



## M3™ User's Guide

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### Technical Support

ComSonics maintains a Technical Support Service for customer convenience. Representatives may be contacted Monday - Friday: 8:00 a.m. - 5:00 p.m. Eastern Time by phone at 1-800-336-9681 or 540-435-4352; or by E-Mail at [Tech-Support@ComSonics.com](mailto:Tech-Support@ComSonics.com).

Product information and software updates are available for download at [www.ComSonics.com](http://www.ComSonics.com)

## Introduction

The ComSonics M3™ is a powerful tool typically used for troubleshooting hard to find leakage sources and for qualifying the shielding integrity of cable plant. The M3™ name is short for “Mobile Mini Marker”. As the name implies, the M3™ is a small portable device which generates a unique marker that is injected directly into the cable plant. The marker is adjustable in power level and can be switched to 3 different frequency bands. This unique marker illuminates any shielding integrity flaw in a cable plant that contains the injected marker signal and can be readily detected using any of ComSonics’ handheld leakage detection devices.

## General Operation

The M3™ has a single button operation located on the end panel of the box with corresponding LED lights to indicate the current configuration. See Figure 1.

### Turning the Unit On and Off:

The M3™ is turned ON by simply pressing the “Selector” which is the small white button on the left side below the LEDs shown in the adjacent photo. The LED labeling is located on the top of the box. To power off the device, push the button again and hold for 5 seconds. The LED lights will turn off after the 5 second button push indicating that the unit has powered down.



**Figure 1: M3 End Panel**

### Frequency Band and Power Settings

The M3™ has six possible combinations of power and frequency band settings. There are 3 pre-programmed frequency bands and two pre-programmed power settings. The band frequencies and power levels can be set using the M3 configuration utility software. The frequency settings are the following bands: (B1) VHF: 136 MHz to 141 MHz, (B2) UHF1: 606 MHz to 614.5 MHz, and (B3) UHF2: 720 MHz to 1,200 MHz. The power level can be adjusted from +40dBmV to +60dBmV on each of the two power level settings.

Repeatedly pushing the selector button will cycle through each of the possible frequency and power settings. The LEDs on the end panel indicate the current state of the unit. The B1, B2, and B3 LEDs represent each of the frequency bands. The LEVEL LED on the far left is used to indicate the power output level. The power level is indicated by the color of the LED: Green is PWR level 1 (default = +60 dBmV), Red is PWR level 2 (default = 40 dBmV)

### **Battery Charge Level**

The M3™ uses the 4 LEDs starting on the left side to also indicate the battery level. Each time the Selector button is pushed, the LEDs will briefly show the battery charge level before changing to indicate the frequency and power level setting. If the 4 LEDs light amber, the battery is fully charged. The number of LEDs lit will reduce proportionally as the battery life decreases.

### **Operating the M3™**

The M3™ is very easy to use. The basic steps are:

- (1) Connect the unit to the desired portion of the cable plant to test.

#### **WARNING**

It is very important to note that marker generated from the M3 is **NOT** compatible with existing channels and will cause severe distortion if injected into cable plant that contains live channel streams. The M3 should be connected to the portion of the cable plant under test that has been disconnected / isolated from the live cable feed.

- (2) Turn the M3™ on using the Selector button.
- (3) Cycle the button until the desired frequency and power level are achieved.

Once the M3™ is connected and set properly, the user can then use any of ComSonics' handheld leakage detectors to find weak or defective cable shielding within the cable plant under test. These include the QAM Sniffer™, QAM Shadow™, and QAM Compass™. When using these handheld devices with the M3™, be sure to set them in their M3 detection modes.

### **Battery Charging and Care**

An internal Lithium Ion rechargeable battery powers the M3™. Charge the battery for a minimum of three hours before using the unit for the first time. The battery charging port is within a small hole on the main LED/Control panel. Only use the included AC Charger or the optional DC Charger. Use of other chargers may cause equipment failure, create a safety hazard, and void the warranty. An "AMBER" Power LED indicates charging while a "GREEN" Power LED indicates full charge.

The unit will automatically power off to protect the battery from excessive discharge after 90 minutes of non-use.

### **M3™ Configuration Utility**

The M3™ operates in conjunction with the ComSonics handheld leakage detection units. Therefore it is important that the programmed frequency of the M3™ exactly matches the frequency band settings of the handheld units. This is accomplished by using the M3™ Configuration Utility operating on a PC platform. The M3™ is connected to the PC running the configuration file via a standard mini-USB cable.

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The mini-USB connection on the M3™ is located on the other end panel next to the RF output connector.

## Download and Install

The utility is available for download at [www.ComSonics.com](http://www.ComSonics.com). New users must create a user ID and password to gain access to the site. On the Downloads tab under the “Software and Drivers” section, select the M3 link. Locate and download the M3 Configuration Utility Installation file to your PC. When the download is complete, extract and install the required files. After the file extraction is completed, double-click on the Setup.exe icon to begin. Follow the on-screen prompts to complete the installation process. When the installation is complete double-click the M3 Configuration Utility icon.

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Safely package products returned for repair, calibration, etc. Please enclose contact information as well as a brief description of the reason for return. Ship product prepaid to:

ComSonics, Inc.  
1350 Port Republic Road  
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