

# OPTOELECTRONICS, INC

## M2 Frequency Counter User Guide

**BATTERY/POWER:** The M2 includes 3 x AAA rechargeable Ni-Mh batteries, the rear battery compartment is accessible with a philips screwdriver. The M2 batteries may require charging before use. The included power supply charges the battery connecting at the port on the side of the unit. When the power adaptor is connected the upper right red LED will indicate battery charging. M2 can be used while charging. The battery level indicator at top right of LCD display will show battery level and charge. The M2 has optional auto power off function that will power off unit if not used for 5 minutes. If unit is stored and not in use it is recommended to remove batteries from the unit for storage. You may use both alkaline and Ni-Mh batteries.

**\*\*IMPORTANT: DO NOT CONNECT EXTERNAL POWER IF ALKALINE BATTERIES INSTALLED/ONLY CONNECT EXTERNAL POWER IF RECHARGEABLE NI-MH BATTERIES INSTALLED OR NO BATTERIES INSTALLED. M2 PORT ONLY FOR POWER ADAPTOR/M2 HAS NO PC CONNECTIVITY.**

**BUTTONS:** M2 has 3 Function Buttons below LCD display to operate unit:

LEFT - F1 / CENTER - F2 / RIGHT - F3

**POWER ON/OFF:** Press F1 for 2 seconds to power on. Press F1 for 2 seconds to power off.

**BACKLIGHT:** Press F1 to turn on Backlight/Press F1 again to turn off Backlight

Backlight will auto turn off if no use in 5 minutes to save power

**USER MENU - SET UP:**

**BUTTON FUNCTIONS IN USER MENU:**

**F1/EXIT/SEL** - Exit User Menu/Return to previous Menu/Confirms Menu Selection

**F2/SEL** - Confirms Menu Selection/after Selection, auto return to Menu/Scrolls

**F3/NEXT** - Scrolls to next User Menu item/select options

To enter User Menu, Press F2

**MENU OPTIONS: RANGE/GATE/HOLD/SAVE/VIEW/AUTO OFF/LED/CAL**

**RANGE** Press F2 to select RANGE in Menu, Press F3 to scroll to select frequency measurement range, Press F2 for Selection.

**GATE** Press F2 to select GATE in Menu, Press F3 to scroll to select desired gate time, Press F2 for Selection.

**HOLD** Press F2 to select HOLD in Menu, Press F3 to scroll to ON or OFF for ON/Auto or OFF/Manual HOLD. If ON/Auto Hold selected, then press F2/F3 to increase/decrease to desired Signal Strength level percent for Auto Hold threshold and then press F1 for Selection. When OFF/Manual Hold is selected, Hold is enabled by using F3 during use manually.

**SAVE** Press F2 to select SAVE in Menu, Press F3 to scroll to ON/Auto or OFF/Manual SAVE of detected Frequency and Signal Strength to Memory. If ON/Auto selected, Freq/SS readings at/over SS Level selected in ON/HOLD Option saved automatically into Memory, if OFF/Manual selected, Freq/SS readings saved manually: Press F3 to hold detected Frequency and Signal Strength reading on display/Press F3 to stop hold. While in HOLD mode, the Freq/SS reading can be saved in memory by

pressing F2/SAVE. Max 50 Memory capacity with override as more frequencies saved.

**VIEW** Press F2 to select VIEW in Menu to display Saved Freq/SS in Memory. Press F2 or F3 to scroll data. Press F1 to return to Menu.

**AUTO-OFF** Press F2 to select AUTO OFF in Menu, Press F3 to scroll to Select ON for auto power off if no use in 5 minutes, or OFF to disable this function, Press F2 for Selection.

**LED** Press F2 to select LED Set in Menu, Press F3 to scroll to select ON or OFF. ON for green LED above display to flash when a frequency is detected and OFF to disable green LED flashing when frequency detected. Press F2 for selection.

**CAL** Press F2 to select CALIBRATION SET in Menu, Press F3 to scroll to select YES or NO. For YES to CAL SET, connect counter to a standard frequency source and use F2/F3 to increase/decrease to adjust calibration until unit frequency display is the same as the standard frequency. Press F1 for selection when completed.

### **SPECIFICATIONS:**

Frequency Range	10 Hz-2.6GHz
Gate Times	10 Hz-100MHz: 0.01s/0.1s/1s 50 MHz-2.6GHz: 0.1ms/0.1s/1s
Input Impedance	10 Hz-50 MHz: 100 Ohm 50 MHz - 2.6 GHz: 50 Ohm
Max Input	+15dBm (50mW)
Frequency Time Base	+/- 5ppm initial accuracy
Power Requirements	5V/1A
Battery	Rechargeable 3xAAA Ni-MH

### **PACKAGE CONTENTS:**

M2 Frequency Counter with 3 x AAA Ni-MH rechargeable batteries installed

Rubber Duck Antenna

Power Adaptor with cable

### **PRODUCT WARRANTY**

Optoelectronics, Inc. warrants all products for 90 Days against defects in materials and workmanship to the original purchaser. Products returned for warranty service will be repaired/replaced at Optoelectronics' option. Specifically excluded are any products returned under warranty that upon examination have been modified, had unauthorized repairs attempted, have suffered damage to the input circuitry from application of an excessive input signal, have suffered damage to the charging circuitry or internal batteries from the application of excessive voltage, or show other evidence of misuse or abuse. Optoelectronics reserves sole right to make this determination. No other warranties are expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Optoelectronics, Inc. is not liable for consequential damages. Products under warranty must be returned, transportation prepaid, to Optoelectronics' service center with an RMA Authorization. Request RMA at [sales@optoelectronics.com](mailto:sales@optoelectronics.com).

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