Introduction

This guide describes the operation of the VM-540 Sonde locator. Sondes are small transmitters that are inserted into non-metallic pipes and ducts. The radiated signal from the Sondes can be detected using the VM-540 Receiver. The VM-540 can also be used to detect integral Sondes that are used in sewer inspection systems such as the vCam and vCamLSR.

Sonde frequencies available are:

- 50/60Hz
- 512Hz
- 640Hz
- 33 kHz

Note: Other frequencies are available upon request.

Receiver Display Functions

1. Battery Level Indicator
2. Speaker Level Indicator
3. Percentage Signal Level
4. Selected Sonde Frequency
5. Signal Level Indicator
6. Sensitivity Setting Indicator

Changing Batteries

1. A low battery is indicated by the icon of the receiver display.
2. To replace the batteries, unscrew the end cap on the handle end of the VM-540.
3. Remove and replace BOTH batteries with fresh 1.5V alkaline AA (LR6).
4. Replace end cap.

Service Center Information

If the equipment does not function properly, replace the batteries as described above. If the equipment still malfunctions, contact one of the Vivax-Metrotech Customer Service departments, or call the factory for the nearest authorized Vivax-Metrotech repair station.

Disclaimer: Product and accessory specification and availability information is subject to change without prior notice.
**Optional Accessories Sondes**

- **D18-33-SR44 Sonde**
  - 0.75in (18mm) x 3.1in (80mm) long, 33 kHz, range 20ft (6m).
  - 2 x button cell batteries

- **D22-09-LR61 Sonde**
  - 0.875in (22mm) x 4.5in (114.3mm) long, 9.82 kHz, range 15ft (4.5m).
  - 4 x LR61 batteries

- **D38-33-AA Sondes**
  - 1.5in (38mm) x 4.1in (105mm) long, 33 kHz, range 16.3ft (5m).
  - 1 x AA battery

- **D44-33-LR61 Sonde**
  - 2.5in (64mm) x 7.3in (186mm) long, 33 kHz, range 26ft (8m).
  - 1 x LR61 battery

- **D64-09-LR61 Sonde**
  - 2.5in (64mm) x 7.3in (186mm) long, 9.82 kHz, range 26ft (8m).
  - 1 x LR61 battery

- **D23F-512-AA/D23F-640-AA Sonde**
  - 1in (23mm) x 18in (456mm) long, range 20ft (6m).
  - “Flexible (3 section) Sonde with optional 512Hz or 640Hz for use in cast iron pipes.”
  - 1 x AA battery

**Power Mode Operation**

Switch on the receiver by pressing the ON/OFF pushbutton. Allow the unit a few seconds to switch on. The frequency selected is shown on the display. If this is not the desired locate frequency (ie 50 or 60Hz) change as instructed below.

**Changing the Locate Frequency**

Press and hold the depth measurement/frequency selection pushbutton until the frequency menu is entered. The display will show the present frequency selected in large numeric’s in the centre of the screen. Use the “+” or “-” pushbuttons to select the desired frequency. Press the depth measurement/frequency selection pushbutton to re-enter the locate screen.

**Locating a Cable in the Power (50/60Hz) Mode**

Hold the locator vertically in the area that is required to be searched. Adjust the sensitivity of the locator by pressing the “+” or “-” pushbuttons to keep the signal on scale.

Hold the locator in front of you in the orientation shown below.

Sweep the locator left to right along the suspected route of the cable. As the locator approaches the cable the meter reading will increase. Pinpoint the position by detecting the largest signal.

To confirm the direction of the cable, rotate the locator until the largest signal is detected. The direction of the cable is then directly ahead. Pointing forwards, away from the display.

Continue to locate the cable along the route. Depth measurements are not possible in the power (50/60Hz) mode, if pressed by accident it will show N/A.

**WARNING**

The power mode is used to detect signals radiating from cables or services that are carrying a 50 or 60Hz load. It is possible for a cable to be live but not carry a load. In this case there may not be a signal to be detected. Similarly, if a cable is exactly balanced the resulting signal radiating from the cable may be zero and therefore not detectable.

**Do NOT use the VM-540/VM-550/VM-560 to identify cables if they are live. Always dig with caution.**

**Sonde Locating**

Connect the Sonde to a suitable push rod. There is typically a 10mm thread on the end of the Sonde for this purpose.

Switch on the Sonde and position it within the pipe access chamber leaving it still visible.

Hold the locator above the Sonde at ground level. Adjust the sensitivity of the locator by pressing the “+” or “-” pushbuttons to keep the signal on scale. Rotate the receiver until the maximum signal is detected.

**NOTE**

Moving the locator further left and right will result in detecting smaller “ghost” signals either side of the main one. This is normal. Always be sure to locate all three peaks when locating the position of the Sonde as the ghost signals are not directly over the Sonde. The largest one is the true position.

Moving forward and back across the Sonde will not detect ghost signals.