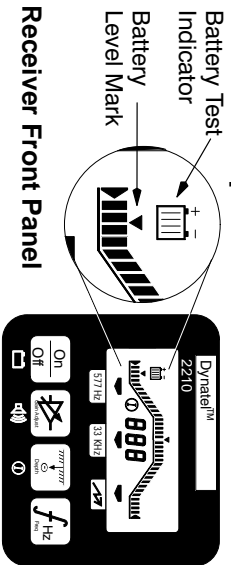


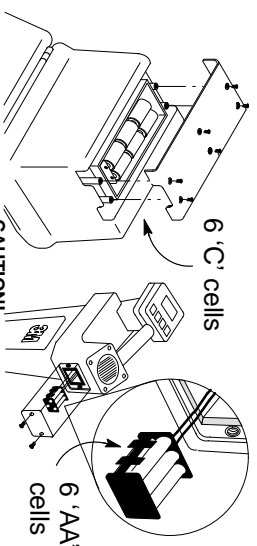
Receiver Operation:



1. Press **[ON]** to turn receiver on and see battery level. Hold down **[ON]** for continuous **Battery Test**. If bar graph is to the left of the battery level mark, replace batteries. **Note:** when batteries are low, the battery test indicator **[BATT]** remains on.
2. Press **[F1]** to match **Frequency** to transmitter output or select **[OFF]** for passive power locating.
3. Press **[F2]** to set **Gain** when bar graph is not visible or is closed. For **High Volume** (**[VOL]**), hold down **[F2]** while turning unit on. To return to normal volume, turn unit off, then on again.
4. Make broad sweeps with receiver handle in line with target cable path to get maximum bar graph closure; press **[F3]**. Maximum bar graph and numeric indication occurs directly over cable.
5. Place the receiver upright on the surface directly over cable. With handle parallel to path, press **[F4]** to display estimated **Depth**. Press again to display numeric **Current** **[I]** indication. Cable with highest current indication is the target. Press **[F5]** to return to trace mode, and press **[F6]**. Unit returns to trace mode automatically after eight seconds.

Note: To use the 2210 with the Active Duct Probe (sonde) or the EMS Marker Locating Accessory, refer to their Operating Instructions.

Battery Installation or Replacement:



Do not connect batteries improperly, charge or dispose of in fire. Batteries may leak or explode and cause personal injury. Always remove batteries when storing the units. Since regulations vary, consult applicable regulations or authorities before disposal.

Technical Information:

- Active Frequencies: 577 Hz and 33 KHz
Passive Frequency: 60 Hz Power
Battery Life: Receiver 84 hours, typical (Normal audio level)
Transmitter 50 hours, typical (Normal mode)
10 hours, typical (Boost mode)
- Recommended Batteries: Duracell™ MN1500 AA Alkaline
Duracell™ MN1400 C Alkaline
- Temperature Range: Operating -4°F to 122°F (-20° to 50°C)
Storage -40°F to 158°F (-40° to 70° C)
- Receiver Weight: 3 lbs. 9 oz. (1.8 kg)
Transmitter Weight: 5 lbs. 2 oz. (2.4 kg)
Shipping Weight: 15 lbs. 7 oz. (7.1 kg)
- Duracell is a registered trademark of Duracell, Inc.

Optional Accessories:

- | | |
|--|--------------|
| 3 rd Dyna-Coupler Kit: | 3019 |
| 1 st Dyna-Coupler: | 3005 |
| 6 th Dyna-Coupler: | 1196 |
| Active Duct Probe (sonde) | 3229 |
| Ground Extension Cable | 9043 |
| EMS Marker Locating Accessory/Single Freq. All Freq. | 2205
2206 |

78-8097-5171-8 Rev. A

©1996 3M

3M Telecom Systems Division
6801 River Place Blvd.
Austin, TX 78726-9000



Dynatel™ 2210 Cable Locator Operating Instructions

September 1996

78-8097-5171-8 Revision A

Set Up

(Use one of three methods)

Prepare the transmitter using one of the three following methods:

- Direct Connect
- Induction
- Dyna-Coupler

Go to **Transmitter Operation** to turn the unit on and apply tone to the cable.

Refer to **Receiver Operation** to prepare the receiver and locate the cable.

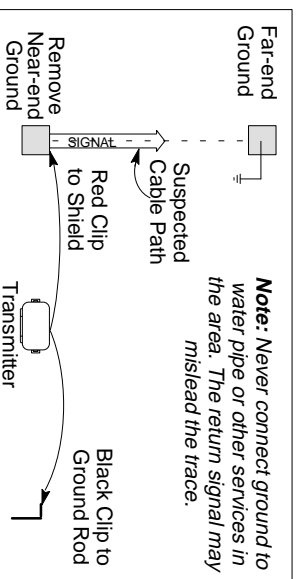
For passive power locating, go directly to **Receiver Operation**.

Note: For more detailed locating instructions and advanced locating techniques, ask your 3M sales representative for a free publication called *Cable and Pipe Locating Techniques*.

Dynatel is a registered trademark of 3M

Transmitter Set Up:

● Direct Connect Method

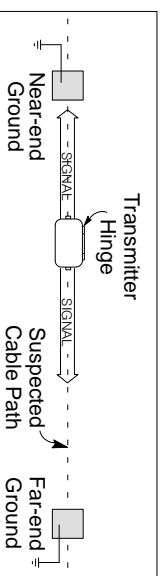


DANGER!

Check for stray voltages before attaching transmitter. Voltage greater than 240 volts will damage equipment and cause personal injury and death. Follow standard procedures for reducing the voltage.

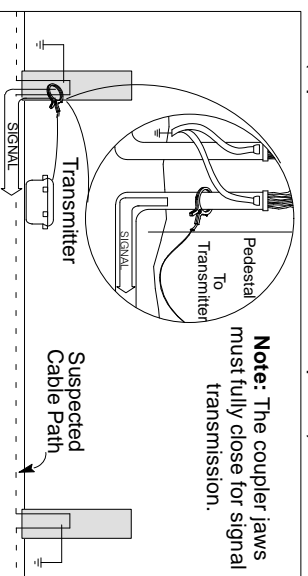
1. With the transmitter off, plug the direct connect cable into the transmitter front panel jack.
2. Connect the black clip to the ground rod.
3. Place the ground rod in the earth as far from the near end connection as the leads will allow, at a 90-degree angle to the suspected cable path.
4. Remove the near-end shield bond; connect the red clip to the shield.

● Induction Method



1. Place the transmitter on the ground over the target cable with the lid hinge in line with the cable path.

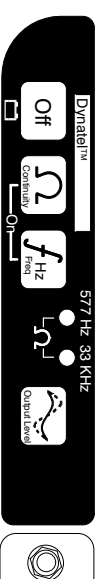
● Dyna-Coupler Method (Optional Accessories Required)



Note: The coupler jaws must fully close for signal transmission.

1. Plug the Dyna-Coupler into the cable (optional accessories). Plug the cable into the transmitter front panel jack.
2. Clamp the Dyna-Coupler around the cable below any bonds just before the cable enters the earth. **Note:** Dyna-Coupler jaws must be fully closed.

Transmitter Operation:



Transmitter Front Panel

1. Hold down **[OFF]** for **Battery Test** (solid tone=good; beeping tone=low; no tone=replace batteries).
2. Press **[Q]** to turn the unit on and select **Continuity Test** (solid tone=good ground; beeping tone=usable ground; no tone=poor ground or no far end ground). Both LEDs light continuously during the continuity test.
3. Press **[F₁]** to apply **Tracing Tone** and select the desired frequency: 577 Hz for direct connect with far end ground; or 33 KHz for direct connect with no far end ground, or for use with coupler, or induction. LED indicates frequency selection. (This key can also turn the unit on.)
4. Press **[F₂]** to change output level. Choose **Normal** output (flashing LED) for locating short to moderate distances using direct connect method. Use **High** output (solid LED) for coupler, induction, or direct connect for long distances and deep cables.
5. When locating is complete, press **[OFF]** to turn the unit off.