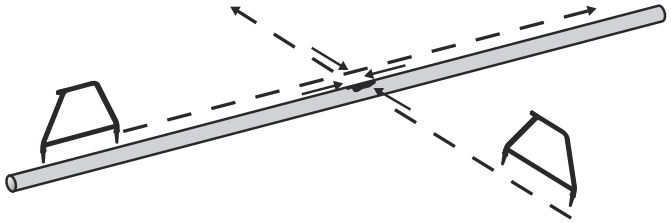
Carefully place the A-frame before and after the fault to pinpoint the position. Repeating this across the line direction will pinpoint the fault laterally. The fault will be at the point where the lateral fault is identified.



WARNING
Always disconnect or isolate target/faulty/suspected cables before connecting the transmitter to it. Never attach the transmitter to live cables.

TIP
If it is suspected that there is just one fault, insert the A-frame approximately one meter from the earth stake. Note the dBuV - this is approximately the maximum dBuV reading that will be measured over the fault.

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

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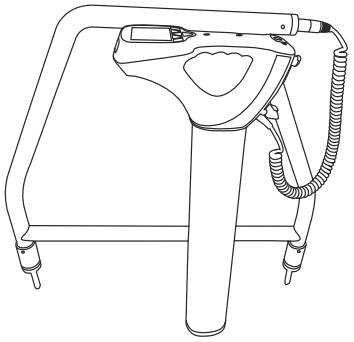
Analogue A-frame User Guide V1.1

Using the Analogue A-frame Fault Finding Accessory

The analogue A-frame accessory is used to detect ground faults on pipes and cables. In the case of pipes, the faults consist of coating defects. In the case of cables, faults are usually caused by insulation damage allowing the metallic sheath (or internal conductor) to become in contact with the ground.

It is intended to be used with the vLoc2 range of locators and will require a fault find signal applied to the faulty conductor from a Vivax-Metrotech compatible transmitter.



Note
Fault finding requires a non standard signal. Historically there have been many versions of Fault Find signal. Some of these are listed below:

- 3/6Hz Fault Find (Used to detect faults on pipelines)
- Signal Select Fault Find (Good for fault finding on short runs such as power networks)

- SD Fault Find (General purpose fault finding)
- 8kHz FF (General purpose fault find with good results on short and long runs and has good sensitivity)

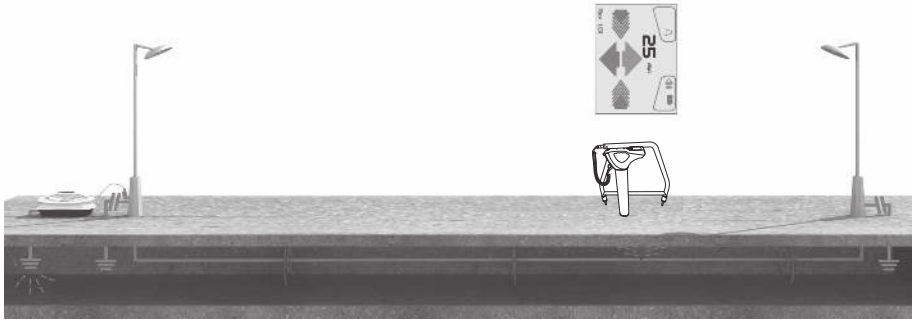
For the purposes of this manual 8kHz FF is concentrated on as it gives the best overall performance.

Also note that 8kHz FF is only compatible with the latest analogue A-frame which can be identified by the 6 pin socket on the A-frame. This was introduced late in 2015. (previously was four pins)

To detect a damaged section, the line should be isolated and have all ground bonding removed. This will ensure that the ground fault is not masked by deliberate bonding to ground. The A-frame cannot distinguish between these two situations.

After isolating the line, use the vLocPro2 transmitter resistance measuring function, or a dedicated resistance measuring device to confirm that there is a fault to ground. The A-frame will typically detect faults up to 2 Mohm and above (depending on the distance from transmitter, soil conditions etc).

Connect the transmitter to the target line using the red lead. A ground stake needs to be pushed into the ground and the black cable clipped to it. Try to place the ground stake as far as possible from the line to be evaluated. This ensures return currents do not distort the results. Switch on the transmitter and select either 8kFF low or 8kFF high. Use 8kFF high if the line to be surveyed is long or the fault resistance is high. Make sure the receiver and transmitter are set for the same FF type, ie 8kFF.



Plug in the analogue A-frame to the receiver accessory socket.When the receiver is switched on, it will automatically default to the A-frame screen.

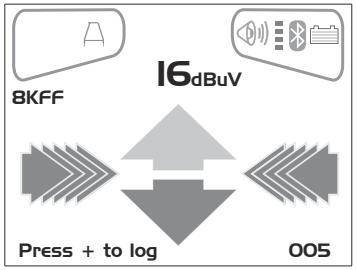
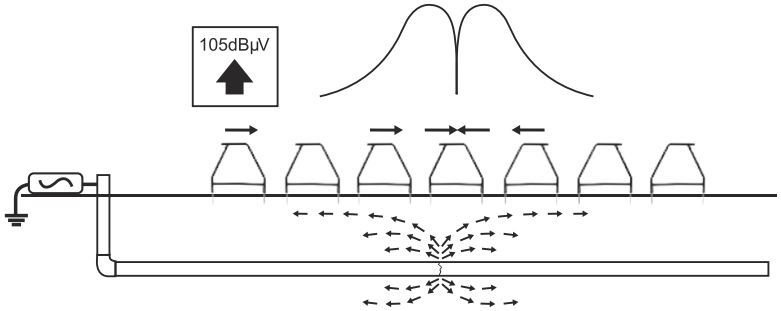


Image for reference only and may differ from actual image

Remove the plastic spike covers from the A-frame. Walk along the route of the line placing the spikes of the A-frame in the ground (with the green leg pointing away from the transmitter connection point) every two or three paces. If starting near the transmitter, the arrow on the display will point away from the ground point. As the distance from the transmitter increases, the dBuV reading will reduce and eventually the arrow will fluctuate or disappear altogether. This is because the fault location is further along the line. Use the left/right arrows to ensure the A-frame is positioned over the line and continue placing the A-frame in the ground every two or three paces. If necessary, use the “M” pushbutton to enter the locate screen allowing the user to confirm the position of the target line. Press the “M” pushbutton again to re-enter the A-frame mode.



(Note that the A-frame is not shown connected to the receiver so as to simplify the diagram)

Eventually the A-frame will detect the fault signal and the “Fault Find” arrow will point forwards. Continue moving forwards, it may be worth reducing the distance between measurements points as the fault is neared. The dBuV reading will increase as the fault is neared. Maximum reading will be just before and just after the fault. When over the fault, the dBuV reading will drop and the arrow will flip backwards indicating that the position of the fault has been passed.