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› [Surecom SW-33 Mark II Digital VHF/UHF Power & SWR Meter Instruction Manual](#)

## Surecom SW-33 Mark II

# Surecom SW-33 Mark II Digital VHF/UHF Power & SWR Meter Instruction Manual

## 1. INTRODUCTION

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This manual provides detailed instructions for the operation and maintenance of your Surecom SW-33 Mark II Mini Digital VHF UHF Two-Way Radio Handheld Power & SWR Meter. This device is designed to accurately measure the forward power, reverse power, and Standing Wave Ratio (SWR) of your VHF and UHF radio systems. Proper use ensures optimal performance and longevity of your equipment.

## 2. PACKAGE CONTENTS

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Please verify that all items listed below are included in your package:

- 1x Surecom SW-33 Mark II Digital Power & SWR Meter
- 1x SMA Dummy Load
- 1x USB Charge Cable
- 1x English User Manual
- Various SMA adapters for compatibility

# Package Includes



Figure 2.1: A complete view of all items included in the product package.

## 3. PRODUCT OVERVIEW

The Surecom SW-33 Mark II is a compact and robust device designed for ease of use. It features a clear digital display and intuitive controls.

### 3.1 Physical Components

- **Top Connector:** Used for connecting antennas or dummy loads.
- **Bottom Connector:** Used for connecting to your radio device.
- **Power Button:** Located on the front, used to turn the device on/off and cycle through display modes.
- **Micro-USB Port:** Located on the top, used for charging the internal battery.
- **LED Indicator:** Next to the Micro-USB port, indicates charging status (red for charging, green for fully charged).
- **Digital Display:** Shows SWR, Forward Power (FW), and Reverse Power (RW) values.



Figure 3.1: Detailed diagram highlighting the main components and connection points of the SW-33 Mark II.

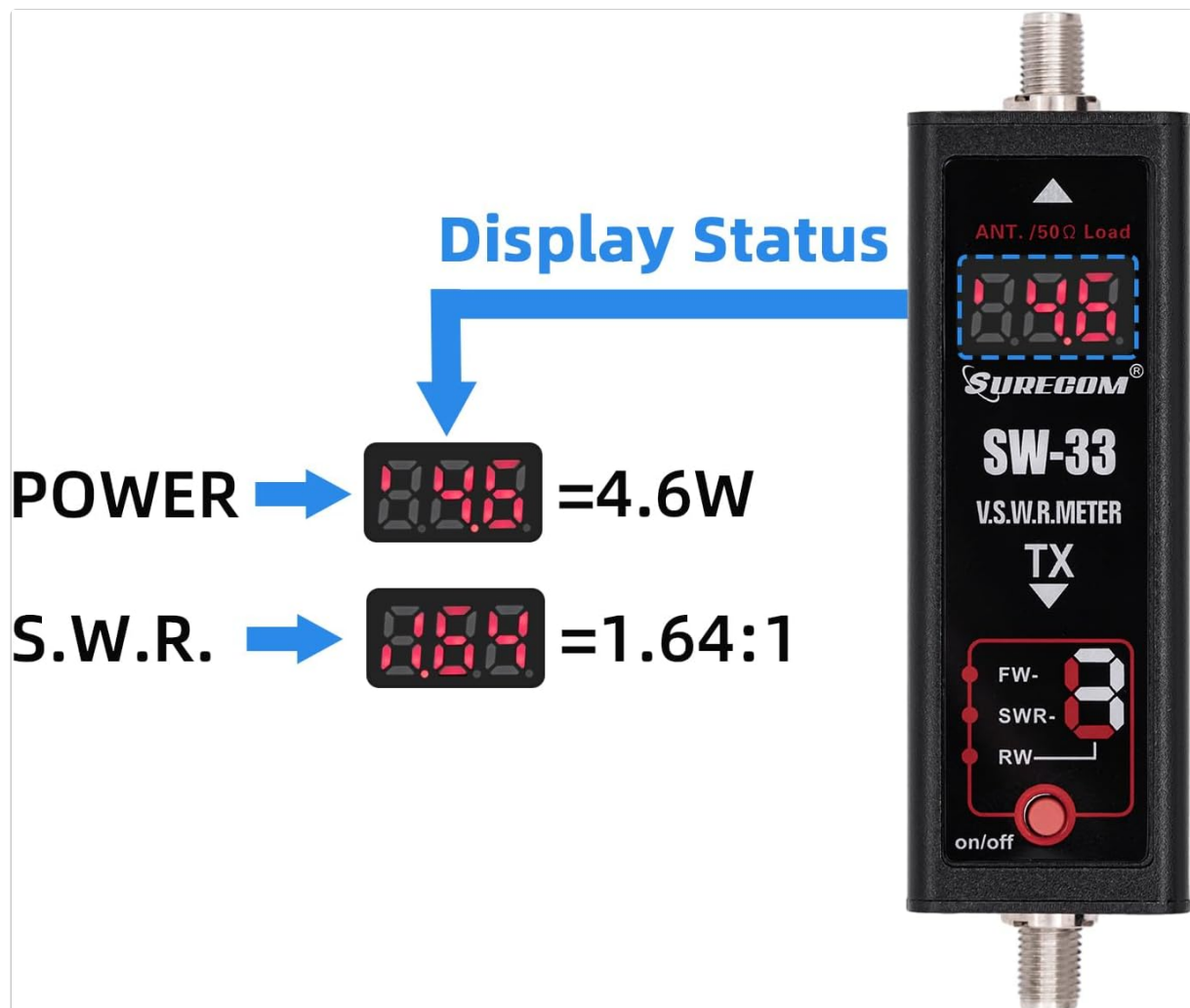


Figure 3.2: An illustration of the meter's display, indicating how power and SWR values are presented.

### 3.2 Initial Power-On Display

Upon startup, the meter's digital display will show three sets of values: SWR, Forward Power (FW), and Reverse Power (RW). You can cycle through these displays by briefly pressing the power button.

## 4. SETUP

### 4.1 Charging the Device

1. Locate the Micro-USB charging port on the top of the meter.
2. Connect the provided USB charge cable to the meter and a suitable 5V USB power source.
3. The LED indicator next to the port will illuminate red while charging.
4. The LED indicator will turn green when the battery is fully charged.

# Convenient USB Charge



Figure 4.1: The meter being charged via its convenient Micro USB port.

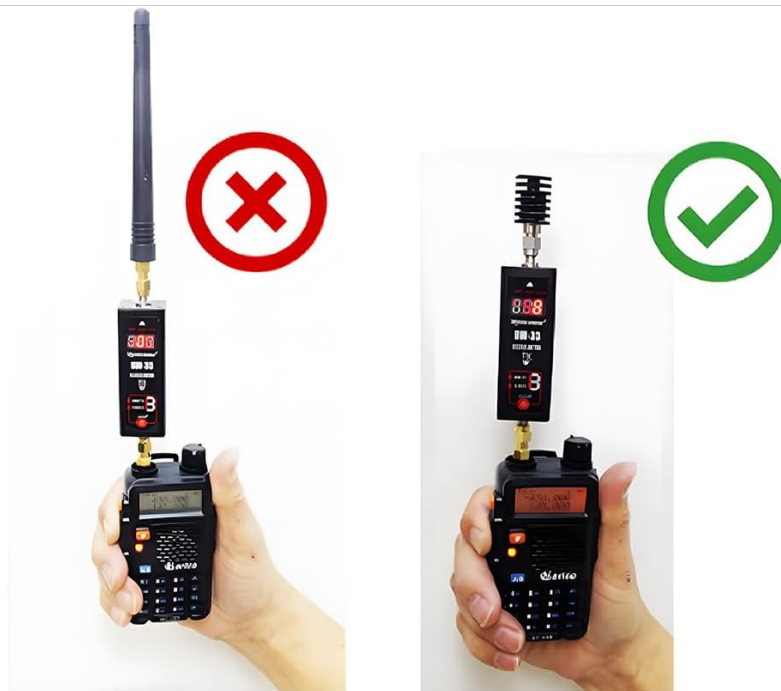
## 4.2 Powering On/Off

To power on the device, press and hold the power button for a few seconds until the display illuminates. To power off, press and hold the power button again until the display turns off.

## 5. OPERATING INSTRUCTIONS: POWER MEASUREMENT

Follow these steps to measure the RF power output of your radio device:

1. Ensure the meter is adequately charged.
2. Connect your radio device to the bottom connector of the SW-33 Mark II. Use appropriate adapters if necessary (included in the package).
3. Connect a suitable dummy load to the top connector of the SW-33 Mark II. Ensure the dummy load can handle the maximum power output of your radio.
4. Power on the SW-33 Mark II. Press the power button until the indicator light is at the top left, displaying FW (Forward Power) values.
5. Hold down the Push-To-Talk (PTT) button on your radio for a few seconds.
6. Observe the FW value on the meter's display. This indicates the forward power output of your radio.



## How to Measure Walkie-talkie TX Power

POWER →  = 4.6W

- 1) Select Power MODE:
- 2) Please make sure the Load is correct on meter
- 3) Please press PTT button on the walkie-talkie

Figure 5.1: Visual guide demonstrating the correct setup for measuring the transmit power of a two-way radio.

Your browser does not support the video tag.

Video 5.1: Demonstration of the SW-33 Plus 100W 125-525 MHz Power & SWR Meter, showcasing its features and operation for power and SWR measurements.

### 6. OPERATING INSTRUCTIONS: SWR MEASUREMENT

Follow these steps to measure the SWR of your antenna:

1. Ensure the meter is adequately charged.
2. Connect your radio device to the bottom connector of the SW-33 Mark II. Use appropriate adapters if necessary.
3. Connect the antenna you wish to test to the top connector of the SW-33 Mark II. Ensure the antenna is positioned vertically and there are no obstructions nearby.
4. Power on the SW-33 Mark II. Press the power button until the indicator light is at the middle left, displaying SWR values.
5. It is recommended to test with your radio device set to high power for more accurate results.
6. Hold the meter steadily and hold down the Push-To-Talk (PTT) button on your radio for a few seconds.
7. Observe the SWR value on the meter's display. An SWR value closer to 1.0 indicates better antenna performance and a good match.



## How to Measure Antenna S.W.R.

S.W.R. →  = 1.64:1

- 1) Select SWR MODE:
- 2) Place the antenna vertically, make sure there is no obstruction nearby
- 3) Please touch the metal box of the SWR meter with your hands
- 4) Please press PTT button on the walkie-talkie

Figure 6.1: Visual guide demonstrating the correct setup for measuring the Standing Wave Ratio (SWR) of an antenna.

Your browser does not support the video tag.

Video 6.1: A detailed guide on how to use the Surecom SW-33 meter for both power and SWR measurements with a two-way radio.

## 7. SPECIFICATIONS

<b>Product Dimensions</b>	7.28 x 1.77 x 4.8 inches
<b>Item Weight</b>	8.1 ounces
<b>Item Model Number</b>	msc-030048
<b>Batteries</b>	1 Lithium Ion battery required (included)
<b>Special Features</b>	UHF, VHF, Digital Readout
<b>Color</b>	Black
<b>Manufacturer</b>	Surecom

<b>Frequency Range</b>	125-525 MHz
<b>Maximum Power</b>	100W

## 8. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use harsh chemicals or abrasive cleaners.
- **Storage:** Store the meter in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** For optimal battery life, avoid fully discharging the battery frequently. Recharge the device regularly, especially if it will not be used for an extended period.
- **Connectors:** Keep connectors clean and free from dust or debris to ensure reliable connections.

## 9. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on	Low battery; Power button not pressed correctly	Charge the device; Press and hold the power button for a few seconds
Inaccurate SWR/Power readings	Loose connections; Incorrect adapter usage; Antenna not tuned; Radio power setting too low	Ensure all connections are secure; Use correct adapters; Adjust antenna for optimal SWR; Set radio to high power for testing
Charging LED not lighting up	Faulty USB cable/power source; Device already fully charged	Try a different USB cable or power source; Check if the LED is green (fully charged)

## 10. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation provided with your purchase or contact the seller directly. Keep your proof of purchase for any warranty claims.