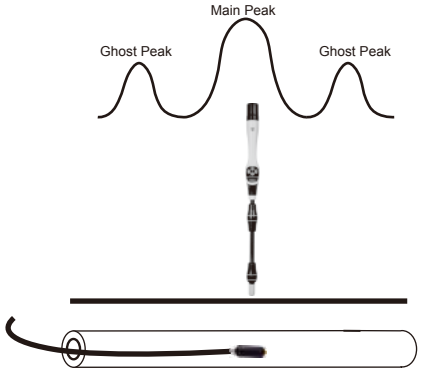
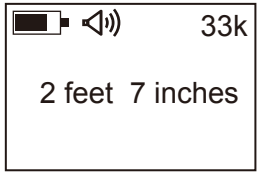


Now push the Sonde a couple of meters (yards) into the pipe. Stop and re-locate the Sonde. The direction of the Sonde can be confirmed by holding the locator vertically and rotating it on it's axis until the largest signal is detected. The Sonde will then be pointing at right angles to the display.

Continue pushing a short distance and relocating as the Sonde is pushed into the pipe. Do not be tempted to push the rod too far into the pipe without locating the Sonde as this will make finding the Sonde more difficult.

Depth Measurements

To take a depth measurement pinpoint the position and direction as previously described, pinpointing left/right, forward/back and also rotating on its axis. Hold the locator vertically over the position of maximum signal. Now press the "target" pushbutton. There will be a short delay before a depth estimate will be displayed.



NOTE
The depth measurement is an approximation. Depth indications can be affected by field distortion caused by interference from in-band signals or metal structures such as re-bar. An aid to determining if the depth is correct is to repeat a depth measurement with the locator a known distance (for example 1ft *(30cm)*) above the ground) and to note if the depth has increased by this amount. If it is different from what is expected treat the data as suspect.

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.

Toll-Free: 800-WCT-PROD (928-7763)
Local Phone: 310-822-5212
Fax: 310-306-9343
Email: info@wctproducts.com
Address: 13309 Beach Ave.
Marina del Rey, CA 90292
Website: www.wctproducts.com

VIVAX METROTECH

VM-540 User Guide V1.1

Introduction

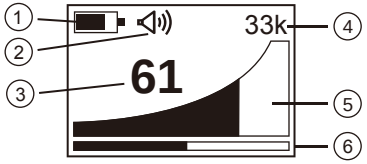
This guide describes the operation of the VM-540 Sonde locator. Sondes are small transmitters that are inserted into non metallic pipes and ducts. The radiated signal from the Sondes can be detected using the VM-540 Receiver. The VM-540 can also be used to detect integral Sondes that are used in sewer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

Sonde frequencies available are:

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

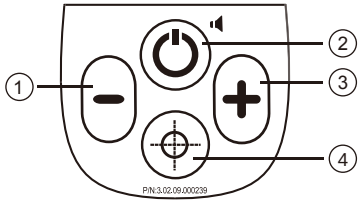
Note: Other frequencies are available upon request.

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

Receiver Operational Controls



1	Sensitivity Control (reduce sensitivity)	Increment sensitivity down, or auto scale down to 60% if off scale. When in frequency select menu use this button to scroll backwards through available frequencies.

2	On/Off Control	Long press to switch on/off. Short press to change speaker volume.
3	Sensitivity Control (increase sensitivity)	Increment sensitivity up, or auto scale to 60% if off scale. When in frequency select menu use this button to scroll forwards through available frequencies.
4	Depth Measurement / Frequency Selection	Short press to initiate depth measurement. Long press to enter frequency select menu then short press to exit menu.

Optional Accessories Sondes

	D18-33-SR44 Sonde • 0.75in *(18mm)* x 3.1in *(80mm)* long, 33 kHz, range 15ft *(4.5m)*. • 2 x button cell batteries
	D22-09-LR61 Sonde • 0.875in *(22mm)* x 4.5in *(114.3mm)* long, 9.82 kHz, range 8ft *(2.44m)*. • 4 x SR43W
	D38-33-AA Sonde • 1.5in *(38mm)* x 4.1in *(105mm)* long, 33 kHz, range 16.3ft *(5m)*. • 1 x AA battery
	D38-09-AA Sonde • 1.5in *(38mm)* x 4.1in *(105mm)* long, 9.82 kHz, range 16.3ft *(5m)*. • 1 x AA battery
	D64-33-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.

NOTE
The battery condition is indicated on battery icon. Replace batteries if necessary. See Changing Batteries Section.

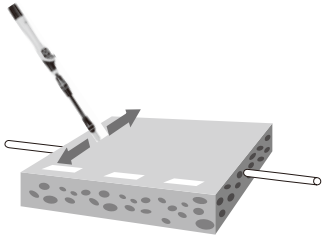
Changing the Locate Frequency

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.

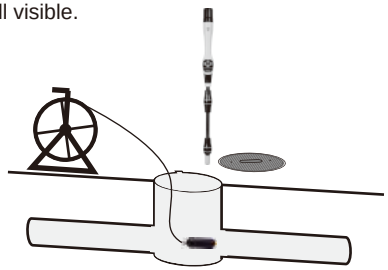
WARNING
The power mode is used to detect signals radiating from cables or services that are carrying a 50 or 60Hz load. It is possible for a cable to be live but not carry a load. In this case there may not be a signal to be detected.
Similarly, if a cable is exactly balanced the resulting signal radiating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

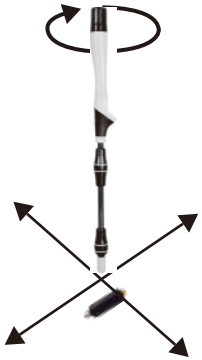
Sonde Locating

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.