Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

Aramox PLJ-8LEDH

Aramox PLJ-8LEDH RF Frequency Counter User Manual

Model: PLJ-8LEDH

1. Introduction

The Aramox PLJ-8LEDH is a cost-effective frequency display component designed for precise frequency measurement. It features an 8-bit digital tube display and is primarily used for displaying frequency values in transceivers and other equipment, as well as for general frequency measurement tasks. This device offers a compact design, reliable performance, and clear visual feedback.

Key Features:

- Equipped with Microchip's PIC16F648A microcontroller, enabling 2.4 GHz frequency measurement.
- Utilizes a temperature-compensated voltage-controlled crystal oscillator (2.5 ppm VC-TCXO) for enhanced accuracy.
- Features a unique gate control and time algorithm for precise frequency acquisition.
- Adjustable gate (display refresh) times: 0.01 seconds, 0.1 seconds, and 1.0 seconds, providing real-time frequency value display.
- Single-ended input design with three measurement channels: Low Channel, High Channel, and Auto Channel.
- Dual frequency design allows separate presetting of value and IF/down modes.
- Eight 0.56-inch high-brightness digital displays with eight adjustable brightness levels.
- Simple two-button control for straightforward operation.
- Automatic saving of settings, with direct recall upon boot-up.

2. Product Overview

The PLJ-8LEDH frequency counter is a compact circuit board with integrated digital displays and control buttons. It is designed for integration into various electronic projects or as a standalone measurement tool.

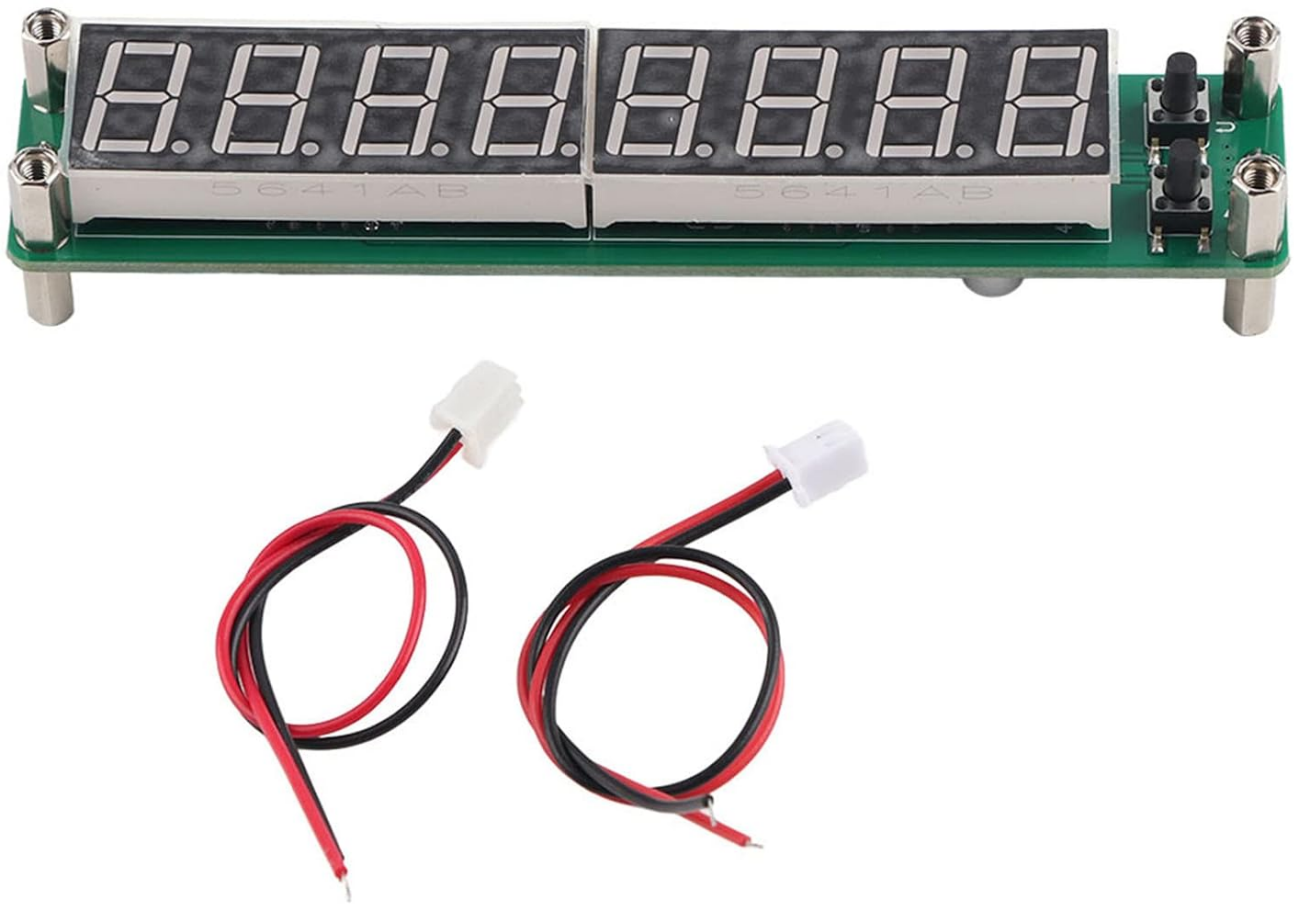


Figure 1: Front view of the Aramox PLJ-8LEDH RF Frequency Counter, showing the eight-digit blue backlit display and control buttons.

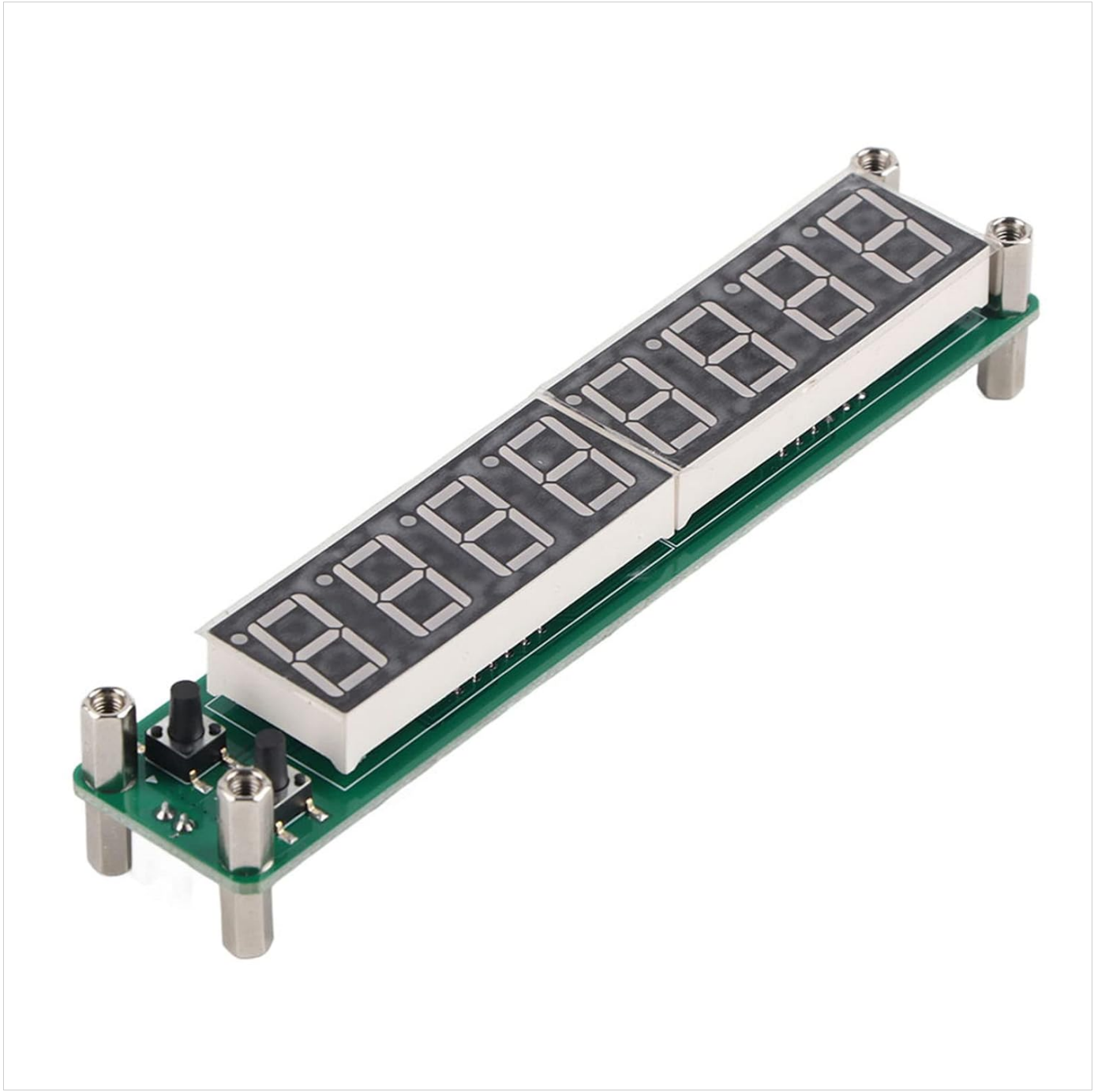


Figure 2: Angled view of the frequency counter, highlighting its compact form factor and the two control buttons on the right side.

3. Setup and Installation

The PLJ-8LEDH is a component designed for integration. Proper installation requires basic knowledge of electronics and soldering. Ensure the device is powered correctly according to its specifications (typically 5V DC) and connected to the signal source via appropriate input channels.

1. **Power Connection:** Connect a stable 5V DC power supply to the designated power input pins. Observe correct polarity.
2. **Signal Input:** Connect the signal to be measured to the appropriate input channel (Low, High, or Auto). Ensure the signal amplitude is within the acceptable range for the chosen channel to prevent damage.
3. **Mounting:** Secure the module in your desired enclosure or setup using the mounting holes provided.

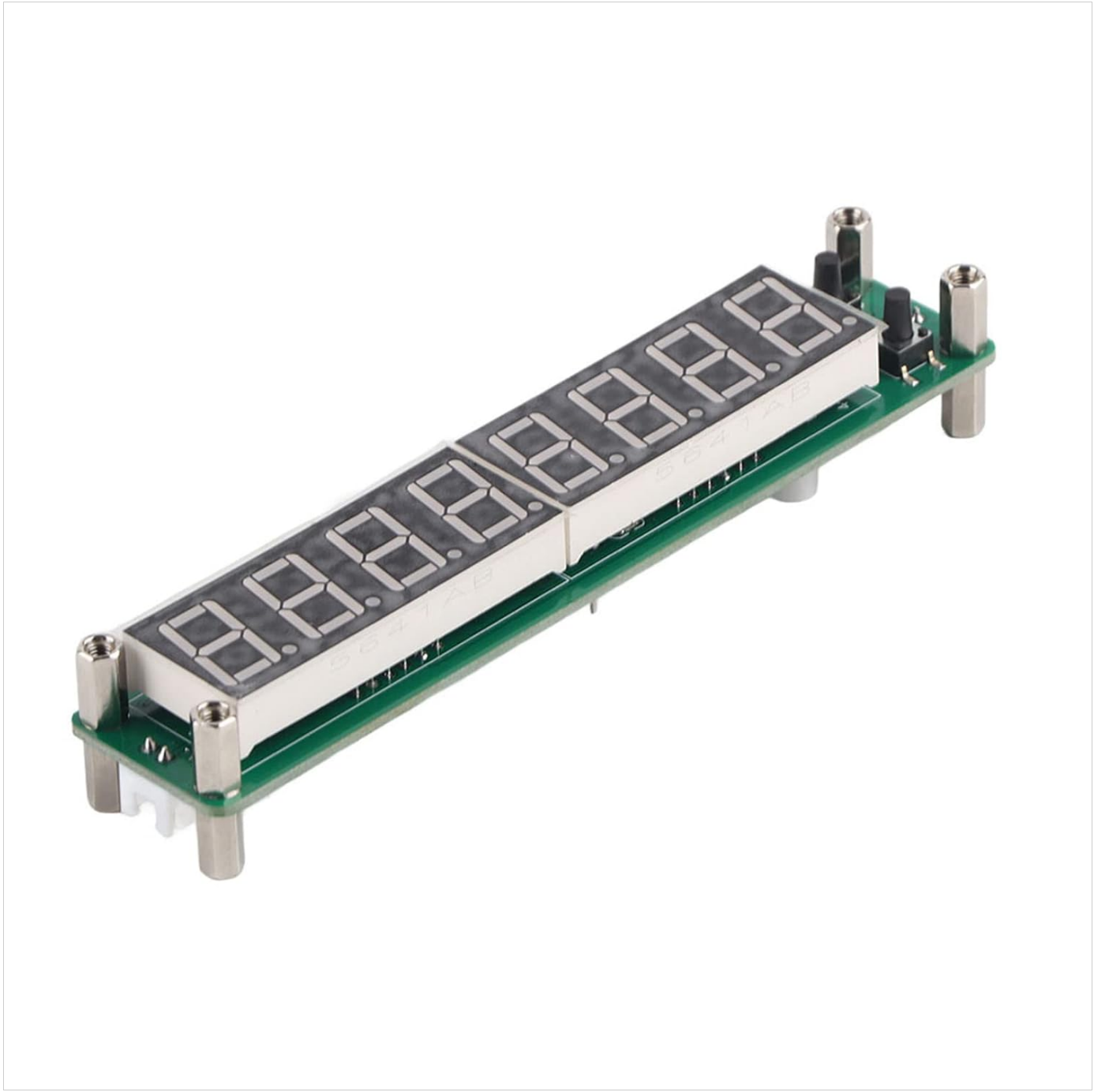


Figure 3: Rear view of the frequency counter, illustrating the circuit board and potential connection points for power and signal input.

4. Operating Instructions

The PLJ-8LEDH operates with two control buttons. These buttons are used to adjust settings such as gate time, measurement channel, and display brightness.

4.1 Gate Time Selection

The gate time determines how long the frequency is sampled before the display updates. Shorter gate times provide faster updates but may have lower accuracy, while longer gate times offer higher accuracy with slower updates.

- **0.01 S:** Fastest refresh, suitable for quick observations.
- **0.10 S:** Balanced refresh and accuracy.
- **1.0 S:** Highest accuracy, suitable for stable frequency measurements.

Use the control buttons to cycle through and select the desired gate time.

4.2 Measurement Channels

The device offers three measurement channels, each optimized for different frequency ranges:

- **Low Channel:**
  - Measuring range: 0.1 MHz ~ 60 MHz
  - Accuracy: ± 100Hz (0.01s gate), ± 10Hz (0.1s gate), ± 1Hz (1.0s gate)
  - Sensitivity: Better than 60mVPP (0.1 MHz ~ 60 MHz)
- **High Channel (divided by 64):**
  - Measuring range: 20 MHz ~ 2.4 GHz
  - Accuracy: ± 6400Hz (0.01s gate), ± 640Hz (0.1s gate), ± 64Hz (1.0s gate)
  - Sensitivity: Better than 100mVPP (20 MHz ~ 30 MHz), Better than 50mVPP (30 MHz ~ 60 MHz)
- **Auto Channel:** Automatically selects the appropriate channel based on the input signal frequency.

Select the appropriate channel using the control buttons based on the frequency range of the signal you are measuring. For unknown frequencies, the Auto Channel is recommended.

4.3 Display Brightness Adjustment

The eight 0.56-inch digital displays have adjustable brightness levels. Use the control buttons to increase or decrease the display brightness to suit your viewing environment.

5. Specifications

Feature	Specification
Model	PLJ-8LEDH
Frequency Range (Low Channel)	0.1 MHz ~ 60 MHz
Frequency Range (High Channel)	20 MHz ~ 2.4 GHz
Accuracy (Low Channel, 1.0s gate)	± 1 Hz
Accuracy (High Channel, 1.0s gate)	± 64 Hz
Gate Time Options	0.01 S, 0.10 S, 1.0 S
Display Type	Eight 0.56-inch digital tubes
Display Color	Blue (for this variant)
Power Supply	5V DC (typical, not explicitly stated but implied for such components)
Dimensions	Approximately 5.12 x 1.18 x 1.18 inches
Weight	Approximately 1.66 ounces

6. Maintenance

The PLJ-8LEDH frequency counter is designed for low maintenance. To ensure optimal performance and longevity:

- Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning.

- Avoid exposing the device to extreme temperatures, humidity, or corrosive environments.
- Ensure proper ventilation if integrated into an enclosure to prevent overheating.
- Do not attempt to disassemble the unit beyond what is necessary for installation, as this may void any potential warranty and could damage the sensitive components.

7. Troubleshooting

If you encounter issues with your PLJ-8LEDH frequency counter, consider the following common troubleshooting steps:

- **No Display:**
  - Verify that the power supply is correctly connected and providing the specified 5V DC.
  - Check for any loose connections or damaged wires.
- **Inaccurate Readings:**
  - Ensure the signal input is connected to the correct channel (Low, High, or Auto) for the frequency range being measured.
  - Check the signal quality and amplitude. Weak or noisy signals can affect accuracy.
  - Select a longer gate time (e.g., 1.0 S) for higher accuracy measurements.
  - Confirm that the input signal is within the specified sensitivity range for the chosen channel.
- **Display Flickering:**
  - This might indicate an unstable power supply or a very rapidly changing input frequency.
  - Try adjusting the display brightness.

If problems persist after attempting these steps, contact customer support for further assistance.

8. Warranty and Support

For warranty information or technical support regarding your Aramox PLJ-8LEDH RF Frequency Counter, please refer to the documentation provided with your purchase or contact Aramox customer service directly. Keep your purchase receipt as proof of purchase.
You can visit the Aramox Store on Amazon for more information or to contact support.

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.

Name

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

Open the live page

https://manuals.plus/asin/B0D2JB538W

More documents and user manuals: **https://manuals.plus/**