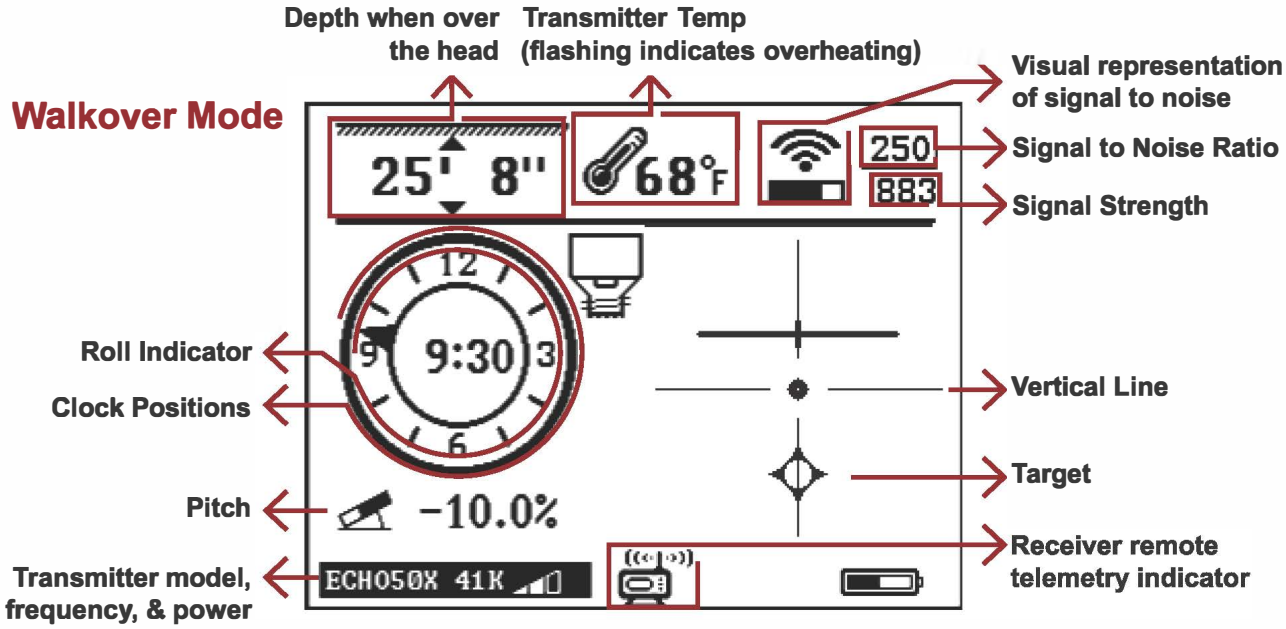
QUICK START GUIDE | MAG SYSTEM

Underground Magnetics

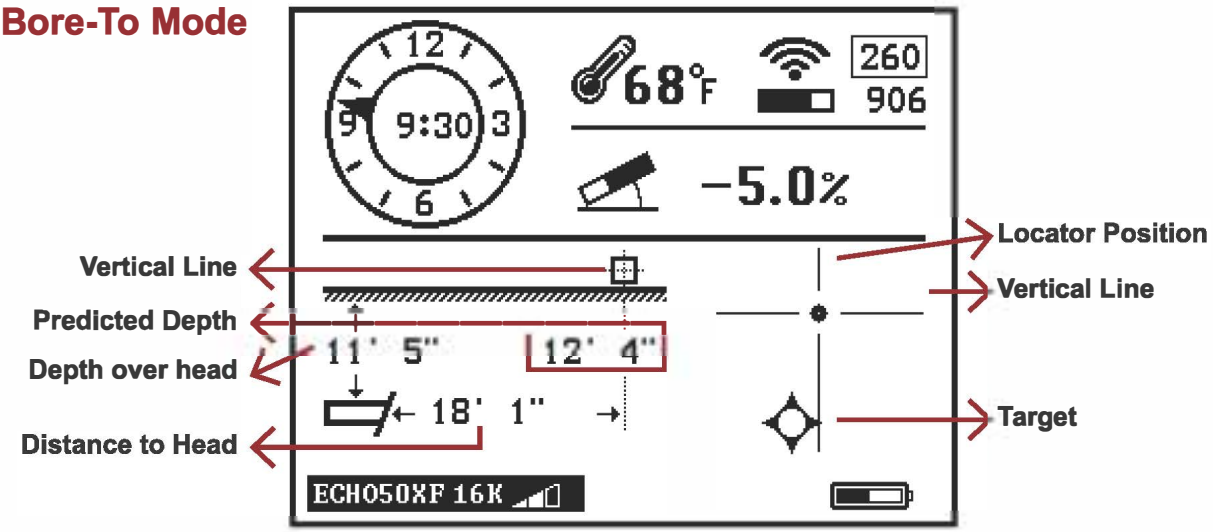
USER INTERFACE

- **Power** *Press and Hold to Turn On or Off*
- **Up** *Previous Selection / Tap to Enter Data Page for Bore-Log*
- **Down** *Next Selection / Tap to view Bore Profile*
- **Confirm** *Tap to Confirm Selection / Tap on Main Page to record Bore data*
- **Setup** *Tap to return to Main Page / Press and Hold to enter Configuration page*

Walkover Mode

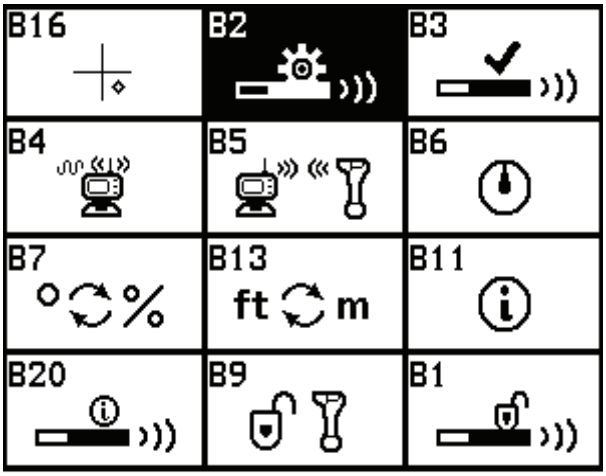


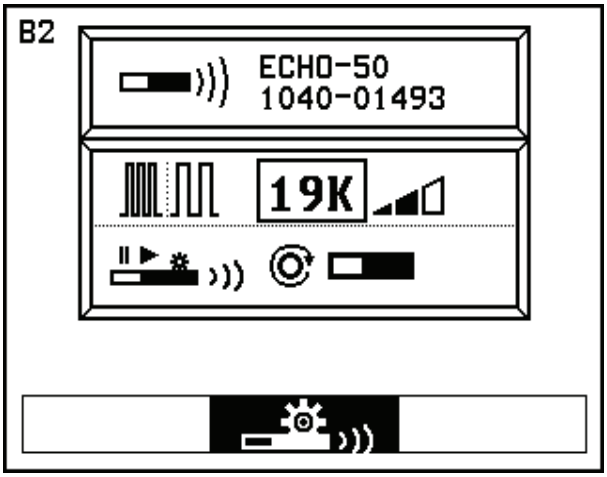
Bore-To Mode



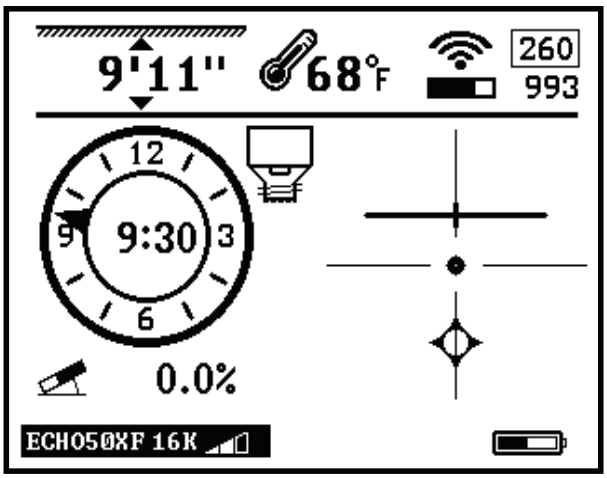
PAIRING TRANSMITTER

Start process within 15 minutes of placing the batteries in the transmitter.





1. Press and hold ◎ to enter Setup.
2. Tap ▼ to select B2.
3. Tap ↵ to enter Transmitter Settings Page. The receiver and transmitter will automatically pair.
4. Tap ▲ or ▼ and ↵ to select frequency and power level.
5. Tap ▲ to highlight Wake Up Mode and tap ↵ to enter.
6. Tap ▲ or ▼ to select desired mode as described below.



Instant
(Rotate the Transmitter 4 degrees or change the pitch by 1 degree)

360 degrees
(Rotate the Transmitter a full 360° several times)

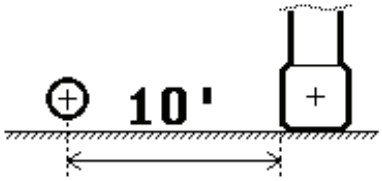
Always on

7. Tap ◎ to return to Main Page.

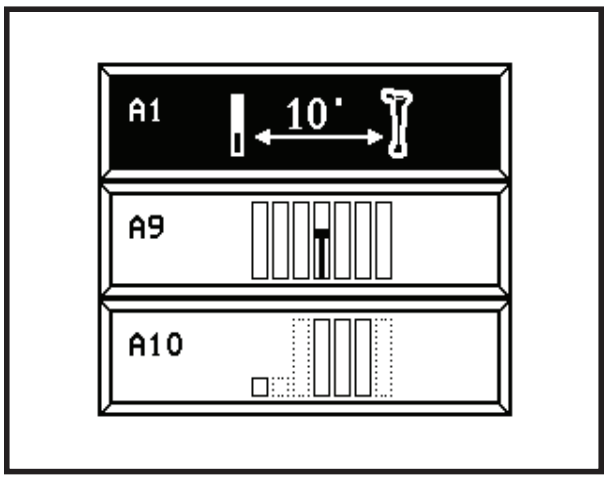
CALIBRATION

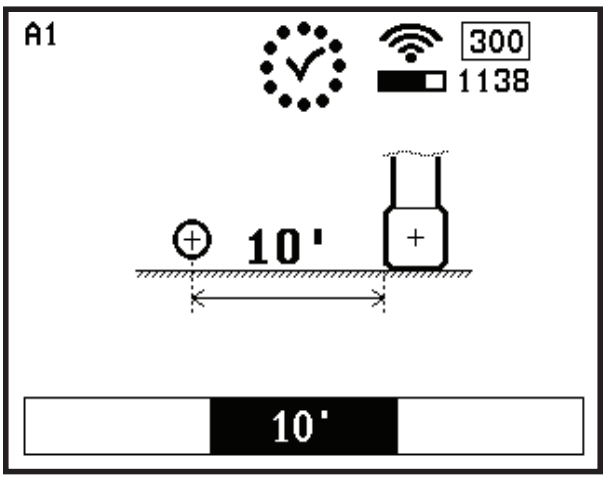
Warning: Do not calibrate around strong active or passive interference. For example, don't calibrate around an electrical transformer (active), or on concrete with rebar and/or wire mesh (passive). These types of areas can affect the depth calibration and accuracy significantly.

1. Place transmitter inside the housing flat on the ground.
2. Measure from the center of the housing, 10' to the inside edge of the locator.
3. Tap to enter calibration screen.
4. Tap to enter the 10' calibration page (A1)
5. Tap twice more to begin calibration.

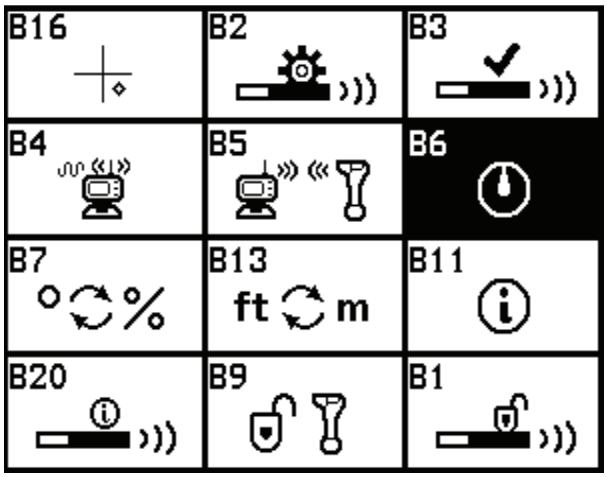


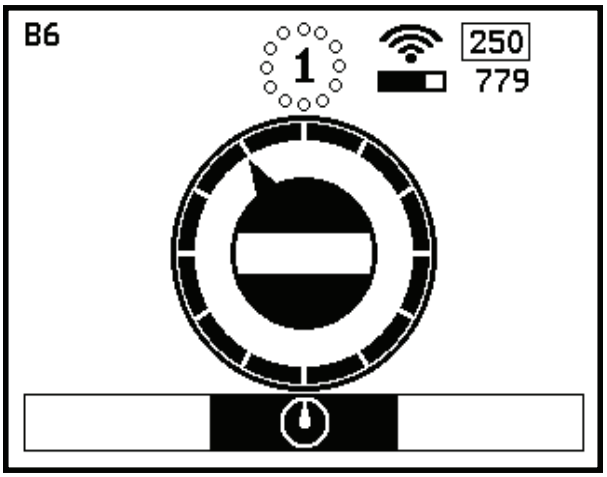
A check mark will show when calibration is complete.



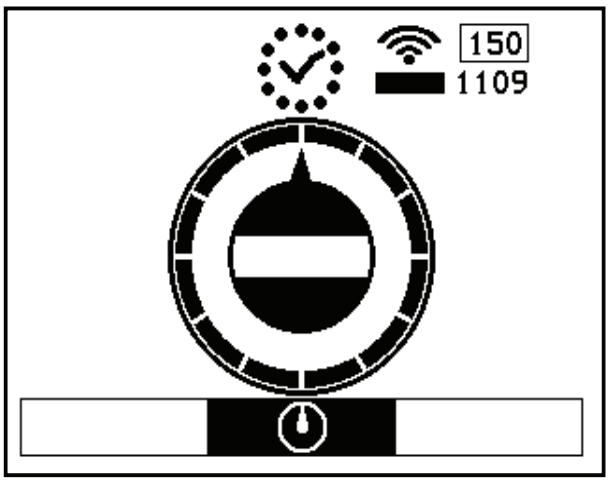


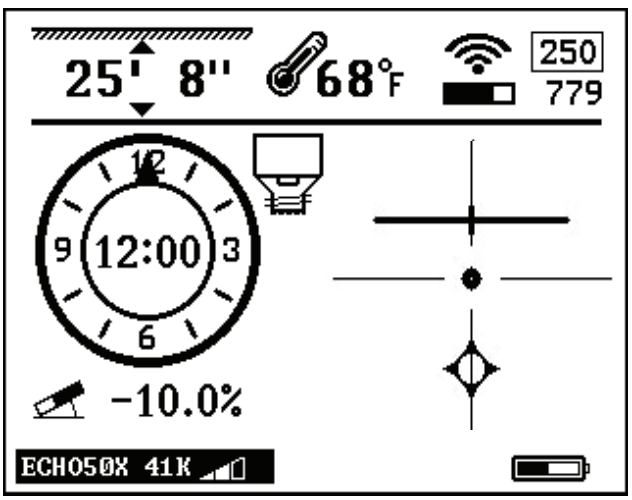
ROLL CALIBRATION





1. Press and hold to enter Setup.
2. Tap to Select B6.
3. Tap to enter Roll Calibration Page.
4. Tap or until the arrow is in the 12 o'clock position.
5. Tap twice to start roll calibration and wait for calibration to complete.

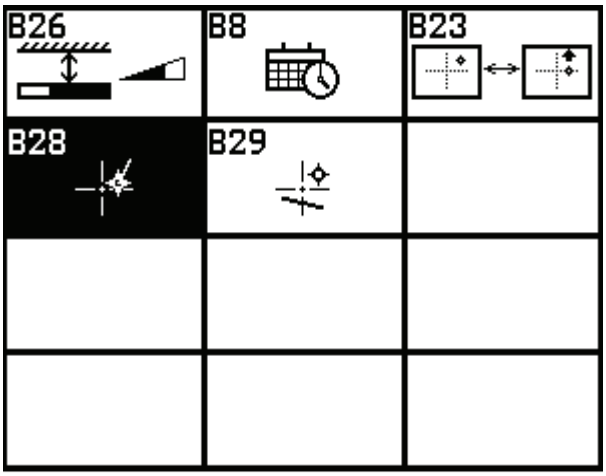


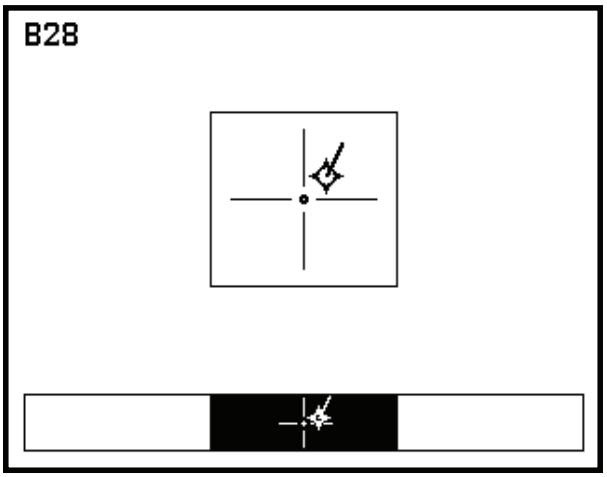


6. Calibration Complete

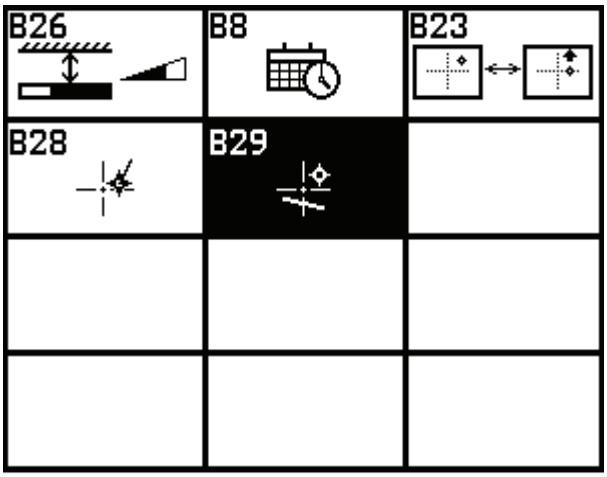
7. Tap to return to Main Page.

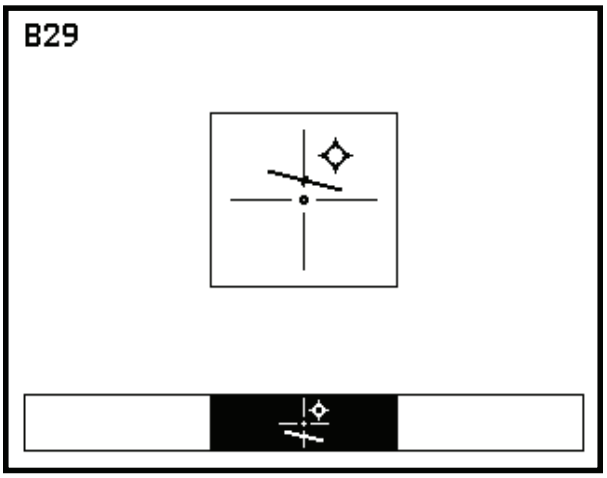
INTERFACE OPTIONS





1. Press and hold to enter Setup.
2. Tap to Select B28 and to Enter.
3. Tap or to turn the Directional Line on/off.
4. Tap to return to Main Page.

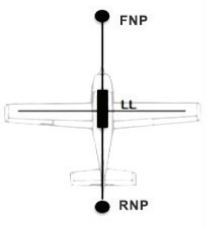




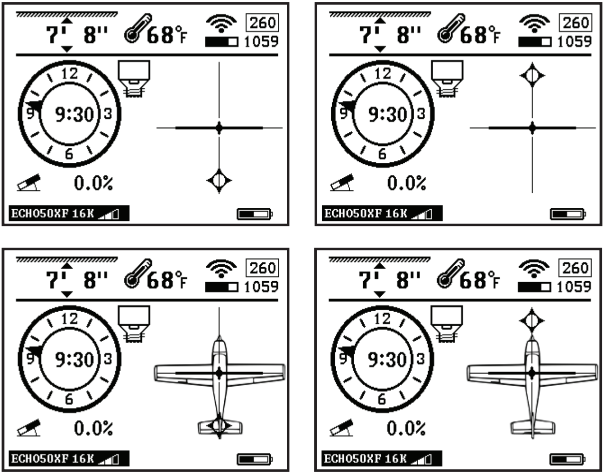
1. Press and hold to enter Setup.
2. Tap to Select B29 and to Enter.
3. Tap or to turn the Locator Line on/off.
4. Tap to return to Main Page.

FINDING THE TRANSMITTER

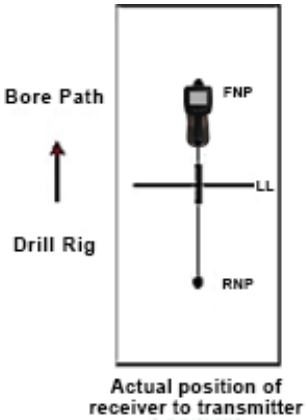
The Locate Line (LL) extends left and right of the transmitters center. Because of the physics of the locators magnetic field, the LL can look the same several feet to the right or left of the transmitters actual location. This is why it is important to at least locate the front null point (FNP) first before moving back to locate the head. For pinpoint location, find both the FNP and RNP before moving over the head. Draw a string line between the FNP and the RNP and your head will be directly in line and in between these points.



Think of the transmitter as the shape of an airplane. The FNP is the nose and the RNP the tail. Find the FNP and the RNP and the center of the transmitter is centered over the wings.



LOCATING FNP, RNP, AND LL

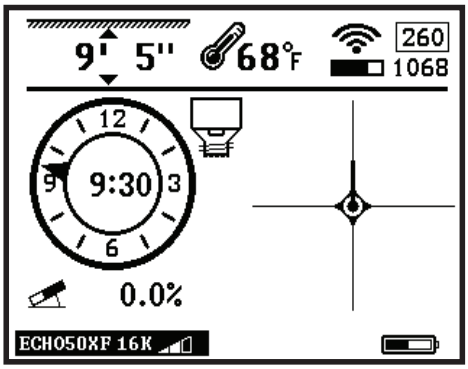


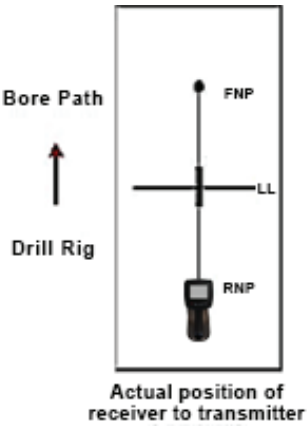
Front Null Point (FNP)

The FNP is a point in front of the transmitter. (Think of it as the sight at the end of a rifle.)

This is the direction of the transmitter.

Locate it by putting the Target in the center.

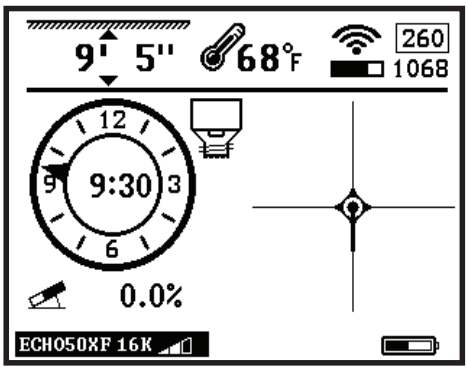


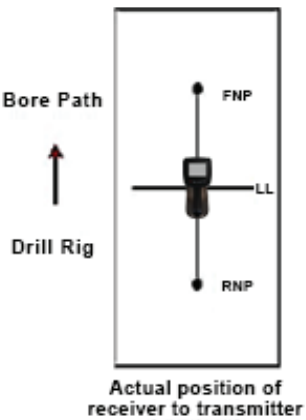


Rear Null Point (RNP)

Next, find the RNP. The RNP is a point behind the transmitter and will look just like the FNP.

Locate it the same way by moving back until the target appears in the center.

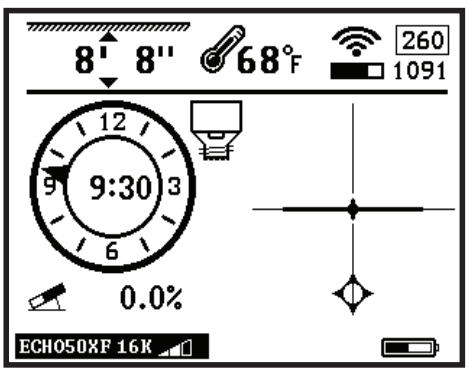




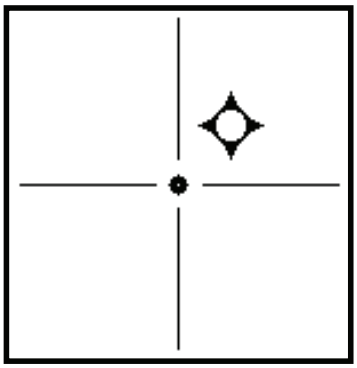
Locate Line (LL)

Then, imagine a line that runs through the FNP and RNP.

Locate the LL by walking along that line until the LL Indicator on the receiver screen enters the center. You are now above the LL, or head.

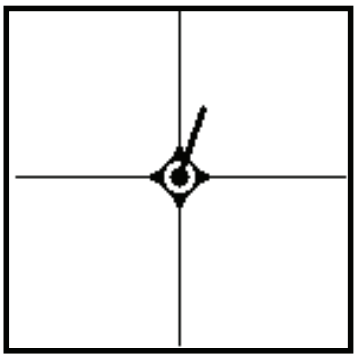


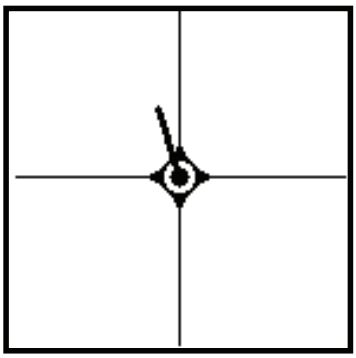
FINDING THE FNP



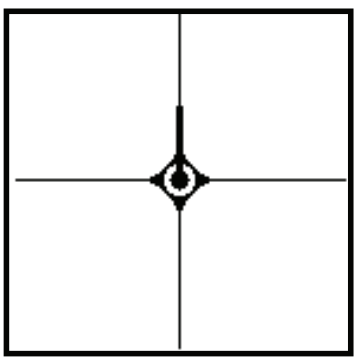
In this scenario the transmitter is behind you and you are walking toward the Front Null Point (FNP.)

To locate the FNP in this scenario, move forward and to your right until the Target centers on the crosshair. You are now at the FNP.





At the FNP, rotate the locator in hand left or right until the **Directional Line** is centered, indicating the transmitter is directly in line behind you.



TRACKING ON THE FLY

Tracking on the Fly is a simple process that will increase the speed at which the bore can be completed. Both the drill operator and locating operator can see the same screen in both modes, enabling minimal communication between operators.

1. Start out by drilling the first few rods in order to establish line and desired pitch.

2. Walk past the FNP by approximately 10', or one full length of rod.

(For more accurate left right sensitivity when using Bore-To mode, always stay out front of the FNP.)

3. Place the locator on the desired bore path, pointing in the direction you want to go.

4. Activate Bore-To mode by pressing .

(You may return to Normal / Walkover mode by simply pressing again.)

5. If the transmitter is pointing directly at your locator, you will see the Distance to the Head and the Target directly on the Vertical Line indicating you're heading directly to the locator.

6. Maintain pitch at the desired angle to show the correct Predicted Depth and Depth over the Head.

7. Keep the Target centered and you're on track to the receiver.

Depth is displayed in real time correcting for pitch changes giving both operators the ability to see the Predicted Depth of the head if drilled all the way to the receiver.

In Figure 1, the pitch is minus 5% meaning the calculated depth will be 12'4" when the transmitter arrives.

The head is 18' 1" behind the locator and headed slightly left of center.

To correct for the deviation, stop drilling and instruct the drill operator to rotate the drill rod to the appropriate clock and push until the Target is back on track with the vertical line.

Figure 1