

The previous data indicate several conclusions:



The vertical aerial locator gives responses unacceptably wide from the actual position of lines when more than one line with the same signal is present in a small area.



Twin horizontal aerial system provides the best and the most useful response.

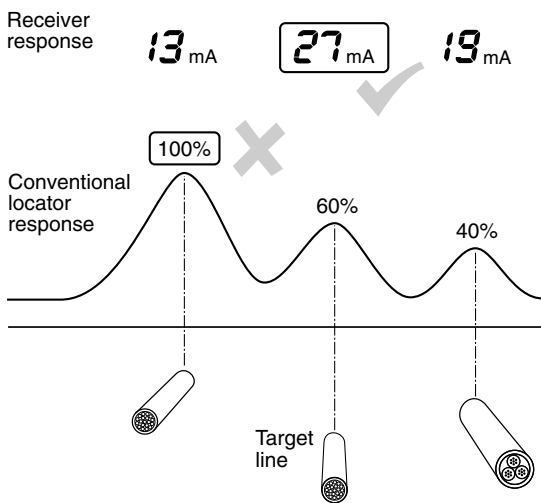


Comparison of responses from vertical and horizontal aerials can be used to determine if interference fields are affecting accurate location. Interference is present if the positions providing the responses from the two systems do not coincide. This comparison permits a multi-aerial locator to check if a response is accurate and if the signal is suitable for making an accurate depth measurement. Locators with both horizontal and vertical aerials are known as precision locators or precision receivers.

4 Current Measurement

The need to confirm target line identity and to measure current loss gradient has led top-of-the range locators to include a current measurement feature. Measuring current on a target line is an aid to verifying line identity. The line with the strongest current, not necessarily the same as the line giving the strongest response, is invariably the target line to which the transmitter signal has been applied.

A receiver gives a response which is dependent on the gain setting and on the line depth. This can lead to errors when tracing signals from several lines at different depths. The errors result from assuming that the line which gives the strongest response is the line carrying the strongest signal. In many cases the deeper line is carrying the strongest signal but does not show the strongest response, as illustrated below.



The drawing also shows the current measurement over the different lines with the reading of 27mA being the target cable to which the transmitter signal has been applied.

Ability to read current measurement on a receiver display greatly increases the certainty of correct line identification, especially in congested areas.