



Dynatel™

2250 Advanced Cable Locator



Pinpoint exact cable path and depth quickly and easily with this lightweight, easy-to-handle unit

The 3M™ Dynatel™ 2250 Advanced Cable Locator is a micro-processor-based system that incorporates advanced digital signal processing techniques to quickly and efficiently trace the path of underground cables, both copper and fiber optic (with metallic trace wire). Lightweight, compact and well-balanced, the locator accurately:

- Locates cable path
- Measures cable or sonde depth with the push of a button
- Measures signal current in the cable
- Identifies cable and cable pairs
- Identifies cable pairs through wet sections
- Locates energized power cable with direct readout of cable depth

The 2250 cable locator provides accurate cable or sonde depth measurements, giving a digital readout in inches, feet and inches, or centimeters (user-selectable).

Additionally, when used in conjunction with the 3M Dynatel 2205/2206 EMS Marker Locating Accessory, the locator can:

- Pinpoint the exact location of buried EMS markers
- Trace a cable path while simultaneously finding buried markers along the way

Four modes of operation for accurate locates, even in congested areas

For cable path locating, the Dynatel 2250 receiver uses one of four user-selected locating modes – dual peak, dual null, differential or special peak (which increases the sensitivity of the receiver for

tracing over longer distances). The mode is selected depending on which is most effective under the locating conditions.

The receiver includes four volume settings, including a special “expander” function that makes peaks and nulls more pronounced. The expander feature enhances the amplitude difference between two conductors carrying the same signal, making the unit extremely accurate, even in congested areas. A headphone jack is also included.

A simple, easy-to-use system

The Dynatel 2250 Advanced Cable Locator is easy to operate and requires very little training. Digital liquid crystal display (LCD) readout and push-button operation make the unit easy to understand, for more precise locates.

A “memory” feature remembers operator set-up from previous use.

The system consists of two basic components:

- Transmitter with built-in ohmmeter, which also senses and measures the presence of foreign voltage, and tests the continuity of the circuit.
- One-piece hand-held receiver with bar graph that indicates received signal and proximity to the cable.

The 2250 cable locator uses four active trace frequencies — 577 Hz, 8 kHz, 33 kHz and 200 kHz — which can be used individually or simultaneously to compensate for varying field conditions. The receiver incorporates passive power and auxiliary frequencies that do not require the use of the transmitter.

Both the receiver and the transmitter feature a self-test routine which is executed each time the unit is turned on.

A power-up battery test indicates battery level.

Both components are constructed of heavy-duty materials designed to withstand typical field use.

Standard Dynatel accessories

- 9012 Direct-Connect Transmitter Cable; for direct connection to cable and ground; 5' (1.5 m) long
- 8006 Ground Rod; stainless steel
- 40 ft. (12 m) Long Cigarette Lighter Adapter Cable (Option “A” only)

Optional Dynatel accessories

- 3019 Dyna-Coupler Kit; consists of 3” Dyna-Coupler for use on cables up to 3» (7.6 cm), Coupler Extension Cable, and Pouch
- 3005 1” Dyna-Coupler; for use on cables up to 1» (2.5 cm) in diameter
- 1196 6” Dyna-Coupler; for use on cables up to 6.9» (17.5 cm) in diameter; with pouch
- 9043 Ground Extension Cable
- 9023 Probe Cable
- 3011 Inductive Probe; for pair identification
- 9011 Coupler Extension Cable
- 2200 Series Carrying Bag
- 2205/2206 EMS Marker Locating Accessory
- 2892 Small Clip Direct-Connect Transmitter Cable, for direct connection to cable and ground; 10’ (3m) long
- 3229 Active Duct Probe, 33 kHz

Features

Transmitter

- Four operator-selectable frequencies
- Simultaneous signals
- Built-in ohmmeter with voltage sensing/measuring capability
- Three signal application methods (direct connect, coupler, induction)
- Auto load matching
- High and normal output level
- Displays output signal current in trace mode
- Audible indication of hazardous voltage in ohms mode
- Can connect to energized power cables up to 240 Vac
- External DC operation (option ‘A’ only)

Receiver

- Peak and null modes
- Differential mode
- Push-button digital depth readout (of cable or sonde) in inches, feet and inches, or centimeters
- Measures signal current in cable
- Visual and audible cable locates
- Coupler jack
- Graphic display
- Expander function
- Three passive 50/60 Hz frequency settings
- 31.5 kHz Auxiliary frequency
- 512 Hz, 560 Hz Auxiliary frequencies (some models)
- Compatible with 2205/2206 marker locating accessory

Benefits

- Optimizes unit performance in varying conditions
- Enables receiver to verify cable location
- Displays earth fault resistance; confirms far-end grounds and shield continuity
- Flexibility under varying plant conditions
- Automatic adjustment of output voltage to maximize signal
- High output level for extreme distance locates and other varying cable conditions
- Assists in proper frequency selection and setup
- Warns operator of potentially dangerous situation
- Prevents inadvertent damage to unit; operates while attached to live circuits
- 5 watt output capability; saves batteries
- Verify cable location
- Indicates direction to cable
- Easy, quick and accurate depth measurements; no conversion table required for sonde depth measurements
- Helps identify target cable regardless of depth
- Ensure accuracy under varying field conditions
- Pair/cable identification
- Operator can distinguish between target cable and other cables in congested areas
- Improves sensitivity of audible and visual response
- Optimized for primary, secondary, or rectified power
- For locating CATV cables¹
- Detects frequencies from central office installed transmitters
- Allows unit to pinpoint location of buried EMS markers

Physical Specifications:

Size	
Transmitter	6.75” H x 11.25” W x 7.75” D (17.2 cm x 28.6 cm x 19.7 cm)
Receiver	25.5” H x 3.75” W x 10.75” D (64.8 cm x 9.5 cm x 27.3 cm)
Weight	
Transmitter	5.2 lbs. (2.4 kg)
Receiver	4.1 lbs. (1.8 kg)
Shipping	14.3 lbs. (6.5 kg)

Environmental Specifications:

Operating temperature	-4° to 122°F (-20° to 50°C)
Storage temperature	-4° to 158°F (-40° to 70°C)

Note1: American NTSC, television set on

Electrical Specifications:

Receiver	
Frequencies Trace and modes	Active: 577 Hz, 8 kHz, 33 kHz, 200 kHz Passive Power: 50/60 Hz, user-selectable: L50/L60-5th harmonic, H50/H60-9th harmonic, 100/120-rectified power Auxiliary: 'T' model: 31.5 kHz, 512 Hz, 560 Hz 'P' model: 31.5 kHz
Depth	Range: 0 to 15' (0 to 4.5 m) Accuracy: $\pm 10\% \pm 1$ digit for 0 to 60" (0 to 1.5 m) $\pm 15\%$ for 60 to 180" (1.5 to 4.5 m)
Typical battery life	50 hours
Transmitter	
Output frequencies Trace mode Tone mode Induction mode	577 Hz, 8 kHz, 33 kHz, 200 kHz 577 Hz and 200 kHz pulsed at 8 Hz 33 kHz, 200 kHz
Output voltage (maximum)	70 Vrms
Output power	Normal setting: Limited to 0.5 W High setting: Limited to 3 W or 5W with External DC power (Option 'A' only)
Output protection	240 Vrms
Power	Batteries: Six alkaline "C" (LR14) cells; External DC: 9-18 V DC (1A) (Option 'A' only)
Typical battery life	Normal output level: 50 hours High output level: 10 hours

Ordering information

Cable/Pipe Locator OUS Receiver only, with EMS-ID Features
Cable/Pipe Locator OUS Communications 5 watt with EMS-ID Capabilities
Cable/Pipe Locator OUS Utility 5 watt with EMS-ID Capabilities
Cable/Pipe Locator OUS Receiver only
Cable/Pipe Locator OUS Communications 5 watt
Cable/Pipe Locator OUS Utility 5 watt

Ref.-No.

2250M-iD/ER
2250M-iD/EC5W-RT
2250M-iD/EU5W-RT
2250M-ER
2250M-EC5W-RT
2250M-EU5W-RT



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