Instrument Technology Corporation

Aervoe
Ametek Land
Calculated Industries
Carsonite Intl
DCD Design
Dielectric Technologies
E-Z Turn
Fisher Labs
Flow-Tek
Gatorcam
Geospatial
GMI
Hathorn
Heath
I.T.C.
Jameson
Land Instruments
Lansas Hurco
Mala GeoScience
Nupla
Pacific Tek
Pearpoint
Pelsue
Presco
Prototek
Rabco
Radiodetection
Riser Bond
SubSurface Instruments
SubSurface Leak Detection
T&T Tools
Tempo
Tri-Global
Traffix Devices
Vivax
Wohler

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Aervoe Industries

All Purpose Marking Paint

This good all purpose paint is an economically priced marking paint that is designed to provide a very cost-effective approach to marking and still provide good visibility in the two-month range.

- Non-clogging cans empty contents completely
- Mark is visible for up to 2 months
- Available in 7 regular and 6 fluorescent colors
- Designed to be used in Aervoe’s #244 Spot Marker, #245 Marking Stick, or by hand
- Lead free, non-clogging can empties contents completely
- Adheres to almost any surface; not recommended for use on turf surfaces

Can be used for utility/locator marking, construction sites and proposed excavation.

Container size: 20-oz. (15-oz. fill)
Case pack: 12
Case weight: 17 lbs.

Regular Colors: Black, yellow, Blue, White, Red, Orange, Green
Fluorescent: Red, Orange, Green, Pink, Blue, Yellow, Red-Orange

Fugitive Marking Paint

With another first in the industry, Aervoe brings to market a revolutionary, patent pending coating that is specially formulated to be more sensitive to UV exposure. It is ideal for use in visually sensitive areas with the mark progressively fading from a vivid fluorescent to a clear film in 30 to 35 days. Minimize the lasting visual effects of construction and traffic markings in the community long after projects have been completed!

- Provides good initial visibility
- Mark lasts up to 35 days depending on UV exposure
- Minimizes ground marking impact
- Mark fades to clear

Use for Utility/locator marking, landscape, construction and proposed excavation.

Container size: 20 oz. (15-oz. fill)
Case pack: 12
Case weight: 17 lbs.

Fluorescent: Red, Orange, Green, Pink, Blue, Yellow

Regular Survey Marking Paint

Aervoe’s Survey Marking Paint is a superior upside down marking paint that is designed for survey marking. It provides the best quality paint in terms of color visibility and retention, durability, and a lasting mark of up to six months. Non-freezing and operational to 14°F. Colors formulated to meet standards set by OSHA and APWA/One Call Systems.

- Non-clogging can empties contents completely
- Available in 22 regular and fluorescent colors
- Packaged in 20-ounce aerosols and bulk liquid containers
- High Delivery available for faster delivery and better coverage
- Mark is visible for up to 6 months depending on traffic and exposure
- Patented spray-through cap can be left on or easily removed
- Designed to be used in Aervoe’s #244 Spot Marker, #245 Marking Stick, or by hand
- This product is not recommended for use on turf surfaces
- Adheres to almost any surface, including wood, concrete, asphalt, brick, and gravel

For survey marking, landscape, utility/locator, construction and proposed excavation. Use bulk liquid for dipping stakes.

Container size: 20-oz. (17-oz. fill)
Case pack: 12
Case weight: 18lbs.

Regular Colors: Black, yellow, Blue, White, Red, Orange, Hi-Vis Yellow, Green, Purple, Lite Blue, Silver, HD Red, HD Yellow
Fluorescent: Red, Orange, Green, Pink, Blue, Yellow, Red-Orange, HD Orange
**Spray Chalk**

Aervoe chalks are a special blend of raw materials that are safe on all surfaces and are designed specifically for temporary marking. Mark will disappear in 10 to 20 days when exposed to water, traffic and other abrasions. It can also be washed off with a pressure washer if desired.

- Safe for use on turf surfaces
- Non-resin binders and low pigment solids hold chalk together in a slurry as mark dries
- Use as a temporary mark on private property where limited exposure is desired
- Easy clean up with soap and water within 10 minutes of application
- Designed to be used in Aervoe’s #244 Spot Marker, #245 Marking Stick, or by hand
- Lead free, non-clogging can empties contents completely
- Adheres to most surfaces, including pavement, gravel, soil, and grass

Can be used for survey, landscape, utility/locator marking, construction and proposed excavation.

- Container size: 20 oz. (15-oz. fill)
- Case pack: 12
- Case weight: 17 lbs.

**Spot Marker**

This simple, hand held marking gun provides accuracy and control for either upright or upside down marking. 10” overall length

**Marking Stick**

Aervoe’s Marking Stick is constructed of a tough durable plastic and lightweight steel or single-hand operation. Intended for upside down marking only. About 32” in length.

**Linear Measuring Display Box**

This measuring wheel can assist in estimating distances on smooth surfaces indoors and out. The Linear Measuring Wheel is widely used by contractors, utilities, accident investigators, real estate agents, and landscapers.

- Counts up to 10,000 feet.
- Contoured handle for easy, comfortable grip.
- Sturdy, lightweight design for ease of use.
- Reset button protected by raised collar.
- Five-figure display with bold .20” high numerals.
- Extended 44” size
- Handle compresses to storage size of 28”

**Construction Marking Paint**

Aervoe Construction Marking Paint is the flagship of the line, offering a high quality paint that is priced competitively to meet a variety of marking applications while providing good color visibility and durability. Why pay for the added quality of Aervoe Survey Marking Paint if the mark does not need to last as long? Great color durability up to three months.

- Non-clogging cans empty contents completely
- Mark is visible for up to 3 months
- Available in 10 regular and 7 fluorescent colors
- Designed to be used in Aervoe’s #244 Spot Marker, #245 Marking Stick, or by hand
- Lead free, non-clogging can empties contents completely
- Adheres to almost any surface; not recommended for use on turf surfaces

- Container size: 20-oz. (17-oz. fill)
- Case pack: 12
- Case weight: 18lbs.

Uses: Can be used for utility/locator marking, construction sites and proposed excavation.

Regular Colors: Black, yellow, Blue, White, Red, Orange, Hi-Vis Yellow, Green, Purple Fluorescent: Red, Orange, Pink, Blue, Yellow, Red-Orange
PORTABLE INFRARED THERMOMETERS
The Land Cyclops family of high quality portable thermometers provide accurate and reliable precision spot temperatures in a wide range of industrial applications from -50 to 3200°C/-50 to 5800°F.

Features:
- Precise view of target spot with simultaneous digital display of temperature in the viewfinder
- Choice of measuring modes - Peak, Continuous, Valley
- Calculating modes to compute maximum, minimum or mean of a series of readings
- Digital output and out of range alarm

Cyclops thermometers are widely used in many different industries such as glass, metals, minerals, chemical and plastics, for process monitoring, quality control and general research or predictive maintenance.

Cyclops 100 and 100B Portable Thermometers
The Land Cyclops 100 is a general purpose, high precision, portable infrared thermometer, designed for accurate measurement of temperatures in the range 550 to 3000°C/1022 to 5432°F.

Two models are available - Cyclops 100 and Cyclops 100B. Both provide wired RS232 serial communications - Cyclops C100B also features user-friendly “Bluetooth” wireless communications.

Temperature range: 550 to 3000°C/1022 to 5432°F
Target size: 4.8mm at 1m/0.18in at 39.3in
Spectral response: 1μm
Emissivity range: 0.10 to 1.20
- Digital signal processing
- High accuracy and repeatability
- Long term, drift free measurement
- Advanced spectral filtering to give enhanced performance
- Robust - ideal for industrial use
- Choice of datalogged outputs
- Bluetooth option available
- Range of optional accessories
- Continuous, Peak, Valley and Averaging modes
- Multi functional display
- Flexible user configuration

Cyclops 100 is ideal for use in a wide range of industries and applications.
- Steel
- Glass
- Refractories
- Heat treatment
- Semi-conductors

The bright, back-lit external display panel provides an indication of status and configuration of the thermometer together with four simultaneous live measurement modes.

The panel displays a simple icon-driven, language-free menu system navigated via keypad controls.

The user highlights the mode to be displayed in the viewfinder:
- Mode selection
- Emissivity
- Window Compensation
- Communication Status
- Battery Status
- Alarm Status
Land PockeTherm 30/30A/31/32C Portable Thermometers

These hand held infrared thermometers provide a fast, low-cost way of checking temperatures. They use laser technology to pinpoint and define the measurement area, operate with two AA-size batteries and are small enough to slip into a pocket. Simply aiming the thermometer and pressing the trigger gives a temperature reading in just 1.5 seconds on the bright back-lit LCD display that automatically illuminates in low light conditions.

Four models are available for a wide range of applications:

- **PockeTherm 30** - Circular laser targeting system
- **PockeTherm 30A** - With additional audible and visual alarms
- **PockeTherm 31** - With additional peak and valley hold functions
- **PockeTherm 32C** - Twin LED beams for accurate, close-up sighting

The PockeTherm Series offer:
- Accurate, fast response
- Palm sized, ergonomic and easy to use
- Only requires 2 x AA size batteries
- Clearly defined target measurement area

Ideal for a wide range of applications in industries including:
- Food - ‘Dangerous Zone’ measuring, coolers, chillers, ovens
- Electrical - power supplies, component testing, hot spots
- Automotive - cylinders and manifolds, wheel bearings, brakes
- Maintenance and Condition monitoring in any industry

### Comparison Chart

<table>
<thead>
<tr>
<th></th>
<th>PockeTherm 30</th>
<th>PockeTherm 30A</th>
<th>PockeTherm 31</th>
<th>PockeTherm 32C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Applications:</strong></td>
<td>Food Industry, Preventive Maintenance/Condition Monitoring</td>
<td>Maintenance/Condition Monitoring</td>
<td>Electrical/Electronic Industry</td>
<td></td>
</tr>
<tr>
<td><strong>Temperature Range:</strong></td>
<td>-40 to 400°C/-40 to 760°F</td>
<td>-50 to 500°C/-50 to 950°F</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Display:</strong></td>
<td>External LCD, Back-lit</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Measuring Area:</strong></td>
<td>39.37 inches - 0.1in dia @ 1.06in</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Response Time:</strong></td>
<td>1.5s (to 90%)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Spectral Response:</strong></td>
<td>8 to 14μm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Targeting System:</strong></td>
<td>Circle (Laser Diode), 1.0mW max, 550nm</td>
<td>2 Beams (Laser Diode), 1.0mW max, 550nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ambient Op. Temp.:</strong></td>
<td>-20 to 55°C/-4 to 130°F. Relative humidity not exceeding 85% (at 35°C/95°F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Emissivity Adjustment:</strong></td>
<td>0.95, 0.90, 0.85 Selectable</td>
<td>0.1 to 1.00 in 0.01 increments</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alarms:</strong></td>
<td>Flashing Display</td>
<td>Audible and Flashing Display Alarms (Upper/Lower)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Battery Life:</strong></td>
<td>Approx. 20 hours (laser operating, continuous use)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions:</strong></td>
<td>1.08 x 1.73 x 5.98in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>4.8 oz</td>
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</tr>
</tbody>
</table>
DigiRoller Plus II  Model # 6425

Calculate and store Linear and Area measurements. Roll and label the “Length” and “Width” to find Area or store and recall later.

Stores multiple units of measurement. Display Linear and Area measurements in Feet-Inches and Yards; Decimal Feet-Inches and Yards, Meters and Acres; plus Volume.

Built-in user Memory for accumulating counts of measurements.


Dimensional Math and Conversions:
Calculates and stores Linear and Area measurements. Roll and label the “Length” and “Width” to find Area or store and recall later.

Stores multiple units of measurement. Display Linear and Area measurements in Feet-Inches and Yards; Decimal Feet-Inches and Yards, Meters and Acres; plus Volume.

Dedicated Functions:
Built-in user memory for accumulating counts of measurements.
Large, easy-to-read LCD displays measurements in Meters, Yards, Inches.
Includes its own wheel radius for true wall-to-wall measuring.

Time Saving Utilities:
AutoCount feature counts preset distance increments. Or, use push-button manual counter for parking spaces, lights, posts, etc.)
Start/stop key prevents accidental measurements.
Backlight LCD display.
Auto Shut-off extends battery life.
Built-in kickstand

Included Accessories:
Easy-to-Understand User’s Guide
Long-Life Batteries
Full One-Year Limited Warranty

Tech Specs:
Wheel Size: 1 Meter (39-3/8") circumference; 12-9/16" (.319 meter) diameter
Wheel Composition: High-impact plastic; TPE rubber tire
Maximum Speed: 8 mph (13 Km/h)
Product Weight: 4 lbs. (1.81 kg)
Length: Extended: 45 Inches (1143mm) with wheel
Contracted: 29 Inches (737mm) with wheel
Power: Four AAA Duracell batteries
Display Type: LCD segment; 7 digits (up to 999,999.9), with annunciator-legends
Accuracy: 10 Digit Internal Math accuracy; 99.5% measuring accuracy
DCD now offers the most comprehensive range of Duct Rodders available anywhere in the world. From the smallest 1/8” diameter Fish Tapes to the rugged 1/2” Duct Rodders.

**The Duct Rod**

The rod is manufactured from state of the art materials formulated to offer the high performance and durability demanded by our customers. The core of the rod is manufactured by the Pultrusion process. This involves impregnating high strength continuous glass fiber filaments with a liquefied resin. The fibers are drawn into a heated die where the resin matrix is cured, bonding the fibers together and allowing mechanical load to be transmitted through the matrix and distributed amongst the fibers.

The resulting pultruded rod combines both the high stiffness required to push the rod through long distances of ducting, with the flexibility to handle tight bends without damage. This inner core is then coated with a highly durable, scratch resistant Polypropylene sheath which protects the core from mechanical damage.

**The Frames**

The Frames are also a feature of the DCD systems. The four largest sizes incorporate the new EZ-Tip™ feature; a larger footprint for stability; steel brake handles that will last forever; dual rod out-feeding positions and wheels inside the frame width. The two smallest sizes feature new frames with the feedout built into the handle. All frames can be laid down on either side. These are just some of the new design features that will make every unit more usable and friendly for the end user.

**Duct Rods - Selection**

Which is the right rod diameter for any given application? The rod selection is usually governed by several factors including:

- The size of ducting it is to be pushed through
- The distance the rod is to be pushed
- The number and tightness of bends in the ducting
- If the ducting is already occupied by cable

When being pushed through the duct, any rod will tend to form “sine waves”, hitting the wall of the duct at certain intervals. Each time the rod comes in contact with the wall of the duct, it causes friction. The friction will build and eventually prevent the rod from being pushed any further. Small rod in large duct will make more frequent contact with the ducting; the same rod in smaller duct will make less frequent contact and therefore less friction so it can be pushed further. Large rod in small ducting is a good situation, but reduced flexibility of the rod may cause increased friction in the tighter bends.

**NOTE:** These Duct Rodders are custom Built to order and are non-returnable except for warranty. Exercise caution when ordering.

Extreme care should be taken when unpackaging replacement rod because the fiberglass rod stores considerable energy and may cause severe injury.
TW-6 PIPE & CABLE LOCATOR

The Model TW-6 “Two-Box” metal detector finds underground pipes, cables, manhole covers, vaults, valve boxes and other metallic objects. It is used primarily by water departments, telephone companies, power companies, gas companies and petroleum pipeline companies when making repairs and rearranging lines. The TW-6 shows where to dig, as well as where NOT to dig.

To increase the instrument’s sensitivity, Fisher engineers removed all unnecessary metallic parts on the TW-6, replacing them with durable ABS molded plastic. Coil windings are designed with completely upgraded electronics and nonmetallic parts have boosted the tracing distance of the TW-6.

In the Fisher tradition, the TW-6 is affordable, tough, and simple to use while providing maximum performance. A two year limited warranty comes standard with the unit.

Main Features:

- Crystal controlled frequency in both transmitter and receiver increases tracing distance.
- Unlike other units that use a separate transmitter and receiver, the TW-6 when mounted on the handle, can conduct “blind” searches of an area to locate an underground pipe or cable when the starting point is unknown.
- Weighs only 5 1/2 pounds.
- Pipe & Cable Locator.
- VCO (Voltage Controlled Oscillator) gives a wider range of audio signal to indicate the presence of metal. Even after the meter pegs, the audio signal goes much higher in pitch and volume.
- Noise cancelling circuitry eliminates power line interference.
- Powered by 16 standard AA (penlight) batteries: eight in the transmitter and eight in the receiver.

Receiver:
- Operating Frequency .............. 81.92 kHz + .005%
- Batteries .......................... 8 each. AA (NEDA 15)
- Weight .................................. 2 1/2 lbs. (1.1 kg)
- Dimensions ...................... 11 1/2” x 9” x 3” (29 x 23 x 7.6 cm)
- Operating Temperature .......... -10°F to +120°, (-23°C to +48°C)
- Optional Equipment: Tracer Probe, Coupling Clamp, 3 pc Handle Kit, Hard Carrying Case
- Operating Frequency .............. 81.92 kHz + .005%
- Batteries .......................... 8 each. AA (NEDA 15)
- Weight .................................. 3 lbs. (1.36 kg)
- Sensitivity .......................... Normal: 400 uV typical...... High: 8 uV typical
- Signal-to-noise Ratio ................. 110 dB
- Headset Impedance .................. 600 ohms (mono) ......... 8 ohms (stereo)
- Dimensions ...................... 11 1/2” x 9” x 3” (29 x 23 x 7.6 cm)
- Operating Temperature .......... -10°F to +120°, (-23°C to +48°C) depending on batteries used
- Total Weight ........................ 5 1/2 lbs. (2.5 kg) - (without handle of accessories, ground plate assembly & op manual.)

Transmitter Accessories:
- SR-81 Sonde
- Stereo Headphones
- Fisher Phones
- Nicad Recharge Battery System
- Ground Rod Harness Assembly
- 2-Year Warranty
M-97 VALVE, PEDESTAL & BOX LOCATOR

The Fisher M-97 is specially designed for finding buried or paved over valves, boxes, or manhole covers, or any other concealed metallic object. It also locates targets made of aluminum, brass and lead.

The M-97 features push button tuning allowing the user to quickly and easily maintain optimum sensitivity for easy pinpointing of buried metallic objects. Plus, the M-97 offers auto-tune circuitry and a waterproof search coil.

New to the M series is the ease with which the M-97 can be stored. Just compact the lower stem, twist the search coil 90 degrees, and fold the search coil flat. The M-97 fits easily into the optional carrying case.

In the Fisher tradition, the M-97 is affordable, tough, and simple to use while providing maximum performance. A two year limited warranty comes standard with the unit.

Features

- Two knobs and a pushbutton for simple operation
- Adjustable shaft with double locking stem
- Ground Effect Rejection VLF eliminates annoying or false signals from wet ground foliage, pavement or mineralized ground
- High sensitivity for maximum penetration through soil, asphalt or concrete
- Built-in Battery Test/Pushbutton Tuning
- VALVE, PEDESTAL & BOX LOCATOR
- Ultra Slow Auto-Tune to stabilize ground tuning and minimize frequency drift
- Identifies metallic objects by speaker sound and needle movement
- Compact size for convenient storage

Specifications:

- Output Frequencies of search coil: 4.5 kHz
- Sensitivity: 0.20 mv RMS for full scale
- Sensitivity Adjustment Range: 12:1
- Output Indication Meter: 1 milliamp 0-100 linear scale
- Audio Frequency: 450 Hz
- Power Supply +9V supplies: (2) 9V batteries
- Battery Life Alkaline: 25-35 hours
- Power Consumption: (-9V) 13.8 mA
- Search Coil Configuration: Double-D
- Weight with 8-inch search coil: 3.3 lbs. (1.5kg)
- 11-inch search coil: 3.9 lbs. (1.8kg)
- Dimensions: 38 to 50 inches adjustable (96 to 127 cm)

FISHER CASES & BAGS

Lightweight, tough, and good looking. These cases and bags are a great way to travel or store your detector.

Heavy Duty Carrying Bag #202767
Fisher Labs

M-101 REBAR LOCATOR & METAL PROBE

The Fisher M-101 metal detector was designed specifically for finding reinforcing bars and other metal objects embedded in concrete, conduits, PK nails, wiring, wall studs and other metallic objects. Users may expect accuracy to 1/4" of the centerline of the rebar.

Turn the instrument on and only the penetration control need be adjusted for most operations, allowing maximum penetration depth for metals. A preset circuit eliminates ground effects caused by highly mineralized materials and false signals due to loop movement.

The M-101 also can effectively locate small metal items carried on or within a person and is substantially more sensitive than the average low cost metal detectors used at airports, so that a given metal item can be found at a greater distance from the search loop itself. Searches in water may be up to the control box. The search loop and cord are waterproof.

In the Fisher tradition, the M-101 is affordable, tough, and simple to use while providing maximum performance. A two year limited warranty comes standard with the unit.

Features

- Detects all metals
- Accurately pinpoints steel reinforcing bars, or "rebars"
- in concrete; (typically 8-9" depth for 1/2" diameter rebar)
- Detects intersections of rebar or mesh
- Audio and visual indications of nearby metal
- Rugged construction
- Operates on universally available 9V batteries
- Quick tune ready for operation in seconds
- Fully waterproof search loop
- VLF (Very Low Frequency) operation

Operating Frequency of Coil  4.5 kHz
Sensitivity Adjustment Range:12:1
Output Indication Meter - 1 milliamp, 1-100 linear scale
Speaker - 16 Ohm impedance
Headset (optional) - 8 Ohm impedance
Audio Frequency   450 Hz
Power Supply   +/- 9V, (2) 9V NEDA 1604
Coil Configuration   Double D
Weight   2.8 lbs. (1.3kg)
Dimensions
Control Box   3x5x6 inches (8x12x16 cm)
Handle   0.75 x 23 inches (1.9 x 58.4 cm)
Smart Probes™

Innovative Solutions to accurately and cost-effectively map XYZ coordinates of all types of underground infrastructure pipelines!

- High resolution 3D centerline
- No depth limitation
- Pipe sizes from 1.5" inside diameter and up
- Negotiates a 1x diameter bend
- Integrates with all desktop or Enterprise GIS

Geospatial’s Smart Probe™ technologies provide accurate XYZ centerline mapping of pipeline infrastructure and seamlessly integrates this open format data into all three-dimensional GIS or CAD databases.

A Geospatial mapping survey measures and maps the pipeline in three dimensions and produces a precise depiction of its plan view and profile. Multiple gyroscopic inertial measurement units (IMUs) within the Smart Probe™ measure 800 angular and linear velocity changes per second in the X, Y and Z axes as the unit moves through the pipeline. Our Smart Probes™ can map most pipelines with a high degree of positional accuracy by establishing reference points with known geographical coordinates and GPS data at the start and end of the run, and on very long runs at known intervals between the two.

Geospatial’s Smart Probes™ are “un-tethered” which means there is no requirement for a communication cable to be attached to the Smart Probe™, allowing greater flexibility in the utilization of the technology. Since all data is stored within each probe, there are no depth limitations.

Acquired data can be stored on a laptop PC or immediately viewed and evaluated in the field. If required, digital “plan and profile” sectional drawings of the pipeline can be produced, overlaid on the existing plan view of the site and printed in the field. Alternatively, this digital data can be transferred via the Internet to any location in the world to be evaluated by associated decision-makers or stored and entered into the appropriate GIS/CAD database by the program administrator for future reference and use.

Geospatial’s Smart Probe™ technologies allow the economical digital mapping of pipelines as small as 1.5” (3.8 cm) to as large as 48” (121.92 cm) in diameter. In addition, our Smart Probes™ are designed in numerous body styles, some of which permit the negotiation of extremely tight (90 degree) bends. Geospatial has developed custom body styles specifically designed for potable water pipelines and others for small fiber optic/telecommunications conduit. Our engineers are available to custom design technical solutions for your specific project if necessary. Geospatial’s totally self-contained Smart Probes™ are capable of operating in any pipeline medium.

With these and other unique features, Geospatial’s Smart Probe™ technologies are ideal for the location and digital mapping of water pipelines, gravity sewers, pressure sewers (force mains), telecommunication conduits, oil & gas distribution pipelines, electric utility conduits, environmental pipelines and most industrial pipelines.

In addition, our Smart Probe™ technologies are economical methods to create accurate “as-built” three-dimensional drawings of new pipelines installed utilizing either Horizontal Directional Drilling (HDD) or conventional “open cut” methods. Not only are the “as-built” drawings accurate and quick to produce, they seamlessly integrate into AutoCAD and most other major GIS databases.

Our profile mapping technologies can also provide a detailed “bending radius analysis” of the installed pipeline and detect installation errors that may lead to premature pipeline failure due to over-stressing of the pipeline.

By implementing a program that provides several centerline profiles over a fixed period of time, pipeline settling and deflection can be determined.

During rehabilitation programs of gravity sewers, Geospatial’s Smart Probe™ technologies can provide not only the invert coordinates of each of the sewer lines, but can economically provide accurate profiles showing any “bellies” or “settling” of the sewer line. These damaged sections can then be rehabilitated via “spot repair” methodologies prior to relining.
Founded in 1947, Gas Measurement Instruments designs, manufactures and markets a wide range of portable and fixed gas detectors to meet the high demands of industries where safety is critical.

With over half a century of experience in gas detection expertise GMI is known as a manufacturer of the highest quality. Engineering excellence ensures that the high expectations of our customers are surpassed. GMI is ISO 9001:2000 approved, BSI registered and a member of the council for gas detection and environmental monitoring (COGDEM).

**The New GMI VISA Portable Gas Detector**

- A robust and accurate portable gas detector the VISA provides unrivalled protection in confined space applications with audible and visual alarms in the event of exposure to Flammable or Toxic gases. Detecting and displaying up to 5 Gases simultaneously using “plug and play” sensor technology, the VISA is suitable for a host of applications in a variety of industries.
- Pre-entry checking can be carried out with the internal sampling pump, and diffusion operation ensures maximum battery life in confined spaces.

**Features:**
- Robust Hi Visibility Housing
- 95 dB Audible and 360 degree visual alarm
- High, Low, STEL and LTEL alarm
- Optional Internal pump
- Optional Data logging
- Single button operation

*The confined space monitor “designed by our customers”.*

**GT Series - The Multi-Function Gas Detector**

The GMI - GT range of instruments combine quality, ruggedness and advanced GMI Technology in a user friendly, hand held gas detector.

The multi-application GT series will satisfy all your gas detection requirements in a single, easy to use instrument.

Instrument w/Case & Accessories

- GT-40 (PPM / LEL / GAS / CO) 67401
- GT-41 (PPM / LEL / GAS / O2) 67411
- GT-42 (PPM / LEL / GAS / CO / O2) 67421
- GT-43 (PPM / LEL / GAS / CO / O2 / H2S) 67431
- GT-44 (PPM / LEL / GAS) 67441
OPTIMUM DVD - Sewer Inspection System

The Optimum DVD sewer inspection system has great features for the sewer line inspector. These features include:

**Self-leveling Camera Head**

The bronze weighted camera produces reliable, consistently upright pictures with twenty super bright LEDs to light up larger pipes and keep the camera head cool. It’s stainless steel camera head easily navigates 3” P-Traps.

**User Friendly command module**

Simple controls with the easy-to-read 10.4” LCD screen ensures reliable inspections.

User-friendly Command Module with Integrated DVD Recording. 

**Integrated DVD recording**

Capture and play back multiple inspections on a single DVD.

**Integrated Text Writing**

Four Pages of text can be entered for in-depth inspection reporting.

**Kevlar braided Push Rod**

With Kevlar you can push the camera further with less breakage than other rod materials are capable of doing.

**Portable**

Light weight control box (16 lbs) make carrying to and from job site easy.

**Reel Specifications:**

- **Capacity**
  - Standard Reel - 200’ or 400’
  - Mini Reel - 100’ or 200’

- **Construction**
  - Reel & Drum - Powder coated steel bar
  - Cameras - Standard - 1.68” x 2.5” suits pipe sizes 2” - 12” in diameter and 3” P-Traps
  - Mini - 1.23 x 1.6 navigates 2” P-Traps

- **Housing** is stainless steel with a sapphire lens and shatterproof LED cover.

- **Resolution** 470 Lines - Color

- **Operating depth** - 328’

**Other features:**

- Anti-glare screen with adjustable viewing angles.
- GFI protected circuits
- P-Trap skid to protect camera head
- 20 LEDs on standard head and 12 LEDs on mini head.
- 8’ transport wheels
- One Year Warranty
Heath Consultants

Plunger Bars

Maximum Performance Probes

Count on Heath, with over 65 years of expertise. Heath provides the utility industry with the most rugged and reliable tool you can find for all your probing needs. Heath Plunger Bars are specially designed to outperform all others. Heath Plunger Bars have a fitted piston rod for maximum safety and dependability, as well as a unique piston action for easy removal of rod.

Tough, one-man probing tools that easily drive 1/2-in. holes to depths of up to 40 in. (52 in. and 84 in. with extra-long rod).

Choose from two models: Heavy Duty or Utility

Plastic-coated handles are insulated and provides up to 10,000 volts shock resistance at the top 18 inches of handle. Laboratory tested.

Tempered steel rods come in three sizes, with or without ball tips:

- 40-in. probe depth
- 52-in. probe depth
- 84-in probe depth

Replacement rods make Heath Plunger Bars economical, too. Penetrate through even the most dense soil.

Plunger Bar, Complete:

Heavy-Duty and Utility Models

Heavy-Duty Model/ Standard Rod: Total length assembled - (40") 62 in. (157.5 cm) 13 lbs. (5.9 kg)

Heavy-Duty Model/Extra-Long Rod: Total length assembled - (52") 76 in. (193 cm) long 13.5 lbs (6.1 kg) and (84") 108 in. (274 cm) long 15.5 lbs. (7 kg)

Utility Model/ Standard Rod only: Total length assembled - (40") 62 in. (157.5 cm) 9 lbs. (4.1 kg)

Handles: All models are plastic-coated and insulated

Heavy-Duty Model: 22 x 2.25in lbs. Utility Model: 22 x 2.25in

Rods: Tough, steel-tempered rods come in standard and extra-long sizes, with or without ball tip (includes guide plug).

Standard Size: for Heavy-Duty and Utility Models only 40-in. probing depth 59 x .5 in. (150.0 x 1.3 cm) dimensions of unassembled rod 4 lbs. (1.8 kg)

Extra-Long Size: for Heavy Duty Models only 52-in. probing depth 71 x .5 in. (180.3 x 1.3 cm) dimensions of unassembled rod 4.5 lbs. (2.0 kg) 84-in. probing depth 103 x .5 in. (261.6 x 1.3 cm) dimensions of unassembled rod 6.5 lbs. (2.9)

Warranty:

1 year workmanship and labor, 1 year parts

Heath No. Description

1900464 Complete, heavy-duty, with 40 in. rod, w/o ball tip.
1900476 Complete, heavy-duty, with 52 in. rod, w/o ball tip.
1900475 Complete, heavy-duty, with 84 in. rod, w/o ball tip.
1900474 Complete, heavy-duty, with 40 in. rod, with ball tip.
1900478 Complete, heavy-duty, with 52 in. rod, with ball tip.
1900479 Complete, heavy-duty, with 84 in. rod, with ball tip.
1900480 Complete, utility model, with 40 in. rod, w/o ball tip.
1900487 Complete, utility model, with 40 in. rod, with ball tip.
1910470 Replacement rod, heavy-duty, 40 in. rod, w/o ball tip.
1910471 Replacement rod, heavy-duty, 52 in. rod, w/o ball tip.
1910477 Replacement rod, heavy-duty, 84 in. rod, w/o ball tip.
1910472 Replacement Rod, heavy-duty, 40 in. rod with ball tip. (includes guide plug)
1910473 Replacement Rod, heavy-duty, 52 in. rod with ball tip. (includes guide plug)
1910481 Replacement Rod, heavy-duty, 84 in. rod with ball tip. (includes guide plug)
1910486 Replacement Rod, utility model, 40 in. rod w/o ball tip.
1910489 Replacement Rod, utility model, 40 in. rod with ball tip.
1910468 Replacement Handle, heavy-duty model.
1910483 Replacement Handle, utility model.
1910469 Guide Plug (assembly nut), heavy-duty model.
1910482 Guide Plug (assembly nut), utility model.
GEOPHONE

*The Way To find A Leak!*

The Heath Geophone water leak detector accurately locates underground leaks, both water and steam, eliminating costly and time-consuming excavation. The Geophone is entirely mechanical and operates on the seismograph principle. It is extremely sensitive, not only to vibration, but to variations in vibrations. An experienced Geophone operator can even determine the size of a leak with this highly accurate, yet inexpensive instrument.

Many industrial plants, water departments, and swimming pool contractors are successfully using the Geophone to pinpoint underground water leaks.

The Geophone’s highly sensitive “earphones” are placed on the ground and sound vibrations are picked up, amplified by the instrument, and transmitted to the headset. The slightest trickle can be heard and tracked down by merely moving the device up and down a street or by following the line of a house’s water pipe until the spot is reached where a sound is the loudest.

Features:
- Extremely sensitive and responsive
- Sensors permit exact centering of leak after detection
- Inexpensive and easy to use
- Cost of exploratory excavations are reduced
- Rugged enough to stand abuse
- Comes with convenient plastic case.

Operating Information

The Geophone’s highly sensitive “earphones” are placed on the ground and sound vibrations are picked up, amplified by the instrument, and transmitted to the headset. The slightest trickle can be heard and tracked down by merely moving the device up and down a street or by following the line of a house’s water pipe until the spot is reached where a sound is the loudest.

Heath Geophone complete unit includes:
- Plastic carrying case, stethoscope with earphone tips, headset springs, Y’s, tygon tubing (8 ft.)

Weight of detector: 6.1 lbs. (2.8 kg)
Plastic Case Dimensions, H-W-L: 4.25 x 8 x 11 in.
Plastic Case Weight: 1.1 lbs.
Total Shipping Weight: 9 lbs.
Warranty: 1 year workmanship & labor; 1 year parts
Big Buddy - 1/2" OD Rod

With a 1/2” OD rod, the heavy duty Big Buddy® is designed to rod or fish conduit of 4” inside diameter or larger and is available in lengths of 500 to 1000 feet. It is perfect for big jobs like manhole-to-manhole work or long-run cable pulls. Fully portable and easily stored in small vans, the Big Buddy® operates vertically or horizontally for maximum versatility. Includes drag brake to control payout. Rod is available marked in feet or meters. 19” Bending Radius; 1,400-Lb Pull Strength. Dimensions: 47.5” X 44” X 20” Accessory Kit Sold Separately.

Good Buddy - 3/8” OD Rod

Designed for use in confined areas, the 3/8” OD Good Buddy® is designed especially for manhole-to-riser and riser-to-riser jobs. It is also perfect for cable vaults and running larger conduit in buildings. Available in lengths of 300 and 400 feet, its frame collapses to 10” in width, allowing it to be carried into manholes. Vertical and horizontal swiveling allows positioning in confined areas. The Good Buddy® is built to rod or fish conduit ranging from 2” to 4” and has a drag brake to control payout. It is available with foot or meter markings on the rod. Includes Accessory Kit. 15” Bending Radius; 1,000-Lb Pull Strength. Dimensions: 29” X 29” X 27”

Good Buddy II - 3/8” OD Rod

A combination of the Good Buddy® and Big Buddy®, our Good Buddy®II was designed for longer runs in 2” to 4” conduit with rod lengths up to 600 feet. The reel is 39” in diameter, making it big enough to handle the job, but small enough to fit in a mini-van. Features wheels and handle for transport. Foot and meter markings are available on rod. Accessory kit included. Drag brake controls payout 15” Bending Radius; 1,000-Lb Pull Strength. Dimensions: 40” X 32” X 30”

Good Buddy III - 3/8” OD Rod

The Good Buddy III has the same 300-400’ length 3/8” rod capacity of the Good Buddy, but incorporates the slim frame, handle and wheel options of the Good Buddy II. The Good Buddy III operates vertically or horizontally and is designed for maximum portability. Features wheels and handle for transport. Foot and meter markings are available on rod. Accessory kit included. Drag brake controls payout 15” Bending Radius; 1,000-Lb Pull Strength. Dimensions: 32” X 28” X 13”

Easy Buddy - 1/4” OD Rod

The Easy Buddy’s 1/4” OD rod is stiffer than the smaller Little Buddy, yet more flexible than the larger Good Buddy. With a solid fiberglass non-conductive core rod and polymer outer sheath, the Easy Buddy offers unparalleled strength, flexibility and safety. Its polymer coating protects the external rod surface from abrasion and provides a self-lubricating outer surface. Designed to handle tight turns and long runs, the Easy Buddy is ideal for rodding or fishing conduit in buildings. The Easy Buddy’s lightweight frame and wheels make the unit fully portable whether on the ground or being lowered into a manhole. Includes male fitting and tapered pulling eye. Accessory/repair kit sold separately. Foot and meter markings available on rod. 4” Bending Radius; 400-Lb Pull Strength. Dimensions: 28.5” X 24” X 11”

Little Buddy

With 3/16” outside diameter, this fish tape is only slightly larger than the Wee Buddy®, but it is available in lengths from 150 to 300 feet, making it ideal for running inside and outside conduit drops. It is also ideal for home drops from the hand-hole box to the house or building. Some technicians find it handy on light pole and control wiring or walker ducts. This lightweight, portable unit operates vertically or horizontally and offers a drag brake to control payout. It also comes standard with our accessory repair kit. Accessory Kit Included. 2.5” Bending Radius; 200-Lb Pulling Strength. Dimensions: 22” X 17” X 7”
**Wee Buddy**

The smallest of the Buddy® System fish tapes is ideal for inside wiring jobs in occupied conduit where a flat tape tends to wrap around existing cable. The round, slick sheath of the Wee Buddy® slides easily over existing wires, especially at bends. With a total outside rod diameter of 1/8", the Wee Buddy® can fish conduit as small as 1/2" inside diameter, making it perfect for fishing telecom, voice, data and electrical conduit. Its easy grip design makes for more effective pushing and pulling and the patented canister allows for easy access to the optional accessory kit. Available with or without Accessory Kit. 1.5” Bending Strength; 200-Lb Pull Strength Dimensions: 12.5” X 12.5” X 2”

**5/16” Duct Hunter**

Non-invasive detectable rodder locates or maps underground conduit or pipe without digging or trenching. Attach standard field transmitter to Duct Hunter to locate to depths up to 10’. Copper wire inside fiberglass core is energized with an electromagnetic signal that is detectable above ground through the use of hand held signal receiver. 32” X 28” X 13”. 5/16” Outside Rod Diameter Available in 300’ and 400’ Lengths

**7/16” Duct Hunter**

Non-invasive detectable rodder locates or maps underground conduit or pipe without digging or trenching. Attach standard field transmitter to Duct Hunter to locate to depths up to 10’. Copper wire inside fiberglass core is energized with an electromagnetic signal that is detectable above ground through the use of hand held signal receiver. 47.5” X 44” X 20”. 7/16” Outside Rod Diameter. Available in 500’ and 600’ Lengths

**Our Standards Make Your Job Easier**

Whether you are in Telecommunications, CATV, Power Utilities, Tree Care or Military, the job you do is a difficult and sometimes dangerous one.

That is why Jameson works constantly to develop innovative tools that make your work easier and safer. Our product line includes cable splicing tools, conduit rodders, fish tapes, layup sticks, work lights, tree care tools and aerial construction tools. All were developed based on interaction between Jameson employees and the customer in the field.

Jameson is committed to quality, safety, value and service. We understand the needs of our customers always come first. This is the philosophy that drives our guarantee of workmanship and on-going product development. It’s reflected in the loyalty of our customers and our growing line of products.

*Some models available with push rods!*
RIPCORD SMOKER & SUPER SMOKER

Efficient and cost effective, smoke testing has become a world-wide standard for finding leaks in sewer and plumbing systems. By forcing smoke-filled air through a sewer or plumbing system, leaks can be quickly detected as smoke escapes through problem areas. HURCO provides all you need to manage a complete smoke testing program better and more profitably.

Efficient and cost effective, smoke testing has become a world-wide standard for finding leaks in sewer and plumbing systems. By forcing smoke-filled air through a sewer or plumbing system, leaks can be quickly detected as smoke escapes through problem areas. HURCO provides all you need to manage a complete smoke testing program better and more profitably.

* Laboratory Tested Safe LiquiSmoke
* Equipment & supplies
* Training (Videos & Online)
* Smoke testing management software

We’re not just Blowin’ Smoke!
The Easy Locator caused a revolution when it was originally released and quickly established itself as the GPR tool of choice for utility applications, such as:

- Utility detection
- Utility marking
- Underground Storage Tank (UST) detection
- Void detection
- Locate service or illegal connections
- Lost cover, valve, cable box or vault detection and many more!

The product's simple yet ergonomic and field rugged design, intuitive user interface and clear display is testament to its success and it remains as the number one choice in its field.

- Minimal set up for fast start-up
- Quick and simple one button operation
- Real time locates
- Detects metallic and non-metallic utilities
- Back up cursor for quick and accurate utility marking
- 10.4" colour LCD screen
- Compact, portable and field rugged design – IP66
- Available in nine different languages

System Configuration

With fast start-up and minimal set-up the Easy Locator can be rapidly deployed and the user can be out collecting real-time data at full walking speed within minutes of arriving at the job site. MALÅ’s unique single push/ turn button control allows for quick and simple operation. A clear easy to read color LCD combined with a back up cursor allows for easy interpretation of data and efficient on-site marking of utilities. An optional feature allows images of the screen data to be saved in jpeg format which can then be exported via a USB thumb drive for use in field reports. The hinged shaft design allows the Easy Locator to be folded, creating a more compact package for efficient transportation and storage.

Technical Specifications:

<table>
<thead>
<tr>
<th>Power supply: Li-Ion 11,1V battery</th>
<th>Display: 10.4&quot; Color TFT Ultra-Hi-Brite or trans-reflective LCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating time: 5/10 h with single/double battery pack</td>
<td>Dim. with wheels: 26&quot;x19&quot;x7&quot; (exc. handle)</td>
</tr>
<tr>
<td>Operating temp: -20° to +50°C or 0° to 120 °F</td>
<td>Shallow Antenna: 500 MHz. Shallow penetration, highest resolution.</td>
</tr>
<tr>
<td>Environmental: IP66</td>
<td>Mid Antenna: 350 MHz. Deeper penetration, high resolution.</td>
</tr>
<tr>
<td>Weight: 18 kg/ 40 lb (Shallow), 19 kg/ 42 lb (Mid)</td>
<td></td>
</tr>
</tbody>
</table>
Soil Probes are offered with an optional cast zinc metal tip for extra durability. Solid Nuplaglas handle diameters of ½” and heavy duty 5/8” are available in 48” and 60” lengths. These probes are used for soil testing and with their non-conductive fiberglass handles are safe for locating irrigation, power and water lines; ideal for the utility industry.

Classic Nuplaglas handles exceed all Federal standards and are made of pultruded structural fiberglass that is composed of millions of continuous parallel fiberglass strands cured under tension in a thermosetting resin. This design produces optimum strength-to-weight ratios and provides the user with safety and durability required in all heavy duty applications.

All Nupla handles have excellent dielectric properties that make them safe to use even in wet conditions. Smooth, resin rich handle surfaces protect users from splinters and resist UV deterioration. The handles are unaffected by cuts, blows, moisture, or most industrial chemicals and are easily cleaned of concrete, tar etc. In addition, the tools have a high shelf life since they are unaffected by fungus, termites or dry rot as are wood handled tools.

<table>
<thead>
<tr>
<th>CLASSIC SOIL PROBES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>69400 PRB4 Classic 4’ Soil Probe T 48” na 6 12.00 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69401 PRB4T Classic 4’ Soil Probe w/metal tip T 48” na 6 12.00 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69403 PRB5T Classic 5’ Soil Probe w/metal tip T 60” na 6 12.00 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69405 PRB4TH Classic 4’ Soil Probe HD w/metal tip T 48” na 6 13.50 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69407 PRB5TH Classic 5’ Soil Probe HD w/metal tip T 60” na 6 14.00 lb</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Get the Stripe and Get a Genuine Nupla Tool!
Pacific Tek has the capability to combine the “Power-Vacs” with water jets, air compressors, valve operators, core drills, truck beds, cranes, lifts, custom lighting, and storage to deliver complete truck mounted systems.

**PV-500**

PV-500 “hi-output” “Power-Vac” with water jet and air compressor for digging and model CD416 core drill for opening the pavement. Built on an existing customer owned vehicle saves the initial cost of another truck in the fleet.

**PV-350**

This PV-350 “hi-output” “Power-Vac” unit is also equipped with engine driven air compressor and 4500 watt electrical system for welding. A core drill, loading crane and water jet system complete this system. The rear deck still has storage space for slurry, tools and other accessories.

**PV800-HO**

This 800 gallon “Power-Vac” required silent running for work in exclusive urban neighborhoods. An insulated enclosure and extra muffling made this our quietest unit ever built.

**Remote Control Boom**

A remote controlled 3-axis hydraulic boom highlighted this 800 gallon “Power-Vac” built for a Gas Company construction crew. Hydro-excavation without hanging on to the vacuum hose was their aim.

**PV-350 Power Vac**

A custom painted PV-350 “Power-Vac” with automatic 1-step dump hatch, remote controlled floodlights, and under-deck storage for hose and attachments.

**PV-220 Power Vac**

A PV-220 “Power-Vac” combined with our PT-25 valve operator which pulls out and swivels 180 degrees gave a City Water Dept. the ideal underground gate valve maintenance truck.

**PT-8 Portable Hydraulic Valve Operator**

Eliminate potential lower back injuries and let the PT-8 turn your underground gate valves. Can be used alone with it’s lightweight hydraulic power unit, Model PU-2G, or as a helper to the truck mounted valve operator on valves located off the street. This versatile and lightweight tool let’s the operating person stand still while it does the turning. Get accurate revolution counts on your valve operations. Use as part of an exercising program or to quickly effect valve shut-downs when they’re needed. The built-in torque adjustment let’s you start out low and work your way up to the torque required.

- Handles can be positioned for either one-man or two-man operation.
- Built-in torque adjustment with readout for safe start-up.
- 0 to 60 RPM turning speed and directional control in one twist grip handle.
- Produce up to 350 ft. lbs. or use lockout to withstand 800 ft.lbs. safely.
- Reversible and resetable LED revolution counter built in.

**PUG-06 Hydraulic Power Unit for PT-8**

This 8.5 H.P. gas engine driven unit has a 5 GPM @ 2,000 PSI output. Mounted on pneumatic tires and spring pads it is easily rolled at the worksite. It has retractable handles for easy movement. The system also has a 4.8 gal. reservoir and both a suction strainer and 10 micron return line filter. Unit also has a convenient storage space for the PT-8 valve operator and its operating handles. Total weight of power unit is 220 lbs. full. It can also be left in the vehicle and secured for travel.
PT-25 & PT-25G Vehicle mounted Valve Operator

Can operate underground gate valves from 6” to 60” diameter. Torque control device insures that only enough torque to turn valve is present. Is more gentle on valve stem than normal manual operation. Swivel in head allows operation at up to 15 degrees of misalignment. Power head extends up to 28 inches to operate. Revolution counter gives readout of valve turns to 1/10th of a revolution. Torque setting can be easily checked while valve is turning without excess strain on valve. Gauges include pressure, torque, oil temp., and oil filter condition. Controls include torque, direction, speed, and auxiliary circuit. Oil reservoir holds 19 gallons of hydraulic fluid. Can be mounted across Pick-up bed, in utility box, or trailer mounted.

STANDARD FEATURES:

- All hydraulic motors circuitry built into a single manifold.
- All exterior parts powder coat painted for a long lasting finish.
- Permanently lubricated Powerhead frame rolls out on sealed wheels with bearings.
- Has built-in auxiliary hydraulic tool circuit with quick-disconnect couplings.

PV-13LR Long Reach Truck or Trailer Mounted Valve Operator

The PV-13R is a truck or trailer mounted valve operator that can turn valves with adjustable torque from 50 to 800 ft. lbs. It has a digital reversible revolution counter and can operate valves up to 13 ft. away from the vehicle.

The unit comes with either an hydraulic unit or PTO drive.

The valve operator head has torque readout, torque control valve, speed control valve, directional control valve, arm lock/unlock controls. The counter counts in 1/10th of a turn for data accuracy.

The PV-13LR can operate valves in the street, median, or off the road, and be linked to a computerized data collection program to automatically capture and store data.
Over 40 years of experience, and a commitment to quality and customer service have made Pelsue a trusted name when it comes to a manhole work area. Whether it is the universally recognized Pelsue Manhole Shields and Manhole Guards that set the standard, or whether it is our submersible pumps, safety lights, and our latest products, you will find the quality and dependability you have always counted on.

Model: 2775 / Lid Lifter

Model 2775 weighs only 12.5 lbs. (5.6 kg) and has a special handle to allow for a better grip. It is also designed to remove ice or dirt by using the built-in scraper.

The heat treated hook is adjustable for different leverage points. Lifting capacity up to 500 lbs. The hook locks into the handle when not in use.

Axial Ventilation

Axial ventilation systems are lightweight, inexpensive, have a high rate of air flow, and come in either 12VDC, or 120VAC.

<table>
<thead>
<tr>
<th>Model</th>
<th>CFPM</th>
<th>HP</th>
<th>Description</th>
<th>Size- lwh</th>
<th>Lbs</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1320</td>
<td>809</td>
<td>1/6</td>
<td>Steel</td>
<td>12x8.5x12.5</td>
<td>15</td>
<td></td>
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<tr>
<td>1325D</td>
<td>1075</td>
<td>1/3</td>
<td>Steel</td>
<td>14x13.5x14.5</td>
<td>19.5</td>
<td></td>
</tr>
<tr>
<td>1326P</td>
<td>921</td>
<td>1/3</td>
<td>Molded Polyethylene</td>
<td>18x14x15</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>1375D</td>
<td>668</td>
<td>1/3</td>
<td>15' hose - Canister attached - Steel</td>
<td>37x13x14.5</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>1375P</td>
<td>668</td>
<td>1/3</td>
<td>25' hose - Canister attached - Steel</td>
<td>36x14x15</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>1385D</td>
<td>668</td>
<td>1/3</td>
<td>15' hose - Molded Polyethylene</td>
<td>36x14x15</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>1385P</td>
<td>668</td>
<td>1/3</td>
<td>25' hose - Molded Polyethylene</td>
<td>36x14x15</td>
<td>43</td>
<td></td>
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<tr>
<td>1380D</td>
<td>1077</td>
<td>1/3</td>
<td>Purge Pack with 12” dia. 8’ Steel - Plastic Hose</td>
<td>14.5x13x16.75</td>
<td>32.75</td>
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<tr>
<td>1400D</td>
<td>922</td>
<td>1/4</td>
<td>12 vdc - Steel</td>
<td>14.5x13x14.5</td>
<td>16.5</td>
<td></td>
</tr>
<tr>
<td>1400P</td>
<td>922</td>
<td>1/4</td>
<td>12 vdc - Molded Polyethylene</td>
<td>18x14x15</td>
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<tr>
<td>1420</td>
<td>719</td>
<td>1/4</td>
<td>12 vdc - Steel</td>
<td>12x8.5x12</td>
<td>17</td>
<td></td>
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<tr>
<td>1475D</td>
<td>541</td>
<td>1/4</td>
<td>12 vdc - 15’ hose - Canister attached - Steel</td>
<td>37x13x14.5</td>
<td>40</td>
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</tr>
<tr>
<td>1485D</td>
<td>541</td>
<td>1/4</td>
<td>12 vdc - 25’ hose - Canister attached - Steel</td>
<td>37x13x14.5</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>
Super Axial blowers are high output blowers for purging and ventilation for larger applications, including sewer systems, attics, ships, storage tanks, etc.

<table>
<thead>
<tr>
<th>Model</th>
<th>CFPM</th>
<th>HP</th>
<th>Description</th>
<th>Size- lwh</th>
<th>Lbs</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super 12</td>
<td>2750</td>
<td>1/2</td>
<td>12&quot; Axial Blower designed for situations where a high volume CFM is the primary concern</td>
<td>13.25x15x15.5</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Super 12EX</td>
<td>2750</td>
<td>1/2</td>
<td>EX is the explosion-proof model for hazardous environments.</td>
<td>13.25x15x15.5</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Super 16</td>
<td>3200</td>
<td>1/3</td>
<td>16&quot; is the most popular size in the industry for high volume applications.</td>
<td>13x18.75x19.25</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Super 16EX</td>
<td>3200</td>
<td>1/3</td>
<td>The 16&quot; explosion-proof model for hazardous environments</td>
<td>13x18.75x19.25</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Super 20GH</td>
<td>9420</td>
<td>5</td>
<td>The Super 20 series direct drive system eliminates belts, pulleys, ball bearings and additional shafts for years of trouble free operation. It is the only ventilator in the industry that is stackable to double the volume of the useable air. 4 cycle gas Honda engine.</td>
<td>20x24x24.75</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Super 20GT</td>
<td>9420</td>
<td>5.5</td>
<td>The Super 20 series direct drive system eliminates belts, pulleys, ball bearings and additional shafts for years of trouble free operation. It is the only ventilator in the industry that is stackable to double the volume of the useable air. 4 cycle Techumseh gas engine.</td>
<td>20x24x24.75</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Super 24</td>
<td>8600</td>
<td>1.5</td>
<td>This is the largest AC electric axial blower. It features a 24&quot; axial blade that provides 10,800 CFM, (w/venturi) well enough to ventilate a large warehouse or ship hulls. The housing is fabricated from heavy duty steel, powder painted safety yellow.</td>
<td>18.75x28x28.5</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Super 24EX</td>
<td>8600</td>
<td>1.5</td>
<td>The EX is the explosion-proof model for hazardous environments.</td>
<td>18.75x28x28.5</td>
<td>32.75</td>
<td></td>
</tr>
</tbody>
</table>
Centrifugal Ventilator

The Centrifugal ventilator has the ability to push air further or around bends in the hose at higher Static Pressures. Use a Centrifugal ventilator when more than 50 feet of hose is required or when more than 3 bends are in the hose are needed.

1000/120V AC - 1/3 HP - Single Speed Motor - Steel
1000E/120V AC - 1/3 HP - Explosion Proof Motor - Steel
1200/120V AC - 1/3 HP - Two Speed Motor - Steel
1240/120V AC - 1 HP - Two Speed Motor - Steel
1240E/120V AC - 3/4 HP - Explosion Proof Motor - Steel
1450/Gasoline - Briggs and Stratton - 3.5 HP
1453/Gasoline - Honda Engine - 4 HP

Hazardous Location Ventilation

All Pelsue products designed for Hazardous Locations are CEESI Certified. A Hazardous location is an area where the possibility of explosion and fire is created by the presence of flammable gases, vapors, dusts, fibers, or flyings.

1000E/120V AC - 1/3 HP - Explosion Proof Motor - Steel
1240E/120V AC - 3/4 HP - Explosion Proof Motor - Steel

Ventilation Hoses and Accessories

2000 Series/Ventilator Hoses
2101/Hose to Hose Connector
3015P/Hose Storage
3003P/Suction Adaptor
“AirPac” Series/Hose and Canister
“Caddy”/Hose Storage
Conductive Ventilator Hose/8” diameter
“HRT” Series/Hose and Canister
“PelCan” Series/Hose Storage
SpaceMaker15 Series/Ventilator Hoses
Super Axial Manhole Adaptors
Super Axial Spiral Ducts

Pelsue says:

“For over 40 years, Pelsue Company has been manufacturing Ventilators, Blowers, and Heaters. Building on our expertise in the Telephone industry, we have continued to adapt and improve the suitability of our products for multiple markets. Currently these products are used by the Telephone Industry, Power Companies, Homeland Security, and other markets.”

HOW DO I CHOOSE A VENTILATOR?

1) Insure that products have 3rd Party SAFETY Certifications
2) Insure that products have 3rd Party AIRFLOW Certifications
3) Determine volume of space to be ventilated
4) Insure 20 complete Air Exchanges/Hr

How do I Achieve 20 Air Exchanges per Hour

1) Determine the volume of the confined space (in cubic feet) Cubic feet are determined by multiplying Length x Width x Height.

2) Divide total cubic feet by 3 to get CFM requirement for the appropriate Blower.

EXAMPLE:

Workspace is 10ft X 12ft X 8ft
10' X 12' X 8' = 960 Cubic ft.
960 divided by 3 = 320 CFM Required to meet 20 air exchanges/hr.
*APPROXIMATELY 6% LOSS IN CFM PER ADDITIONAL 10' HOSE
** APPROXIMATELY 12% LOSS IN CFM PER ADDITIONAL BEND IN THE HOSE
Solid Marking Flags

Presco high-quality Solid Marking Flags are ideal for above ground marking in a variety of industries. From utility construction to line locating, hardware to forestry, landscaping to pet containment - these flags ensure consistent communication and long-lasting visibility for your project.

Ask for our color chart to view our extensive color option list

Flag Size Options:
- 2" x 3" Flag
- 4" x 5" Flag
- 5" x 8" Flag

Presco Marking Flag Staffs are available in your choice of steel, plastic or fiberglass.

Not all staff sizes are available for all flag sizes. Call ITC for details.

Steel wire staffs are constructed of high-carbon alloy steel for added tensile strength and bend resistant stability.

- Steel Wire - 12", 15", 18", 21", 24", 30", 36"

Plastic staffs provide increased safety around machinery and children.

- Plastic - 18", 21", 24", 30"

Fiberglass staffs are excellent for cold weather conditions, especially in the snow.

- Fiberglass - 18", 24"

Because Presco is a prime manufacturer of Marking Flags, anything you see can be customized to fit your need.

Presco Whiskers

Presco 6” Marking Whiskers™ are an alternative marking choice for survey and construction sites, underground utility locating and many other uses. Virtually indestructible, these APWA color-coded Marking Whiskers™ spring back up when run over by lawn mowers, graders and heavy equipment. They are easily and conveniently attached to wood stakes or to 60-penny nails (not included). Use them alone or in conjunction with other marking products.

Presco Marking Whiskers are used for marking:
- Grades on construction sites
- Athletic fields
- Property boundaries
- Forest trees for harvest
- Cemetery plots
- Landscaping/Irrigation
- Underground utility marking

Stock Lengths: 6”

Material Color Options: Blue, Green, Orange, Red, White, Yellow, Orange Glo, Pink Glo

Insertion Instructions:
Option 1: Insert a 60-penny nail through the circular opening of the metal clip, then hammer the nail into the ground.
Option 2: Hammer a wood stake into the ground. Hold the whisker at the end opposite the metal clip and hammer the metal clip into the top of the wood stake.
**LF2000 Line Finder**

Powerful, easy-to-use and dead-on accurate. Did we mention economical too?

The LF2000 gives you all the information you need, without confusing distractions, through the toughest cast iron or non-metallic locating jobs. Works great with Prototek’s line of 512 Hz transmitters, as well as video cameras and any other 512 Hz equipment.

The LF-2000 is a powerful and durable receiver that is also remarkably easy to use. Locates any 512 Hz sonde in cast iron or non-metallic lines. Uses 6 off-the-shelf AA alkaline batteries. A clear clicking sound provides intuitive feedback on signal strength – the faster the click, the stronger the signal. Clear LCD screens (with automatic backlight compensation) guide you through the steps critical to locating with accurate position as well as precise depth.

**LF-2000 Specifications**

- **Frequency:** 512 Hz
- **Output:**
  - LCD Screen: Peak locate, Line, Sonde, Depth
  - Automatic depth detection to 17 feet
- **Controls:**
  - 4-way thumb switch: Power, Gain, Screen select
  - Speaker output: Variable rate click
  - Power source: 6 AA Alkaline
  - Battery life: 30-40 hours
  - Operating temperature: -20 to +130°F
  - Weight: 6 lbs. (2.7 Kg)
  - Size: 32” x 8” x 4-1/4”
The LF2200 does everything the LF2000 does and more!

Check these features:
- Sonde locating at 16 Hz (ductile iron)
- 512 Hz (cast iron and nonmetallic) and 8 KHz (non-metallic only)
- Line locating at 8 KHz, 16 KHz, 32 KHz and 64 KHz (see our BuzzBox)
- “Sniffs” the frequency of any sonde or line exciter and locks on to it, from 16 Hz to 100 KHz
- Traces energized 60 Hz power lines
- Handle vibrates for “heads up” locating

Same easy-to-use LF tradition.

The LF2200 screens guide you through every step of precise, accurate locating. All the actions are controlled by the thumb-operated 4-way rocker switch!

**LF-2200 Specifications**

**Frequency:**
- Sondes at 16 Hz, 512 Hz & 8 KHz, 2 Custom “sniffable” sonde settings
- Line tracing at 8 KHz, 16 KHz, 32 KHz & 64 KHz, 2 Custom “sniffable” line trace settings
- Energized power line locating at 50-60 Hz

**Output**
- LCD screen: Index, Peak locate, Line, Sonde, Track, Power, Sniff, Depth
- Automatic depth detection up to 25 feet / 7.6 meters; accurate to 5% of depth
- Manual depth determination using on-screen null indicators and simple calculation

**Controls**
- 4-way thumb switch: Power on/off, Gain, Screen select, Sniffing activation
- Speaker output: Variable rate click; headphone jack. Sound can be muted.

**Power source:** 6 AA Alkaline
**Battery life:** 30-40 hours (depends on backlight usage)
**Operating temperature:** -20 to +130°F / -29 to +54°C
**Weight:** 6 lbs. / 2.7 kg
**Size:** 32” x 8” x 4-1/4” / 81 cm x 20 cm x 11 cm
FT-8 Flushable Transmitter

Septic Tank pumpers nationwide rely on Prototek flushable transmitters to take the guesswork and expense out of locating septic tanks. Or taped to a push rod, they do a great job exploring small lines and drain field laterals. These sturdy units are hermetically sealed and won’t leak in the most hostile environments. Although you can’t change the batteries, they are:

* Reusable - turn if off after a locate to use it again later.
* Recyclable - send the dead ones back to us for $5 credit for each one toward your next order. Prepaid mailer provided.

Tie a string or fish line to the eyelet for easy retrieval if you’re not going to dig up the tank right away.

How to Flush Transmitters Effectively

The FT-8 transmitters are small enough to pass though 3 inch lines. You can free-flush it through the plumbing to the tank or to the blockage, whichever comes first. When you open the tank, the bright colored transmitter should be found floating near the inlet baffle. Once retrieved, turn it off so you can use it on the next job. When the battery dies, recycle it by returning it to Prototek in the supplied pre-paid mailer and earn credit toward your next purchase.

How do you turn a flushable transmitter on and off? The little black disk in the slot is a magnet that controls the power inside the transmitter. Push it with a nail, key or screw-driver toward “ON” to turn it on, toward “OFF” to turn it off. Be sure to store it in the OFF position.

Always turn on the transmitter and receiver before the locate and confirm that they are both operating properly. Make sure you can detect the transmitter from about 12 feet away to ensure you are getting full range.

* Find the toilet you believe is closest to the tank.
* Flush the toilet. When the water develops a good vortex, toss in the transmitter.
* As it leaves the building, the signal will diminish. Go outside and “home in” in the signal using the peak method. If the drain is not blocked, the transmitter will go straight to the tank.
* Extra flushings may be needed if the tank is far from the toilet. You may need to partly fill a nearby bathtub, then empty it to get sufficient flow. If the building is locked, the transmitter can be flushed down a roof vent or exterior cleanout using a garden hose. You can also tape it to a push rod or fish tape and shove it down a cleanout or vent.

Battery Life: 3-4 hours
Tone: C
Frequency: 512Hz
Range (Cast Iron?non-metalic) 8 ft / 12 ft
Applicable Prototek Receiver: LF2000 or LF2200
FM Series “Tiny” Transmitters

These tiny transmitters are ideal for locating in small cast iron and non-metallic lines and P-traps, or finding septic tanks. They are water-resistant and will work with any 512 Hz receiver.

A drophead attachment is available for attaching to a rod or fishtape.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>FM-05</th>
<th>FM-10</th>
<th>FM-10 w/drophead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>512 Hz</td>
<td>512 Hz</td>
<td></td>
</tr>
<tr>
<td>Tone type</td>
<td>Continuous</td>
<td>Beeping or Continuous</td>
<td></td>
</tr>
<tr>
<td>Power source</td>
<td>1-#393 button cell</td>
<td>1-#357 button cell</td>
<td></td>
</tr>
<tr>
<td>Battery life¹</td>
<td>4 hours</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>Size (alone)</td>
<td>5/8” x 1-1/4”</td>
<td>13/16” x 2”</td>
<td></td>
</tr>
<tr>
<td>Size (with drophead)</td>
<td>5/8” x 1-1/2”</td>
<td>13/16” x 2-5/8”</td>
<td></td>
</tr>
<tr>
<td>Range (cast iron)</td>
<td>up to 5 ft</td>
<td>up to 10 ft</td>
<td></td>
</tr>
<tr>
<td>Range (non-metallic)</td>
<td>up to 7.5 ft</td>
<td>up to 15 ft</td>
<td></td>
</tr>
<tr>
<td>Minimum line size</td>
<td>3/4”</td>
<td>1”</td>
<td></td>
</tr>
<tr>
<td>Minimum P-trap size</td>
<td>1-1/2”</td>
<td>2”</td>
<td></td>
</tr>
</tbody>
</table>

¹Battery life shown is for continuous tone; twice the life for beeping model

FV Series “The Workhorse” Transmitters

Versatile and powerful, the FV-Series transmitters are the lowest priced transmitters of their kind in the industry and get the job done, day in and day out.

Great for cameras without a built-in transmitter, and rugged enough to give you years of service riding in a Spring Carrier (FV-10, FV-20) for power snaking, or taped to a jetter or push rod, or other device that doesn’t subject it to heavy abuse.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>FV-10</th>
<th>FV-20</th>
<th>FV-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>512 Hz</td>
<td>512 Hz</td>
<td>512 Hz</td>
</tr>
<tr>
<td>Tone type¹</td>
<td>B or C</td>
<td>B or C</td>
<td>C only</td>
</tr>
<tr>
<td>Power source</td>
<td>1-AAA alkaline</td>
<td>1-AAA alkaline</td>
<td>3-C alkaline</td>
</tr>
<tr>
<td>Battery life²</td>
<td>8 hours</td>
<td>8 hours</td>
<td>8 hours</td>
</tr>
<tr>
<td>Size</td>
<td>3/4” x 3-1/2”</td>
<td>3/4” x 3-1/2”</td>
<td>1-1/2” x 9-1/2”</td>
</tr>
<tr>
<td>Range (cast iron)</td>
<td>up to 10 ft</td>
<td>up to 20 ft</td>
<td>up to 40 ft</td>
</tr>
<tr>
<td>Range (nonmetallic)</td>
<td>up to 15 ft</td>
<td>up to 30 ft</td>
<td>up to 60 ft</td>
</tr>
</tbody>
</table>

¹Beeping or Continuous tone
²Battery life shown is for continuous tone, somewhat longer for beeping models

Sizes shown approximate
HV Series “High Performance“ Transmitters

These 8 KHz transmitters take locating in nonmetallic lines to new depths. This high frequency gives better range in a small package. Plus, they operate well outside power line frequency, so electrical interference is a thing of the past.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Size</th>
<th>Range</th>
<th>Battery</th>
<th>Tone</th>
<th>Line Size (non-metallic only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HV-40</td>
<td>3/4&quot; x 3-1/2&quot;</td>
<td>40 ft</td>
<td>AAA Alkaline</td>
<td>C</td>
<td>2&quot; and up</td>
</tr>
<tr>
<td>HV-80</td>
<td>1-1/2&quot; x 9-1/2&quot;</td>
<td>80 ft</td>
<td>3 “C” Alkaline</td>
<td>C</td>
<td>6&quot; and up</td>
</tr>
</tbody>
</table>

LMJ-6 “The answer to locating in steel or ductile iron lines”

Now your locates don't have to stop where the steel begins.

Penetrating steel or ductile iron requires a very low frequency, and the 16 Hz LMJ-6 has it. Use it with your LF2200 in lines of almost any material - steel, cast iron or nonmetallic.

You'll also find that 16 Hz is far less vulnerable to electrical interference than 512 Hz!

The LMJ-6 is constructed of steel, with modular fittings, for unparalleled versatility and durability.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Size</th>
<th>Range</th>
<th>Battery</th>
<th>Tone</th>
<th>Line Size (non-metallic only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMJ-6</td>
<td>7/8&quot; x 6-1/2&quot;</td>
<td>6-10 ft / 15 ft / 18 ft</td>
<td>2 - AAA Alkaline</td>
<td>C</td>
<td>4&quot;</td>
</tr>
</tbody>
</table>

* Depending on pipe wall thickness
Universal Roller Skid

ITC now carries Rabco Universal Rollers Skids to easily adapt your push camera for use in 6” to 12” or 3” to 6” lines.

While inside the pipe, pivoting arms on the roller skid continually adjust to keep the camera head centered in the pipeline. Nylon wheels enable the skid to easily roll through pipe. Each roller skid comes standard with a safety harness for emergency retrieval and optional 6K candlepower auxiliary waterproof flashlights are also available.

This great accessory not only minimizes wear and tear on camera heads, but also extends the useability of push cameras so they can be used in areas previously requiring pipe crawlers.

For Pipeline Diagnostics

- Patented spring-loaded design dynamically adjusts to required size!
- Quickly and easily adapt your push camera for use in 6” to 12” and larger pipelines!
- Works with most industry Standard Push cameras!
- Stays centered at all times!

NEW!

UNIVERSAL ROLLER SKID FOR 3-6” LINES!
GatorCam3+ Push Rod System

Combining the fully-featured GatorCam3+ Controller with high performance durable cameras and a full range of rods and accessories, GatorCam3+ systems are designed for a wide range of video inspection situations; from residential and small commercial uses to specialist plant and municipal applications.

At the heart of each system is the advanced GatorCam3+ Controller, which displays video footage in digital quality full color VGA on an ultra-bright 8” (200mm) industrial TFT screen. Digital technology means accessing the advanced features of the controller is simplicity itself, putting you in complete control via an intuitive user interface and tough keypad, operable even when using gloves.

**key features**

- High quality digital video with digital pan and zoom
- One-touch recording to durable Compact Flash cards up to 8Gb
- Quick transfer of video and still pictures via USB and Bluetooth® wireless technology
- Inspection reports produced on-site with integrated easy-report writer
- Weatherproof, robust and truly portable

GatorCam3+ push rod inspection systems set the standard in pipeline inspection.

**One-touch recording and still picture capture**

Record video and capture still pictures with a single keypress on the tough keypad.

**Digital Video**

Digital pan and zoom to focus in on problem areas. Rotate images to make them easier to interpret. Video is recorded onto durable Compact Flash cards.

**Connectivity**

Video can be transferred directly to PC or laptop with the included USB cable. Still pictures can be transferred via Bluetooth® wireless technology.

**Integrated easy-report writer**

Quickly compile annotated inspection reports on site and edit them on a PC or laptop.

Combining the fully-featured GatorCam3+ Controller with high performance durable cameras and a full range of rods and accessories, GatorCam3+ systems are designed for a wide range of video inspection situations; from residential and small commercial uses to specialist plant and municipal applications.

At the heart of each system is the advanced GatorCam3+ Controller, which displays video footage in digital quality full color VGA on an ultra-bright 8” (200mm) industrial TFT screen. Digital technology provides simple access to the advanced features of the Controller, putting you in complete control via an intuitive user interface and tough keypad, operable even when using gloves.

Audio commentary can be added to your recordings via the supplied microphone headset, and text comments included using the splashproof keyboard.

The integral rod counter displays distance traveled in pipe on-screen.

The GatorCam3+ Controller brings you all the benefits of digital video technology. Pause your recording and rotate images to make them easier to interpret. Digital pan and zoom allows you to take a closer look at problem areas. Video is recorded onto solid state, durable Compact Flash cards. A 2GB card is included, and cards of up to 8GB capacity – capable of storing up to 7 hours of high quality video – are supported.

The advanced digital platform of the GatorCam3+ means you can conveniently transfer your video to PC or laptop via USB cable. Using Bluetooth® wireless technology you can even transfer inspection pictures from the GatorCam3+ Controller to compatible mobile phones or laptops, and instantly send them to your customers. This means you can get the authority to proceed with pipeline repairs much faster.

The GatorCam3+ Controller enables you to compile a comprehensive report on site that incorporates your company logo and includes still pictures, observations and customer details.

When your survey is complete, both your report and video can be viewed and edited on a PC or laptop using the included user-friendly FlexiSight™ software package.
GatorCam Digital+

GatorCam Digital+ is an advanced digital control module which is fully compatible with GatorCam2 push rods and cameras. Lightweight (5.5kg/12kg), compact and robust, it displays pipeline inspection video in digital quality full color VGA on an ultra-bright 8” (200mm) industrial TFT screen.

Accessing its advanced features is simplicity itself, putting you in complete control via an intuitive user interface and tough keypad, operable even when using gloves.

**key features**
- High quality digital video with digital pan and zoom
- One-touch recording to durable Compact Flash cards up to 8Gb
- Quick transfer of video and still pictures via USB and Bluetooth® wireless technology
- Inspection reports produced on-site with integrated easy-report writer
- Weatherproof, robust and truly portable

**Upgrade to digital performance!**

GatorCam Digital+ is an advanced digital control module which is fully compatible with GatorCam2 push rods and cameras. Lightweight (12lbs/5.5kg), compact and robust, it displays pipeline inspection video in digital quality full color VGA on an ultra-bright 8” (200mm) industrial TFT screen.

Digital technology provides simple access to the advanced features of the controller, putting you in complete control via an intuitive user interface and tough keypad, operable even when using gloves.

One-touch recording and still picture capture recording video is simple. A single press on the keypad allows you to record in full VGA high quality digital video.

Capture still pictures during your inspection with a press of the camera icon on the keypad.

Audio commentary can be added to your recordings via the supplied microphone headset, and text comments included using the splashproof keyboard.

The integral rod counter displays distance traveled in pipe on-screen, and camera lighting and sonde frequency are both controlled from the GatorCam Digital+ control module.

The GatorCam Digital+ brings you all the benefits of digital video technology. Pause your recording and rotate images to make them easier to interpret. Digital pan and zoom allows you to take a closer look at problem areas. Video is recorded onto solid state, durable Compact Flash cards. A 2GB card is included, and cards of up to 8GB capacity – capable of storing up to 7 hours of high quality video – are supported.

The advanced digital platform of the GatorCam Digital+ means you can conveniently transfer your video to PC or laptop via USB cable. Using Bluetooth® wireless technology you can even transfer inspection pictures from the GatorCam Digital+ Controller to compatible mobile phones or laptops, and instantly send them to your customers. This means you can get the authority to proceed with pipeline repairs much faster.

The GatorCam Digital+ Controller enables you to compile a comprehensive report on site that incorporates your company logo and includes still pictures, observations and customer details. When your survey is complete, both your report and video can be viewed and edited on a PC or laptop using the included user-friendly FlexiSight™ software package.

<table>
<thead>
<tr>
<th>FlexiSight™ software included</th>
<th>Lightweight Controller</th>
<th>Rugged and weatherproof</th>
<th>Mains or optional battery powered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit your video footage and report on a PC or laptop with easy-to-use FlexiSight™ software.</td>
<td>Weighs only 12lbs (5.5Kg) and incorporates an integrated carry handle for the ultimate in portability.</td>
<td>Controller housed in tough structural polypropylene Rated IP 55 when closed and IP 53 when open.</td>
<td>Use the GatorCam Digital+ system anywhere, however remote the location – even if a mains or vehicle supply is not available.</td>
</tr>
</tbody>
</table>
Flexiprobe P330+ Push Rod System

Combining the fully-featured P330+ flexiprobe Controller with high performance durable cameras with and a full range of rods and accessories, P330+ flexiprobe systems are designed for a wide range of video inspection situations; from residential and small commercial uses to specialist plant and municipal applications.

At the heart of each system is the advanced P330+ flexiprobe Controller, which displays video footage in digital quality full color VGA on an ultra-bright 8” (200mm) industrial TFT screen. Digital technology means accessing the advanced features of the controller is simplicity itself, putting you in complete control via an intuitive user interface and tough keypad, operable even when using gloves.

key features
- High quality digital video with digital pan and zoom.
- One-touch recording to durable Compact Flash cards up to 8Gb.
- Quick transfer of video and still pictures via USB and Bluetooth®.
- Inspection reports produced on-site with integrated easy-report writer.
- Weatherproof, robust and truly portable.

P330+ flexiprobe push rod inspection systems set the standard in pipeline inspection.

One-touch recording and still picture capture
Recording video is simple. A single press on the keypad allows you to record in full VGA high quality digital video. Capture still pictures during your inspection with a press of the camera icon on the keypad. Audio commentary can be added to your recordings via the supplied microphone headset, and text comments included using the splashproof keyboard. The integral rod counter displays distance traveled in pipe on-screen.

Digital video
The P330+ brings you all the benefits of digital video technology. Pause your recording and rotate images to make them easier to interpret. Digital pan and zoom allows you to take a closer look at problem areas. Video is recorded onto solid state, durable Compact Flash cards. A 2GB card is included, and cards of up to 8GB capacity – capable of storing up to 7 hours of high quality video – are supported.

Connectivity
The advanced digital platform of the P330+ means you can conveniently transfer your video to PC or laptop via USB cable. Using Bluetooth® wireless technology you can even transfer inspection pictures from the P330+ flexiprobe Controller to compatible mobile phones or laptops, and instantly send them to your customers. This means you can get the authority to proceed with pipeline repairs much faster.

Integrated easy-report writer
The P330+ flexiprobe Controller enables you to compile a comprehensive report on site that incorporates your company logo and includes still pictures, observations and customer details. When your survey is complete, both your report and video can be viewed and edited on a PC or laptop using the included userfriendly FlexiSight™ software package.
P330+ flexiprobe systems include:
P330+ flexiprobe Controller, push rod with choice of reel (35m (115’) Mini reel, 60m (200’) or 120m (400’) Standard reel; 150m (500’) Specialist reel)
Choice of color camera (1” manual focus or 2” self-leveling fixed focus)
Keyboard
Mains adaptor
12V car jackplug lead
2GB Compact Flash Card,
Microphone headset
FlexiSight™ video editing software
Universal flexi (512Hz sonde, US only) and universal brush skid kit
Standard and Specialist systems include:
Controller mounting clamp.
For inspection professionals who don’t need integral video recording capability, flexiprobe Look/See systems feature a Controller with a 6.4” (160mm) TFT screen and the same tough weatherproof construction as the P330+ flexiprobe Controller.
Look/See systems include a 512Hz flexi sonde.

Controller Specifications

<table>
<thead>
<tr>
<th></th>
<th>Flexiprobe P330+ controller</th>
<th>Flexiprobe Look/See controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen</td>
<td>8” (200mm) industrial TFT</td>
<td>6.4” (160mm) TFT</td>
</tr>
<tr>
<td>Storage</td>
<td>High Speed Compact Flash</td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>USB, Video in/out, Bluetooth (optional)</td>
<td>Video in/out</td>
</tr>
<tr>
<td>Environmental</td>
<td>IP55 (closed) IP53 (open)</td>
<td>IP55 (closed) IP53 (open)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>IP67 rated for outdoor use</td>
<td>67 rated for outdoor use</td>
</tr>
<tr>
<td>Dimensions</td>
<td>360 x 360 x 200mm (14” x 14” x 8”)</td>
<td>360 x 360 x 200mm (14” x 14” x 8”)</td>
</tr>
<tr>
<td>Weight</td>
<td>5.5Kg (12lbs)</td>
<td>4.5Kg (10lbs)</td>
</tr>
</tbody>
</table>

Lightweight Controller
Weighs only 5.5Kg (12lbs) and incorporates an integrated carry handle for the ultimate in portability.

Rugged and Weatherproof
Controller housed in tough structural polypropylene rated IP55 when closed and IP53 when open!

Mains or Battery Powered
Optional feature allows the Flexiprobe P330+ system to be used anywhere. Even if mains or vehicle power is unavailable!

Completely Modular
All Cameras, controllers, rods, and accessories are full interchangeable. Expand the system at your pace!
with an optional 12V adaptor.

Two models are available: 7Ah (4 hours operation) and 12Ah (8 hours operation). Both are also rechargeable in-vehicle battery packs.

Battery Packs - Use the P330+ flexiprobe system anywhere with the high visibility weatherproof, mains rechargeable battery packs.

Options

Bluetooth® Module - Allows you to send pictures and reports from your inspection surveys to compatible mobile phones and laptops using Bluetooth® wireless technology.

Sonde and Locator package - The sonde and locator package is the essential tool to pinpoint pipe location and depth. Locate the sonde to a depth of 3m (10’) with the SuperC.A.Ts locator.

Battery Packs - Use the P330+ flexiprobe system anywhere with the high visibility weatherproof, mains rechargeable battery packs.

Two models are available: 7Ah (4 hours operation) and 12Ah (8 hours operation). Both are also rechargeable in-vehicle with an optional 12V adaptor.
Pearpoint Push Rod System

Product info
This is a pushrod inspection system suitable for inspecting pipes in ‘Zone 0’ environments. The ability to inspect in highly explosive hazardous environments is thought to be unique to this product. It has 1” colour camera and 60m of pushrod and is suitable for inspecting pipes up to 4” (100mm).

Key features
- High explosive environment capability.
- Rugged, reliable, proven system.
- Zone 0 [Ex] and [FM] certified.
- Dedicated Service Centre.
RD500
The RD500 Transonde is a non-metalic pipe locator. It uses an internal spring system that vibrates the water as it passes through the pipe. The Sound wave is then detected using an RD500 receiver or your water leak detector.

RD312
The RD312 locates lost or hidden metal covers in the street. It is light and simple to use. Gain can be manual or auto. The position is indicated by a varying pitch tone, the highest pitch indicating the maximum response over the target. It is robustly constructed from high impact ABS and aluminium and is weatherproof to IP54. It weighs 1kg weight and is easy to use, swiftly locating lost manhole covers, valve boxes, in the street. The RD312 will typically run for 30 hours from a 9v alkaline battery.

Key features
- Easy to use - Locates hidden metallic covers or valve boxes etc. in the street - Robust - Lightweight and folds for easy storage

MGD-2002 Multi-Gas Leak Locator
The MGD-2002 Multi-Gas leak detector is the ideal instrument for detecting leaks in pressurized cables, storage tanks or any closed system that can be pressurized with the tracer gas. With detection capabilities down to 25 PPM the MGD can detect even the smallest leaks in buried telephone cables.

Key features
- Sensitivity down to 25 PPM of tracer gas - Uses either Helium or Hydrogen as a “tracer” gas - Rechargeable Ni-MH battery provides 8 hours of continuous operation - Can be operated in automatic and manual modes

Leak detection made easy” is the premise behind the Radiodetection/Dielectric MGD-2002 Multi-gas Detector. Through the use of a common tracer gas such as Helium or Hydrogen, leaks in most pressurized systems can be located with pinpoint accuracy.

Whether you're identifying leaks in underground tanks, pipes, cables or tracing a leak in almost any pressurized system. the MGD-2002 has the sensitivity you'll need to accurately and efficiently locate the leak. The MGD-2002 performs equally well with either Helium or Hydrogen* used as a tracer gas. Helium is non-polluting, non-reacting and safe to use, making it the ideal tracer gas when applied to critical systems. In addition, the sensitivity of the MGD allows Helium to be mixed with ambient air in large volume systems further reducing the cost of use.

Easy to use, the MGD-2002 is designed for one-handed operation of all functions. Equipped with a membrane keypad, all selections are easily confirmed with a distinctive “click”. The backlit display can be viewed in all light conditions. The MGD-2002 is supplied with a built-in headphone jack for use with the audio indicator, a rechargeable Ni- MH battery pack that provides over 8 hours of use per charge, and operating life can be further extended with an optional additional battery, that can be installed in seconds. The Multi-Gas Detector batteries can be recharged with the AC or car adaptors in the kit.

*With only a 30 second Power-On Self Test the Multi-Gas Detector is ready to go when you are!
Radiodetection's portable GPR system for survey professionals

In the congested landscape of today's increasingly complex utility infrastructure, the technician can be overwhelmed with the multitude of interwoven metallic and non-metallic utilities. Wouldn't it be easier to see what's underground without the cost and disruption of exploratory excavation? Radiodetection is proud to introduce the RD1000™, a truly portable and cost-effective ground penetrating radar (GPR) system that gives cable and pipe surveyors worldwide the ability to see what's underground.

The RD1000™ is an exciting and powerful addition to the utility surveyor's toolkit. Using radar technology, the RD1000™ displays an image map of underground features. With the RD1000™, the technician can see a pipe or cable in its topographical context making it ideal for locating and excavating utilities. The advantage over a traditional, electromagnetic locator is that the RD1000™ can see non-conductive materials including plastic pipes.

Built from durable, weatherproof materials, the RD1000™ offers users a comfortable and easy-to-steer product that can operate in almost any terrain. The RD1000™ ships in a single container and weighs less than 23kgs (50lbs). The RD1000™ can be assembled on site in less than two minutes and can be dismantled with ease for compact storage and safe transportation. The modular design makes the RD1000™ easy to service and repair.

The RD1000™ offers outstanding locate performance. The RD1000's powerful DSP core displays the sub-surface map in real-time on a high-contrast LCD. RD1000™ features integrated digital color and gain enhancements that let the operator maximize locate quality and performance. Advanced digital filtering helps the operator to eliminate unwanted signals and provide greater accuracy.

Operating the RD1000™ is simple. The LCD features an integrated and intuitive keypad and menu system that offers the operator easy access to the advanced digital features offered by the RD1000's DSP core. Another easy-to-use feature is Locate Mode. Unique to the RD1000™, Locate Mode, is activated simply by reversing the cart. Locate Mode provides an accurate snapshot of underground conditions and uses a cursor to indicate the depth and location of a buried utility.

RD1000™ features one-touch image recording to help the technician document their findings. Images are saved to durable Compact Flash cards, which can be copied to a PC using inexpensive third-party card readers. The Compact Flash card interface also allows the user to update the RD1000™ firmware when upgrades are made available.

Digital enhancement - Integrated odometer - Selectable depth - User upgradable firmware
Radiodetection’s Riserbond cable fault locator products provide state of the art test instruments for all types of cable fault finding in a wide range of industries. The handheld entry level handheld cable fault locator is designed for first line repair and cable faults such as open and short circuits. The advanced cable fault locator combines high level functionality and TDR performance for the experienced user.

First Line - Multi-Function Cable Testing

1550
The 1550 is an easy to use handheld entry level TDR. It is optimized to help the field engineer find the most common first line faults, the 1550 can be used across a broad range of applications including telecom, CATV and power. The unit provides both short range and long range fault finding capability. The unit has advanced features such as a patented timing circuit and swept gain for ease of fault identification. It has been designed with ease of use and accuracy to provide the operator with an unparalleled level of performance to mitigate typical service affecting faults.

1205CX-A
The 1205CX-A provides the CATV field technician with unparalleled fault finding capability. With a sub-ns pulse, a rugged and robust package and full PC connectivity, the 1205CX-A offers industry leading performance as well as having the Riserbond ease of use functionality. It is intuitive and easy to use and meets the users needs both in performance and in use. It has advanced features such as a sub-ns pulse and auto fault find and is housed in a field proven rugged and robust enclosure. The 1205CX-A is complete fault finding package for the CATV field engineer.

1270A
The 1270A provides a unique package to the field engineer who needs to find faults on CATV and telecom cables for both outside plant and domestic applications. It is ‘housed’ in a rugged package with full PC connectivity and Riserbond ease of use. It is the solution for network provisioning. It is intuitive and easy to use and meets the users needs both in performance and in use. It has advanced features such as a sub-ns pulse, CATV and telecom inputs for VoIP applications and auto fault find. It is housed in a field proven rugged and robust enclosure. The 1270A provides the complete fault finding solution for the field engineer.

3200
The 3200 unit is a mid-spec TDR optimized for use on CATV cables. With a single BNC connector, rechargeable batteries and printer connectivity, the product provides a cost effective and easy to use unit for first line technicians. The unit combines Riser Bond ease of use and advanced features such as Range Plus and Super Store. It is designed with optimum flexibility and ease of use for the CATV field technician. Other benefits include measurement of Return Loss at the cursor position to provide a preview of a not so obvious fault and an Intermittent Fault Detection mode.

3300
The 3300 unit is a mid-spec TDR optimized for use on CATV cables. With dual input capability, rechargeable batteries and printer connectivity, the product provides a cost effective and easy to use unit for first line technicians. The unit combines Riser Bond ease of use and advanced features such as Range Plus and Super Store. It is designed with optimum flexibility and ease of use for the CATV field technician. Other benefits include measurement of Return Loss at the cursor position to provide a preview of a not so obvious fault and an Intermittent Fault Detection mode.
Pipeline Current Mapper  PCM+

Combined with its new high performance transmitter, the PCM+ accurately and easily locates and maps the pipeline for up to 19 miles providing simultaneous measurement of PCM Current and Voltage Gradient, even in areas where there is contact with other metallic structures, interference, or congestion. This eliminates the need for the pipeline technician to perform direct connection current spans' and manual calculations to determine CP currents along the pipeline reducing false indications and minimizing unnecessary excavations.

Any current leakage fault in the pipeline coating can be further narrowed down to within 3 feet by use of the A frame.

**PCM+ Receiver Key features**
- Precision Locator and PCM in one unit
- Accurate, high over-sampled measurements, 96000 Samples/sec
- 8kHz Fault Find
- Improves fault indication integrity
- Minimizes unnecessary excavations
- Identification of pickup/discharging from 3rd party CP Systems
- Low power for full day survey (2 x D Cells)
- Current mapping

**PCM-Tx Transmitter features**
- One portable case
- Easy to use
- High power 150 Watt
- 19 miles range @ 4Hz
- New programmable, digital processor based for reliability
- Improved overload protection
- Negative drive voltage.
- Optional switch around zero for full power limited duration
- Improved environmental sealing

**A-Frame**

The A-Frame is used with the PCM+ receiver to precisely pinpoint coating defects and isolation faults. The PCM+ receiver display indicates direction to the fault, using the CD arrows, and this makes fault position easy to locate.

The PCM+ also displays the dB microvolts reading across the A-Frame spikes, and this allows a comparison to be made between different faults to determine the most severe. This numeric value is stored in the PCM's datalogging facility, and uploaded via Bluetooth® to a PDA or PC.

Weight: 3.4lb - Size: 33 x 39.3 x 1.7 inch
RD4000 PDL/PXL

The Radiodetection RD4000 cable and pipe locator is widely seen as the industry standard, with the highest locate performance, multiple locate modes and simplicity of use. Whether locating utilities and marking for construction, mapping or fault finding. The RD4000 series is the product against which all others are measured.

Properly locating buried utilities can avoid costly outages and avoid major hazards associated with inadvertent contact during excavation. While it is important to utilize the best products available, it is equally as important to adhere to the best and safest practices to assure a safe and productive job site. Radiodetection, the world leader in the design and manufacture of underground locating equipment, provides equipment and practices needed to assure optimum accuracy and safety for every locate scenario.

The RD4000 utilizes a powerful, advanced digital measurement and processing system that is far ahead of any others. The patented signal-processing algorithm provides improved performance and accurate results, even in the most congested of areas. Users will quickly discover that the RD4000 always delivers repeatable accurate locates, even in the most difficult of circumstances.

RD4000 models are available to address the specific needs of various sectors. Increasingly, companies are outsourcing mark before dig and utility mapping. Recognizing that there is no single location mode or frequency guaranteed to locate a given pipe or cable, RD4000 has options to optimize the location task.

Whatever the location requirement there is an RD4000 solution.

Repeatability and ease of use is delivered through the ergonomic design and features of the RD4000. A large, clear, automatically back-lit LCD display and a highly responsive gain paddle give users of all levels an unmatched confidence in their RD4000 locator. It is through attention to detail that Radiodetection have delivered a powerful and sophisticated tool that is simple to use.

The RD4000 family of locators is supported by a wide range of plug-and-play accessories, such as fault locating A-Frames for locating cable sheath faults or pipe coating defects, receiver clamps and stethoscopes for cable identification.

RD4000 receivers provide seamless integration with most GPS receivers and data recording devices, making the RD4000 perfect for both novice and advanced users.

RECEIVER FEATURES

Five active frequencies: 8 khz, 33khz, 65 khz, 200 khz & 512khz
Standard Receiver includes:
Web compatibility
Simple buttons (four key interface) for ease of use
Automatic backlight (includes a photo cell), and smoother display response
Simultaneous depth & current measurement
Radio mode
Real speaker sound when in Power or Radio modes
Weatherproof cover
Improved quality accessory socket and RS232 port
Removable wear boot
Context sensitive menu structure
Training CD-ROM
PDL adds Current direction mode and Constant CD arrow and Fault Find mode automatic at connection of accessory “A” frame
The 6000 model provides the field engineer with a full fault finding solution in one multifunction unit. It is ‘housed’ in a rugged, robust and reliable package with full PC connectivity and an advanced autotest function. It has all of the tools that the telecom field engineer would need in one box including TDR, bridge and multimeter, the model 6000 is the one stop shop for standard POTS service affecting faults. With advanced fault finding features such as autotest with diagnostic functions and the ability to pass faults to TDR the unit provides the field engineer with the complete solutions for fault find on problem lines. The product follows the renowned Riser Bond approach to ease of use enabling the field technician to quickly and easily migrate from standalone products. It is housed in a rugged and robust box, for all POTS service affecting faults.

### Accessories

**1550**

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<tr>
<td>61/163-0045-00</td>
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<td>75 ohm coax test lead for CATV networks</td>
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<tr>
<td>61/163-0044-0</td>
<td>100 ohm twisted pair test lead for telecom networks</td>
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<td>6’ twisted pair cable set</td>
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**1205CX-A / 1270A**

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<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>61/001-0002-00</td>
<td>Extra memory for additional waveform storage</td>
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<tr>
<td>61/001-0003-00</td>
<td>Multi-level Waveform Filtering upgrade</td>
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<tr>
<td>060-0002-00</td>
<td>Charger</td>
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<td>61/300-0007-01</td>
<td>Foam padded carrying case</td>
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<td>300-0016-00</td>
<td>Model 1200 series nylon clip-on accessory bag</td>
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**3200 / 3300**

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<th>Code</th>
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<td>001-0014-00</td>
<td>Extra memory for additional waveform storage</td>
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<td>Filt001-0015-00</td>
<td>Multi-level Waveform Filtering upgrade</td>
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<tr>
<td>61/160-0038-00</td>
<td>NiMH battery pack</td>
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<tr>
<td>060-0002-00</td>
<td>Charger</td>
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**3200 / 3300**

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<th>Code</th>
<th>Description</th>
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<tr>
<td>61/300-0007-01</td>
<td>Foam padded carrying case</td>
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<tr>
<td>61/160-0038-00</td>
<td>NiMH battery pack</td>
</tr>
<tr>
<td>60/060-0008-00</td>
<td>Charger</td>
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</table>
Locating specific pipes and cables in large underground networks is becoming increasingly complex. Ground distortion effects, caused by differing soil types and proximity to other conductors, make the operator's job more difficult and time-consuming. The most important requirements for a locator under these circumstances are ease of use, accuracy and reliability. Radiodetection's RD7000 addresses this need with several groundbreaking features that deliver accurate, reliable and repeatable measurements.

**Key Features**

**Ergonomics**
- Light weight – 28% lighter than industry standard RD4000
- IP54 Rating – you can operate it in almost any environment
- Transmitter and receiver feature a large, high contrast backlit LCD screen.

**Centros™**
- Over 50 software and hardware patents
- Combination of new and innovative algorithms with established software on a high-performance processor core
- Improves the accuracy and repeatability of measurements
- Delivers powerful signal filtering and analysis allowing continued operation even in the most electrically noisy environments.
- A Radiodetection technique that allows the operator to validate the original factory calibration of the RD7000

**eCal**
- eCAL can issue and print validation certificate without needing to return the RD7000 to a service center.

**Peak Distance Arrows**
- Guides the operator to the central axis of the pipe or cable
- Guides with dynamic left and right arrows and differentiated audio tones
- The longer the arrow, the further the distance from the target

**RD7000SL**  
**For the Construction Industry**

A broad range of standard active frequencies and rugged construction make the RD7000SL a reliable and versatile locator.

The entry-level product from Radiodetection is aimed at technicians who want an accurate locator that is simple to operate.

The RD7000SL has four active and two passive frequencies that cover the majority of locating tasks. The user can quickly and accurately locate the pipe or cable using Peak antennae Mode providing accurate depth and current measurement.

In addition to standard peak mode, there is a combined peak and null mode, which displays peak response (via a bar graph with digital gain) and null response using proportional arrows.

This single screen view allows swift identification of distorted signals due to ground conditions or nearby utilities.

With a lightweight receiver, low power consumption and a durable case with high contrast display, the technician can use the RD7000SL all day in all weather and light conditions.

**RD7000DL**  
**For the Water Industry**

For contract technicians working in pipe location and inspection, from sewers to maritime boilers, to petrochemical plants.

The RD7000DL locator is specifically designed to detect not only active and passive frequencies but also three different sonde signals. This makes the DL the ideal product for standard cable and pipe location and the ideal solution for locating deep, underground dirty water pipes and drains and where the pipe material does not allow the use of standard locating technology but where sondes can be deployed.

The different sonde frequencies allow the RD7000DL to locate pipes made from a wide variety of materials including: cast iron, plastic (PE), clay, fiber, concrete and brick.
The RD7000PL identifies the target cable reliably, even in areas of large-scale, trunked cable deployment of complex electrical networks.

One of the biggest challenges to technicians working in the power industry is locating pipes and cables when operating near high voltage environments, such as substations and conduits where the presence of large signals overpower most locators.

The RD7000PL is designed for use in areas where excessive magnetic fields, generated by high voltage equipment and cables, can prevent accurate locating. Dynamic overload protection reduces this effect, allowing uncompromised locator accuracy.

The RD7000PL has both Peak and Null modes and also a combined Peak/Null mode which allows the identification of Signal/ground distortion effects by displaying both Peak and Null response simultaneously.

In addition, the RD7000PL can indicate depth in Power mode. This is particularly useful when direct connection of a transmitter to a power cable may be hazardous or impractical.

To further assist the operator to locate cable sheath faults, 8KFF is a patented technique that locates a cable fault using an A-frame attached to the Locator. On-screen arrows help show the fault’s direction and help the operator locate the fault accurately to within one meter.

Large bundled pairs of cables require specialized location equipment to find a selected signal. As the Telecommunication utilities continue to deploy highly insulated copper or fiber cables, tracing bundled cables becomes harder. The RD7000TL has additional high frequencies to help address this problem.

Most domestic telecom cables have no earth but are sheathed; using high frequencies allows tracing without needing to ground connections. Once the correct pipe or cable is located, the operator can accurately locate any cable sheath faults to within one meter using 8KFF mode with a Radiodetection A-Frame.

The RD7000TL has both Peak and Null modes and also a combined Peak/Null mode which allows the identification of signal/ground distortion effects by displaying both Peak and Null response simultaneously.

The addition of two sonde frequencies adds more capability and flexibility.

Based on a fully digital platform, the new family of Radiodetection transmitters supports the entire range of Radiodetection RD7000 and RD8000 cable and pipe locators. The Tx-1 is a low power transmitter. The Tx-3 has a higher current and induction capability as well as Fault Find. The Tx-10 has the highest current capability with both Fault Find and CD modes as standard.

All models feature a patented three-stage phase sensitive amplifier that delivers a ground impedance compensated, constant current across its entire bandwidth in either direct connect, clamp or inductive mode. The transmitters use less power and are ergonomically designed to deliver superior performance in a new light-weight, well-balanced case.

The transmitters are 10% lighter than the industry standard T10 yet each is IP54 rated to cope with demanding environmental conditions. Each model has a removable accessory tray and a weatherproof battery compartment.

A large, high contrast, backlit LCD screen provides the user with clear information. The interface is intuitive and responsive, allowing the operator to access any feature with ease.

SideStepauto™: allows the transmitter to calculate the optimum frequency based on ground impedance. The transmitter uses this information to optimize the active frequency. SideStepauto™ helps to improve locate accuracy and extends battery life.

All models are compatible with the complete range of RD7000 and RD8000 frequencies in both inductive and direct connect modes. The transmitters use 8 D-cell batteries and can be powered from a vehicle using a 12V cable plug (it is recommended that an approved Radiodetection isolation transformer is used).

As an additional feature, each model has a multimeter function providing measurement of output voltage, line voltage, current, impedance and power.
RD8000

The RD8000PDL and PXL are powerful successors to the industry standard RD4000PDL and PXL pipe and cable locators. The RD8000 improves on speed, accuracy and reliability yet remains a cost-effective solution for any application delivering unique user features. Designed with the latest, patented digital firmware, RD8000 delivers a highly controllable and reliable locate solution to service any industry, anywhere in the world.

Ergonomics

The RD8000 is ergonomically designed to deliver a superior performing locator that provides the user with a light weight, energy efficient and exceptionally well balanced tool. The RD8000 is 28% lighter than the industry standard RD4000, which encourages extended use. Despite its weight and form, the RD8000 retains the environmental durability associated with an IP54 rating, meaning you can operate it in almost any environment. The receiver and transmitter feature a large, high contrast, backlit LCD screen that provides the user with clear information in any light conditions. The intuitive and responsive interface is designed so the operator can access any feature with ease. The keypad uses a self explanatory icon set that is consistent on both the transmitter and the receiver.

Centros™

For 30 years Radiodetection has revolutionized cable locator design with over 50 software and hardware patents as part of our commitment to product improvement. This research has developed into a single entity called Centros™. Centros™ combines new and innovative algorithms with established software on a high-performance processor core. Centros™ improves the accuracy and repeatability of measurements and delivers unprecedented responsiveness in the field. Centros™ delivers powerful signal filtering and analysis allowing continued operation even in the most electrically noisy environments. Centros™ provides our customers with the most powerful measurement engine of any cable and pipe locator.

iLOC™

iLOC™ is an advanced long range Bluetooth® link between the RD8000 locator and transmitter that helps save the operator time and effort. iLOC allows the operator to control the transmitter remotely using a number of unique features. With iLOC you can spend less time walking and more time locating. iLOC™ operates at distances up to 800 meters (875 yards) line of sight providing an operator with a fast and unique means of conducting a survey. iLOC applications supported are:

- **SideStep™** – enables an operator to move the transmitter frequency slightly above the selected frequency enabling locates in areas prone to interference or where multiple operators are locating.

- **Frequency Select** – choose an active frequency on the RD8000 and synchronously change the transmitter frequency to match.

- **Power Management** – an operator can adjust the output power of the transmitter to optimize output signal, leading to efficient use of transmitter batteries.

- **Transmitter remote sleep/wake** – enter standby mode to prolong battery life. Conveniently wake the transmitter with a simple key press on the receiver. Transmitter can be set to standby mode each time passive location is carried out.

SurveyCERT™

SurveyCERT™ gives the operator the tools to pass survey information to third-party applications for audit, analysis and reporting. With the RD8000, the operator can store and review up to 1000 locate records. Upload this information to a PDA or PC using the RD8000 Bluetooth connection and you can instantly view the data using the SurveyCERT™ graphprogram. If the PC/PDA has a GPS receiver, SurveyCERT™ will automatically add the timestamp and position to the record. Built for interoperability, SurveyCERT™ data is compatible.
with commercial Geographical Information System (GIS) package.

**eCAL™**
eCAL™ is a novel Radiodetection technique that allows the operator to validate the original factory calibration of the RD8000. This means the operator has confidence that the locator continues to meet its factory calibration. eCAL™ can issue and print a validation certificate without needing to return the RD8000 to a service center.

**TruDepth™** gives the operator the confidence that the depth reading is accurate by only indicating a locate depth when the locator is correctly oriented directly above the pipe/cable. Dynamic Overload Protection: extends the RD8000 operation into areas where other products fail. In electrically noisy environments, particularly in areas where very large signals are present, it automatically filters out unwanted signals allowing the operator to work effectively in areas such as power substations and overhead railway HV cables.

**Peak/Null Mode** is a tool to identify the effects of field distortion due to ground conditions or nearby utilities. Simultaneous display of Peak bar graph response and proportional Null arrows allow a quick assessment of locate conditions.

**StrikeAlert™** reduces the risk of accidents by detecting shallow power cables and alerting the operator with an audio warning. Passive Avoidance: allows the operator to survey the ground quickly using simultaneous detection of Power and Radio signals carried on underground pipes or cables. The RD8000 provides real audio to differentiate the relative proportions of Power and Radio signals present.

**eCAL™**
- A Radiodetection technique that allows the operator to validate the original factory calibration of the RD8000
- eCAL can issue and print validation certificate without needing to return the RD8000 to a service center.

**TruDepth™**
- Accurate depth readings as only indicates a locate depth when the locator is correctly oriented directly above the pipe/cable.

**Compass**
Provides the operator with a visual indication of the target cable or pipes direction. With this feature, the operator can easily follow the target line and then position the locator correctly to maximize depth accuracy.

**Fault Find**
A patented technique that enables an operator to locate a cable fault using an A frame attached to the Locator. On-screen arrows help show the fault’s direction and help the operator locate the fault accurately to within 1 meter (39 inches).

**CD (Current Direction)**
A patented method of identifying a target cable amongst a number of parallel cables using CD direction arrows. With CD the operator can locate a target quickly and eliminate wasted time following faulty trails.

*The RD8000 represents the latest in electromagnetic locator technology. Designed to meet our customers’ needs, the RD8000 provides a highly controllable, intuitive, cost-effective and reliable solution for any application, building on the reputation that Radiodetection has for supplying highly accurate, reliable and robust location products.*

The RD8000PXL is the industry standard high performance cable and pipe locator. It has a broad range of active, passive and sonde frequencies as well as a number of unique user features supplied as standard. Radiodetection’s most advanced cable and pipe locator delivers a broader range of frequencies and sophisticated fault-finding capabilities.

The RD8000PDPL has all the features of the RD8000PXL and a larger range of active and passive frequencies (including CATV and CPS) plus Current Direction (CD), and Fault Find (FF) modes.
### RD8000 product features comparison table

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<tr>
<td>CATV / CPS</td>
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<th>Active frequencies:</th>
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<td>x</td>
</tr>
<tr>
<td>760Hz</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>870Hz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>920Hz</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>940Hz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>8kHz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>9.8kHz</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>33kHz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>65kHz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>83kHz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>131kHz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>200kHz</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CD pairs:</th>
<th>RD8000PXL</th>
<th>RD8000PDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>256Hz</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>285Hz</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>320Hz</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>380Hz</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>460Hz</td>
<td></td>
<td>x</td>
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<table>
<thead>
<tr>
<th>Sonde frequencies:</th>
<th>RD8000PXL</th>
<th>RD8000PDL</th>
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<tr>
<td>512Hz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>640Hz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>8kHz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>33kHz</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Peak Mode</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Null Mode</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Peak/Null Mode</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Single Mode</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Fault Find CD &amp; 8K</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Current Direction (CD)</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Centros™</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Compass</td>
<td>x</td>
<td>x</td>
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### RD8000 product features comparison table

<table>
<thead>
<tr>
<th>SurveyCERT™</th>
<th>RD8000PXL</th>
<th>RD8000PDL</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>TruDepth™</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Dynamic overload protection</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>StrikeAlert™</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Passive Avoidance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth on Power</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>eCAL™</td>
<td></td>
<td>x</td>
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</table>

<table>
<thead>
<tr>
<th>ILOC™</th>
<th>RD8000PXLB</th>
<th>RD8000PDLB</th>
</tr>
</thead>
</table>

### RD Transmitters

Based on a fully digital platform, the new family of Radiodetection transmitters supports the entire range of Radiodetection RD7000 and RD8000 cable and pipe locators. The Tx-1 is a low power transmitter. The Tx-3 has a higher current and induction capability as well as Fault Find. The Tx-10 has the highest current capability with both Fault Find and CD modes as standard.

All models feature a patented three-stage phase sensitive amplifier that delivers a ground impedance compensated, constant current across its entire bandwidth in either direct connect, clamp or inductive mode. The transmitters use less power and are ergonomically designed to deliver superior performance in a new light-weight, well-balanced case.

The transmitters are 10% lighter than the industry standard T10 yet each is IP54 rated to cope with demanding environmental conditions. Each model has a removable accessory tray and a weatherproof battery compartment.

A large, high contrast, backlit LCD screen provides the user with clear information. The interface is intuitive and responsive, allowing the operator to access any feature with ease.

SideStepauto™: allows the transmitter to calculate the optimum frequency based on ground impedance. The transmitter uses this information to optimize the active frequency. SideStepauto™ helps to improve locate accuracy and extends battery life.

All models are compatible with the complete range of RD7000 and RD8000 frequencies in both inductive and direct connect modes. The transmitters use 8 D-cell batteries and can be powered from a vehicle using a 12V cable plug.

As an additional feature, each model has a multimeter function providing measurement of output voltage, line voltage, current, impedance and power.
Radiodetection

Transmitting sondes enable receivers to trace non-metallic sewers, drains, ducts or pipes and to locate blockages or collapses. Sondes are not classified as ‘intrinsically safe’ for use in situations where hazardous gases are present.

A sonde is a small self-contained transmitter that can be located by a compatible receiver. The sondes can only be located in a non-metalic pipe, drain, sewer, or duct. The sonde is propelled along the pipe using conventional drain pushrods or one of Radiodetection’s Flexrods.

Standard Sondes: 33kHz or 512Hz

The standard sonde combines compact size with a strong signal. It is suitable for most applications unless a smaller size, greater depth, or especially rugged construction is required.

Features:
- High impact ABS
- Size/Weight: 4.13” x 1.5” 7oz
- Depth range: 16 ft.
- Temp Range: +5f — +122f
- Signal: Continuous
- Battery: 1x AA Alkaline, 20 hours continuous
- Submersion level: 66ft.
- Thread: M10 male

Sewer Sonde: 33kHz

The Sewer Sondes have a very strong enclosure suitable for the most abrasive and rugged duty in municipal sewer systems. The sonde has a long life for daily use in all conditions.

Features:
- Polypropylene
- Size/Weight: 6.6” x 2.5” 1.1lb
- Depth range: 16 ft.
- Temp Range: +5f — +122f
- Signal: Continuous/pulsed
- Battery: 1x 9v Alkaline, 15 hours continuous
- Submersion level: 66ft.
- Thread: M10 male

Super Sonde: 33kHz

Self contained signal transmitter for insertion into non-metallic ducts, drains or sewers enabling location using receiver. Designed for use in deep sewers.

Features:
- Polypropylene
- Size/Weight: 12.5” x 2.5” 1.98lb
- Depth range: 16 ft.
- Temp Range: +5f — +122f
- Signal: Continuous/pulsed
- Battery: 1x 9v Alkaline, 5 hours continuous
- Submersion level: 66ft.
- Thread: M10 male
Bendie Sonde: 512Hz
The Bendie Sonde is an articulated transmitter, and can be used with any 512Hz Radiodetection Locator.
Features:
- Available w/o end cap, end cap blank, w/end cap, w/end cap 10-32
- Articulated nylon 66 body and nickel plated brass battery compartment. Weatherproof to NEMA 6P and IP67
- Size/Weight: 18.8” x .9” 1.1oz
- Minimum bend: Pipe - 2”, Radius 4”
- Depth range: 20 ft.
- Temp Range: +14f — +185f
- Signal: Continuous
- Battery: 1x AA Alkaline, 15 hours continuous
- Submersion level: 66ft.
- Thread: M10 male

Slim Sonde: 33kHz
Slim sondes are used for locating duct structures. Sometimes used behind small ground piercing moles.
Features:
- Nylon 66 body and nickel plated brass battery compartment.
- Size/Weight: 7.1” x .8” 8oz
- Depth range: 12 ft.
- Temp Range: +5f — +122f
- Signal: Continuous
- Battery: 1x AA Alkaline, 15 hours continuous
- Submersion level: 66ft.
- Thread: M10 male

Small Sondes: 33kHz
Slim sondes are used for locating duct structures. Sometimes used behind small ground piercing moles.
Features:
- Nylon 66 body and nickel plated (standard battery) or Aluminum (large battery) compartment.
- Size/Weight: 3.2” x .71” 2oz (standard battery)
  6.8” x .71” 2.6oz (large battery)
- Depth range: 13 ft.
- Temp Range: +5f — +122f
- Signal: Continuous
- Battery: 1x 3v lithium (20 hours) or 2x SP675 mercury button (60 hours)
- Submersion level: 66ft.
- Thread: M10 male
## Radiodetection Product List

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RD7000 &amp; RD8000 Utility Cable and Pipe Locators</strong></td>
<td></td>
</tr>
<tr>
<td>RD7000 DL</td>
<td>10/7KDL</td>
</tr>
<tr>
<td>RD7000 PL</td>
<td>10/7KPL</td>
</tr>
<tr>
<td>RD7000 SL</td>
<td>10/7KSL</td>
</tr>
<tr>
<td>RD7000TL</td>
<td>10/7KTL</td>
</tr>
<tr>
<td>TX-1 Transmitter</td>
<td>10/RDTX1</td>
</tr>
<tr>
<td>TX-3 Transmitter (WITH BLUETOOTH)</td>
<td>10/RDTX3B</td>
</tr>
<tr>
<td>TX-10 Transmitter (WITH BLUETOOTH)</td>
<td>10/RDTX10B</td>
</tr>
<tr>
<td>RD8000PDL</td>
<td>10/8KPDL</td>
</tr>
<tr>
<td>RD8000PDL with ILOC</td>
<td>10/8KPDLB</td>
</tr>
<tr>
<td>RD8000PXL</td>
<td>10/8KPXL</td>
</tr>
<tr>
<td>RD8000PXL with ILOC</td>
<td>10/8KPXLB</td>
</tr>
<tr>
<td>TX-1 Transmitter</td>
<td>10/RDTX1</td>
</tr>
<tr>
<td>TX-3 Transmitter (NO BLUETOOTH)</td>
<td>10/RDTX3</td>
</tr>
<tr>
<td>TX-3 Transmitter (WITH BLUETOOTH)</td>
<td>10/RDTX3B</td>
</tr>
<tr>
<td>TX-10 Transmitter (NO BLUETOOTH)</td>
<td>10/RDTX10</td>
</tr>
<tr>
<td>TX-10 Transmitter (WITH BLUETOOTH)</td>
<td>10/RDTX10B</td>
</tr>
<tr>
<td><strong>RD4000 Precision Pipe and Cable Locators</strong></td>
<td></td>
</tr>
<tr>
<td>RD4000 PDL Omni Receiver</td>
<td>10/4KMRX-00053</td>
</tr>
<tr>
<td>RD4000 PXL Omni Receiver</td>
<td>10/4KMRX-00051</td>
</tr>
<tr>
<td><strong>Locator Options and Accessories</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Receiver Accessories</strong></td>
<td></td>
</tr>
<tr>
<td>RD4000 A-Frame - with RD4000 interconnect cable</td>
<td>10/AC2608-4KRX</td>
</tr>
<tr>
<td>RD7000 &amp; RD8000 A-Frame</td>
<td>10/AFRAME</td>
</tr>
<tr>
<td>Receiver 2&quot; Signal Clamp</td>
<td>10/TC2136-4KRX</td>
</tr>
<tr>
<td>Receiver 4&quot; Signal Clamp</td>
<td>10/TC1769-4KRX</td>
</tr>
<tr>
<td>CD Receiver Clamp</td>
<td>10/CM2054-4KRX</td>
</tr>
<tr>
<td>400 To 4000 CD Clamp Replacement Lead</td>
<td>17/CM2054E2</td>
</tr>
<tr>
<td>(There is no adapter for the CD Stethoscope as it will not work correctly with adapter. New device is required.)</td>
<td></td>
</tr>
<tr>
<td>Submersible DD Antenna - (includes 10 meter cable)</td>
<td></td>
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<tr>
<td>comes with RD4000 connector</td>
<td>10/SM1099-8-4KRX</td>
</tr>
<tr>
<td>Each additional Meter of Cable</td>
<td>10/RD0246SUBCAB</td>
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<tr>
<td>High Gain Stethoscope</td>
<td>10/AC2645-4KRX</td>
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<tr>
<td>CD Stethoscope</td>
<td>10/AC2666-4KRX</td>
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<tr>
<td>PL Small Stethoscope</td>
<td>10/AC2643-4KRx</td>
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<tr>
<td>PL Large Stethoscope</td>
<td>10/AC2644-4KRx</td>
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<tr>
<td>Summer Headphones (all receivers)</td>
<td>10/RD40119S</td>
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<tr>
<td>High-Quality Headphones (all receivers)</td>
<td>10/5R004</td>
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<tr>
<td>Product Model</td>
<td>Part Number</td>
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<tr>
<td>Transmitter Accessories</td>
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<tr>
<td>Transmitter 2&quot; Signal Clamp</td>
<td>10/TC2136-4KTX</td>
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<tr>
<td>Transmitter 4&quot; Signal Clamp</td>
<td>10/TC1769-4KTX</td>
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<tr>
<td>Transmitter 8.5&quot; Signal Clamp</td>
<td>10/RD4GT0235-4KTX</td>
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<tr>
<td>CD &amp; LF Transmitter Clamp</td>
<td>10/TC2651-4KTX</td>
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<tr>
<td>400 To 4000 LPC/LLC/CD 2&quot; &amp; 4&quot; Clamp Adapter</td>
<td>17/TX2646E1</td>
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<tr>
<td>US Plug Connector</td>
<td>10/AC1231-4KTX-LPCUS</td>
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<tr>
<td>Live Cable Connector</td>
<td>10/AC1231-4KTX-LCC</td>
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<tr>
<td>Ground Lead on Spool</td>
<td>09/310-4KTX</td>
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<tr>
<td>RD4000 12V Car Power Lead (Supplied w/Tx as standard)</td>
<td>17/TX2652E1</td>
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<tr>
<td>RD4000 Direct Connect Lead Set</td>
<td>17/TX2609E1</td>
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<tr>
<td>RD4000 Direct Connection Lead RD4000 TX w/telephone clip</td>
<td>17/TX2609E3</td>
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<tr>
<td>RD7000 &amp; RD8000 12V Car Power Lead (w/isolation transfer)</td>
<td>10/RD7K8KDCI</td>
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<tr>
<td>RD7000 &amp; RD8000 Mains Power AC Transfer to 12V DC</td>
<td>10/RD7K8KUMPSU</td>
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<td>RD7000 &amp; RD8000 Earth Stake Spiral</td>
<td>04/ET2980P8</td>
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<td>Rechargeable Batteries &amp; Accessories</td>
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<tr>
<td>RD4000 Transmitter Rechargeable Battery Pack (Includes 12V Lead)</td>
<td>10/RD4000RCBATTX</td>
</tr>
<tr>
<td>RD4000 Receiver Rechargeable Battery Pack (Includes 12V Lead)</td>
<td>10/RD4000RCBATRX</td>
</tr>
<tr>
<td>RD7000 &amp; RD8000 Transmitter Li-Ion rechargeable battery pack</td>
<td>10/TXRBATPACK</td>
</tr>
<tr>
<td>Incl mains and 12 v chargers and leads</td>
<td>10/TXRBATPACKKIT</td>
</tr>
<tr>
<td>RD7000 &amp; RD8000 Transmitter Li-Ion rechargeable battery pack</td>
<td>10/TXRBATPACK</td>
</tr>
<tr>
<td>RD4000 USA Mains to 12V Power Supply/Charger</td>
<td>10/4KPSU-USA</td>
</tr>
<tr>
<td>(The RX &amp; Tx will charge from 12V DC. This Power Supply enables the unit to charge from a wall socket. The Power Supply will also allow the TX to operate from the mains while it is being charged.)</td>
<td></td>
</tr>
<tr>
<td>Carrying Bags and Cases</td>
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<tr>
<td>RD4000 Semi Hard Bag</td>
<td>10/RD4K-BAG</td>
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<tr>
<td>RD4000 Hard Case</td>
<td>10/RD4K-HARDCASE</td>
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<tr>
<td>Accessory A-Frame Bag</td>
<td>10/AFBAG</td>
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<tr>
<td>RD500RX Case</td>
<td>10/5R005</td>
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<tr>
<td>RD312 Bag</td>
<td>92/RD312BAG-Y</td>
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<tr>
<td>C.A.T./RD2000 Carry Bag</td>
<td>10/CAT/GEN2U</td>
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<tr>
<td>Vector Bar Carrying Bag</td>
<td>10/VECTORBAG</td>
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<tr>
<td>RD7000/RD8000/TX Soft Bag</td>
<td>10/RD7K8KBAG</td>
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<tr>
<td>RD7000/RD8000 Soft Roller Bag</td>
<td>10/RD7K8KRBAG-P</td>
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<tr>
<td>RD7000/RD8000/TX Hard Case (flight case w/wheels)</td>
<td>10/RD7K8KCASE</td>
</tr>
<tr>
<td>RD7000/RD8000/TX Hard Case</td>
<td>10/RD7K8KCASE-USA</td>
</tr>
<tr>
<td>RD7000/RD8000 Kit Box</td>
<td>04/RD7K8KKITBOX</td>
</tr>
<tr>
<td>Sondes - Non Directional for Sewers, Drains. Cast Iron Pipe</td>
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<tr>
<td>Standard Sonde - D:1.5” L:4.125”</td>
<td></td>
</tr>
<tr>
<td>16ft, 1xAA for 20hrs., 33kHz, Continuous</td>
<td>92/SC0412-33R-O</td>
</tr>
<tr>
<td>16ft, 1xAA for 20hrs., 512Hz, Continuous, opposite end screw</td>
<td>10/SC0412-512</td>
</tr>
<tr>
<td>16ft, 1xAA for 20hrs., 8kHz, Continuous</td>
<td>10/SC0412-8</td>
</tr>
<tr>
<td>Sewer Sonde - D:2.5” L:6.625”</td>
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<tr>
<td>26ft, 1x9V for 15hrs., 33kHz, Continuous/Pulse</td>
<td>10/SA0337-33R</td>
</tr>
<tr>
<td>Product Model</td>
<td>Part Number</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Super Sonde  - D:2.5&quot; L:12.5&quot; 50ft, 1x9V for 15hrs., 33kHz, Continuous/Pulse</td>
<td>10/SB0338-33R</td>
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<tr>
<td>Bendie Sonde - D:0.91&quot; L:18.75&quot; 20ft, 1xAA for 15hrs., 512z, Continuous</td>
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</tr>
<tr>
<td>Different End Cap options for the Bendie Sonde Bendie Sonde w/End Cap,</td>
<td>M10 10/AS1336-M10</td>
</tr>
<tr>
<td>Bendie Sonde w/End Cap,</td>
<td>10-32 10/AS1336</td>
</tr>
<tr>
<td>Super Small Sonde</td>
<td></td>
</tr>
<tr>
<td>S18A - D:0.7&quot; L:3.25&quot; - 12ft, 2xSP675 for 20hrs., 33kHz, Continuous</td>
<td>10/S18/82-33-000</td>
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<tr>
<td>S18 Sonde with Plain End Cap</td>
<td>10/S18/82-33-M10</td>
</tr>
<tr>
<td>S18 Sonde with M10 End Cap</td>
<td>10/S18/173-33-000</td>
</tr>
<tr>
<td>FlexRod, FlexTrace FlexRod (200 feet)</td>
<td>10/FLEXRODF60</td>
</tr>
<tr>
<td>Flextrace - 50 Meters (162 feet)</td>
<td>10/TRACE50-GB</td>
</tr>
<tr>
<td>Spring Coupling</td>
<td>10/SU0335</td>
</tr>
<tr>
<td><strong>RD2000 SuperCAT+</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SuperCAT+ Receivers and Transmitters</strong></td>
<td></td>
</tr>
<tr>
<td>SuperC.A.T+, 60hz, Strike Alert, Imperial Depth</td>
<td></td>
</tr>
<tr>
<td>Line 512 Hz-8/33 kHz, Power, Radio</td>
<td>SuperCAT+ 03</td>
</tr>
<tr>
<td>… with Sonde = 33 kHz (Config # 3)</td>
<td></td>
</tr>
<tr>
<td>… with Sonde = 512 (640Hz) (Config # 20)</td>
<td>SuperCAT+ 20</td>
</tr>
<tr>
<td>SuperC.A.T. “TL”, 60hz, Strike Alert, Imperial Depth</td>
<td></td>
</tr>
<tr>
<td>Sonde 33khz, Power, Radio</td>
<td>SuperCATTL 07</td>
</tr>
<tr>
<td>… Line 512 Hz - 8/65 kHz (Config # 7)</td>
<td>SuperCATTL 17</td>
</tr>
<tr>
<td>… Line 8/33/131 kHz (Config # 17)</td>
<td>SuperCATTL 21</td>
</tr>
<tr>
<td>SuperC.A.T. “TL”, 60hz, Strike Alert, Imperial Depth (Config # 21)</td>
<td></td>
</tr>
<tr>
<td>Line 8/65 kHz, Sonde 512 Hz + 33kHz, Power, Radio</td>
<td></td>
</tr>
<tr>
<td>SuperC.A.T. “S” Drain Locator, 60hz, Strike Alert, Imperial Depth (Config # 9)</td>
<td>SuperCATS 09</td>
</tr>
<tr>
<td>Sonde Modes 512 Hz, 8-33 kHz, Power, Radio</td>
<td></td>
</tr>
<tr>
<td>SuperC.A.T. “CPS”, 60hz, Imperial Depth (Config # 13)</td>
<td>SuperCACP 13</td>
</tr>
<tr>
<td>512/8K/33K, Power, Radio</td>
<td></td>
</tr>
<tr>
<td>Transmitters T1 Transmitter; 512Hz, 8KHz, 33KHz</td>
<td>10/T1-512-ENG</td>
</tr>
<tr>
<td>T1 - 65kHz/512hz Transmitter for use with SuperCAT “TL”</td>
<td>T165/512</td>
</tr>
<tr>
<td>T1 - 131kHz Transmitter for use with SuperCAT “TL”</td>
<td>T131</td>
</tr>
<tr>
<td><strong>SuperCAT+ Locator Kits</strong></td>
<td></td>
</tr>
<tr>
<td>Line Locating High Frequency Kit</td>
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</tr>
<tr>
<td>SuperCATTL Config # 7 w/512-8-65, sonde mode 33k, Power/Radio, Strike Alert, T1 transm. (512Hz, 8-65KHz), 4“ Clamp, Bag</td>
<td>SUPERCAT KIT 2</td>
</tr>
</tbody>
</table>
## Product Model

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipeline Kit</td>
<td></td>
</tr>
<tr>
<td>SuperCATCPS Config # 13 w/512-8-33kHz, CPS 120 Hz, Power/Radio, Strike Alert, T1 transm. (512Hz, 8-33KHz), 4&quot; Clamp, Bag</td>
<td>SUPERCAT KIT 3</td>
</tr>
<tr>
<td>Plumber HF Plumber’s Kit - High Frequency w/ std. Sonde 33 kHz (M10)</td>
<td></td>
</tr>
<tr>
<td>SuperCATTLL Config # 7 w/512-8-65kHz, sonde mode 33 kHz, Power/Radio, Strike Alert, T1 transm. (512Hz, 8-65kHz), 4&quot; Clamp, Std. Sonde 33k, M10 Spring Coupling, Bag.</td>
<td>SUPERCAT KIT 5</td>
</tr>
</tbody>
</table>

### SuperCAT+ Options and Accessories

- **4” Clamp for SuperCAT+**: 10/TC1769-RD4-5
- **Carrying Bag for SuperCAT+**: 10/CAT/GEN2U
- **US Plug Connector for T1 transmitter**: 10/AC1231-4KTX-LPCUS

### Standard Sonde - D:1.5” L:4.125”

- 16ft, 1xAA for 20hrs., 33kHz, Continuous: 92/SC0412-33R-O
- 16ft, 1xAA for 20hrs., 512Hz, Continuous, opposite end screw: 10/SC0412-512
- 16ft, 1xAA for 20hrs., 8kHz, Continuous: 10/SC0412-8

### Sewer Sonde - D:2.5” L:6.625”

- 26ft, 1x9V for 15hrs., 33kHz, Continuous/Pulse: 10/SA0337-33R

### Super Sonde - D:2.5” L:12.5”

- 50ft, 1x9V for 15hrs., 33kHz, Continuous/Pulse: 10/SB0338-33R

### Bendie Sonde - D:0.91” L:18.75”

- 20ft, 1xAA for 15hrs., 512z, Continuous:
  - Different End Cap options for the Bendie Sonde
    - Bendie Sonde w/ End Cap, M10: 10/AS1336-M10
    - Bendie Sonde w/ End Cap, 10-32: 10/AS1336

### Super Small Sonde

- **S18A** - D:0.7” L:3.25” - 12ft, 2xSP675 for 20hrs., 33kHz, Continuous: 10/S18/82-33-000
- **S18 Sonde with Plain End Cap**: 10/S18/82-33-000
- **S18 Sonde with M10 End Cap**: 10/S18/82-33-M10
- **S18B Sonde with AA Battery End Cap**: 10/S18/173-33-000

### FlexRod (200 feet)

- Flexitrace - 50 Meters (162 feet): 10/TRACE50-GB

### Spring Coupling

- Spring Coupling: 10/SU0335

### C.A.T.3+ & Genny 3

### C&G Receivers and Transmitters

- **C.A.T.3 -24 Cable Avoiding Tool, No Meter, No Strike Alert**: 10/CAT3-24-USA
- **C.A.T.3V -28 33kHz with Meter (No Depth Measurement Capability), Strike Alert**: 10/CAT3V-28-USA
- **C.A.T.3+ -34 33kHz with Meter (With Depth Measurement Capability), Strike Alert**: 10/CAT3PLUS-34-USA
- **Genny3 Transmitter**: 10/G3-ENG
<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C&amp;G Locator Kits</strong></td>
<td></td>
</tr>
<tr>
<td>C.A.T3 &amp; Genny3 KIT-1, with Carrying Bag (no meter - no clamp)</td>
<td>10/CAT3-ND KIT 1</td>
</tr>
<tr>
<td>C.A.T3+ &amp; Genny3 KIT-1, with Carrying Bag (depth, no clamp)</td>
<td>10/CAT3+ KIT 1</td>
</tr>
<tr>
<td>C.A.T3+ Contractor KIT-2</td>
<td></td>
</tr>
<tr>
<td>C.A.T3+ &amp; Genny3 KIT, 4&quot; Clamp, and Carrying Bag</td>
<td>10/CAT3+ KIT 2</td>
</tr>
<tr>
<td>C.A.T3+ Plumber’s KIT-3 10/CAT3+ KIT 3</td>
<td></td>
</tr>
<tr>
<td>C.A.T3+ &amp; Genny3 KIT, Standard Sonde, and Carrying Bag</td>
<td>10/CAT3+ KIT 3</td>
</tr>
<tr>
<td>C.A.T3+ Plumber’s KIT-4 10/CAT3+ KIT 4</td>
<td></td>
</tr>
<tr>
<td>C.A.T3+ &amp; Genny3 KIT, Standard Sonde, Clamp, and Carrying Bag</td>
<td>10/CAT3+ KIT 4</td>
</tr>
<tr>
<td><strong>C&amp;G Accessories</strong></td>
<td></td>
</tr>
<tr>
<td>4&quot; Clamp for Genny3</td>
<td>10/TC1769-RD4-5</td>
</tr>
<tr>
<td>Carrying Bag for C.A.T3 and Genny3</td>
<td>10/CAT/GEN2U</td>
</tr>
<tr>
<td>S18A Sonde</td>
<td>10/S18/82-33-000</td>
</tr>
<tr>
<td>FlexRod (200’) 10/FLEXRODF60 Plug Connector, Genny, 3-pin</td>
<td>10/GG1540-LPC-ROW</td>
</tr>
</tbody>
</table>

**RD1000 Ground Penetrating Radar System (GPR)**

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD1000 GPR</td>
<td>10/RD1K</td>
</tr>
<tr>
<td>RD1000 GPR Portable GPR Accessories</td>
<td></td>
</tr>
<tr>
<td>RD1000 GPR Image View Software Kit (allows the user to upload data logging information from the GPR to a PC/Handheld device)</td>
<td>10/RD1KSOFT</td>
</tr>
<tr>
<td>RD1000 GPR Battery Charger</td>
<td>10/RD1KCHARGE</td>
</tr>
<tr>
<td>RD1000 GPR Battery</td>
<td>10/RD1KBATTERY</td>
</tr>
<tr>
<td>RD1000 GPR Display Unit Mount</td>
<td>10/RD1KMOUNT</td>
</tr>
<tr>
<td>RD1000 GPR 13&quot; Sensor Support Strap</td>
<td>10/RD1KSTRAP</td>
</tr>
<tr>
<td>RD1000 GPR Handle Pin</td>
<td>10/RD1KPIN</td>
</tr>
<tr>
<td>RD1000 GPR Display Unit</td>
<td>10/RD1KDISPLAY</td>
</tr>
<tr>
<td>RD1000 GPR Sensor</td>
<td>10/RD1KSENSOR</td>
</tr>
<tr>
<td>RD1000 GPR Odometer Assy and Cable</td>
<td>10/RD1KODOMETER</td>
</tr>
<tr>
<td>RD1000 GPR Cart Handle</td>
<td>10/RD1KHANDLE</td>
</tr>
<tr>
<td>RD1000 GPR Cart Base (No Wheels)</td>
<td>10/RD1KCART</td>
</tr>
<tr>
<td>RD1000 GPR Battery Cable</td>
<td>10/RD1KBATTTCABLE</td>
</tr>
<tr>
<td>RD1000 GPR Display Cable</td>
<td>10/RD1KDSIPCABLE</td>
</tr>
<tr>
<td>RD1000 GPR Battery Strap</td>
<td>10/RD1KBATTSTRAP</td>
</tr>
<tr>
<td>RD1000 GPR Wheel Kit ea (3 Req)</td>
<td>10/RD1KWHEEL</td>
</tr>
<tr>
<td>RD1000 GPR Odometer Wheel Kit</td>
<td>10/RD1KODOWHEEL</td>
</tr>
</tbody>
</table>

**Metal Detectors & Ferromagnetic Detectors**

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD312 Receiver only</td>
<td>10/RD312-USA</td>
</tr>
<tr>
<td>RD316 Receiver (MagnaTrak with Bag)</td>
<td>10/RD316</td>
</tr>
</tbody>
</table>

**Non-Metallic Water Pipe Tracers**

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD500 Receiver, Headphones, Disc, Hard Case</td>
<td>10/5R001</td>
</tr>
<tr>
<td>(video available upon request)</td>
<td></td>
</tr>
<tr>
<td>Transonde (LowPower) with Faucet &amp; Sprinkler Accessories</td>
<td>10/ST001</td>
</tr>
<tr>
<td>Product Model</td>
<td>Part Number</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Transonde (Medium Power) with Water-Meter Accessories</td>
<td>10/ST008B</td>
</tr>
<tr>
<td>Transonde (High Power) with Fire-Plug Accessories</td>
<td>10/ST008A</td>
</tr>
<tr>
<td>Transonde MediumPower &amp; HighPower KIT &amp; Accessories</td>
<td>10/ST008</td>
</tr>
<tr>
<td>Low-Power Transonde</td>
<td>10/ST037</td>
</tr>
<tr>
<td>Medium-Power Transonde</td>
<td>10/ST035</td>
</tr>
<tr>
<td>High-Power Transonde</td>
<td>10/ST036</td>
</tr>
</tbody>
</table>

**Trenchless Technology**

iTack System

iTack Receiver KIT - Includes: iTack receiver, carry bag,
BoreLog software, Calibration Jig
iTack Receiver Only
iTack Dataview
Wireline Adapter Unit, (controller, cables, DV plate, battery eliminator)
RD385 Receiver
RD385 Dataview
PDF Data Sonde for iTack
Carry bag for iTack
Calibration Jig

DrillCheck KIT
(Includes: DC Receiver, DC Alarm, Carry Bag and Case, Tripod and Calibration Jig)
DrillCheck Receiver
DrillCheck Alarm
DrillCheck Carry Case
DrillCheck Carry Bag
Tripod

All Trenchless receivers and data views come with UHF antenna

**DataSondes**  Sonde - Type - Size, Range, Battery Type & Life, Frequency/Signal

**Short Range Datasonde**
- D:25.4mm L:2032mm (1x8in) - 12ft., 1xAA for 10hrs., 33kHz 10/ND1579
- D:25.4mm L:2032mm (1x8in) - 12ft., 1xAA for 10hrs., 8kHz 10/ND2415-BK

**Short Range Datasonde - (Type 3 - no sleep/park)**
- D:25.4mm L:2032mm (1x8in) - 12ft., 1xAA for 10hrs., 33kHz 10/ND1579-3

**Medium Range Datasonde**
- D:33mm L:380mm (1.3x15in) - 33ft., 2xC for 20hrs., 8kHz 10/ND2415-R
- D:33mm L:380mm (1.3x15in) - 33ft., 2xC for 20hrs., 8kHz 10/ND2415-BK3
- D:33mm L:380mm (1.3x15in) - 33ft., 2xC for 20hrs., 8kHz 10/ND2415-R3
- D:33mm L:380mm (1.3x15in) - 33ft., 2xC for 20hrs., 8kHz 10/ND2415-OR

**G2 Dual Frequency Long Range Datasonde**
- D:32mm L:380mm (1.3x15in) - 50ft., 2xC for 12hrs., 8kHz/33KHz 10/ND2585
- D:32mm L:380mm (1.3x15in) - 50ft., 2xC for 15hrs., 8kHz/33KHz 10/ND2585
## Product List

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PullBack KIT with 30ft. Datasonde</td>
<td>65/DC PULLBACK-30</td>
</tr>
<tr>
<td>(Includes: 2, 4 &amp; 6&quot; Foam Spacer, Backreamer Datasonde Connector &amp; MR Datasonde - Type 3)</td>
<td></td>
</tr>
<tr>
<td>PullBack KIT with 50ft. Datasonde*</td>
<td>65/DC PULLBACK-50</td>
</tr>
<tr>
<td>(Includes: 2, 4 &amp; 6&quot; Foam Spacer, Backreamer Datasonde Connector &amp; LR Datasonde - Type 3)</td>
<td></td>
</tr>
</tbody>
</table>

### Bicotest - Power Fault Locating

<table>
<thead>
<tr>
<th>Instrument Technology Corporation</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>T625 High Spec Cable Fault Locator</td>
<td>10/T625/1/B</td>
</tr>
<tr>
<td>T631 High Spec Coaxial Cable Fault Locator</td>
<td>10/T631/1/B</td>
</tr>
<tr>
<td>T272 High Resistance Bridge</td>
<td>10/T272</td>
</tr>
<tr>
<td>Dual Mains Blocking Filter</td>
<td>61/T600FD</td>
</tr>
</tbody>
</table>

### Pipeline Assessment

<table>
<thead>
<tr>
<th>Instrument Technology Corporation</th>
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</table>

<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipeline Current Mapper KIT</td>
<td>PCM+KITUSA</td>
</tr>
<tr>
<td>Includes: PCM+ Receiver, PCM+ Transmitter, Bag, Accessory A-Frame with Bag</td>
<td></td>
</tr>
<tr>
<td>PCM+ Receiver</td>
<td>PCMRX+</td>
</tr>
<tr>
<td>PCM+ Transmitter</td>
<td>PCMTX+USA</td>
</tr>
<tr>
<td>PCM Bag</td>
<td>PCMBAG</td>
</tr>
<tr>
<td>PCM+ Accessory A-Frame</td>
<td>AFramePCM</td>
</tr>
<tr>
<td>A-Frame Bag</td>
<td>10/AFBAG</td>
</tr>
<tr>
<td>PCM+ Hard case</td>
<td>10/PCMBAG</td>
</tr>
<tr>
<td>Precision Pipeline Locator KIT</td>
<td>10/PPL KIT 1 *</td>
</tr>
<tr>
<td>(Includes: PPL Receiver, PPL Sensor Bar, PCM Transmitter and Carry Bag)</td>
<td></td>
</tr>
<tr>
<td>PPL Receiver</td>
<td>10/PX1764-PPL-GB *</td>
</tr>
<tr>
<td>PPL Sensor Bar</td>
<td>10/AG1881-PPL-GB *</td>
</tr>
<tr>
<td>Stray Current Mapper KIT</td>
<td>10/ST2189-USA</td>
</tr>
<tr>
<td>(Includes: SCM Sensor Bar, Smart Media Card, Battery, Case &amp; Software. Probe cable is not included)</td>
<td></td>
</tr>
<tr>
<td>Smart Probe for SCM, w/SCM interconnect cable</td>
<td>10/TB2593-USA</td>
</tr>
</tbody>
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### Smart Interrupters

<table>
<thead>
<tr>
<th>Instrument Technology Corporation</th>
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<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Interrupter, 50 Amp with GPS, w/ external power cable and bag</td>
<td>10/SN2181-50-G-GB</td>
</tr>
<tr>
<td>Smart Interrupter, 100 Amp with GPS, w/ external power cable and bag</td>
<td>10/SN2181-100-G-GB</td>
</tr>
<tr>
<td>Smart Interrupter, 220V 100 Amp with GPS control unit and booster unit</td>
<td>10/SI220-100A-KIT</td>
</tr>
<tr>
<td>Smart Interrupter, Control Unit (Base)-GPS-Includes Bag</td>
<td>10/SI220-BASE</td>
</tr>
<tr>
<td>Smart Interrupter, Booster-220V, 100AMP</td>
<td>10/SI220-BOOSTER</td>
</tr>
<tr>
<td>SI220 Spares</td>
<td>09/SN2786Z10</td>
</tr>
<tr>
<td>CP Connection KIT (croc clips)</td>
<td>09/SN2786Z12</td>
</tr>
<tr>
<td>Auxillary power lead</td>
<td>09/SN2786Z12</td>
</tr>
</tbody>
</table>

### Line Management Systems

<table>
<thead>
<tr>
<th>Instrument Technology Corporation</th>
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<table>
<thead>
<tr>
<th>Product Model</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMS2 Baymount (2 Direction)</td>
<td>10/RD431LMS-KIT *</td>
</tr>
<tr>
<td>w/cables &amp; brackets (does not include switchbox)</td>
<td></td>
</tr>
<tr>
<td>LMS3 Baymount (16 Direction)</td>
<td>51/LMS3-16W-KIT</td>
</tr>
<tr>
<td>w/cables &amp; brackets (does not include switchbox)</td>
<td></td>
</tr>
<tr>
<td>Product Model</td>
<td>Part Number</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>Vector Bar</td>
<td>10/AA1726-GB</td>
</tr>
<tr>
<td>VB20 Vector Bar</td>
<td>10/AA2614UNIV</td>
</tr>
<tr>
<td>Extended Range Vector Bar</td>
<td>10/AA2053-USA *</td>
</tr>
<tr>
<td>Smart Probe</td>
<td>10/TB1624-USA</td>
</tr>
</tbody>
</table>

* Limited Quantities Available While Supplies Last
SubSurface Instruments manufactures the most durable and functional magnetic locators available on the market today. As providers of water leak detection equipment along with pipe and cable locators for North American markets, SubSurface Instruments also offers repair services for equipment.

The warranty, reliability, customer service and expertise is unmatched in the industry with the highest quality and timely repair services available.

Magnetic Locators
The magnetic location equipment is engineered by the most experienced design and manufacturing team available in the nation today.

**ML-1 Magnetic Locator**
Non-metered device. (audio only)

**ML-1M Magnetic Locator**
Features a digital meter that provides visual signal strength, polarity indication, gain setting plus battery life display. These versions are engineered to operate identically with the same controls. The metered model (ML-1M) adds features without adding complexity.

Both devices feature:
- Easy one-hand operation
- Easy keypad switches, no knobs
- Lightweight - only two pounds (including batteries)
- Uses two regular alkaline 9-volt batteries (shipped with 4)
- Strong monotube construction provides structural integrity
- Microprocessor retains volume and gain settings from last use
- Bag & Hard Case Included

Find:
- Corner markers (iron or steel)
- Mag nails and PK nails
- Valve and curb boxes
- Iron and steel pipes
- Well casings
- Manhold & Utility Box Covers
- Steel drums & tanks
- Septic tank handles
- Energized electric cables
- Marker magnets
- Unexploded bombs (UXO)
SubSurface Leak Detection

LD-8 Leak Survey Tool

The new LD-8 Leak Survey Tool is designed specifically for "water leak surveys" done by water departments, water districts, and other government and private agencies concerned about "unaccounted-for water losses." The LD-8 is very simple to use, yet it is very sensitive when listening for water leaks at meters, hydrants, and valves. Sounds from water leaks can travel for hundreds of feet (even thousands of feet on iron and steel pipes) on water mains, and a "listen only" leak survey is often very effective at discovering areas with water leaks.

Standard Items
- Heavy-Duty ABS Plastic Carrying Case
- Over-the-Ears Stereo Headphones
- Amplifier with Display and Volume Control
- Short Contact Rod (4 inches)

Standard Accessories
- 4-Section Contact Rod Set (52 inches)
- Optional 40 inches Rod (top photo)
- Optional 60 inches Rod (not shown)
- Instruction Manual (not shown)

Specifications

AMPLIFIER
- Sensor: Piezoelectric Element
- Amplification: 55 dB
- Frequency Range: 100Hz to 2000Hz
- Notch Filters: 150Hz and 180Hz
- Temperature Range: 25 F to 130 F
- Batteries: Two AA (dry cell or rechargeable)
- Battery Life: 24 hours minimum (alkaline cells)
- Weight: 10.6 ounces (with batteries)
- Size: 8.15 by 3.3 by 2.4 inches

HEADPHONES
- Stereo, 8 ohms

ABS CARRYING CASE
- Weight (full): 10 lb.
- Dimensions: 18 by 11.5 by 7 (inches)

STANDARD CONTACT RODS
- Short Rod: 4 inches, anti-slip tip
- 4-Section Rod: 4 sections, each 13 inches, threaded connections

OPTIONAL CONTACT RODS
- 40 Inches Rod: Single piece, light-weight stainless steel
- 60 Inches Rod: Single piece, light-weight stainless steel

Features:

Amplifier with push button ON/OFF switch, volume control, two-digit display of loudness, and three-range sensitivity switch.

Use the short contact rod for listening at hydrants.

Use the long contact rods for listening at below-grade meters and below-grade valves.

Notch filters reduce A/C hum from transformers, power lines, etc.

Excellent sensor sensitivity, leak sound amplification, and audio clarity.

Stereo headphones with soft leather ear covers are comfortable for hours and hours.

Use the two-digit display to compare the loudness of leak sounds at nearby locations, like adjacent water meters, close water hydrants, close water valves, etc. The display can show which is loudest when your ears can not tell.

Sturdy, light-weight carrying case weighs only 10 lbs. and fits behind the seat in the truck.
SubSurface Leak Detection

**LD-12  “Professional’s Plus” Water Leak Detector**

The new LD-12 “Professional’s Plus” Water Leak Detector offers several new features not available in our popular LD-10 Professional’s Water Leak Detector. The LD-12’s amplification and audio clarity are even better than the LD-10’s, and the LD-12’s large meter display of the leak sound intensity is easily visible in all outdoor lighting, from bright sunlight to total darkness.

The LD-12 includes a base plate for “ground miking” on city streets or concrete slabs and both a magnet base and a contact rod for water leak “surveying” at hydrants, valves, and meters.

Features of the LD-12:

- Large meter display (with backlight) of sound loudness, allowing the user to pinpoint the exact leak location.
- Light weight amplifier, weighing only 31 ounces, with a padded carrying case and a strap.
- Six selectable filters, split into three “low side” filters (100Hz, 200Hz, or 400Hz) and three “high side” filters (600Hz, 800Hz, or 1200Hz).
- “Limitter” switch which cuts off all loud noises greater than 110dB. If you drop the sensor, you won’t hurt your hearing.
- “Filter-Thru” switch, which turns OFF all of the amp’s filters, allowing the user to hear all sounds from 50Hz to 15,000Hz.
- High-sensitivity ground microphone and low “electronic noise” amplifier combine to offer the very best quality sound for leak detection.

Three accessories for attachment to the sensor:

- Ground plate for pinpointing on streets/slabs
- Magnet base for surveying at hydrants/valves
- Contact rod for surveying at meters/fittings

**Included Items:**

- Amplifier with Meter Display and Filter Controls
- Ground Microphone and Handswitch
- Base Plate for Listening on Street Surfaces
- Aviation-Grade Stereo Headphones
- Heavy-Duty ABS Plastic Carrying Case

**Specifications:**

- Amplification: 62 dB +/- 3dB
- Frequency Range:
  1) 100Hz to 1200Hz (13 dB) with Filter-Thru OFF
  2) 15Hz to 30,000Hz (13 dB) with Filter-Thru ON
- Power: 6 AA dry cell batteries
- Battery Life: 28 hours with backlight OFF
- Weight: 31 ounces
- Size: 6.7” x 2.8” x 4.1”
SubSurface Leak Detection

**LD-15 Professional's Leak Survey Instrument**

The LD-15’s sensitivity and frequency range are optimized for effective water leak "surveying" at hydrants, meters, and valves. When a water distribution system suffers high "unaccounted for water loss," then a leak "survey" with acoustic listening devices or other tools is often recommended. The LD-15's high sensitivity and superior audio quality allow the user to hear the smallest leaks possible.

- High sensitivity sensor with Neodymium magnet (extra strong). Sensor and cable connection completely sealed and water-proof (submersible).
- Amplifier with superior audio quality (very low distortion and superior signal-to-noise ratio) and large meter display. Press the Mute Switch to hear sounds when you are ready.

### Surveying

- "Survey" for water leaks by listening at hydrants and valves with the sensor and magnet. Survey at water meters with a Long Contact Rod (optional).
- "Pinpoint" water leaks in pipes under asphalt or concrete with the base plate attached to the sensor and magnet.

Use the High filter range for water leak surveying. Use the Low filter range for water leak pinpointing. High frequency leak sounds travel on the pipes, but only low frequencies pass through the soil.

**Included Items:**

- Amplifier with Meter Display and Filter Controls
- Padded Case and Standard Belt (40 inches)
- High Sensitivity Sensor and Cable
- Base Plate for Listening on Street Surfaces
- Aviation-Grade Stereo Headphones
- Heavy-Duty ABS Plastic Carrying Case

**Options:**

- 40 inches Long Contact Rod (not shown)
- 60 inches Long Contact Rod (not shown)
- Large Size Belt (50 inches)
- Extra Large Size Belt (60 inches)

---

### Comparison of LD-12 and LD-15

<table>
<thead>
<tr>
<th>Feature</th>
<th>LD-12</th>
<th>LD-15</th>
</tr>
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<tbody>
<tr>
<td>Amplifier S/N</td>
<td>35 db</td>
<td>40 db</td>
</tr>
<tr>
<td>S/N compared to S30</td>
<td>3X Better</td>
<td>5.5X Better</td>
</tr>
<tr>
<td>Amplifier Gain</td>
<td>59 db</td>
<td>56 db</td>
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<tr>
<td>Gain compared to S30</td>
<td>3X Better</td>
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<td>Amplifier Distortion</td>
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<td>&lt;1 %</td>
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<tr>
<td>Distortion compared to S30</td>
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<td>6 X Less</td>
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<tr>
<td>Filter Ranges</td>
<td>3 Low / 3 High</td>
<td>1 Low / 1 High / Notch</td>
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<tr>
<td>Widest Filter Settings</td>
<td>100 - 1200 Hz</td>
<td>30 - 5000 Hz</td>
</tr>
<tr>
<td>Battery Life (Alkaline)</td>
<td>28 Hours</td>
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<tr>
<td>Battery Type</td>
<td>6 AA</td>
<td>4 C</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>.7 V/g @ 400 Hz</td>
<td>10 V/g @ 1100 Hz</td>
</tr>
</tbody>
</table>

---

**Specifications**

- **Amplification:** 56 dB
- **Filters:**
  - High Range 30 Hz to 5000 Hz
  - Low Range 30 Hz to 800 Hz
  - Notch Filter 150 Hz, 180 Hz
- **Power:** 4 C dry cell batteries
- **Battery Life:** 80 hours with alkaline batteries at 68 degrees F
- **Weight:** 31 ounces (including 4 C batteries)
- **Size:** 6.4” x 3.0” x 5.7”
- **Sensor Sensitivity:** 10 V/g
- **Resonance Frequency:** 950 Hz (±150 Hz)
- **Weather Protection:** IP68 or equivalent (3 ft underwater for 3 hours)
- **Cable Length:** 9.75 ft
The new LD-18 Digital Water Leak Detector is the first water leak detecting instrument to offer automatic noise reduction from intermittent interfering noises, like passing vehicles, people talking, and pedestrian footsteps. The new LC-2500 sensors are very sensitive, small in diameter, and **totally submersible.**

All digital amplifier with automatic noise reduction of intermittent sounds, high and low filters, storage and graphing of sound levels at different locations on the pipe, bar graph and numeric display of sound loudness, USB connection, and back light.

**Comes standard with:**
1. Amplifier with LCD Display, Controls, and USB Connection (to PC Computers)
2. Padded Case for Amplifier
3. 40 inch Belt (50 inches and 60 inches Optional)
4. Ground Microphone and Hand switch
5. Magnet Base and Nutdriver
6. Heavy-Duty ABS Plastic Carrying Case
7. Aviation-Grade Stereo Headphones
8. PC Software and USB Cable
9. (optional) Sensor w/Strong Magnet and 9.75 ft. Cable (to listen at valves and hydrants)

**Features:**
- Combined Sensitivity and Amplification: 900 V/G or higher (at 400 Hz)
- Low Filters: Off, 100 Hz, 200 Hz, 400 Hz
- High Filters: 400 Hz, 600 Hz, 800 Hz, 1200 Hz, 2200 Hz
- Notch Filters: Off, 50 Hz, 60 Hz
- Maximum No. of Sound Levels Saved in File: 250 (by date and time)
- Power: 4 C dry cell batteries
- Battery Life (continuous use): 24 hours minimum
- Weight: 35 ounces (including 4 C batteries)
- Size: 6.4" x 3.0" x 5.7"
- Weather Resistance: IP52 equivalent
- Temperature Range (Working): Minus 4 F to Positive 130 F
- Sensor Type: Piezo electric ceramic
- Weather Resistance: IP67 equivalent (3 ft water depth for 30 minutes)
- Standard Base: 3 - Pronged Plate (removable with nutdriver)
- 5 Year Warranty
**SubSurface Leak Detection**

**LC-2500 Leak Noise Correlator**

The LC-2500 is both compact and lightweight. The Main Processor Unit, weighing less than 7 lb., can easily be carried all day. The unit is ruggedly built and weather tight for use in all outdoor conditions. The Main Processor Unit and the Pre-Amps/Transmitters can operate in rain storms, sub-zero temps., and direct sun for hours.

The new LC-2500 sensors are very sensitive, small in diameter, and **totally submersible**.

Runs all day on standard or rechargeable “D” batteries.

**Easy to Set Up and Run**

Input pipe materials, diameters, and lengths by simply selecting them in the program menus. The automatic functions can do the rest.

System includes:
- LC-2500 Main Processor Unit
- Blue Pre-Amplifier with Radio Communication
- Red Pre-Amplifier with Radio Communication
- Two High Sensitivity, Small Diameter Sensors for Metal Pipes
- Aviation-Grade Headphones
- Instruction Manual and Field Guide
- Two “Heavy Duty” Plastic Carrying Cases

**MAIN PROCESSOR UNIT**

Operating Temperature Range: -10 to 50°C  
Applicable Standard: IP52 (weather tight)  
External Dimensions: 7.8 inches (W) x 4.0 inches (D) x 9.9 inches (H)  
Weight: Approx. 6.8 lb. (with batteries)

**RED and BLUE PRE-AMPLIFIERS**

Operating Temperature Range: -10 to 50°C  
Applicable Standard: IP52 (weather tight)  
External Dimensions: 5.9”w x 4.3”d x 14.5”h  
Weight: Approx. 6.3 lb. (with batteries)  
Battery: 6 “D” Cells (std or rechargeable)  
Continuous Operating Time: 10 hours minimum (at 20°C, backlight OFF)  
Minimum Operating Voltage: 6.0V

**INPUT:**

Input Frequency Range:  
- 20Hz to 5kHz (at THRU filter setting)  
- 100Hz to 5kHz (at STD filter setting)  
Input Sensitivity: 50 micro V, max.  
Signal to Noise Ratio: 35dB, min.

**RADIO COMMUNICATION SYSTEM:**

Output Frequency:  
UHF under approved freq.  
Modulation: Direct frequency modulation  
Output Power: 0.5W (500mW)  
Output Impedance: 50 ohms

**SENSORS**

Type: Piezoelectric pick-up  
Voltage Sensitivity: 2.5V/g (peak)  
Applicable Standard: IP68 (water-proof)  
Drop Resistance: 3 feet (asphalt)  
External Dimensions: 1.2 inches diameter x 5.1 inches high  
Weight: 15 ounces each  
Power Supply System: 3-wire  
Output Impedance: 100 ohms, max.  
Power Supply Voltage: 5.0V
### Mighty Probe™

**Insulated Metal Soil Probe**

Incorporates all the quality features of the Smart Stick™ with the addition of a current isolator to increase operator protection against electrical shock. The Mighty Probe is now also available with a 3/8” Hex rod that is approximately 20% stiffer than the round rod. The Mighty Probe™ is intended for secondary protection and is not to replace the user's personal protective equipment. It provides increased protection against electrical shock resulting from incidental contact with energized lines. As with all quality tools, it should be used correctly and under proper conditions.

The Mighty Probe has been tested to 50,000 volts by an independent testing laboratory following ASTM F711-89 testing procedures. Additionally, it has been tested by the commercial laboratory services of a major utility company. (Both dry and 48hr. water soak to 45,000 volts.)

**IMPORTANT:** The Mighty Probe lengths includes the 6” current isolator. Therefore the 48” Mighty Probe allows you to probe 42” deep (48” overall - 6” isolator = 42” rod).

- **Part No**
- **Length**
- **Price**

<table>
<thead>
<tr>
<th>Part No</th>
<th>Length</th>
<th>Price</th>
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<tbody>
<tr>
<td>MPA36</td>
<td>36” w/ Round Rod</td>
<td>$61.00</td>
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<td>MPA42</td>
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<td>MPA48</td>
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<td>MPA54</td>
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<td>$38.00</td>
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<td>66” w/ Round Rod</td>
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<tr>
<td>MPA72</td>
<td>72” w/ Round Rod</td>
<td>$41.00</td>
</tr>
<tr>
<td>MPA78</td>
<td>78” w/ Round Rod</td>
<td>$47.00</td>
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</table>

**Standard 3/8” Round Rod**

**3/8” Hex Rod - Approx. 20% stiffer than Round Rod**

<table>
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<tr>
<th>Part No</th>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPA36-X</td>
<td>36” w/ 3/8” Hex Rod</td>
<td>$41.00</td>
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</tr>
<tr>
<td>MPA78-X</td>
<td>78” w/ 3/8” Hex Rod</td>
<td>$73.00</td>
</tr>
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</table>

- **Part No**
- **Length**
- **Price**

<table>
<thead>
<tr>
<th>Part No</th>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPA36-X7</td>
<td>36” w/ 7/16” Hex Rod</td>
<td>$68.00</td>
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<td>MPA78-X7</td>
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7/16” Hex Rod - Approximately twice as stiff as the 3/8” Round Rod

**To insure operator safety, be sure to follow OSHA regulations!**
Mighty Probe Lite™

- Designed for sand, loose, or wet soil, the Mighty Probe Lite is a light duty insulated soil probe. The Mighty Probe Lite retains the same electrical protection of the Mighty Probe while featuring a thin lightweight stainless steel shaft which won’t rust and resists bends. For heavy duty use, purchase a Mighty Probe.
- The Mighty Probe Lite is to be used for secondary protection and is not intended to replace the user’s personal protective equipment. The Mighty Probe Lite provides increased protection against electrical shock resulting from incidental contact with energized lines. As with all quality tools, it should be used correctly and under proper conditions.
- The Mighty Probe Lite has been tested to 50,000 volts by an independent testing laboratory following ASTM F711-89 testing procedures. Additionally, it has been tested by the commercial laboratory services of a major utility company. (Both dry and 48hr. water soak to 45,000 volts.)

<table>
<thead>
<tr>
<th>Part No</th>
<th>Length</th>
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<td>MLP42</td>
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<tr>
<td>MLP48</td>
<td>48”</td>
<td>$65.00</td>
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</tbody>
</table>

Slide Adapter™

- The Slide Adapter is available for use with the Mighty Probe. This converts your Mighty Probe into a mini slide hammer probe. The Slide Adapter threads between the shaft and handle of the Mighty Probe. It has a 6” stroke and adds 8” to the overall length of the probe.

<table>
<thead>
<tr>
<th>Part No</th>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
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<td>$40.00</td>
</tr>
</tbody>
</table>

Hammer Probe

- The integrated slide hammer makes driving this probe into the hardest ground more effective than striking a probe with a maul. The sliding head has been specifically designed to minimize the number of pinch points, reducing the risk of injuries.
- Comfortable 16” handles are made from 1” diameter steel tubing allowing ample room for the hands. The dual handles (spread 7 1/2” apart) provide greater control and improved ergonomics.
- All internal pieces of the head assembly are manufactured from high strength impact resistant tool steel. This steel is designed for minimal distortion, ensuring a long lasting probe. The tips are heat treated alloy steel and create a small clearance hole for the 1/2” shafts. The Hammer is powder coated a bright blue for high visibility and a long lasting finish.

<table>
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<tr>
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<tr>
<td>HMP60</td>
<td>60”</td>
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</tbody>
</table>
**Smart Stick™**

Rugged, Heavy Duty Soil Probe

The Smart Stick is a heavy duty soil probe which resists bending and is designed for easy penetration and withdrawal. The yellow handles are designed for comfort and high visibility.

Now available with a 3/8” Hex rod that is approximately 20% stiffer than the round rod. The new 7/16” Hex rod is approximately twice as stiff as the round rod.

<table>
<thead>
<tr>
<th>Part No</th>
<th>Length</th>
<th>Price</th>
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<td>36” w/ Round Rod</td>
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</tr>
<tr>
<td>TPA72-X</td>
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<table>
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<tr>
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<tr>
<td>TPA72-X7</td>
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**Water Probe**

The high quality Water Probe is constructed to allow water to flow through the shaft.

Let the water do the work for you; there's no need to push hard. Penetrates hard, dry soil. Works well for getting through the frost layer. Can be used to clean out meter boxes.

<table>
<thead>
<tr>
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<th>Length</th>
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<tr>
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<tr>
<td>WPA72</td>
<td>72”</td>
<td>$54.00</td>
</tr>
</tbody>
</table>

**FEATURES:**

**Grips:** Bright color, easy to see, insulates against cold, comfortable, smooth

**Handle:** 1” steel tubing, 3/4” brass standard hose connector

**Valve:** Brass, 1/2” full port, conveniently located control, threaded for easy replacement

**Shaft:** High quality thick-wall steel tubing resists bending, handle and shaft threaded

**Tip:** Improved design for less clogging, beveled for better penetration, hardened steel
Striking Head™

This is designed to break through tightly packed or frozen soils. Improved 2" wide hex head is integrated with an 11" wide handle. The hex head is designed for striking with a maul. Adding 3 lbs. to the overall probe weight, the hex head has been lengthened and counter bored to ensure durability and longevity, especially between the head and rod transition point.

The Striking Head includes all of the same features as the Smart Stick plus the following:
- 3 pound hexagonal striking head to allow striking with a maul
- Extra Heavy Duty design for added pounding power
- Special alloy steel heat treated for durability
- Striking head and shaft threaded for secure connection

**WARNING!**
The Striking Head DOES NOT provide protection from electrical shocks. The vinyl grips are for operator comfort only. For insulated capabilities, please see the Mighty Probe.

### Standard Duty (3/8" Shaft)

<table>
<thead>
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<th>Length</th>
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<tr>
<td>SPL72</td>
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<td>$56.00</td>
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### Heavy Duty (1/2" Shaft)

<table>
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</tr>
</thead>
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<td>$55.00</td>
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<tr>
<td>SPH60</td>
<td>60&quot;</td>
<td>$59.00</td>
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</table>
Uni Markers™ Electronic Marker

The Tempo Uni Marker™ provides a new, economical way to electronically mark buried facilities. The Uni Marker is a passive, electronic marker that provides a unique electronic signature when activated by a marker locator and is packaged in a rugged polyethylene case that ensures years of useful life. It even comes with a lifetime warranty.

Ideal for use on buried enclosures, hand holes, etc. The Uni Marker™ is installed directly in the ground just above, or attached to, any object that may require future locating. The small size and flat design also makes the Uni Marker™ especially well suited for attachment to non-metallic utility box lids, hand holes or other buried enclosures. We’ve even included a convenient mounting bracket for common applications.

Installs flat and level - For maximum performance, the Uni Marker must be installed flat and level over the object to be marked. If this is not possible or convenient, use the Tempo Omni Marker product, as it does not require a particular orientation. Both of these products offer the best performance of any comparable electronic marker available today.

Easily located from up to five feet away. The Uni Marker provides 25% greater range than traditional disk style markers. With a peak signal directly above the marker, the Uni Marker provides precise location to within inches.

High reliability design assures many years of service. The Uni Marker contains no batteries or active electronic components to wear out or require maintenance. This proven, high reliability design means these markers will last as long as your underground plant.

Compatible with all marker locators. Because Uni Markers use industry standard frequencies; they will work with any electronic marker locating devices.

Specifications :
Size     5.25 inch diameter (13.3 cm) at its widest point and 3/4” high (1.91 cm)
Range    5 feet typical (1.5 meters)
Field Type Dipole
Package Material High-density polyethylene

The Uni Marker is available in seven frequencies and seven different industry standard colors for all utility applications.

Ordering Information

Uni Markers are ordered by the case, with a quantity of 24 to the case. Mounting and brackets included. Minimum order is one case.

<table>
<thead>
<tr>
<th>Application</th>
<th>Color</th>
<th>Model</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Electrical Power</td>
<td>Red</td>
<td>170</td>
<td>169.8 kHz</td>
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<tr>
<td>Water</td>
<td>Blue</td>
<td>171</td>
<td>145.7 kHz</td>
</tr>
<tr>
<td>Sanitary</td>
<td>Green</td>
<td>172</td>
<td>121.6 kHz</td>
</tr>
<tr>
<td>Telephone</td>
<td>Orange</td>
<td>173</td>
<td>101.4 kHz</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>Yellow</td>
<td>174</td>
<td>83.0 kHz</td>
</tr>
<tr>
<td>Cable TV</td>
<td>Black/Orange</td>
<td>175</td>
<td>77 kHz</td>
</tr>
<tr>
<td>Non-Potable/Gen1</td>
<td>Purple</td>
<td>178</td>
<td>66.35 kHz</td>
</tr>
</tbody>
</table>
Omni Markers™ Electronic Marker

The Tempo Omni Marker provides an improved method to electronically mark and locate underground facilities. Unlike other marking devices that use just a single coil, the Omni Marker contains three orthogonal tuned circuits. When excited by any standard marker locator, these passive circuits produce a uniform, spherical RF field in every direction. Because of their unique patented design, the Omni Marker offers benefits that are superior to any other electronic marking system.

Easily located up to five feet away - The Omni Marker provides 25% greater range than traditional 4-inch ball markers. It produces a wider field that is easy to find months or years later, with a signal peak directly above the marker for precise location within inches. This wider field and better range means faster and more reliable locates in any terrain.

No need to stay level when buried - Because it produces a spherical field, the Omni Marker does not require any particular orientation when buried. As a result, there’s no need for the Omni Marker to be level in the ground like flat-style electronic markers. Just toss the Omni Marker in the trench or excavation and cover it up with normal backfill. Additionally, the Omni Marker’s unique shape allows it to fit easily into a standard 4-inch trench with no extra digging.

Lightweight, with no hazardous chemicals - The Omni Marker contains no floating or moving parts or chemicals. This eliminates the need for material safety data sheets. Plus, the Omni Marker’s durable, lightweight design keeps your shipping and storage costs low while giving you years of reliable service.

Passive, high reliability design assures many years of service - The Omni Marker contains no batteries or active components, and the proven high reliability design means these markers will last as long as your buried plant.

Omni Markers use industry standard frequencies and they will work with any electronic marker locating devices.

Use the Omni Marker to mark and find:
- Buried splices and load coils
- Buried service drops
- Pipe ends
- Conduit stubs
- Road crossings
- Cable paths
- Fiber optic facilities
- Manholes under pavement or grade changes
- Snow-covered installations
- Military caches
- Survey points
- Septic installations
- Repair points
- Non-metallic lines

Specifications:
- Size: 4.5 inch diameter (11.4 cm) Max.
- Range: 5 feet typical (1.5 meters)
- Field Type: Spherical
- Package Material: High-density polyethylene

The Omni Marker is available in six frequencies and six different industry standard colors for all utility applications.

Ordering Information

Omni Markers are ordered by the case, with a quantity of 24 to the case. Mounting and brackets included. Minimum order is one case.

<table>
<thead>
<tr>
<th>Application</th>
<th>Color</th>
<th>Model</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Power</td>
<td>Red</td>
<td>170</td>
<td>169.8 kHz</td>
</tr>
<tr>
<td>Water</td>
<td>Blue</td>
<td>171</td>
<td>145.7 kHz</td>
</tr>
<tr>
<td>Sanitary</td>
<td>Green</td>
<td>172</td>
<td>121.6 kHz</td>
</tr>
<tr>
<td>Telephone</td>
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<tr>
<td>Natural Gas</td>
<td>Yellow</td>
<td>174</td>
<td>83.0 kHz</td>
</tr>
</tbody>
</table>
Marker-Mate™ Electronic Marker Locator

Marker-Mate™ Electronic Marker Locator is designed to locate all brands of buried, electronic markers, including the patented Tempo Omni Marker™, and Uni Marker™ sets an industry standard with the capability of detecting all seven application-based electronic marker types simultaneously; power, water, sanitary, telephone, gas, cable TV, non-potable water.

Marker-Mate™ is user-selectable for any of these marker types, or the Scan mode will locate the marker types simultaneously, and automatically determine which type has been detected. Marker-Mate™ scan mode, and its pinpoint accuracy, reduces time spent locating electronic markers. The Marker-Mate™ advanced pinpoint feature allows the user to adjust its detection threshold, making it possible to narrow the detection area to a precise location.

Utilizing digital signal processor technology, the Marker-Mate™ is the most sophisticated, highest performing locator available built to operate in all weather conditions. Tempo's Marker-Mate™, Omni Marker™ and Uni Marker™ a complete solution!

Features:

- Five foot depth range
- Detects up to seven different marker types
- Scan mode provides simultaneous detection of all marker types
- User-adjustable ‘Detection Threshold’
- Digital signal processor accuracy
- Large character display is easy to read
- Bar graph, numeric & audible signal strength indicators
- Speaker volume adjustment
- Headphone jack
- Battery level indicator
- Low battery warning
- Adjustable time-out feature prolongs battery life (and can be turned off)
- Weather resistant
- Rugged construction

Specifications:

- Electrical: Twelve AA batteries
- Battery Life: 20 hours typical -4 ° to 122 °F (-20 °C to 50 °C)
- Environment: -40 ° to 158 °F
- Weather Resistant
- Physical:
  - Length 30.7 in
  - Width 7.8 in
  - Height 12.8 in
  - Weight 4.5 lbs with batteries
- Accessories: Headphone Set

Related Products:

**Omni Marker Electronic Marker**
Provides improved method to electronically mark and locate underground facilities such as power, water, sanitary, telephone, non-potable water, gas and CATV

**Uni Marker Electronic Marker**
Suited for attachment to non-metallic utility box lids, hand holes, or other buried enclosures for power, water, sanitary, telephone, non-potable water, gas and CATV facilities.
Plastic Barricades

TrafFix Devices Inc. offers a complete line of unique, durable plastic barricades suitable for a variety of different applications. From our standard Folding Plastic Barricade, ideal for all applications to our rigid A-Cade A-frame barricade system. The TrafFix Type III, breakaway barricade system or the TrafFix-CADE modular barricade system. Whatever your application, TrafFix Devices has the barricade.

Please Note -- All TrafFix Barricades meet the crash worthy requirements of NCHRP 350

Type I Barricade with 8” x 24” top panel and 4” x 24” bottom panel.
Type I Barricade with 12” x 24” top panel and 4” x 24” bottom panel.
Type I Barricade with 12” x 24” top panel and 8” x 24” San-Fil bottom panel.
Type II Barricade with 8” x 24” top panel and bottom panel.
Type III Barricade

A-Cade Barricade

TrafFix-Cones

Made of durable high-density polyethylene plastic, the rugged TrafFix-Cone has multiple uses in a wide variety of different applications. The cones are stackable for storage and transportation but won’t “stick together” like vinyl cones. The TrafFix-Cones have a hollow base that can he filled with up to 23 lbs. of sand, or simply drop a sandbag on it in windy conditions. The TrafFix-Cone is ideal for mounting signs and barricade lights for temporary traffic control. Perfect for school crossing guards, cross walks, hotel/motel check in areas and parking structures.

Grabber Tubes
Grabber Cones
Channelizer Drum
Looper Tubes
Looper Cones

Big Sandy Impact Attenuator Sand Barrels

Now there is an Impact Attenuator Sand Barrel that is easy to move and provides external verification of the barrels correct weight of sand. Different configurations of barrels are used to create all of the weights used in current standard array geometries (200, 400, 700, 1400, and 2100 lbs).

Incident Management

Quick Deploy Spring Cone & Tote System

Signs

Roll-up Signs
Standard Sign Legends
Custom Signs & Overlays
Sign Assembly Options
Sign Accessories
Safe Sign-350 Sign Blanks

Portable Sign Stands

Zephyr
TrafFix
Tri-Buster
Phoenix
Econo Buster
Little Buster
Big Buster
Barrier Buster
Utilimapper

Finally an easy to use Direct Assessment Tool set with the mobile workforce in mind!

The Mobile Utility Suite: Utilimapper is the latest innovation from Tri-Global Technologies. Utilimapper integrates seamless data communication between Radiodetection Electromagnetic Line Locators and high accuracy GPS equipment from Trimble. Designed for those organizations requiring the simple ability to record highly accurate geospatial information for updating and maintaining underground infrastructure.

- Supports Trimble(R) GeoExplorer(TM) Series, Juno(TM) SB/SC, Nomad(TM) and Pathfinder(TM) Pro Series
- Supports Radiodetection RD4000, RD8000, PCM, and PCM+ Connectivity
- Supports external laser rangefinder for remote offsets

Utilimapper has a brand new look!

With Mobile Utility Suite / Utilimapper we have taken all the features of our previous versions and enhanced and streamlined them.

Utilimapper license combines brand new features, like support for the new RadioDetection RD8000™ and PCM Plus™ locators. You can now stream all of your locate information directly into Utilimapper via a bluetooth connection. Also the, new Utilimapper software supports multiple lines per job. Keep track of Alert interval, station value, depth of cover and Line ID uniquely with each line without having to create independent jobs.

The new version supports a PODS database model, with multiple feature relation back to the collected location. Utilimapper users who choose to use the inspection module get a pre-created PODS compatible Physical inspection template.
vCamDigital

The vCamDigital allows the recording of MPEG4 video images using an internal MPEG4 recorder, and provides keyboard, titler and sound system and titler and sound system to add up to 16 pages of text, and an audio commentary. These can be uploaded via a USB interface to a computer allowing copies to be made for the home owner, or images to be captured for inclusion in reports. Video out and video in functions are provided for recording on an external video camera or recorder, or the inclusion of worksite video on the MPEG4 recording.

Features

- A rugged injection molded ABS Command module
- Internal Ni-M rechargeable batteries
- 8inch/200mm TFL Liquid crystal display (CCD camera) recessed for easy viewing in strong sunlight
- 100v-240v power supply (for charging batteries and powering unit where power source is available)
- 12v DC power input for powering unit from external 12v supply (car)
- Switchable Transmitting 5W Sonde 512Hz/640Hz (metallic pipes) 33kHz for non metallic pipes (power restricted at 33kHz in some markets to meet local EMC regulations)
- PAL/NTSC video system
- Video out socket
- Counter mechanism (accurate to 0.3ft/0.1m)
- Reel type selection (for counter accuracy)
- Dimmer control for LED lighting
- MPEG 4- 60 Gigabit hard drive (45 Hours of video)
- 16 pages titler & keyboard
- Internal microphone & socket for external microphone
- Video IN
- SD slot for software upgrades to MPEG 4
- USB socket & lead for uploading video to computer

Reels

- The standard reel (type C) all stainless steel construction, full suspension for bumping overcurbs or steps & mounting hardware to attach control module to the reel (optional)
- The mini reel (type M) all stainless steel construction- hand carried
- The large reel (type P) painted steel constructed roll round unit for Long (pushrod) cable lengths (400ft/120m)
- Two types of fiberglass epoxy, Kevlar reinforced pushrod cable, 10mm (smaller pipes), 12mm (larger pipes and/or longer distances)

Cameras

- All stainless steel cameras and camera hardware
- All color CCTV cameras (1.5 Lux sensitivity)
- 6000 MCD illumination luminous intensity LED’s
- Fixed and self leveling CCTV cameras for each cable size.
- Stainless steel nose cone and sapphire lens for Strength and durability
- Waterproof to 6 Bar
The vCamView is mainly for direct viewing or the image from the CCTV camera. It provides a video out function for recording the image on an external video recorder or camera. No titler or sound functions are available of the vCamViewFeatures.

**Features**

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- Internal Ni-M rechargeable batteries
- 8inch/200mm TFL Liquid crystal display (CCD camera) - recessed for easy viewing in strong sunlight
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- Waterproof to 6 Bar
Vivax

vCamPro Series 2

Video image & storage

The vCam uses a high quality flat screen liquid crystal display (LCD) and Digital Video Recorder (DVR). Images can be recorded in real time in DVD format. Individual still images can be captured for use in reports using a standard computer software package supplied with the system.

A “titler” system enables date, time and distance information to be displayed on the screen and recorded. The text created can be toggled to different screen positions ensuring it never obscures relevant parts of the image. All text is entered by using a standard keyboard.

- Rugged construction
- Liquid crystal display
- Real-time DVD recorder
- Video out (for other recording devices)
- Audio input
- Adjustable light level
- Transmitting onde element for above ground location
- vCam service exchange contract (optional)

Features and Specifications

- NTSC - 110v AC -or- PAL - 240v AC versions available
- 8.0 inch (206mm) flat screen LCD - 510x492 NTSC (500x582 PAL)
- DVR (DVD recorder)
- DVD+RW
- DVD+R
- 4.7GB
- Video & Audio recording
- DVR remote control
- Color camera as standard (NTSC or PAL)
- On screen editor (QWERTY keyboard)
- Illumination & 4 position image control
- Video out
- 512Hz or 640Hz locating element
- Water (IEC60529) and shock (IEC60068-2-31) resistant - with lid in place
- Storage & operating temp -50 C to 400 C (200F - 1040F)

Cable

- Fiberglass epoxy rod with Kevlar strength layer
- Abrasion water resistant, high impact copolymer outer jacket
- 4,000 lbs (1800kg) nominal breaking strain
- 200 feet (60m) standard length (other lengths on request)

Software

- Capture still images from DVD for reports or records using PipeseeLITE
**VIS 330  Visual Inspection System**

**The Revolution in Visual Inspection Technology**

*Pan & Tilt miniature camera provides all-encompassing view*

This advanced camera system sheds light in the dark. The articulating eye of the full color camera head lets you take a close look at pipes, air ducts, chimneys, vents, cracks, welding seams, gaskets and manholes. The super bright wide side screen TFT monitor provides brilliant picture quality.

The waterproof 1 1/2” camera always fits. With its 180° pan- and 360° tiltable camera head, it gives you an inside view into drainage pipes, air ducts and intermediate ceilings.

The innovative design provides super bright lighting and simple operation, all in one heavy duty carrying case. A crystal clear picture appears on the wide screen TFT monitor so you identify problems before they occur.

The Wohler VIS 3xx Advanced Camera System comes standard with a built in RCA video output for documentation on a VCR or other electronic devices. The state-of-the-art NiMH battery packs provide 1.5 hours continuous operation. The power supply offers simultaneous operation and battery recharging.

**The camera head: Features at a glance**

- All-encompassing: 360° pan- and 180° tiltable camera eye
- Small dimensions: The camera measures 1 1/2” Ø and 2 1/3 in length.
- Waterproof fully encapsulated waterproof camera head with exchangeable dome
- Flexible 90°-bends are easily negotiable for the camera
- Super bright lighting: The LED lighting of the camera head gives crystal clear pictures, even in dark environments.
- Exact location: digital distance measurement with a resolution of 0.005 ft. (VIS 330)
- Versatile applications: The Wohler VIS 3xx Advanced Camera System is the essential tool to determine problems.

**Applications**

- Utilities and supplies: new possibilities to inspect pipework, drains and sinks
- Commercial and residential building inspection: detection of problems in hollow spaces, intermediate ceilings, ductwork and chimneys
- Industrial appliances: inspection of machines, control panels, exhaust systems and production surveillance.

**Specifications:**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor size housing</td>
<td>7” x 4.5” x 1.3”</td>
</tr>
<tr>
<td>TFT-Display</td>
<td>7” / 16:9 format</td>
</tr>
<tr>
<td>Video-out</td>
<td>FBAS</td>
</tr>
<tr>
<td>Weight</td>
<td>1 lb.</td>
</tr>
<tr>
<td>Current supply</td>
<td>2 x 12 V batteries or mains supply</td>
</tr>
<tr>
<td>Battery life time</td>
<td>approx. 1.5 hours</td>
</tr>
<tr>
<td>Miniature camera head color sensor type</td>
<td>1/3” COLOR CCD</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>0.5 Lux</td>
</tr>
<tr>
<td>Lens system</td>
<td>f= 0.08”, f= 2.4”</td>
</tr>
<tr>
<td>Field of view</td>
<td>120°</td>
</tr>
<tr>
<td>Light Source</td>
<td>12 white LEDs</td>
</tr>
<tr>
<td>Protection</td>
<td>waterproof according to 68</td>
</tr>
<tr>
<td>Size</td>
<td>1.5” x 2.4”Ø</td>
</tr>
<tr>
<td>Rod length</td>
<td>65ft. (VIS 320), 100 ft. (VIS 330)</td>
</tr>
<tr>
<td>Diameter</td>
<td>0.26”</td>
</tr>
<tr>
<td>Heavy duty carrying case size</td>
<td>20” x 17” x 7” (LxWXH)</td>
</tr>
<tr>
<td>Weight</td>
<td>18 lb.</td>
</tr>
</tbody>
</table>
Wohler USA

VIS 2000 Pro  Visual Inspection System

The Revolution in Visual Inspection Technology

Professional Video Inspection

The Wohler VIS 2000PRO is used for visual inspection of chimneys, ventilation lines, vents and pipes. The camera detects leakages and defects. Because of a pan and tiltable camera head, you can inspect every spot. The results of the inspection can be recorded to a CF-memory card in the instrument either as pictures or videos.

Because of the modular design, you can later upgrade your system, so it can also be used for other applications e.g. with a miniature camera head or a different camera rod.

You can carry all components directly in front of your body, so you don’t need a place to set the instrument onto.

Advantages

- Compact, light monitor with leather protection sleeve with glare protection and shoulder belt - can be carried in front of your body
- Digital memory for pictures and videos – 1 GB CF-memory card
- Output for analogue video signal
- Switchable additional LEDs
- OSD (On Screen Display): length (optional), date, time, title
- Easy operation by key pads
- Big colour TFT display
- Splash proof camera head
- Easy and accurate inspection with a pan and tilt camera head (180° and 360°)

Applications

- Inspection and direct documentation of flue lines, ventilations and chimneys etc. from a Ø of 70 mm upwards
- OSD: length (optional with viper or cable winder), date, time, cursor and title with 10 figures
- Compatible to all Wöhler camera heads

Specifications:

Monitor:
- Resolution: 640 x 480 Pixel (NTSC)
- Size: 10.6" x 7.9" x 2.4"
- Size TFT-Display: 6.5"
- CF-memory card: 1 GB
- Video Out: FBAS-Signal
- Battery voltage: 7.2 V, NiMH
- Operation time: approx. 1 h.
- Working temperature: 32…104 °F

Camera head:
- Type: camera head colour CCD
- Sensitivity: 0.4 Lux
- Field of View: 98° x 75°
- Pan: 360°
- Tiltatable: 180°
- Splash water proof according to IP 64
- Lighting: 4 x bulbs, 6 x LED white
- Size: 2" x 3.9" Ø
- Weight: 0.5 lb.
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