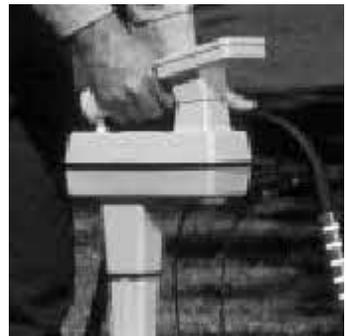




Dynatel™ M Series Locating and Marking

NEW-TO-THE-WORLD
TECHNOLOGY



DAMAGE PREVENTION

PIN-POINT ACCURACY



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Introducing the 3M™ Dynatel™ M-iD Series Locating and Marking System.

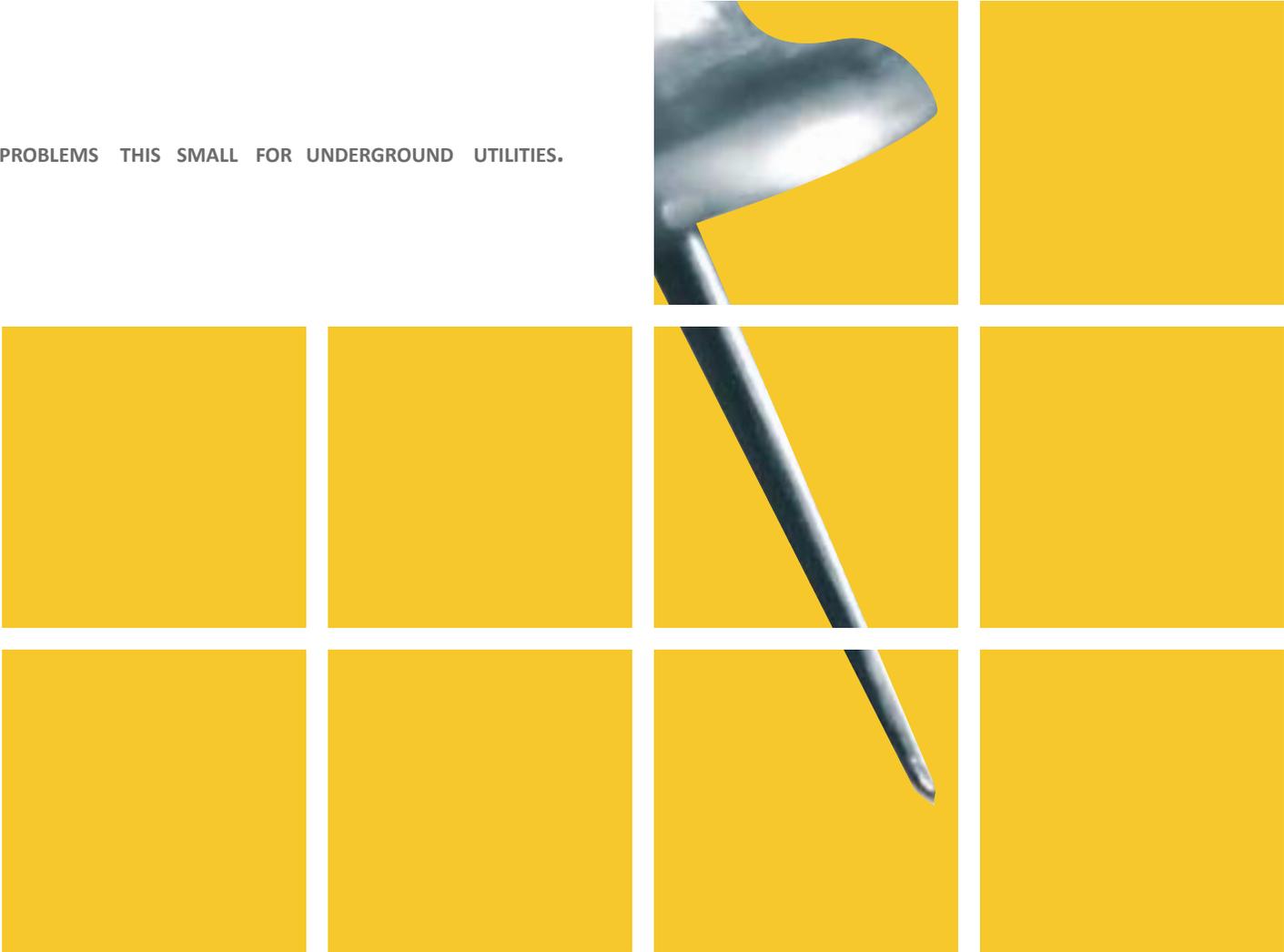


NEW TECHNOLOGY THAT WORKS LIKE CALLER ID AND FINDS

Providing pin-point accuracy through our new-to-the-world technology.



PROBLEMS THIS SMALL FOR UNDERGROUND UTILITIES.



3M™ Dynatel™ M Series Cable/Pipe and Fault Locators

An integrated
solution from
the ground up.



Just as Caller ID tells you more about who is calling, the 3M Dynatel M-iD Series Locating and Marking System provides pin-point accuracy and more information about what is buried

A Smarter Locator. Introducing a technology that delivers more information, faster and more accurately than ever before. 3M Dynatel 2200M-iD Series Locators are designed with all of the functionality of previous Dynatel models, and with the enhanced capability to read and write programmed information into the new 3M EMS 1400 Series iD Ball Markers. Information such as a pre-programmed unique identification number, facility data, application type, placement date and other details can all be read, stored and transmitted back to your PC for enhanced resource management. The 2200M-iD Series Locators will detect properly installed passive markers from commonly used manufacturers. With the new 2200M-iD Series, you can now locate markers on two different frequencies simultaneously and path trace at the same time. This positive identification helps avoid the expense and danger of digging in the *wrong* place and helps improve bottom line results.

Accurate Underground Detection. 3M Dynatel cable/pipe locators help you find the exact path and estimated depth of power conductors, CATV and telephone cables, metallic and non-metallic pipes with tracer wire, and they provide toning of aerial cable. The hand-held 3M Dynatel cable/pipe and fault locators also identify and measure points of cable damage where there is metallic contact to earth via a conductor or cable shield. They utilize our proven fault detection method with enhanced speed, sensitivity and noise rejection. Our multi-antenna design provides high accuracy and performance while our user interface makes it simple and intuitive to use.



Tailored to Meet Your Needs. The new 3M Dynatel 2200M Series Locators offer several features for cable/pipe locating with more accuracy, speed and sensitivity than ever. These receivers provide two directional modes: Directional Peak and Directional Null; plus an ultra-sensitive Single Peak mode for extreme depths. They also incorporate an “expander” function to make peaks and nulls more pronounced by enhancing the amplitude difference between two conductors carrying the same tone.

A Reputation of Excellence. As before, these new locators require little training and are very simple to use. Ergonomic design, a large backlit digital LCD screen and soft key operation make the units easy to interpret for precise locates. When you choose a quality 3M Dynatel Locator, you get outstanding reliability, along with the best warranty in the business and a service center dedicated to excellence in diagnosing and repairing 3M products. Our service center provides calibration, repair, upgrades and modifications for safety, performance and reliability.



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Features for 3M™ Dynatel™ M Series Cable/Pipe and Fault Locators

RECEIVER	EMS-ID 1420	2250M 2250	2250M-iD 2250ME-	2273M 2273	2273M-iD 2273ME-iD
Directional peak, directional null, single peak locate modes		X	X	X	X
Large backlit, high resolution graphic display	X	X	X	X	X
Push button cable/pipe depth readout, continuous depth measurement mode		X	X	X	X
Active duct probe (Sonde) depth measurement		X	X	X	X
Signal current measurement		X	X	X	X
Toning amplifier function		X	X	X	X
Cable/pair identification		X	X	X	X
Marker alert mode while path tracing			X		X
Wet section tagging		X	X	X	X
Digital fault strength indicator				X	X
Expander amplifier		X	X	X	X
Pre-set auxiliary frequencies for power, CATV, radio and long haul fiber applications		X	X	X	X
Four user-definable auxiliary frequencies		X	X	X	X
Self-calibration mode		X	X	X	X
PC interface via RS232 serial port	X	X	X	X	X
User configurable features and interface	X	X	X	X	X
Detects all EMS marker frequencies	X		X		X
Marker-Link software	X		X		X
ID marker read/write capability	X		X		X
Dual marker frequency search-simultaneous	X		X		X
Marker depth estimation	X		X		X
Conductor or sheath fault locating				X	X

TRANSMITTER	2250M 2250ME	2250M-iD 2250ME-iD	2273M 2273ME	2273M-iD 2273ME-iD
Simultaneous signals	X	X	X	X
Built-in ohmmeter and continuity tester	X	X	X	X
Indicates presence of crossed or hazardous voltage	X	X	X	X
Three tone application methods (direct connect, coupler, inductive)	X	X	X	X
Auto load matching	X	X	X	X
High and normal output level	X	X	X	X
3 watt and 5 watt models available	X	X	X	X
Conductor or sheath fault signal			X	X
Fault locate and cable locate tones applied simultaneously			X	X

3M™ Electronic Marker System

Markers



The right information can help avoid costly mistakes. Critical information can be programmed into the new 3M EMS 1400 Series iD Ball Markers.

A Smarter Marking System. Ball markers make the job of precisely locating underground facilities faster and easier. 3M EMS 1400 Series iD Ball Markers are the first of a new series of markers that perfectly complement the existing line of EMS passive markers by providing more information than ever.

Positive Identification. These ID markers come pre-programmed with a unique identification number. This number is also attached to the marker on a removable bar-coded tag, which can be peeled off and attached to facility maps for future reference. The ID markers can also be programmed to include customer specific information such as facility data, hazard levels, type of application, placement date and other important details. This information is programmed and locked by the user via the 3M™ Dynatel™ 1420 or 2200M-iD Series Locator. When the 1420 and 2200M-iD Series Locators send a “read” command signal, the ID markers will respond by sending back the data previously stored in it. For the first time, underground facilities can be positively identified with certainty even in difficult environments. After the locator has read this data, it may be transferred to the user’s PC. A list of marker identification numbers can also be downloaded to the locator for fast lookup and match testing.

Pick One that Works for You. 3M ID markers are available in seven standard frequencies color coded to AWWPA standards to quickly signify the application: telephone, power, CATV, water, wastewater, gas and a new general-purpose application. These markers are readable to a maximum buried depth of five feet. The ID markers can be located by the previous generation of locators, but can only be read by the new 1420 and 2200M-iD Series Locators.

Quality that Lasts. 3M EMS 1400 Series iD Ball Markers work in all soil conditions and in the presence of all types of congestion. Their four-inch diameter makes it easy to drop them in a standard-sized trench. A free-floating, self-leveling design inside a watertight, polyethylene shell insures that the marker is always in an accurate, horizontal position, regardless of how it is placed in the ground. With over a quarter century of leadership in Electronic Marker Systems (EMS), 3M continues to set the standard for quality and innovation.



Engineered for narrow trench applications up to five feet in depth, the four-inch diameter ball marker has a unique, patented self-leveling feature that ensures an accurate, horizontal position regardless of how it is placed in the ground. (Contains a mixture of Propylene Glycol and water which is approved for use in pharmaceuticals, cosmetics and as a food additive. The mixture is readily biodegradable and will not harm humans, wildlife or the environment.)

Specifications for 3M™ EMS 1400 Series iD Ball Markers

	TELEPHONE	POWER	CATV	GENERAL PURPOSE	WATER	WASTEWATER	GAS
MODEL	1421-XR/iD	1422-XR/iD	1427-XR/iD	1428-XR/iD	1423-XR/iD	1424-XR/iD	1425-XR/iD
COLOR	orange	red	black/orange	purple	blue	green	yellow
READ RANGE **	5 ft. (1.5 m) from locator probe						
MARKER WEIGHT	0.77 lbs. (0.35 kg)						
STANDARD PACKAGE	30/cs.						
SHIPPING WEIGHT	25 lbs. (11.4 kg)						

** Range specifies maximum distance when using 3M™ Dynatel™ 1420 Locator. Read range may vary on export models for water and power frequencies, refer to product bulletins.

Applications

TELEPHONE	POWER	CATV	GENERAL PURPOSE	WATER	WASTEWATER	GAS
Cable paths Buried splices Buried service drops Load coils Conduit stubs Fiber optic facilities All types of splices Bends Depth changes Man hole covers Road crossings	Cable paths Service drops Conduit stubs Road crossings All types of splices Buried transformers Service loops Street lighting Bends Man hole covers	Cable paths Fiber optic facilities Buried service drops Road crossings Buried splices	Reclaimed water Private campuses Valve boxes Road crossings Path marking Buried valves Tees Meter boxes Main stubs	Pipeline paths Service stubs PVC pipeline All types of valves Road crossings Tees Clean-outs	Pipeline paths Service stubs PVC pipeline Buried valves Road crossings Tees Clean-outs	Pipeline paths Main stubs Service stubs Tees Road crossings All types of valves Meter boxes Stopping fittings Depth changes Transition fittings Squeeze points Pressure control fittings Electro fusion couplings



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