

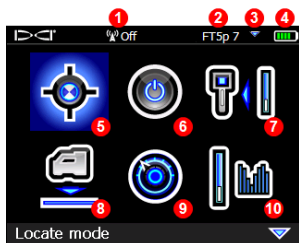
Power On the Receiver

1. Install the battery pack and hold the trigger for one second.
2. Ensure the region number in the globe icons on the startup screen and transmitter match.
3. Click trigger to open the Main menu (or toggle down at the Locate screen).




1. IR port
2. Toggle
3. Trigger

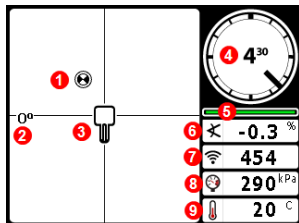
Receiver Main Menu



1. Telemetry channel
2. Transmitter (Tx) type
3. Tx band up/down
4. Battery strength
5. Locate mode
6. Power off
7. Calibration
8. HAG
9. Settings
10. Tx selection

Toggle to menu options and click trigger to select;  indicates a second page. Use Locate mode for locating.

Receiver Locate Screen



1. Locate point (ball)
2. Yaw
3. Receiver
4. Roll indicator and value
5. Roll/pitch update meter
6. Transmitter pitch
7. Transmitter signal strength
8. Transmitter fluid pressure
9. Transmitter temperature

Transmitter and receiver must be [Paired](#) before data will display (page 3). For DigiTrak remote displays, see separate manual or Quick Start Guide.

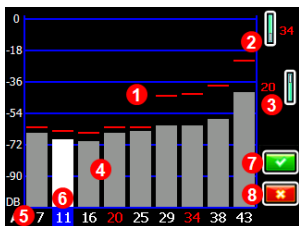
Steps Required Before Drilling

1. Optimize and measure active interference.
2. Select frequency bands.
3. Pair the receiver with the transmitter.
4. Check for background noise.
5. Calibrate both bands.
6. Check Above Ground Range.

Optimize and Measure Active Interference



1. With the transmitter off, select **Transmitter selection** from the Main menu, then **Frequency Optimization (FO)**. The FO will show active interference (noise) readings for nine optimized bands.



Frequency Optimization Results

1. Maximum noise reading
2. Up band
3. Down band
4. Noise
5. Band number
6. Selector
7. Pair
8. Exit

Run the FO for each new project because it selects an optimal set of frequencies for each band every time.

2. With the FO results displayed, walk the receiver along the bore path while observing the noise readings and mark those points where significant changes occur.



If noise levels rise substantially at any point along the bore, consider selecting and pairing one band (see next step) that performed well up to this point. Select **Exit** and restart FO at this point to perform a new scan, then select and pair a second band for use in this higher-interference area.



Your receiver can only detect active interference, not passive interference. Lower frequency bands tend to perform well despite passive interference. Middle bands can perform better in deeper bores and may have longer Target Steering capability. High bands have slightly less signal strength but tend to offer better performance around active interference such as power lines.


Select Frequency Bands

3. Toggle to and select the band of your choice, then use the Up/Down icons to assign this first band as Up or Down (the band the Tx powers on with when facing up or down).
Optionally, set the second band as the opposite.



Up Down


Pair the Receiver with the Transmitter (Tx)

4. Install transmitter batteries and endcap; the increase in FO noise readings shows the Tx is on.
5. Select  to pair.
6. Position the transmitter's infrared (IR) port within five cm of the receiver's IR port.

If you assigned two new bands, both will pair at the same time, and the receiver will be set to use the Down band first.



1. IR port

7. Select Pair  to open the Infrared Pairing menu, then again to pair the receiver frequency band(s) to the transmitter.

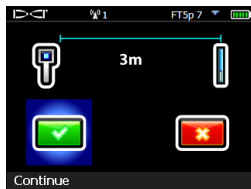
Check for Background Noise

8. Exit to the Locate screen. Have a coworker hold the transmitter beside you at the approximate distance of the maximum intended depth of the bore. Walk the bore together in parallel, with the receiver over the bore. Wherever the data or signal strength becomes unstable or disappears, try the other band, or consider re-optimizing a band in that area (see step 1).

Calibrate Both Bands

Calibration in an interference-free environment is required after each optimization.

9. Place the Tx in a housing on level ground 3 m from receiver as shown.
10. From the **Main** menu, select **Calibration** > **1 pt calibration** and calibrate each new band.



Check Above Ground Range (AGR)

11. Always check AGR with a tape measure to verify depth readings on each band at various distances up to the maximum expected bore depth. Distance readings should be within $\pm 5\%$.

Access AGR directly on the **Calibration** menu. Calibrate and check AGR for both new bands.



If you selected two bands, repeat steps 9-11 (calibration and AGR) for the second band. An error symbol will display in the roll indicator on the Locate screen until a 1-point calibration is completed for the current band.



Settings Menu

Use the Settings menu to set the depth units, pitch units, time zone, telemetry channel, roll offset, pressure units, temperature units, and language. Set the remote display to match receiver settings.

Height-Above-Ground (HAG) Menu

HAG is the distance from the ground to the base of the receiver while it is held. Setting HAG on the Main menu lets you take accurate below-ground depth measurements without having to place the receiver on the ground.

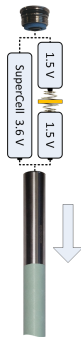
Changing Transmitter Frequency Band

Switch between Up and Down bands during pre-bore calibration or mid-bore to overcome interference. See next page to change bands on the receiver.

Both optimized bands remain stored on both the receiver and transmitter even after a power cycle.

Above Ground – Power-On Method

Insert transmitter (Tx) batteries with the Tx pointing down (battery compartment on top, shown at right) to power on in the Down band. Insert batteries with the Tx pointing up to power on in the Up band.



Above Ground – Tilt Method



Let Tx sit powered on at level ($0 \pm 10^\circ$) for at least five seconds (sec.), tilt Tx up at approx. $+65^\circ$ (almost vertical) for 10–18 sec., then return to level for 10–18 sec., maintaining ± 2 clock position (CP) during this sequence. When the Tx changes bands, data disappears from the receiver.


Below Ground (Mid-Bore) – 10/2/7 Roll Method

Disable Roll Offset (if enabled). Roll the Tx clockwise (CW) to a CP of 10 ± 1 and wait 10–18 sec., slowly roll CW to CP 2 ± 1 and wait 10–18 sec., and slowly roll CW to CP 7 ± 1 . The Tx changes bands within 20 seconds and data disappears from the receiver. Re-enable Roll Offset if applicable.

Below Ground (Mid-Bore) – RRS Roll Method

Remain at any CP for at least 40 seconds to clear timers. Complete one full CW rotation (± 2 CP) within 1–30 sec., wait 10–18 sec., and repeat twice for a total of three rotations (RRS3). Tx changes frequency band within 60 sec.

Changing Receiver Frequency Band

If you change bands on your transmitter, you must also do so on your receiver. At the Locate screen, hold the toggle right briefly to open the Band Selection window. Select the Up or Down band, then select  to return to the Locate screen, where data should begin displaying as transmission resumes in the new band.

Max Mode

Max Mode helps obtain depth/data readings in high-interference areas when readings are unstable.

- The drill head must remain still during Max Mode readings.
- Hold the trigger at least five seconds to enter Max Mode. Do not consider the data useful unless the reading is stable before the Max Mode timer is full.
- Always take three Max Mode readings; all must be consistent.

See the system operator's manual for additional important information on the use of this feature.

Signal Attenuation

An **A** icon may appear on the roll indicator and FO results when the receiver is attenuating the Tx signal for depths shallower than 3 m. This is normal. See the operator's manual if the **A** and signal strength are flashing, indicating extreme interference.

Watch our DigiTrak[®] training videos at
www.YouTube.com/DCIKent

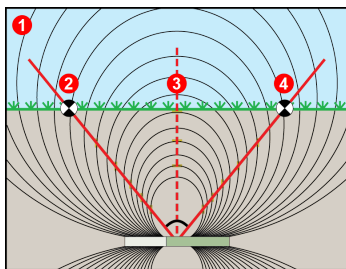
For detailed information, see your system operator's manual, available at www.digital-control.com. If you have questions, contact your regional DCI office or U.S. Customer Service at 1.425.251.0559.

Basic Locating

1. Find the FLP and RLP by centering the target ball in the box.
2. At the FLP, hold trigger for predicted depth reading.
3. Find the LL by centering the line in the box between the FLP and RLP (see Locate screen on previous page).
4. View depth by holding the trigger at the LL on the line between the FLP and RLP.
5. Holding the trigger longer than five seconds enables Max Mode (see page 6).

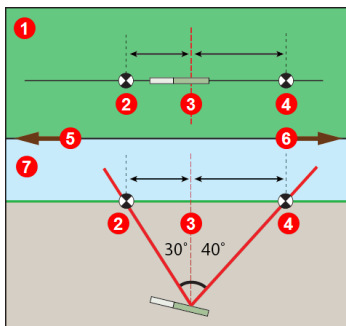
Transmitter Signal Field Geometry

Level Transmitter



1. Side view
2. RLP: Rear Locate Point
3. LL: Locate Line
4. FLP: Front Locate Point

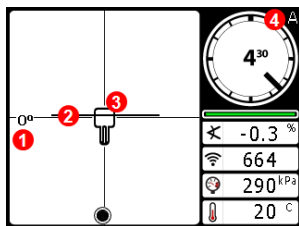
Pitched Transmitter



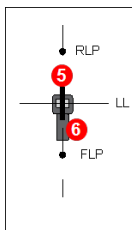
1. Bird's-eye view
2. RLP
3. LL
4. FLP
5. Drill rig
6. Bore path
7. Side view

FLP and RLP are not equidistant from the LL when the transmitter is pitched.

Bird's-Eye View on Locate Screen



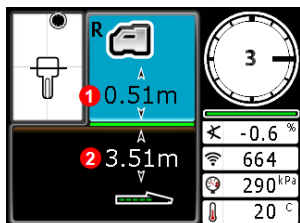
Receiver Locate Screen
(Line-in-the-box at LL)



Actual Position of
Receiver and
Transmitter

1. Yaw
2. LL (Tx)
3. Box (receiver)
4. Attenuation
5. Tx
6. Receiver

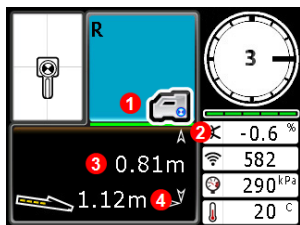
Depth and Predicted Depth Readings



Depth Screen (Line-in-the-Box
at LL)

Trigger held at LL

1. HAG on
2. Tx depth



Predicted Depth Screen (*Ball-in-the-Box* at FLP only)

Trigger held at FLP

1. HAG off
2. Pitch
3. Predicted depth of Tx
4. Horizontal distance between transmitter and FLP