indicates FWD/REV power in watts and VSWR ratio
2. HF/VUHF band switch (black, round push button) :  
Select HF (out) or VUHF (depressed). Available on MFJ-894 only.
3. Range switch : Selects RF power range multiplier x 1, x 10, x 100
4. AVG/PEP switch : Select Average or SSB PEP
5. Indicator ON/OFF push button (elliptical) : LED backlight ON/OFF
6. Zero adjust screws of analog cross needle meter

## ■ Rear Panel



### <DESCRIPTION>

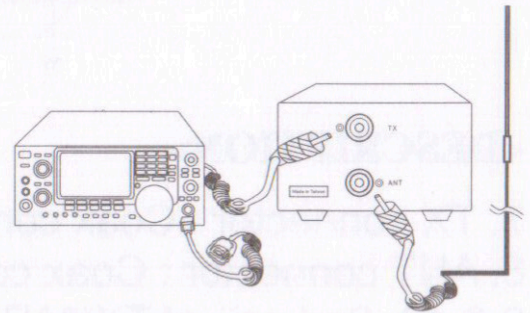
- 7. TX connector : Coax connector to transmitter 50 ohm RF output
- 8. ANT connector : Coax connector to 50 ohm antenna system
- 9 & 10. 2nd pair of TX/ANT connector : Available on MFJ-894 only
- 11. 13.8V DC connection (via power supply) for meter LED illumination

Note : DC power is only required to run the meter backlight or active circuitry in MFJ-891. Except MFJ-891, this meter will function without DC power in the AVG mode, even when switch off.

## ■ Forward /Reverse Pwr /SWR Measurement

- A. Set the RANGE switch to the proper meter multiplier (X1, X10, X100) for the expected power level of the intended measurement.
- B. In MFJ-891, MFJ-896, it corresponds to 20/200/2K watts forward and 5/50/500 watts reflected full scale (Fwd : Ref = 4 : 1)  
In MFJ-892, MFJ-893, MFJ-894, it corresponds to 2/20/200 watts forward and 0.5/5/50 watts reflected full scale (Fwd : Ref = 4 : 1)
- C. (Push or release) the HF/VUHF band push knob (black, round button) to the frequency of the intended measurement (corresponds to MFJ-894 only).
- D. Set the radio transceiver to transmit mode and read the scale corresponding to the RANGE selected

### <INSTALLATION>



- E. When switch to 'AVG', the meter reads average RF power. When switch to 'PEP', the meter reads Peak Envelope Power for use with SSB and AM transmissions. In this mode, there will be a slow rise and decay time.
- F. Push LED ON/OFF button when LED light is needed (in MFJ-891, it also activate PEP active mode).

**■ Caution**

1. Since the meter movement is very sensitive, avoid excessive vibration or mechanical shock to the meter.
2. Watch the absolute maximum power could be applied to the meter by different models you bought.
3. The meter must never be reverse connected. Always observe the correct connections to transmitter and antenna as indicated on the rear sockets.
4. Do not expose the meter to excessive temperatures, high humidity, or strong magnetic fields.
5. Contact your local dealer for service. Dealer information is in the back of user manual.



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## **MFJ** 12 MONTH LIMITED 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, cashiers check, or money order for \$7.00 covering postage and handling.
3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof-of-purchase and a \$8.00 personal check, cashiers check, or money order must be provided to cover postage and handling.
4. This warranty is NOT void for owners who attempt to repair defective units. Technical consultation is available by calling (662) 323-5869.
5. This warranty does not apply to kits sold by or manufactured by MFJ Enterprises, Inc.
6. 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.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ products.
8. 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.
9. This warranty is given in lieu of any other warranty expressed or implied.
10. 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.
11. 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.
12. This warranty gives you specific rights, and you may also have other rights which vary from state to state.