

TW-82 RECEIVER



TW-82 Receiver

2-BUTTON OPERATION



- Power-Up: Press Button to turn ON
- Volume Control: Tap the Button to adjust volume
 1. Mute
 2. Low
 3. Medium
 4. HighContinued presses of the button cycles back to setting #1.
- Power-Down: Press-and-Hold Button to turn OFF

2-Button Operation - Continued

LATERAL **BUTTON**

- Press **LATERAL** to enter Lateral-Tracing Mode.
- Press **LATERAL** again to exit Lateral-Tracing Mode.

While in LATERAL Mode, press-and-hold **LATERAL** to program:

- To exit Lateral programming, press-and-hold **LATERAL** again.
- To set the upper limit of the signal range, press **LATERAL**.

Each press of **LATERAL** toggles through the program choices:
50, 100, 150, 200, 250 or 300

Set this upper limit just above the maximum SIGNAL number that appears during your lateral trace.

The correct setting will make it easier to hear the peak in the signal as you pass over the lateral line.

Set the number just above the highest SIGNAL number.

Examples:

If the highest lateral
SIGNAL number is:

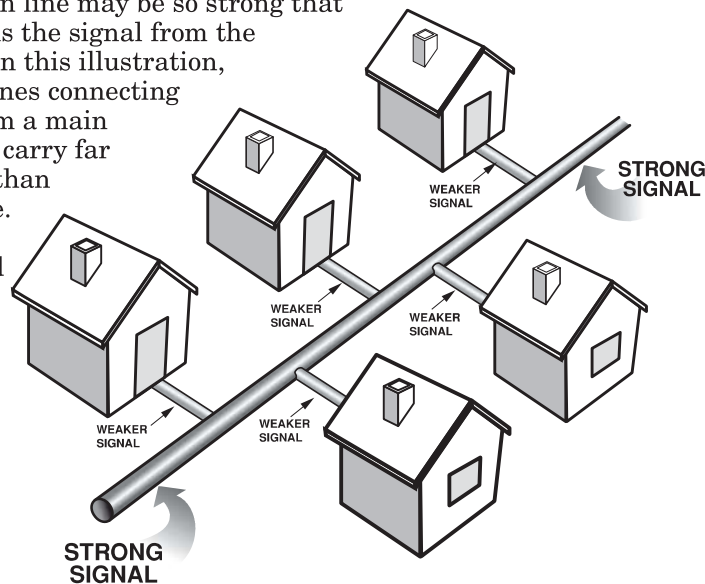
137
159
310

Set to:

150
200
300

(300 is the maximum possible)

At some sites, utility lines branching off from a main line may be difficult to trace using the Normal Mode of operation. The signal from the main line may be so strong that it overwhelms the signal from the lateral line. In this illustration, gas service lines connecting to homes from a main gas line may carry far less current than the main line. This weaker current could be the result of a lateral line that is shorter than the main line, or a lateral that is not well grounded.

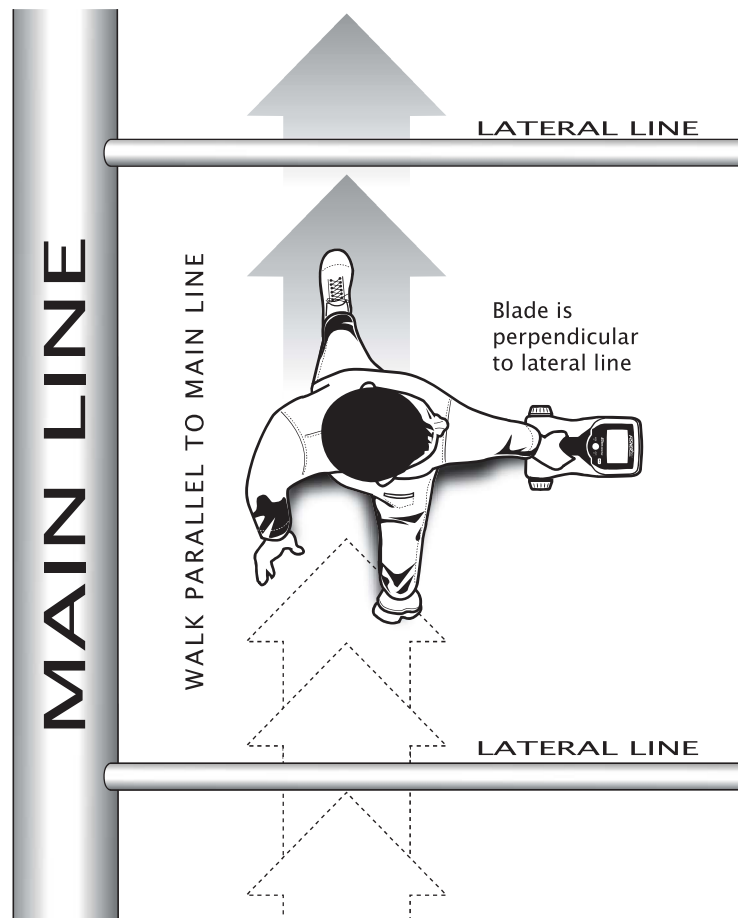


LATERAL Button - Continued

When conducting a trace of the Lateral line, select LATERAL Mode and walk parallel to the main line (as in the illustration below). You must use Lateral Mode in this situation because in the Regular Mode, you may detect the signal from the main line all of the way up to the house, even with the blade of the Receiver parallel to the main line.

Using the Lateral Mode, you can ignore the signal coming from the parallel main line and detect signals coming from the perpendicular lateral lines. The Lateral Mode will detect the main line in very close proximity, even though the blade is parallel to it. So maintain a distance of 6 to 12 feet from the main line when tracing lateral lines.

Walk parallel to the main line, holding the blade of the Receiver perpendicular to the lateral lines.



2-Button Operation - Continued**LATERAL TRACING OPERATION**

While tracing a line using the Lateral Mode, the display will appear as illustrated below.

The SIGNAL number indicates the strength of the field emitted by the buried line.

The buried line is located at the spot when the maximum SIGNAL number is indicated. If you move left or right of the spot where the maximum SIGNAL is found, the value displayed will fall.

Walk across the location of the lateral line with the blade perpendicular to the lateral line.

**LATERAL MODE PROGRAMMING**

While in the Lateral Mode, press-and-hold LATERAL to set the upper limit of the SIGNAL RANGE.

The upper limit of the SIGNAL RANGE appears at the bottom-left of the display. The default value is 150.

Press LATERAL to change the number. Press-and-hold LATERAL to exit programming mode. Changes to this upper limit of the SIGNAL RANGE are saved to memory.

Changing this upper limit is similar to the gain adjustment on other line tracers which use a peak mode of operation. Set the number just above the highest SIGNAL number, as described on the previous page.



METRIC / IMPERIAL UNIT OF MEASURE

To change the Receiver unit of measure, follow this procedure:

1. Start with the Receiver OFF.
2. Press and Hold the Button for 10 seconds.
The device will turn on; continue to hold Button the full 10 seconds.
3. Release the Button after 10 seconds.

DISPLAY

1. **Signal Strength:** Indicates your proximity to the center of the electromagnetic field emitted by the utility.

999: maximum value
0: minimum value

You may find different locations where the Signal Strength value is high. Use this reading as a relative indicator as to where the utility is located. Signal Strength is strongly influenced by the depth of the utility.



2. **Battery Strength:** When battery life declines to less than 1 hour (estimated) of operation the battery indicator outline will be illuminated with no segments. When the batteries reach the end of their useful life, the screen will go blank and the battery icon will flash before the Receiver shuts off. Expect about 60 hours of battery life from a set of two D-cell alkaline batteries.



3. **Left/Right & Over-Target:** These indicators show your position relative to the center of the electromagnetic field.

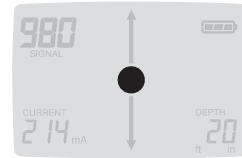
Move to the left



Move to the right



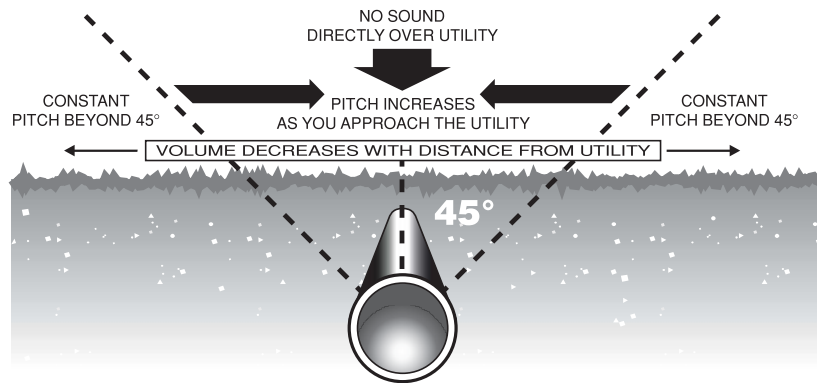
You are over the target



Left/right & over-target - Continued

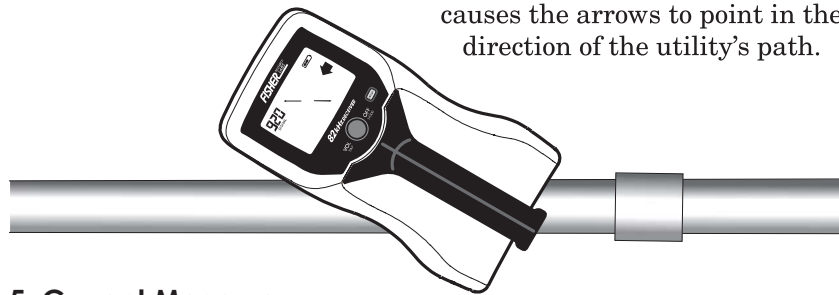
Audio: When you move within a 45° angle of the center of the electromagnetic field, the audio pitch will change; the pitch increases as you approach the utility. Outside the 45° zone, the pitch does not change.

When the Receiver is directly over the utility, it goes silent. The over-target indicator, ●, also appears when the Receiver is silent.



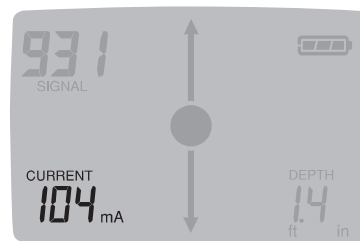
When you are standing to the right of the utility, you will hear a constant tone, and to the left, a pulsating sound.

- 4. Azimuth:** These rotational arrows indicate the utility's path relative to your position. Rotating the device near a buried utility causes the arrows to point in the direction of the utility's path.

**5. Current Measure:**

mA (milliamperes) of current flowing on the conductor.

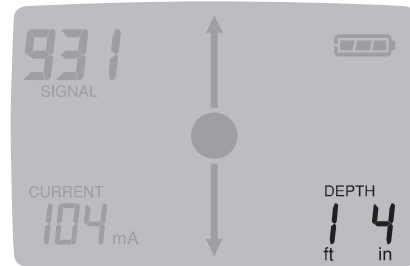
Use Current Measure as an aid for distinguishing utilities in close proximity. The Current Measure will generally be the highest on the utility you are connected directly to, regardless of the utility's depth.



6. Depth:

Depth reading is only accurate if the electromagnetic field is perfectly round.

The electromagnetic field must have enough energy for the device to accurately calculate the depth. The weaker the signal strength, the less reliable the depth indicator. For this reason, depth readings for inductively located utilities will tend to be less accurate than conductively located ones.



The depth reading is a measure of the distance between the tip of the Receiver blade and the *center* of the buried utility. When the device is directly over a buried utility, as indicated by the Over-Target indicator, depth will automatically be displayed in feet and inches (meters if metric). In general, the accuracy of any depth measurement will be influenced by factors such as proper azimuth orientation of the device, field strength and the *roundness* of the field. The only 100% reliable method for determining the depth of any buried utility is to hand-excavate.

7. Overhead Power Line Interference: When the Receiver encounters an interfering overhead field greater than the field from an energized buried line, the Receiver will display zeroes, “000”, for the Depth and Current measurements.

In this case, the field from the overhead power line is interfering with the buried line you are trying to trace. You may still be able to trace the buried line, but the accuracy of your trace will be impaired by this interference.

AUTO POWER-DOWN, RECEIVER

When 90 minutes have passed without the operator pressing the control button, the Receiver will automatically power down.

- Lower left of the display will indicate “OFF”.
- Lower right of the display will count down from 10 to 0.
- The Receiver will then turn off.

To stop Auto Power-Down, press the button once.

SPECIFICATIONS

RECEIVER

Frequency	82.175 kHz
Standard Mode.....	Automatic response
Lateral Mode	Programmable
Left/Right Guidance.....	Audible and visual
Azimuth Indicator	Visual
Over-Target Indicator	Visual and audible
Battery Status	Visual
Signal Strength Indicator.....	Numeric display & audible
Signal Current Measurement	Numeric display, automatic
Depth Measurement	Numeric display, automatic
Battery Type.....	Two D-cell batteries (included)
Battery Life	From 80 to 130 hours, depending on the volume setting
Weight, with batteries.....	3.60 lbs

TRANSMITTER

Fisher Research
