

## SEARCH OR SURVEY WITH THE ML-1

When searching for a target, walk slowly, sweeping the locator back & forth in front of you. If your target is small or very deep, use a higher Gain setting and walk slower sweeping the locator from side to side on a slow motion. Normally a medium setting on the GAIN and a little less than normal walking pace will do fine.

NOTE: Any 'ferrous' metal objects on your person, such as watches, pocket knives, large belt buckles, cell phones and steel-toed shoes will interfere if the locator is brought to close to them, or is operated on the higher setting.

## "PIN-POINTING" THE TARGET

Upon locating the target using the "Search or Survey" method, you can detect the exact location of a target such as a "PK", "Mag Nail", or other steel or iron target by following these steps:

1. Change the GAIN setting to the lowest setting that will still define the target, by using the "GAIN UP" or "Gain Down" button.
2. Bring the locator to a vertical position by simply allowing it to swing vertical, while you hold the unit loosely by the handle.
3. Move the locator back & forth in such a fashion as to create an imaginary "X" pattern over the target.
4. Move the center of the imaginary "X" directly over the target by positioning the crossing position of the "X" at the "Peak" of the signal response.

## REPLACING THE BATTERIES

The ML-1 does not have a Low Battery indicator, erratic behavior, such as no Gain change and unable to turn the unit off, can be an indication of this condition.



The ML-1M produces a "flashing" battery icon in the lower right corner of the LCD, this is an indication that only 5% of battery life is remaining and you should replace batteries soon.

1. Remove and disposed the old batteries. Look for the "+" and "-" markings in the battery box and insert the new batteries accordingly.
2. Once both batteries are installed and you double-checked the polarity of both batteries, check for correct operation of the instrument.
3. Once operation is verified, replace the battery box cover. You can use a coin to turn the capture screw in the battery box cover, do not over-tighten.

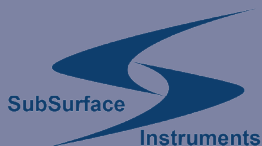
## 7-YEAR WARRANTY

The ML-3L and ML-3S are guaranteed to be free of defect in materials and workmanship for 7 years to the original end user/purchaser.

Only authorized SSI repair personnel can repair units. Abuse, battery acid and water damage are explicitly excluded from warranty.

SubSurface Instruments, it's owners, employees and assigns shall not be liable for any action, inaction, injury, property or consequential damage sustained or expenses incurred from the use or misuse of this product.

Liability under this warranty is absolutely limited to repair, service or replacement of the instrument, at the sole discretion of SubSurface Instruments. No other warranty is expressed or implied.



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## INSTRUCTION MANUAL



ML-1 & ML-1M  
MAGNETIC LOCATORS



## ML-1 SERIES Magnetic Locators

The ML-1 M is one of SSI's longest-enduring and industry-leading products for magnetic detection. Whether you're seeking corner markers (iron or steel), well casings, steel drums or septic tank handles, this is the go-to magnetic locator for you.

And for good reason. The ML series offers simple one-handed operation with an easy-to-learn keypad featuring only three buttons - no menus or cumbersome instructions to follow. The audio unit has the volume built into the on/off key; just hold down the key while it cycles through the settings. The ML-1 M features strong mono-tube construction, providing structural integrity you can count on.

In addition to the features of the original ML-1, the ML-1 M is metered, offering you added features without added complexity. The digital meter provides for visual signal strength, polarity indication, gain setting plus battery life display. These versions are engineered to operate identically with the same controls.

### MODEL VERSIONS

Model	Meter	Low Batt.
ML-1	NO Meter	No Indicator
ML-1 M	LCD Display	Flashing Icon

### LOCATOR OPERATION

Turn the power on or off by pressing the ON/OFF button on the keypad. Press and hold the same button to increase the volume. To change the Gain (sensitivity) settings, repeatedly press the gain up button to increase the sensitivity, and the gain down button to decrease the sensitivity.

Each push of the gain button changes the sensitivity up or down ONE increment at a time, out of 8 possible settings. A microprocessor remembers the gain settings, and when turned back on, the locator returns to the last used setting before it was turned off. If you are using the ML-1 and don't know what gain setting you're on, press the gain down button several times (more than 7), to ensure that you are on the lowest setting. Then press the gain up button and count up to 7 (or vice versa down from the highest setting.) If starting from the lowest setting, 3 or 4 clicks up is a good setting to begin locating. Use the LCD Display on the ML-1 M to determine the gain setting and signal strength of the unit.

*(All of our "ML" series locators have sensitivity settings that are more 'linear'. Beware of competitor models which take larger non-linear 'jumps' between settings, which give the impression that their unit is more sensitive on lower settings.)*

## ML-1 SERIES KEY FUNCTIONS



1 Polarity Display

2 Gain Strength Display

3 Signal Strength Display

4 Speaker

5 Power/Volume Button

6 Gain Control Up-Down



## USING THE ML-1 KEYPAD

### Microprocessor Control:

The volume and Gain settings are set in the processor memory. It remembers the last settings used. So when you turn the unit back on, it will be adjusted to your previous settings.

### Polarity & Signal Strength:

Displays the polarity symbol and the strength of the signal by increasing the bar count to the specific polarity direction, until the maximum strength is reached.

### Gain Display:

It displays the sensitivity level at what the unit is currently operating. It shows 8 different bars, representing each sensitivity level.

### Speaker:

The speaker volume is controlled by pressing and holding down the ON/OFF button. It will cycle from "Low" to "High". Repeating the cycle until the button is released. Release the button at the desired volume, this setting contains 7 different volume levels, allowing you to adjust the unit's settings to your desired working conditions.

### Power ON/OFF/VOL:

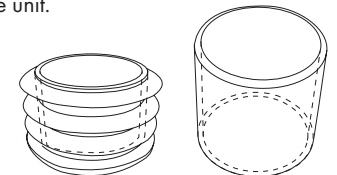
Press this button once to turn the unit "ON" and "OFF". It also controls the volume.

### Gain (Sensitivity) Controls:

Depress the button with the "Down Arrow" to decrease the sensitivity and depress the "Up Arrow" button to increase the sensitivity. There are 8 sensitivity levels and they will change one click at a time.

## MAINTENANCE

To ensure the correct functionality of your unit, make sure the Crutch tip and end cap are in good condition, these will prevent water and dust to enter the unit.



SubSurface Instruments, offers extra accessories to replace damaged parts like battery packs, battery caps, crutch tips and end caps.

You will find more information about our Magnetic Locators at:

[www.ssilocators.com](http://www.ssilocators.com)