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3M

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.



The Dynatel 2250 Cable Locator can be used with the Dynatel 2205/2206 EMS Marker Locating Accessory.

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

3M™ Dynatel™ 2250 Advanced Cable Locator

Features	Benefits
Transmitter	
Four operator-selectable frequencies	Optimizes unit performance in varying conditions
Simultaneous signals	Enables receiver to verify cable location
Built-in ohmmeter with voltage sensing/measuring capability	Displays earth fault resistance; confirms far-end grounds and shield continuity
Three signal application methods (direct connect, coupler, induction)	Flexibility under varying plant conditions
Auto load matching	Automatic adjustment of output voltage to maximize signal
High and normal output level	High output level for extreme distance locates and other varying cable conditions
Displays output signal current in trace mode	Assists in proper frequency selection and setup
Audible indication of hazardous voltage in ohms mode	Warns operator of potentially dangerous situation
Can connect to energized power cables up to 240 Vac	Prevents inadvertent damage to unit; operates while attached to live circuits
External DC operation (option 'A' only)	5 watt output capability; saves batteries
Receiver	
Peak and null modes	Verify cable location
Differential mode	Indicates direction to cable
Push-button digital depth readout (of cable or sonde) in inches, feet and inches, or centimeters	Easy, quick and accurate depth measurements; no conversion table required for sonde depth measurements
Measures signal current in cable	Helps identify target cable regardless of depth
Visual and audible cable locates	Ensure accuracy under varying field conditions
Coupler jack	Pair/cable identification
Graphic display	Operator can distinguish between target cable and other cables in congested areas
Expander function	Improves sensitivity of audible and visual response
Three passive 50/60 Hz frequency settings	Optimized for primary, secondary, or rectified power
31.5 kHz Auxiliary frequency	For locating CATV cables ¹
512 Hz, 560 Hz Auxiliary frequencies (some models)	Detects frequencies from central office installed transmitters
Compatible with 2205/2206 marker locating accessory	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	-40° to 158°F (-40° to 70°C)

Note¹: American NTSC, television set on

3M™ Dynatel™ 2250 Advanced Cable Locator

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: ±10% ± 1 digit for 0 to 60" (0 to 1.5 m) ±15% for 60 to 180" (1.5 to 4.5 m)
Power	Six alkaline "AA" (LR6) cells
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

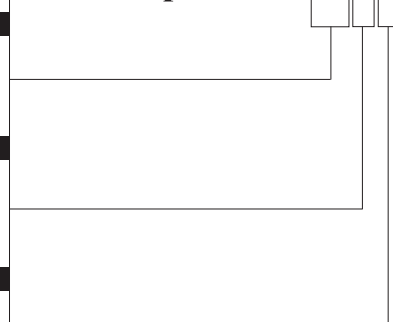
Ordering Information

To order, specify the appropriate 3M™ Dynatel™ 2250 Advanced Cable Locator using the table below.

Generic product number: 2250-XYZ

Market		Code X
USA/Canada		U3 (3 watt transmitter)
USA/Canada (Option 'A')		U5 (5 watt transmitter)
Typical Use	Direct connect cable configuration	Code Y
Telephone/CATV	5-foot cable with telco-style direct connection clips	T
Power	10-foot cable with large alligator direct connection clips	P
Coupler Kit		Code Z
No coupler kit		N
3" coupler kit		3

Example 2250-XYZ



Example: 2250-U5T3 translates to a 2250 Cable Locator with 5 watt transmitter for the USA/Canada market, used by a telephone/CATV utility and includes a 3" Dyna-Coupler Kit

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