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Model: FC-2800M

1. INTRODUCTION

The LATNEX FC-2800M is a portable, hand-held frequency counter designed for precise measurement of continuous carrier signals from various radio devices. It incorporates advanced features such as field strength measurement and a built-in CTCSS/DCS decoder, making it an essential tool for radio enthusiasts and maintenance personnel.

Key Features:

- Wide Frequency Range: 2MHz-2800MHz (including 100MHz-3000MHz for CB, Ham Radio, DMR).
- High Sensitivity: Capable of detecting weak signals.
- Built-in CTCSS/DCS Decoder: For identifying sub-audible tones.
- Field Strength Measurement: Provides signal strength indication.
- TCXO (Temperature Compensated Crystal Oscillator): Ensures high accuracy ($\pm 2 \sim \pm 4$ ppm in $-45^{\circ}\text{C} \sim 65^{\circ}\text{C}$ range).
- Compact and Portable Design: Easy to carry and operate with four-button control.
- Integrated Li-ion Battery: For extended portable use.
- GUI Battery Level Indicator: Clear display of battery status.

2. PACKAGE CONTENTS

Upon unboxing your LATNEX FC-2800M, please verify that all the following items are included:

- LATNEX FC-2800M Frequency Counter Unit
- Antenna
- AC Wall Charger
- Micro USB Cable
- Belt Clip



Figure 2.1: LATNEX FC-2800M Frequency Counter with included antenna, charger, and cable.

3. DEVICE OVERVIEW

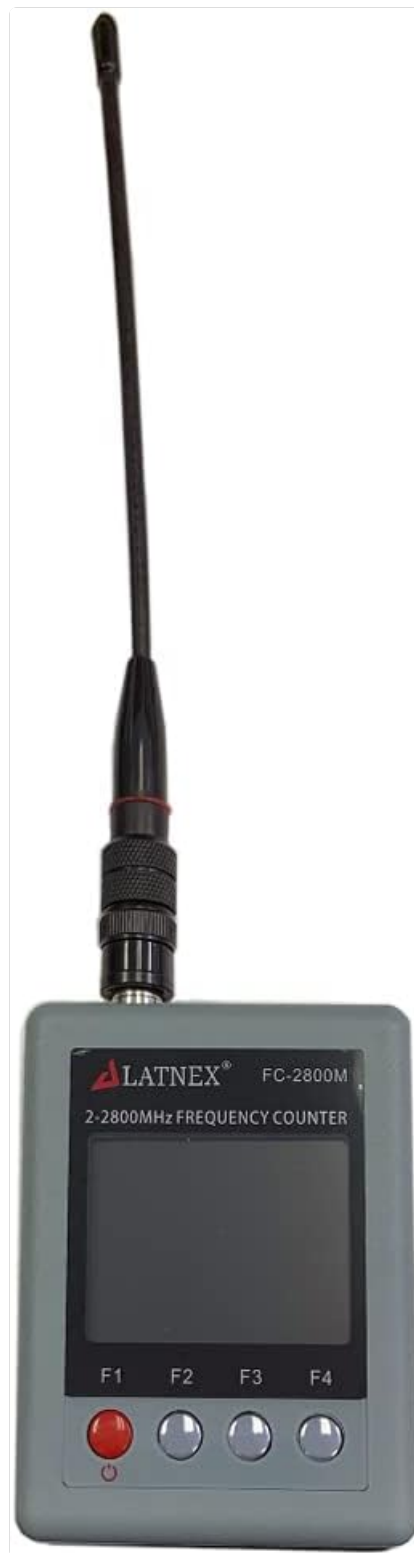


Figure 3.1: Front view of the LATNEX FC-2800M Frequency Counter, showing the display and four control buttons (F1-F4).



Figure 3.2: Side view of the LATNEX FC-2800M, highlighting the micro USB charging port and signal attenuation switch.

4. SETUP

4.1. Charging the Device

Before initial use, fully charge the FC-2800M. Connect the provided micro USB cable to the charging port on the side of the device (refer to Figure 3.2) and plug the AC wall charger into a power outlet. The indicator light will show charging status.

4.2. Attaching the Antenna

Screw the included antenna onto the BNC connector at the top of the FC-2800M. Ensure it is securely fastened for optimal signal reception.

5. OPERATING INSTRUCTIONS

5.1. Powering On/Off

Press and hold the red power button (F1) located at the bottom left of the device to power on or power off the FC-2800M.

5.2. Basic Frequency Measurement

To measure a continuous wave signal, ensure the antenna is attached. Place the FC-2800M near the transmitting radio device. The frequency will be displayed on the screen. For accurate readings, avoid placing the transmitting radio too close to the frequency counter.

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Video 5.1: Demonstration of basic frequency detection using a portable frequency counter. This video illustrates how to place the counter near a radio

to measure its transmitting frequency.

5.3. Using the Signal Attenuation Switch

If the displayed frequency appears unusually high or unstable, the incoming signal might be too strong. Locate the signal attenuation switch on the top of the device (refer to Figure 3.2). Push the switch to the right to weaken the incoming signal, which can lead to a more accurate reading.

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Video 5.2: This video demonstrates the unboxing, initial setup, and the use of the signal attenuation switch on a similar frequency counter. It also shows how to verify frequency readings with another radio.

5.4. Accessing System Settings

To access the system settings, press the 'Menu' button (F1) while on the main frequency display. Use the navigation buttons (F3 for Down, F4 for Up) to scroll through the options. Press 'Select' (F1) to enter a sub-menu or confirm a selection.

The 'System' menu contains various configurable options:

- **LCD Dim:** Adjusts the time (in minutes) before the screen dims.
- **Auto PowerOff:** Sets the time (in minutes) for automatic device shutdown.
- **Dimmer Level:** Controls the screen brightness when dimmed. Higher values result in a darker screen.
- **Display 3 or 4 Decimal:** Selects the number of decimal places for frequency display (3 or 4).
- **Frequency Offset:** Allows manual adjustment of the frequency reading.
- **CTCSS/DCS Offset:** Allows manual adjustment of CTCSS/DCS readings.
- **CTS Divide Base:** This setting is fixed at 2605 and should not be altered.
- **RF Detect Level (2-50):** Determines the sensitivity for frequency detection. A lower value (e.g., 2) detects more frequencies but may reduce reading accuracy. A value of 5 or above is recommended for stable readings.
- **Display Language:** Choose between English and Simplified Chinese.
- **DMR Frequency Offset:** Allows manual adjustment of DMR frequency readings.

After making changes, press the 'Menu' button again. You will be prompted to 'Exit' (F1) without saving, or 'Save' (F4) to apply changes and exit.

5.5. Restoring Factory Settings

To restore the device to its factory default settings:

1. Power off the FC-2800M.
2. Press and hold the red power button (F1).
3. Continue holding the button until "Restore default" appears on the screen.
4. Release the button. The device will power on with all settings reset to their default values.

6. ADVANCED TESTING CONCEPTS

While the FC-2800M is primarily a frequency counter, understanding related radio testing concepts can enhance its utility. The following video demonstrates SWR and power measurement using a different device, but the principles apply to ensuring optimal radio performance.

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Video 6.1: This video demonstrates how to use an SWR and power meter to test radio devices and antennas. It covers connecting the meter, transmitting, and interpreting SWR and power readings. While a different device is shown, the concepts of SWR and power measurement are universally applicable to radio systems.

7. MAINTENANCE

7.1. Cleaning

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents, as they may damage the casing or screen.

7.2. Storage

Store the FC-2800M in a cool, dry place away from direct sunlight and extreme temperatures. If storing for extended periods, ensure the battery is partially charged (around 50%) to prolong its lifespan.

8. TROUBLESHOOTING

- **Inaccurate Frequency Readings:**
 - Ensure the antenna is securely attached.
 - Adjust the signal attenuation switch if the signal is too strong (refer to Section 5.3).
 - Check the RF Detect Level in system settings (refer to Section 5.4).
 - Ensure the transmitting radio is not too close to the frequency counter.
- **Device Not Powering On:**
 - Verify the battery is charged. Connect to the charger and check the indicator light.
 - Ensure the power button is pressed and held sufficiently (refer to Section 5.1).
- **Screen Dimming Too Quickly/Slowly:**
 - Adjust the 'LCD Dim' and 'Dimmer Level' settings in the 'System' menu (refer to Section 5.4).

9. SPECIFICATIONS

Feature	Detail
Model Number	FC-2800M
Brand	LATNEX
Item Weight	9.7 ounces
Package Dimensions	7.17 x 4.96 x 1.85 inches
Batteries	1 Lithium Ion battery required (included)
Color	Black, Grey
Number of Channels	1
Special Feature	Portable, UHF
Frequency Range	2MHz-200MHz, 27MHz-2800MHz
Talking Range Maximum	9 Meter
Voltage	3.7 Volts
Water Resistance Level	Waterproof
Compatible Devices	FRS two-way radios, UHF devices, VHF devices

10. WARRANTY INFORMATION

The LATNEX FC-2800M Frequency Counter comes with a **2-year warranty** from the date of purchase. This warranty covers manufacturing defects and ensures reliable performance under normal use. Please retain your proof of purchase for warranty claims.

11. SUPPORT

For further assistance, technical support, or warranty inquiries, please contact LATNEX customer service through the official channels provided with your product or visit the LATNEX website.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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