

3M

Dynatel™

Advanced Cable Locator 2250



Quickly and Accurately Identify Underground Assets

PINPOINT EXACT CABLE PATH AND DEPTH QUICKLY AND EASILY WITH THIS LIGHTWEIGHT, EASY-TO-HANDLE UNIT

The 3M™ Dynatel™ Advanced Cable Locator 2250 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 using toning function
- 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™ EMS Marker Locating Accessory 2205/2206, 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 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 3M™ Dynatel™ Cable Locator 2250 can be used with the Dynatel 2205/2206 EMS Marker Locating Accessory.

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 3M™ Dynatel™ Advanced Cable Locator 2250 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.

3M™ DYNATEL™ ADVANCED CABLE LOCATOR 2250

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 (impedance) 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

3M™ DYNATEL™ STANDARD ACCESSORIES

MODEL	DESCRIPTION
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)

3M™ DYNATEL™ OPTIONAL ACCESSORIES

MODEL	DESCRIPTION
3019	Dyna-Coupler Kit; consists of 3" Dyna-Coupler for use on cables up to 3" (7.6 cm), Coupler Extension Cable, and Pouch
1196	6" Dyna-Coupler; for use on cables up to 6.9" (17.5 cm) in diameter; with pouch
9043	Ground Extension Cable
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
2876	Direct-Connect Transmitter Cable, 10' (3m) in length, for utility (U) models
2200RB	Rechargeable Auxiliary Battery for 5-watt units

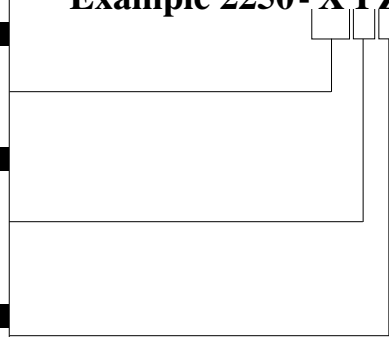
ORDERING INFORMATION

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-U5PN translates to a 2250 Cable Locator with 5-watt transmitter for the USA/Canada market, used by a power utility and no coupler kit

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)

Note: American NTSC, television set on

3M™ DYNATEL™ ADVANCED CABLE LOCATOR 2250

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 30' (0 to 9 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) ±20% for 180" to 360" (4.5 to 9 m)
Power	Six alkaline "AA" (LR6) cells
Typical battery life	50 hours
TRANSMITTER	
Output frequencies	
Trace mode	577 Hz, 8 kHz, 33 kHz, 200 kHz
Trace mode	577 Hz and 200 kHz pulsed at 8 Hz
Induction mode	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

To order, call 800/426 8688. For more information, please contact your local 3M representative.

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Track and Trace Solutions

6801 River Place Blvd.
Austin, TX 78726-9000
800/426 8688
Fax 800/626 0329
www.3M.com/dynatel

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