

# UTILITY INSIGHT

INC.



GMI  
Insight Vision  
NozzTeq



Rigid



Rausch Electronics  
Subsite Electronics  
Sewerin Ltd.



Tempo  
TraFFix Devices  
T&T Tools



Rausch Proline Van



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# UTILITY INSIGHT INCORPORATED

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Let us be your source of quality name brand products for municipal, utility and plumbing needs. We serve all of northern California and Nevada.

Utility Insight Incorporated is a stocking distributor of locators, leak detectors, smoke generating devices (SGD) jetter nozzles, marking paint, CCTV vans and trucks, crawlers, push cameras, push rods, traffic control and safety products.

- On Site Training.
- No obligation product demonstrations.
- Fast turn around on repairs.
- Conveniently located off highway 101 in Sonoma County.

Keep an eye on the "specials" section in our website. We sell our demo units, trade-ins, and have inventory specials.

With over 8 years experience in repairing camera systems and locators, we are an authorized repair center for many of the lines we carry. Let us impress you with our fast turn around time while saving you shipping costs.

We build our own cable assemblies to save you money and provide better quality.

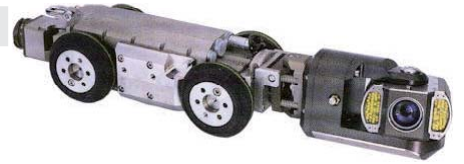
Conveniently located right off route 101 in Cotati, California.



## Rausch Tractors & Cameras

### L150 Tractor with KS150 Camera

Application range of 6" to 40" diameter, with steerable tractor, pan and tilt camera, 300° swiveling, 540° rotation, 10-fold zoom, auto focus and iris, automated picture leveling and an "anti-flipping" feature when camera is in autorun mode.



### L500 Tractor with KS200 Camera

Application range of 8" to 64" diameter, with steerable tractor, electric lifting gear for diameter adjustment, pan and tilt camera, 300° swiveling, 540° rotation, 10-fold zoom, auto focus and iris, automated picture leveling, and automated "anti-flipping" feature when camera in autorun mode.



### SAT-Star Lateral Launch System

SAT200 Tractor with KS200 and KS60 camera make up the Lateral Launch system. Application range for mainlines of 8" to 48" and lateral lines of 4" to 8" . 100 feet of lateral launch cable connected to 450 ft. of lateral camera cable. (Overall approximately 550 ft.)



### ScanCam Laser Profiler

The ScanCam can be used with either the L150 or L500 Tractors. The ScanCam is designed to perform conventional mainline inspection on its way out, and pipe profiling on its way back. No dead runs! Instant 3-D graphic reports available through the software package – No third party involved for data evaluation!



### PanCam 3D Pipe Imaging

The digital camera head that creates computerized 3D pipe imaging starting at 6" Pipe diameter. The software creates a 3D image for easy use and evaluation. A 2D-Image is created for a quick overview of the pipe structure with accurate measurements of pipe deformations. PanCam is compatible with all Rausch inspection systems.

A cost efficient alternative to other conventional systems on the market.



### L100 Crawler w/KS100 Camera

Application range of 4" to 10" diameter lines. Steerable two motor tractor with automated "anti-flipping" feature when camera is in auto run mode. Pressure tight up to 8 psi (15 ft.).



**RAUSCH**  
Electronics



(800) 705-8845

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## Rausch Cable Drums

### Elka Drum

The Elka Drum has automatic synchronization between drum and camera during wind-up. To position the camera at the manhole the drum has a direct manual control for cable drum and tractor located at drum. Range of 1500' with RCA Proline Controller 1000' with Eco-Star Controller.



### Quadro Drum

The Quadro Drum also has automatic synchronization between drum and camera during wind-up. To position the camera at the manhole the drum has a direct manual control for cable drum and tractor located at drum. Range of 1000' with RCA Proline or Eco-Star Controllers.



### Alpha 150 Drum

Electrically driven cable drum with a range of 600 feet of camera cable for the operation of steerable camera tractors in connection with pan and tilt cameras. Used with Eco-Star Controller. (combine Alpha/Ecco for portable system)



## Rausch Controllers

### RCA ProLine Controller

This ergonomic system is designed to control all RAUSCH tractors and cameras, suitable for pipe diameters ranging from 4" up to 64".



### Eco-Star Controller

Is the lower cost system designed to control all RAUSCH tractors and cameras, suitable for pipe diameters ranging from 4" up to 64"

The ECO-STAR controller can be portable or installed in a vehicle. (upgradeable to the SAT-STAR in a truck mount installation)





## Rausch Options & Accessories

### • Point Repair

#### Quick-Lock Point Repair System

Quick-Lock is a strictly mechanical spot repair system for the partial repair on the inner pipe. It is applicable in common sewage, well and potable water lines. Key to this system is its patented locking mechanism, which once is locked gives the sleeve its structural strength and presses the rubber gasket against the inner pipe wall.



### • Lateral Jetting

#### TSS200 Lateral Flushing Attachment for Lateral Launch System

The Portable flushing attachment for the cleaning of laterals from the main line. Uses the same principles as lateral inspection. Application range for mainlines of 8 to 48 inches and lateral lines of 4 to 8 inches.

A portable version of the TSS 200 consists of the EcoStar Controller, Alpha 150 Cable Drum, SAT200 Tractor and with the TSS 200 conversion kit.



### • Pressure Testing

#### Kampac II Leak Test System

Leak-Test System for single joint testing with air from 8" to 24" diameter. Integrated pan and tilt camera for accurate positioning. Pneumatically driven cable drum. Cable with integrated pressure hose.



#### Vario Kampac

Application range from 8" to 24" diameter. This system features an adjustable connecting rod between the two test bubbles, enabling longer sections of rehabilitated pipe to be leak-tested, adjustable range from approx. 8 ft to 23 ft. A pan and tilt camera between the two test bubbles assures accurate positioning and documentation of these test runs. Additionally, pipe connections between lateral and main line can be tested by carrying an extra lateral test bubble on the SAT-Star camera body which will be inserted from the main-line into the lateral. (Optional)



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Electronics



*rausch*

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## Portable Systems

### Alpha KS 60 Push Lateral Camera

The Alpha 60 is a portable and lightweight push system for pipe diameters of 4" to 10". It is mounted in a sturdy aluminum frame, and includes: pan & tilt camera model KS60 with infinite rotation, 300° swivel, automated upright picture, integrated locator transmitter (33KHz), a 200 ft push cable, integrated 5 inch color LCD monitor, built-in title writer, keyboard for data entry, VCR/DVD recorder outputs, electronic distance counter, powerful multi-LED camera lighting, camera integrated pressure sensor, and hardened aluminum camera housing.



### Alpha SAT45H Push Lateral Camera

The Alpha SAT45H is a push rod camera system. It has a removable Camera with a permanent auto-upright picture. Application range 2" to 10". Optional integrated Sonde available. The Alpha push reel has an internal electronic footage counter, external connectors for VCR/DVD-R recorders, LCD viewing monitor, and up to 200' of push cable. Optional title writer with keyboard available.



### Alpha SAT35 Push Lateral Camera

The Alpha SAT35 is a push-rod camera system with manually operated reel for diameter ranging from 1-1/2" to 8" with a maximum cable length of 100 ft.



#### About Rausch

In 1982, Wolfgang Rausch founded the RAUSCH GmbH & Co Company in Southern Germany, to become a manufacturer of CCTV inspection equipment for sewer pipes.

His ideas and concepts proved to be right-on-target. Since its founding days, the company has continuously grown to become a worldwide technology leader in a very competitive market.

In 2003, RAUSCH decided to enter into the North American market and soon thereafter, a new company, RAUSCH Electronics USA LLC, was formed. We had our first official appearance in the US at the 2004 Pumper & Cleaner Expo in Nashville, Tennessee. We were overwhelmed by the great interest for our product line. Since then, systems have been built at the RAUSCH Plant in Chambersburg, PA and sold across the USA.

RAUSCH's teams include engineers, programmers, technicians, installers and administrative staff, each individual playing an important role. Upon our solid technical foundation, RAUSCH designs and builds its leading edge products, systems and solutions for worldwide sewer pipeline applications. In many regions of the world, RAUSCH is represented by local agents and exclusive distributors who promote RAUSCH's products.



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 Datalogging
- Single button operation



Part Number	Sensors	Description
66178ABCD	LEL / O2 / H2S / CO	Drycell
66168ABCD	LEL / O2 / H2S / CO	Drycell with Internal Pump
66278ABCD	LEL / O2 / H2S / CO	Rechargeable
66268ABCD	LEL / O2 / H2S / CO	Rechargeable with Internal Pump

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

**GMI**  
Gas Measurements Ltd.



(800) 705-8845

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**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**

Model	Sensors	Part Number
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

**DIGITAL Xpress PLUS SYSTEMS**

The PLUS system adds USB and Network cable. InsightVision DIGITAL XPRESS PLUS Push System has their full featured memory card and USB thumbdrive recording pipeline inspection camera System. Also features an Ethernet network connection, camera test ports and the newest ClearVIEW Camera Heads.

System Features:

DIGITAL Xpress! Offers integrated Memory Card and USB recording SD, MMC, CF, MS ProDuo Memory Card Compatibility.

USB Thumbdrives, External HardDrive, USB

Ethernet connection. Simply connect to your network to save your recordings to network attached storage devices.

ClearVIEW Camera Heads designed for brilliant inspections:

- ClearVIEW Self Leveling (2"-12" pipes)
- ClearVIEW Straight View (2"-12" pipes)
- ClearVIEW Micro (1"-8" pipes)



Your Inspections depend on performance PushRods - Expect the most advanced with InsightVision 200 and 300 FT - Your Choice!

Advanced Pushrods optimized for further pushes and more turns 3" and 4" P-Traps!

Horizontal Base Frame with telescoping handle for On-The-Go performance!

Extreme portability, Lightweight design

Integrated 512 Hz Sonde

Digital On-Screen distance counter

Position control button

Reset control button

Large and Bright 10.4" LCD Monitor

On-The-Go Performance with Built-In Rechargeable Battery NiMH for long life and no memory effect multi-hour performance

w/Intelligent recharge circuit

Video/Audio Out for external recording

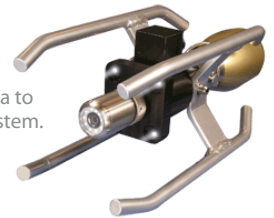
Compatible with External VCR, Recordable DVD, DVR, and more!

Portable Handle Extends for easy "one person" transport on Horizontal Frame

Wheels for portability

Additional included accessories:

- Accessory Bag
- Sunshade for easy viewing
- Skid - 2-3" pipelines
- Skid - 3-4" pipelines
- AC Power Supply
- DC Power Cord (vehicle adaptor)
- Owners Manual



Upgrade your Push-Camera to the Jet-Cam Inspection System.

Inspect with your Sewer Cleaning Machine!

Inspect 6" to 15" lines Inspect up to 600 Ft.

Unique 3-Way Interchangeable System allows you to upgrade from PUSH to CRAWL to JET or ALL THREE

Available on all Insight Vision Cameras



Upgrade your Push-Camera to the Portable Silver-Bullet Mainline Inspection System

Inspect 4" to 12" lines Inspect up to 600 Ft

Unique 3-Way Interchangeable System allows you to upgrade from PUSH to CRAWL to JET or ALL THREE!

Available on all Insight Vision Cameras

Upgrade your Push-Camera to the Jet-Cam Inspection System. Inspect with your Sewer Cleaning Machine! Inspect 6" to 15" lines Inspect up to 600 Ft. Unique 3-Way Interchangeable System allows you to upgrade from PUSH to CRAWL to JET or ALL THREE

Upgrade your Push-Camera to the Portable Silver-Bullet Mainline Inspection System. Inspect 4" to 12" lines. Inspect up to 600 Ft. Unique 3-Way interchangeable system allows you to upgrade from PUSH to CRAWL to JET or ALL THREE!

**DIGITAL Xpress SYSTEMS**

InsightVision DIGITAL XPRESS Push System is our full featured Memory Card RECORDING pipeline inspection camera system. Features include the advanced digital distance counter, camera test ports and the newest ClearVIEW Camera Heads.

*All InsightVision systems offer On-The-Go portability smart designs and Built-In Batteries.*

**System Features:**

DIGITAL Xpress! Integrated Memory Card, SD, MMC, CF, MS ProDuo Memory Card Compatibility.

ClearVIEW Camera Heads designed for brilliant inspections:

- ClearVIEW Self Leveling (2"-12" pipes)
- ClearVIEW Straight View (2"-12" pipes)
- ClearVIEW Micro (1"-8" pipes)

Your Inspections depend on performance PushRods - Expect the most advanced with InsightVision

- 200 and 300 FT - Your Choice!
- Advanced Pushrods optimized for further pushes and more turns
- 3" and 4" P-Traps!

Horizontal Base Frame with telescoping handle and Wheels for On-The-Go performance!

- Extreme portability
- Lightweight design
- Integrated 512 Hz Sonde
- Digital On-Screen distance counter
- Position control button
- Reset control button
- Large and Bright 10.4" LCD Monitor

On-The-Go Performance with Built-In Rechargeable Battery

- NiMH for long life and no memory effect
- Multi-Hour performance
- Intelligent recharge circuit

Video/Audio Out for external recording; Compatible with External VCR, Recordable DVD, DVR, and more!

Additional included accessories

- Accessory Bag
- Sunshade for easy viewing
- Skid - 2-3" pipelines
- Skid - 3-4" pipelines
- AC Power Supply
- DC Power Cord (vehicle adaptor)
- Owners Manual



**EXCLUSIVE ClearVIEW CAMERA HEADS**

- Engineered with advanced features to provide the brightest and clearest picture.
- Features the latest LED lighting technology.

Your inspections will be easier with brighter and higher detailed video.

- ClearVIEW Series of Camera Heads provide unbelievable picture quality from 1" Pipelines to 12" Pipelines.

## DVD Xpress SYSTEMS

InsightVision DVD XPRESS Push System puts the power of recording at your fingertips with this easy and convenient DVDr recorder. Recording your pipeline inspections has never been easier. Simply choose from the ClearVIEW Self-Leveling, StraightView and Micro Camera Heads..

### System Features:

- DVD Xpress! Integrated DVDr recording for fast and reliable Inspections

### ClearVIEW Camera Heads designed for brilliant inspections:

- ClearVIEW Self Leveling (2"-12" pipes)
- ClearVIEW Straight View (2"-12" pipes)
- ClearVIEW Micro (1"-8" pipes)

Your Inspections depend on performance PushRods - Expect the most advanced with InsightVision

- 200 and 300 FT - Your Choice!
- Advanced pushrods optimized for further pushes and more turns
- 3" and 4" P-Traps!

Horizontal Base Frame with telescoping handle and wheels for On-The-Go performance!

Extreme portability

Lightweight design

Integrated 512 Hz Sonde

Digital On-Screen distance counter

Position control button

Reset control button

Large and Bright 10.4" LCD Monitor

On-The-Go performance with built-in rechargeable battery

- NiMH for long life and no memory effect w/multi-hour performance
- Intelligent recharge circuit

Video/Audio Out for external recording

Compatible with External VCR, Recordable DVD, DVR, and more!

### Additional included accessories

- Accessory Bag
- Sunshade for easy viewing
- Skid - 2-3" pipelines
- Skid - 3-4" pipelines
- AC Power Supply
- DC Power Cord (vehicle adaptor)
- Owners Manual



Insight Vision



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WWW.UTILITYINSIGHT.NET (800) 705-8845 UTILITY INSIGHT INCORPORATED



**POCKET-PLUMBER REPORTING SOFTWARE**

The power of reporting in the palm of your hand. Increase efficiency and effectiveness

Observation Codes

Survey Detail

Print your report and invoice from the field with a portable printer

Install the Pocket-Plumber software on your own compatible Pocket-PC PDA or purchase the software preinstalled and configured on a PDA!

— Insight Vision Parts and Accessories —

**ClearVIEW Self-Leveling Camera head**

Self-Leveling Color Design. 2"-12" Pipelines. Sapphire Lens. 1 Lux (F1.2) Min. Illumination. Stainless Steel Housing.

**ClearVIEW Straight View Camera head**

2"-12" Pipelines. Sapphire Lens. 1 Lux (F1.2) Min. Illumination. Stainless Steel Housing.

**ClearVIEW Micro Color Camera head**

1"-6" Pipelines. Sapphire Lens. 1 Lux (F1.2) Min. Illumination. Stainless Steel Housing.

**Sonde - 512Hz**

512 Hz Sonde for Locating. Durable design for trouble free service. Compatible with ClearVIEW Self-Leveling, Straight View and Micro Head. Compatible with InsightVision Locators and all other 512Hz Locators.

**Locators**

Locators compatible with camera systems and Sondes. Including depth reading

**Deluxe Text Writer**

Textwriter complete with keyboard. 4 standard screens. Quality Durable case for easy portability. All cables and user manuals included. Compatible with all InsightVision xPress Command Modules.

**Skid 6" - 8"**

Skid attaches to Sonde Assembly. Designed for larger 6" and 8" pipelines for improved pushing in large pipelines.

**Sunshade**

Sunshade for Outside Viewing. Velcro design insures easy installation. Foldable for easy storage. Durable Cordura for long life.

**Push Rod Debris Bag - 200Ft/300Ft**

Debris Bag for Clean Operating. Compatible with: 200Ft Horizontal Base Frame and 300Ft Horizontal Base Frame. Elastic design for easy installation. Machine washable.

**Accessory Bag**

Accessory Bag for Storage. Storage for: AC Power Cord, DC Power Cord, System Manual, Sunshade, Etc.

**AC/DC Power Supply**

120/240 VAC Adaptor Power Supply. Compatible with all InsightVision xPress Command Modules. Note: Use of unapproved AC Power Supplies may void warranties

**Vehicle Power Supply Adaptor**

Vehicle Power Adaptor (Cig. Adaptor). Compatible with all InsightVision xPress Command Modules. Note: Use of unapproved Vehicle Power Adaptors may void warranties.

**Camera Skid 4" - ClearView SL and Straight**

Camera Skid for 4" to 6" Pipe. Used with ClearView Self-Leveling and Straight Color Cameras. Durable Delrin construction. No-Tool design provides easy on/off installation.

**Camera Skid 3" - ClearView SL and Straight**

Camera Skid for 3" to 4" Pipe. Used with ClearView Self-Leveling and Straight color Cameras. Durable Delrin construction. No-Tool design provides easy on/off installation.

**Camera Skid 4" - ClearView Micro Head**

Camera Skid for 4" to 6" Pipe. Used with ClearView Micro View Color Cameras. Durable Delrin construction. No-Tool design provides easy on/off installation.

**Camera Skid 3" - ClearView Micro Head**

Camera Skid for 3" to 4" Pipe. Used with ClearView Micro View color Cameras. Durable Delrin construction. No-Tool design provides easy on/off installation.

**12" Jet-Cam Centering Skid**

Large Centering Skid used with Jet-Cam systems in 12" and 15" pipelines.

**15" Jet-Cam Centering Skid**

Large Centering Skid used with Jet-Cam Systems in 15" and 18" pipelines






Call about other products!



NozzTeq Inc.

(800) 705-8845 SALES@UTILITYINSIGHT.NET

We are happy to represent the NozzTeq Nozzle line. Here is a general overview of the different nozzles with typical applications. Please contact us for further information or pricing!

Model	Warranty	Application		Pipe Range
JAWS® Nozzle	10 Year Limited	High Efficiency Long lasting everyday high performance nozzle.		4" up to 30"
HAMMERHEAD™ Nozzle	5 Year limited	High Efficiency Long lasting everyday high performance nozzle.		4" up to 30"
BL MISSILE™ Nozzle	10 Year Limited	Open up pipe with blockages or pipe with obstacles with or without a sled		6" and up
C-RAY™ Nozzle 200/400/800		High Performance Bottom Cleaning with special design to keep upright		8" and up
ORCA™ Nozzle		Cleaning of larger pipes cost effectively. (Allows you to connect two jetting units and receive double the water flow!)		15" and up
BL GOLD™ Nozzle	Lifetime Limited	Open up pipes with blockages or pipes with obstacles. (Can be used with recycled water due to its special coating)		6" and up
Ice Bear™ Penetrating Nozzle		Every day penetrating workhorse nozzles. ¼" up to 1 ½" available		1" & Up
SPINNER™ Nozzle		Removal of grease, smoother deposits, smaller roots, etc. ½", ¾", 1" & 1 ¼" available		3" up to 20"
GOBLIN™ Grease Eater Nozzle		Removal of grease, smoother deposits, smaller roots etc.		6" and up
LUMBERJACK™ Cutters 50/75/100/200/300 & 700		Low torque /High Speed multipurpose cutters (10,000 up to 50,000 RPM's) <i>Rental Available!</i>		3" to 48"
PAIKERT™ / INTRUDER™ Impact Cutter		Low speed, high torque Hydro-Impact cutter for severe blockages. <i>Rental Available!</i>		4" to 32"

707-285-2220 Fax: 707-285-2221 sales@utilityinsight.net www.utilityinsight.net

NozzTeq Inc.



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## NozzTeq root cutters and impact cutters have raised drain and sewer cleaning to new levels.

NozzTeq™ is first and foremost a problem solver and systems supplier.

Come to us with your problem in the field of Pipe cleaning and we will develop a tailor-made solution. We are not satisfied with something which merely meets the technical specifications – products must do their job in practice. To achieve that goal, everything we manufacture undergoes extensive tests. That is how NozzTeq™ creates new possibilities for you as our customer.

Throughout the years in cooperation NozzTeq™ has created a number of new sewer and drain cleaning products, some so unique that they have been patented. Over time, those same products have become an obvious choice for everyone who works with water jetting and pipe cleaning.

Yesterday's innovations from NozzTeq™ are taken for granted today. We are continually creating new sewer cleaning products which in the same self-evident way to make life easier for our customers.

### Paikert™ / Intruder™ Cutter

The Paikert™/Intruder™ is a low speed, high torque impact cutter designed for more sever blockages. When conventional cutters simply can't cut it, consider the Paikert™/Intruder. Paikert™/Intruders have successfully been in use worldwide for over 25 years.



The machine is the most capable on the market due to its patented "Hydro-Torque" impact drill motor. It's designed to work with today's sewer jetting machines and does not require lubrication after use. So, whether you've got a pipe full of hardened concrete, stubborn chemical or mineral deposits, protruding taps or thick heavy root growth in large pipes, the Paikert™/Intruder is you best alternative.

### Lumberjack™ Cutters

The Lumberjack™ is a high speed (up to 50,000 rpm), low torque multi purpose cutter. The rotation of the Lumberjack™ is powered by the water pressure supplied by a common sewer jetting or combination truck. Although it is designed to cut roots, many of our customers use it for cutting concrete, grease, mineral and chemical deposits, tuberculation and protruding laterals. We know of no other cutter that is as versatile, reliable and user friendly for common, everyday cutting jobs. The Lumberjack™ series operates in pipe sizes from 3" (75 mm) up to 48" (1200 mm).



The bearings are sealed, grease lubricated and water cooled. No lubrication is required after use. It works and works with very little maintenance or care required. The standard and optional cutting accessories are designed to eliminate potential pipe damage. The low torque high-speed feature prevents the cutter from getting stuck, spinning off the hose or cutting through the host pipe.

The Lumberjack™ cutters are available in different models for optimal cleaning effect. The cutters remove roots and other common obstructions in sanitary and storm sewer pipe in accordance with the following model number.

#### LJ050

Weight: 2 lbs

Length: 4,8"

Sled sizes: 3",4" (optional 5" and 6")

Connecting thread: ½" BSP or ½" NPT

Minimum flowrate: 10 GPM

Bursting pressure: 10 000 PSI





**LJ075**

Weight: 9 lbs  
 Length: 9,5"  
 Sled sizes:  
 4",6" (optional 8" and 9")  
 Connecting thread: 1/2" female BSP or 1/2" female NPT  
 Minimum flowrate: 15 GPM  
 Bursting pressure: 10 000 PSI



**LJ175**

Weight: 10 lbs  
 Length: 9"  
 Sled sizes: 6" (optional 8" and 9")  
 Connecting thread: 1/2" female BSP or 1/2" female NPT  
 Minimum flowrate: 15 GPM  
 Bursting pressure: 6 000 PSI



**LJ100**

Weight: 13 lbs  
 Length: 12"  
 Sled sizes: 4", 6" (optional 8" and 9")  
 Connecting thread: 1" or 1 1/4" female BSP or 1" or 1 1/4" female NPT  
 Minimum flowrate: 35 GPM  
 Bursting pressure: 10 000 PSI



**LJ200**

Weight: 25 lbs  
 Length: 15"  
 Sled sizes: 6", 8" & 10" (optional 12")  
 Connecting thread: 1 1/4" female BSP or 1 1/4" female NPT  
 Minimum flowrate: 45 GPM  
 Bursting pressure: 10 000 PSI



**LJ300**

Weight: 47 lbs  
 Length: 24"  
 Sled sizes: 8", 10", 12" (optional to 21")  
 Connecting thread: 1" or 1 1/4" female BSP or 1" or 1 1/4" female NPT  
 Minimum flowrate: 45 GPM  
 Bursting pressure: 10 000 PSI



**LJ700**

Weight: 98 lbs+  
 Length: 43"  
 Sled sizes: 16" up to 36" (optional to 48")  
 Connecting thread: 1" or 1 1/4" female BSP or 1" or 1 1/4" female NPT  
 Minimum flowrate: 100 GPM  
 Bursting pressure: 6 000 PSI



*NozzTeq offers a 10 Year Limited Warranty with the JAWS® Sewer nozzle, and 5 Year Limited warranty with the Hammerhead™ sewer nozzle!*

NozzTeq Inc.



(800) 705-8845

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## Predator™/BL Patent™ Nozzles

When it comes to sewer cleaning technology “everything starts with the sewer nozzle” according to Bo Larsson, CTO AquaTeq Sweden AB. “It’s what does all the work”. Historically little attention has been paid to sewer nozzle design and performance. In conventional sewer nozzles water hits the front and then is forced out the rear. This results in undisciplined, weak, and poorly defined water stream that quickly turns into mist very close to the nozzle.

All Predator™ nozzles have a design precisely balancing pump flow and pressure by looping it around a patented system of conduits. This results in a disciplined, well defined and powerful water stream that stays together longer and farther behind the nozzle.

### Jaws™ & Hammerhead™ Pipe Cleaning Nozzle

The Jaws™ and Hammerhead™ nozzle water speed is increased by “looping” it around a patented system of individual conduits. This results in disciplined, well defined and powerful water streams that stays together longer and farther behind the nozzle. The water stream angle, the jet and the jet sizes are scientifically designed for optimum thrusting and cleaning efficiency.

The Jaws™ nozzles have set a new standard that all other nozzles are measured by, cutting overall operating costs and increase efficiency.

Quality stainless steel construction with conduits that allow turbulence free water transportation to the individual jet with SBR rubber conduit cover.

- Variable jet sizes to accommodate flows from 20 up to 1000 l/min (5-265 US GPM).
- Low angle jet streams, attack debris at its weakest point with superior performance.
- Increase efficiency 30-50 % compared with conventional nozzles.
- Less wear on pump.
- Less fuel consumption



### BL MISSILE™ Nozzle      BL Missile™ Nozzle

The BL Missile™ nozzle was developed to be used without a sled. The request came from customers in South America with the problem of small pipes filled with grease. They needed a compact nozzle with optimal pull and thrusting power but with a design preventing the nozzle from getting stuck.

BL Missile™ is now the obvious complement to the Jaws™ nozzle. To open up any obstacles the BL Missile™ is supplied with one penetrating forward jet. To give maximum service lifetime the BL Missile™ is also supplied with a replaceable wear body.

- Quality stainless steel construction.
- Variable jet sizes to accommodate flows from 100 up to 1000 l/min (25-265 US GPM).
- Looping the water around for a powerful water stream.
- Low angle jet streams, attack debris at its weakest point with superior performance.
- Construction made to help prevent nozzle from “getting stuck”.
- Front jet
- Replaceable wear body



*NozzTeq offers a 10 Year Limited Warranty with the JAWS® Sewer nozzle, and 5 Year Limited warranty with the Hammerhead™ sewer nozzle!*



### C-RAY™ Nozzle

The Jaws™ and Hammerhead™ nozzle water speed is increased by “looping” it around The C-Ray™ Nozzle series has been developed in co-operation with our customers. The C-Ray™ series is the most effective bottom cleaner on the market by increasing the water speed with “looping” the water around a patented system of individual conduits. The angle of the water stream, the jet and the jet sizes are designed for optimum pull and cleaning power. The water streams are directed towards the bottom of the pipe for optimum debris moving.



The C-Ray™ series includes four different versions:

C-Ray™ 200 - 8” – 16”

C-Ray™ 400 - 15” and up

C-Ray™ 400H Same as C-Ray 400 but a heavier version

C-Ray™ Twin - 15” and up.

Connect two jetters for maximum water flow. Similar to Orca™ but water stream angles directed at the bottom of the pipe.

*Characteristics:*

Quality stainless steel construction

Looping the water around for a powerful water stream.

Variable jet sizes accommodate flows from 40–400 GPM.

The Water jets attack debris at its weakest point with superior performance and result.

Low gravity puts the C-Ray™ in right working position.

C-Ray 200 and 400 is used together with one swivel.

C-Ray Twin™ is used with two swivels.

### ORCA™ Nozzle

To clean larger pipes cost effectively there is a demand of higher flow nozzles. This is the reason why we have developed the Orca™ nozzle which allows you to connect two jetting units and receive double the water flow.



*Characteristics:*

Quality stainless steel construction with conduits that allow turbulence free water transportation to the individual jet with SBR rubber conduit cover. This allows for a jet stream to be maintained longer and farther down the pipe.

Variable jet sizes to accommodate flows from 200 up to 1500 l/min (60-400 US GPM).

Low angle jet stream, attacks debris at its weakest point with superior performance.

One swivel needed for mounting and operation

### BL GOLD™ Recycling Nozzle

BL Gold™ is made of wear resistant bronze alloy. We have developed a new technique allowing us to mill the channels directly in the bronze material for maximum wear resistance and safety. BL Gold™ is supplied with ceramic jets. Normally ceramic jets are unnecessary due to the flow design of the Predator Series, which the BL Gold™ is part of.



*Characteristics:*

Variable jet sizes to accommodate flows from 100 up to 600 l/min (25-160 US GPM).

The water is looped around a milled system of conduits for maximum pulling power, wear resistant and safety.

Low angle jet streams, attack debris at its weakest point with superior performance.

Construction made to prevent “getting stuck”.

Front jet

Replaceable wear body

NozzTeq Inc.



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### IceBear™ Pipe Cleaning Nozzles

Our unique, well designed, and user friendly, every day nozzles.

We have developed our own line of trouble solving, every day nozzles, built on our collected know-how throughout the years. They are called the IceBear™ nozzles. The nozzles have a simple but effective flow design with the nozzle threaded to the top for less turbulence in the head of the nozzle. This results in good thrusting and debris moving power.

*Characteristics:*

- Short design with bevel edge.
- Low jet angle for maximum thrusting power.
- Jet size adapted to pump capacity and hose size.
- Different versions for best result.



### Spinner™ Pipe Cleaning Nozzles

The Spinner™ series were developed as a flexible and effective remover of grease, smooth deposits, small roots, etc. They have thrusting jets that are changeable according to your needs, which together with rotating adaptable propulsion using 90° and 45° jets.

We also have rotating nozzle with 1/8" and 1/4" BSP hose connection.

*Characteristics:*

- Quality stainless steel and brass construction
- Variable jet sizes to accommodate flows from 40 up to 1000 l/min (25-265 US GPM).
- Low jet angle for maximum thrusting power.



### NATAB II™ Nozzle

NATAB II™ has water bearing walls to ensure smooth water streams with less turbulence. By using this construction the water's energy is maintained until it leaves the nozzle. NATAB II™ is about twice as effective as conventional nozzles with drilled interiors.

NATAB II™ has 10 exchangeable jets; half of them with 30 degree angles and the other half with 15 degrees to fit customer's flush pumps and hose dimensions. The jets used on the Jaws™ Nozzle are used on NATAB II™. There is also a front hole, which can be plugged when not in use.

NATAB II™ is made in quality stainless steel with 1 1/4" BSP connecting thread standard.



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**SeeSnake® Plus**

For the most reliable and rugged pipe inspection camera ... SeeSnake Plus, built tougher for unmatched durability, reliability and performance. The plus is for 2" - 12" lines.

The Plus includes :

100% hardened stainless steel camera head spring assembly for increased durability. Inspects 2" and up lines. Rugged, high-intensity lights for improved reliability. Flexible transmitter makes locating easier and is fully compatible with RIDGID NaviTrack II and NaviTrack Scout locators. Available in an always upright, self-leveling option. Compatible with any SeeSnake monitor. The best choice if you plan on purchasing only one camera. Available in 110 or 220 volt Systems



**SeeSnake Plus 115V Systems**

Description	Black & White Systems			Color Systems	
	Monitor & VCR	Monitor	Video Tool Case	Monitor & VCR	LCD Monitor & DVD
200' Reel	69722	64232	90767	73182	23878
325' Reel	69732	64247	90772	73187	23883
200' Self-Leveling Reel	-	-	13948	13958	23868
325' Self-Leveling Reel	-	-	13968	13978	23873

**SeeSnake Plus Accessories**

Cat. No.	Description
14028	Color Self-Leveling Camera Head – NTSC (115V)
14033	Color Self-Leveling Camera Head – PAL (230V)
14078	Color Camera Head – NTSC (115V)
14128	Color Camera Head – PAL (230V)
14068	B&W Camera Head – EIA (115V)
14118	B&W Camera Head – CCIR (230V)
15323	SeeSnake Flexible In-Line Transmitter
64607	200' SeeSnake Push Cable Assembly
64612	325' Standard SeeSnake Push Cable Assembly
73142	SeeSnake Cable CountIR
12248	18" System Cable with Dubbing Block
64627	SeeSnake Innerconnect Cord – 33'/10'
64492	Extended Handle for Standard SS Reel
64497	SS 3" Centering Star Guides, Pkg of 20
-	B&W Mini Ball Guides, Pkg of 10
-	Color Mini Ball Guides, Pkg of 6
-	Mini Guide Hoop, Pkg of 4
64502	SS 6" Centering Star Guides, Pkg of 10
97852	SS Ball Guides, Pkg of 10
93387	SS Guide Hoop, Pkg of 4
97832	SS 3" Roller Dolly
17563	Color/B&W Spanner Wrench



We carry the full Rigid Line  
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information!

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**Mini-SeeSnake® Plus**

For the most reliable and rugged pipe inspection camera ... SeeSnake Plus, built tougher for unmatched 1 1/4" to 6" Lines

At 25 pounds, the Mini-SeeSnake combines portability with a rugged camera used to inspect lines up to 200 feet. It is built tougher for unmatched durability, reliability and performance.



Features for the Mini: 100% hardened stainless steel camera head for increased durability. Improved push cable and smaller camera head to push farther through tighter spots. Inspects 1 1/4"-6" lines: 1 1/4" 90s (black and white only). 2" P-Traps. Rugged, high-intensity lights for improved visibility. Flexible transmitter makes locating easier and is fully compatible with RIDGID NaviTrack II and NaviTrack Scout.

Choose Mini-SeeSnake when portability and maneuverability are crucial (multi-story buildings, roof tops, confined areas, etc.).

**Mini-SeeSnake Plus Systems**

Voltage	Description	Black & White Systems			Color Systems	
		Monitor & VCR	Monitor	Video Tool Case	Monitor & VCR	LCD Monitor & DVD
115	200' Mini Reel	69752	67247	90782	83652	23888
220	200' Mini Reel	69757	67277	90802	83657	24473

**Mini-SeeSnake Plus Accessories**

- Cat. No. Description
- Color Self-Leveling Camera Head – NTSC (115V)
- Color Self-Leveling Camera Head – PAL (230V)
- 14083 Color Camera Head – NTSC (115V)
- 14133 Color Camera Head – PAL (230V)
- 14073 B&W Camera Head – EIA (115V)
- 14123 B&W Camera Head – CCIR (230V)
- 15828 SeeSnake Flexible In-Line Transmitter
- 67327 200' SeeSnake Push Cable Assembly
- 325' Standard SeeSnake Push Cable Assembly
- 73142 SeeSnake Cable CountIR
- 12248 18" System Cable with Dubbing Block
- 67307 SeeSnake Innerconnect Cord – 33'/10'
- Extended Handle for Standard SS Reel
- 67312 SS 3" Centering Star Guides, Pkg of 20
- 88392 B&W Mini Ball Guides, Pkg of 10
- 97462 Color Mini Ball Guides, Pkg of 6
- 93392 Mini Guide Hoop, Pkg of 4
- SS 6" Centering Star Guides, Pkg of 10
- SS Ball Guides, Pkg of 10
- SS Guide Hoop, Pkg of 4
- SS 3" Roller Dolly
- 17558 Color Spanner Wrench
- 17553 B&W Spanner Wrench





**SeeSnake® Micro**

25643

The new RIDGID SeeSnake micro™ Inspection Camera allows you to easily perform visual inspections in hard to reach areas. Its lightweight, handheld design means that it can be carried anywhere – providing solutions when and where you need them, while allowing you to offer more services and increase productivity. The Micro includes:



- Display: 2.4" Color LCD (160 x 234 resolution)
- Camera Diameter: 0.7" (17 mm)
- Lighting: 2 Adjustable LEDs
- Cable Reach: 3' (expandable to 30' w/optional extensions)
- Waterproof: Camera & Cable to 10' (when properly assembled)
- Power Source: 4 AA Batteries (3 hrs. of continuous run-time)
- Attachments: Mirror, Hook & Magnet
- Weight: 1.2 lbs (0.5 kg) SeeSnake Plus 115V Systems

Ordering Info		Weight
25643	SeeSnake micro Inspection Camera	1.2 lbs
26658	3' Cable Extension	0.7 lbs
26663	Replacement Imager Head and Cable	0.7 lbs
26668	Accessory Pack (Mirror, Hook and Magnet)	0.2 lbs

**NaviTrack Scout® Receiver**

19238

**Easier Locates**

The Scout's multi-directional antenna technology sees the entire signal all of the time. Simply maximize the signal strength and you have found the target. No nulls or false peaks to complicate the locate.

**Accuracy**

Scout verifies the locate position using a micro-mapping display to mark distinctive poles in front of and behind the target, insuring an accurate locate.

Depth is automatically calculated and displayed when over the target.

The easiest locator in the industry for tracking a Camera Head or Sonde. The 512 Hz Camera Head or Sonde frequency will transmit through both Metallic and Non-Metallic pipes. This is the perfect locator for the plumber, contractor or municipality who wants a quick and simple to use locator. Minimal training is required!

**Specifications**

- Weight: 3 lbs.
- Power Source: 4 C-Cell batteries.
- Battery Life: Approximately 24 hours.

**Standard Equipment**

- Hard Plastic Carrying Case.
- Surface Markers and Clip.
- Instructional Video.
- Operator's Manual.
- 4 C-Cell Batteries.



Ordering Info		Weight
19238	NaviTrack Scout Locator	3.0 lbs
20248	Scout Carrying Case	6.25 lbs
12543	Marker Chips and Clip	-

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**Remote Transmitter**

16728

Can be attached to a drain cleaning cable or a water jet hose, push camera, crawler, or fiberglass rod, to locate the Remote Transmitter in a line. Flashing LED indicates that sonde is transmitting.

Ordering Info	
16728	Remote Transmitter, 512 – AAA
19263	Adapter for 5/8" & 3/4" Drum Machine Cables
19268	Adapter for 7/8" Sec. & 1/2" Drum Machine Cables
19273	Adapter for 5/8" Sec. & 3/8" Drum Machine Cables
19258	Adapter for 1 1/4" Sectional Cable



**Float Sondes**

19793

Ideal for locating septic tanks.

512 Hz signal.

Flashing LED indicates that sonde is transmitting.

Flushable.

Battery-powered.



Ordering Info	
19793	Float Sondes (2), Plus Extra Battery

**SeeSnake® FleXmitter**

15323

With a SeeSnake FleXmitter you can locate a camera in a line (now standard with all SeeSnake reels).

If your SeeSnake camera isn't equipped with a transmitter, you can upgrade your camera with a FleXmitter.

Ordering Info	
15323	SeeSnake Flexmitter In-line Transmitter
15828	Mini SeeSnake



We carry the full Ridgid Line. Contact us for more information!



## SeekTech® Equipment

RIDGID's new line of locating equipment meets the most demanding needs of the locating professional. Built to make even difficult locates easy, SeekTech is the only line locator that uses omni-directional antennas, guidance arrows and an easy to read mapping display to lead you quickly and accurately to the target line.

### SeekTech SR-20 Locator

21893

**Features:**

*Proximity Signal* - Minimizes depth over target and maximizes relative signal strength to guide you closer to the target independent of the current flow

*Mapping Display* - Virtually maps the utility to help guide you down the line. Shows signal distortion and line turns in real time

*Continual Depth* - Increases productivity by showing depth changes in real time

*Guidance Arrows* - Guides the operator to target line by minimizing signal gradient

*Current* - Identifies current on target line for faster diagnosis of complex locates

*Signal Strength* - Allows the operator to maximize signal strength over the target

**Specifications**

Active Line Trace Frequencies	128Hz, 1kHz, 8kHz, 33kHz
Sonde Frequencies	16Hz, 512Hz, 33kHz
Passive Power Trace	50Hz, 60Hz
Passive Radio Trace	<4kHz, 4kHz-15kHz, 15kHz-38kHz
Weight	3.9 lbs.
Power Source	4 C-Size Batteries



Ordering Info		Weight
21893	SeekTech SR-20 Line Locator (Includes Case)	4.0 lbs
22173	SeekTech SR-20 Hard Case	9.0 lbs
16728	Remote Transmitter, 512-AAA	-

### SeekTech SR-60 Locator

22163

SeekTech Receivers with their large display give you the information you need when you need it to locate more with greater certainty.

The Mapping Display confirms a good locate signal and identifies distortion in congested areas using:

**Target Line** – Guides the operator down the line and shows changes in direction.

**Left-Right Guidance Arrows** – Points the operator to the target utility.

**Proximity Signal and Signal Strength** – Helps the operator center the locator closer to the target for more confident locates.

Other features include:

- **Continuous Depth** – Increase productivity by showing depth changes in real time.
- **Omni-Seek** – Increase accuracy and efficiency when searching in passive mode. Continuously searches passive power and radio bands to locate and avoid unknown metallic lines.
- **User Defined Frequencies** – RIDGID SeekTech receivers can be configured with up to 30 user defined frequencies.

The SR-60 is for users wanting the fastest, easiest, most versatile receiver available. Choose the SR-60 for fast confident locates even under tough locate conditions (poor conductors, poor soil conditions, poor grounding, etc.)

(cont. ->)



**We carry the full Rigid Line. Contact us for more information!**



**SeekTech SR-60 Locator** (cont.)

*Features*

- Can trace any frequency from 10 Hz to 490,000 Hz.
- Can trace energized lines and sondes (beacons) simultaneously
- Has all the ease of use and accuracy of the SR-20 but with ALL locatable frequencies.

Ordering Info		
22163	SeekTech SR-60 Line Locator	6.0 lbs

**SeekTech ST-305 Transmitter**

21898

*Features*

- Direct Connect using attached Clips
- Induction from optional Inductive Signal Clamp
- Induction from the Transmitter Coils



*Specifications*

Frequencies	1kHz, 8kHz, 33kHz
Output Power	5 Watts, Nominal
Output	Any 2 Frequencies
Weight	2.4 lbs.
Maximum Open Circuit Voltage	240VAC 50/60Hz
Power Source	6-C Size Batteries

**SeekTech ST-510 Transmitter**

21903

*Features*

- Direct Connect using attached Clips
- Induction from the optimal Inductive Signal Clamp
- Induction from the Transmitter Coils



*Specifications*

Frequencies	128Hz, 1kHz, 8kHz, 33kHz
Output Power	10 Watt, Variable
Display	LCD
Maximum Open Circuit Voltage	240VAC 50/60Hz
Power Source	8-D Size Batteries

Ordering Info		
21903	SeekTech ST-510 Transmitter (10 watts)	9.0 lbs

**SeekTech ST-33Q Line Transmitter**

26168

The ST-33Q induces over 8 times more current than the competition onto a target line. More current means that you can walk and trace further than ever before.

The ST-33Q induces at 8 kHz and 33 kHz for low distortion locates. In direct connect mode, the SeekTech ST-33Q can transmit at any frequency between 10 Hz and 490,000 Hz making the RIDGID SeekTech ST-33Q one transmitter than can be used with all receivers.

More signal equals less retracing of your steps to pick up and move the transmitter. Cut your inductive trace steps in half, by only having to set up the ST-33Q once. In direct connect mode, the LCD display gives instant feedback on current flow and line resistance.

The ST-33Q induces more current at lower frequencies. Lower frequencies are less prone to jump onto other lines in congested areas reducing distortion and increasing accuracy. More current on your line means more signal to locate. Combine your experience with the information provided by RIDGID Locators and you have the tools that allow you to work through difficult traces.





**SeekTech ST-33Q Line Transmitter (cont.)**

Specifications

Output Frequencies:

Direct Connect: (Factory Set): 128 Hz, 1kHz, 8kHz, 33kHz, 93kHz

Direct Connect: (User Defined): Any Frequency 10 Hz - 490kHz

Induction: 8kHz, 33kHz

Weight: 12.15 lb. (5.5 kg) w/batteries

Power Source: 6 Alkaline or rechargeable batteries. (D-Cells) or 12V external power supply

Power Settings: 5 mA to 400 mA on internal batteries; High Power option to 1000 mA Inductive Clamp

**Ordering Info**

26168	SeekTech ST-33Q Transmitter	12.2 lbs
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**SeekTech Inductive Clamp**

20503

Features

The RIDGID Inductive clamp allows users to apply a signal to a cable or pipe when connecting directly to the target conductor is not possible.

The clamp couples the transmitting signal onto the conductor which then allows users to locate using a compatible receiver, such as the NaviTrack™ or NaviTrack Scout™.

Two built in LED's inform the user the clamp is functioning properly.

An integrated adapter allows users to attach a hotstick for out of reach lines.



**Ordering Info**

20503	Inductive Signal Clamp	2 lbs
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We carry the full Rigid Line. Contact us for more information!

### AQUAPHON® A 100

#### *Electro-acoustic water leak detection*

When a pressurised water pipe develops a leak the water flows out it into the surrounding soil at high speed, and causes the pipe material to vibrate at the exit point. This vibration, or sound, is transmitted by the pipe (called structure-born sound) and can be heard with the AQUAPHON®, even at remote contact points, like valves and fittings. The water jet and the pipe, in the vicinity of the leak, also induce vibration into the surrounding soil. This "noise" (called ground-born) is transmitted to the surface, where it can be picked up by the AQUAPHON® A 100.



### COMBIPHON®

#### *Locating plastic pipes acoustically*

As plastic pipes are not electrically conductive, they cannot be located with the classic electromagnetic method. Another principle in pipe location is used with the acoustic method: the pipes transmit mechanical vibrations better than the surrounding soil. The vibrations are transmitted along the pipe and over the soil to the surface where they can be detected by a microphone (AQUAPHON®). AC or metallic pipes can also be located with this method.



### DUOPHON®

#### *Analogue water leak detection*

The DUOPHON®-system is the result of a very long development and manufacture of detectors. Its technique is the same as the AQUAPHON. Analog readouts keep the cost down. By developing the DUOPHON® additional importance was attached to low weight, compactness and easy handling.



### M 130

#### *Valve Box Locator*

The locator, M 130, detects valve boxes, manhole covers, and other metallic objects deep underground (up to about 3 feet) and is unaffected by metal at the surface, humidity or temperature variances. The one-button-operation simplifies the handling of the instrument. The special electronics reduce false signals caused by objects such as bottle-lids, beverage cans or other small parts of metal.



As a result of the downward-directed search field, the detector can be used in immediate proximity to metal fences or parked cars. The unit is designed for use by one hand only and offers optimal ergonomics for fatigue-free working.

### SeCorrPhon AC 06

#### *Combined correlator and electro-acoustic water leak detector*

When pressurised pipelines leak, water gushes out of the crack into the ground the pipe vibrates at the leak point. These vibrations are transmitted by the pipe and can be measured at distant points. The water jet and the pipe in the vicinity of the leak also cause the ground to vibrate. These vibrations are transmitted through the ground to the surface where they manifest as ground noise.

Leak detection by correlation involves locating the leak with the help of a calculator. The noise emitted by a leak reaches two measuring points at different times. This time difference is used to state the leak position as an exact distance from measuring point A or B. Electro-acoustic water leak detection involves identifying the general area of the leak with the test rod, and then locating its exact position with the ground microphone.



### SeCorr® 08

#### *Correlator with latest DSP technology for precise detection of water leaks*

A leak in a pipe under pressure creates noise that travels through the pipe walls, the surrounding ground and along the contents of the pipe. The noise is detected at two separate points, (valves, hydrants, stop taps) by highly sensitive microphones. The noise will take longer to travel to the microphone furthest from the source. Utilizing this and other information (pipe diameter, material and length of section under test), the exact leak position can be calculated by the correlator SeCorr® 08.

The correlator SeCorr® 08 is unaffected by external noise interference making leak detection possible in even the noisiest environments. Other surrounding influences including the depth of pipe, ground conditions and rain have no effect on the accuracy of results. Anyone with minimal training can carry out leak location.





**SeCorr® 300**

*Professional PC Based Correlation*



The SeCorr® 300 is a fully digital signal processing and transmission system comprised of a transmitter, receiver, microphone, and your computer. It eliminates the interference which so often causes problems in conventional correlators.

The digital radio eradicates the notorious hissing in transmission paths. Even the narrow bandwidth of analogue modules no longer poses a restriction. The noises recorded from the leak are already digitised in the microphone thus eliminating feedback via the cables.

This produces significant advantages, particularly in plastic pipes, where the noise emitted from the leak is as a rule, very poorly transmitted and thus very quiet. The result is improved leak coverage in non-metallic pipes.

Notebooks and desktop PCs can be used to analyse the measurements, as can Tablet PCs or field notebooks. Using connectivity via the USB standard, the system can be easily connected to almost any computer.

The radio transmitter RT 300 is mounted on a tripod for correlating and can thus achieve a transmission range of up to 1000 metres. If the radio transmitter's range is not enough for successful correlation, the noise is stored in the transmitter memory for 40 minutes. It is then transmitted to the receiver later, as soon as the radio connection is re-established. Using a tripod mounted microphone, the transmitter unit can easily be carried in a single piece to the site. The user can listen to the current noise through headphones, allowing him not only to assess the volume of the noise, but also filter it. Using the filter it is easy to estimate in which frequency range the noise is loudest.

The devices are marked with a luminous strip making them easy to distinguish and highly visible. LEDs around the housing ensure safety when performing correlation measurements at night.

The rechargeable batteries provided have a large capacity that systematic correlation over a normal working day is no problem.

Once the measurement process is complete, the whole unit can be transported in the vehicle in the case.

The RX 300 receiver receives signals from the transmitter and relays them to the PC via a USB cable to the laptop computer.

The receiver is attached to a mounting clip on the notebook's carrying strap for mobile use. The RX 300 also features a rubberised magnet for use with a measuring vehicle. This holds the receiver on the roof of the vehicle without damaging the paintwork - no need therefore for the time-consuming installation of a roof antenna.

An LED control lamp continually indicates the status of the RX 300!



*Technical data*

Transmitter RT 300

Weight: 5.73 pound (incl. batteries)

Dimensions: 4.33 x 8.46 (12.4 w/antenna)

Power supply: Rechargeable or disposable batteries (4 x D-cell)

Operating time: Up to 25 hours (depending on type of battery)

Operating temperature: 14 °F up to 104 °F

Type of protection: IP64

Housing material: Aluminium

Processor: DSP with 24-bit signal processing, microcontroller-controlled data processing

Data memory: 32 MB signal memory (40 minutes)

Radio: 1.88 GHz - 1.9 GHz

**We carry the full Sewerin Line. Contact us for more information!**

Subsite Electronics is the world's leading manufacturer of locating equipment for identifying the locations of underground cable, pipe, conduit, and duct. Quality equipment designed and manufactured in the U.S. Products that meet the needs of the marketplace from a company that understands every aspect of underground construction.

**SUBSITE 150R/T LOCATING SYSTEM**

The 150R/T is an easy, affordable way to see what obstacles lie beneath the surface of your next jobsite, so you can dig a post hole or footing, install a french drain or fiber optic cable with confidence . . . and avoid at least some of life's perils.

**KEY FEATURES**

- With only four buttons and an easy-to-read display, the 150R receiver is simple to operate. All locating information is at your fingertips.
- Rugged, rain-resistant housings stand up to extreme jobsite conditions.
- System comes in a convenient carrying bag you can take anywhere.
- Pre-bundled packages and colorcoded components make the 150R/T system easy to buy—just pick your frequency at the time of purchase.
- Optional beacons round out the package so you can trace water, sewer, or drain lines with ease.
- With the entire system weighing just over 2.3 kg, the 150R/T is lightweight, compact, and easy on operators.
- For added convenience, both the 150R receiver and the 150T transmitter operate using consumer C-cell alkaline batteries.
- Every 150R/T locating system is backed by superior quality service and support.

**Operation**

Operating Temp. Range	-4° F to 122° F		
Antenna Configurations	Peak, null		
Audio Output	Speaker		
<b>Operating Modes</b>			
Active Line	30 KHz, 83 kHz		
<b>Recommended Depth Ranges</b>			
640 Beacon in air	12 ft	3.66 m	
640 Beacon in cast iron	6 ft	1.83 m	
30K Beacon in air	12 ft	3.66 m	
30K Active (direct connect)	15 ft	4.57 m	
83K Active (direct connect)	15 ft	4.57 m	

**Beacons**

<b>640 WS</b>			
Length	2.2 in	56 mm	Flex Rod 1/4-20unc
Diameter	0.75 in	19 mm	
Weight	1.9 oz	52.73 g	
<b>30K Conduit</b>			
Length	3.6 in	91 mm	
Flex Rod	1/4-20unc		
Diameter	0.75 in	19 mm	
Weight	2.3 oz	65.2 g	
<b>640 Conduit</b>			
Length	3.6 in	91 mm	
Flex Rod	1/4-20unc		
Diameter	0.75 in	19 mm	
Weight	2.3 oz	65.2 g	



**910R Frequency Options**

- Active
  - 512 Hz
  - 1 kHz
  - 8 kHz
  - 29 kHz
  - 80 kHz
  - 200 kHz
- Power Passive
  - 50 Hz
  - 60 Hz
  - 100 Hz
  - 120 Hz
- 50 P
- 60 P
- Beacon (non-roll)
  - 512 Hz
  - 29 kHz
  - 33 kHz
- LMS
  - 400 Hz
  - 560 Hz
  - 815 Hz
- Others
  - 31 kHz CATV Passive
  - 33 kHz EML
  - Radio Passive (no depth capability)



\*\*Locators are calibrated to these tolerances under ideal test field conditions. Actual operating field conditions may have signal distortions or may contain noise sources which result in depth estimates accuracy that is less than specified.



**SUBSITE 910R PIPE AND CABLE LOCATOR**

The 910R receiver allows you to select the frequencies that best suit the application, whether you are locating pipe, cable, or non-directional beacons. Built on the same platform as the highly productive 950R, the 910R comes standard with up to four frequencies, while additional frequencies may be added for a small fee. Active frequencies can be transmitted by 950T or 970T transmitters, and passive frequencies are used in cable avoidance sweeps or in the location of buried power and CATV lines. No matter what frequency you choose, the 910R gets to the bottom of things.

Operation  
 Operating Temperature Range -4° F to 122° F  
 Antenna Configurations Single peak, twin peak, null, left right (line only)  
 Audio Output Speaker  
 Locating Ranges  
 Lines 15 ft 4.6 m  
 Beacons (in cast-iron pipe) 10 ft 3 m  
 Beacons (in plastic pipe) 15 ft 4.6 m  
 Maximum Depth Ranges  
 Passive Line 0.5-10 ft 0.15-3 m  
 Beacon 0.5-15 ft 0.15-4.6 m  
 Depth Estimate Tolerances\*\*  
 Active Line ± 3% 0.2-5 ft 0.06-1.5 m  
 Active Line ± 5% 5-10 ft 1.5-3 m  
 Active Line ± 10% 10 ft and deeper  
 Passive Line ± 10% 0.5-10 ft 1.5-3 m  
 Beacon ± 5% 0.5-10 ft 1.5-3 m  
 LCD Backlight LED (green)  
 External Ports RS-232 serial  
 Batteries  
 Type 6 C-cell alkaline  
 Battery Life Approximately 50 hours (continuous use at 70° F / 21° C)  
 Battery Saver Unit shuts off after 5 minutes of inactivity

Frequency Options  
 Active 512 Hz, 1 kHz, 8 kHz, 29 kHz, 80 kHz, 200 kHz  
 Power Passive 50 Hz, 60 Hz, 100 Hz, 120 Hz, 50 P, 60 P  
 Beacon (non-roll) 512 Hz, 29 kHz, 33 kHz  
 LMS 400 Hz, 560 Hz, 815 Hz  
 Others 31 kHz CATV Passive, 33 kHz EML,  
 Radio Passive (no depth capability)

\*\*Locators are calibrated to these tolerances under ideal test field conditions. Actual operating field conditions may have signal distortions or may contain noise sources which result in depth estimates accuracy that is less than specified.

**We carry the full Subsite Line.  
 Contact us for more information!**



**950R/T PIPE AND CABLE LOCATOR SYSTEM**

The three modes and 20 frequencies of the 950R/T system help you quickly locate buried telephone, CATV, power, gas and water lines: Active - 950T and 970T transmit via direct line connection, induction clamp or induced broadcast signals; simultaneous 8 and 29 kHz transmission makes an alternate signal available if one is hard to detect, while higher frequencies help locate metallic lines with insulators that weaken or block low frequencies; Passive - 950R detects signals generated by 31 kHz (CATV) and 50/60 Hz power, as well as re-radiated radio frequencies; Beacon - 950R detects signals from optional beacons to locate non-metallic service lines; with the 512 beacon, the 950R locates blockages within cast-iron pipe.

**KEY FEATURES**

- Enhanced, backlit LCD offers optimal visibility in low-light conditions.
- 950T and 970T's rugged case and sealed keypad withstand tough weather conditions and provide superior moisture resistance.
- Patented digital signal processing (DSP) offers more effective locating and reduces interference; stable DSP depth readings do not vary with temperature or time, as analog readings do.

**Operation**

Operating Temp. Range -4° F to 122° F  
 Antenna Configurations Single peak, twin peak, null, left/right (line only)  
 Audio Output Speaker  
 Operating Modes  
 Active Line (standard) 512 Hz, 1 kHz, 8 kHz, 29 kHz, 80 kHz, 200 kHz, 33 kHz (EML)  
 Active Line (optional) 400 Hz, 560 Hz, 815 Hz, 200 kHz  
 Beacon (locate/depth only) 512 Hz, 29 kHz, 33 kHz  
 Passive Line (standard) 50 Hz, 60 Hz, 33 kHz (EML)  
 Passive Line (optional) 50 P power, 60 P power, 31 kHz radio, 100 Hz, 120 Hz  
 Locating Range  
 Lines 15 ft 4.6 m  
 Beacons 10 ft 3 m  
 Depth Estimate Tolerances\*\*  
 Active Line ± 3% 0.2-5 ft 0.06-1.5 m  
 Active Line ± 5% 5-10 ft 1.5-3 m  
 Active Line ± 10% 10 ft and deeper 3 m and deeper  
 Passive Line ± 10% 0.5-10 ft 1.5-3 m  
 Beacon ± 5% 0.5-10 ft 1.5-3 m  
 LCD Backlight LED (green)  
 External Ports RS-232 serial



**Batteries**

Type 6 C-cell alkaline  
 Battery Life Approximately 50 hours (continuous use at 70° F / 21° C)  
 Battery Saver Unit shuts off after 5 minutes of inactivity



\*\*Locators are calibrated to these tolerances under ideal test field conditions. Actual operating field conditions may have signal distortions or may contain noise sources which result in depth estimates accuracy that is less than specified.



**970T PIPE AND CABLE LOCATOR SYSTEM**

The three modes and 20 frequencies of the 950R/T system help you quickly locate buried telephone, CATV, power, more frequencies, more capabilities, and more battery life. Designed to work with our 950R and 910R receivers, the 970T gives sophisticated users the versatility they need to locate more product more efficiently than ever before.

**KEY FEATURES**

- . Transmits all frequencies of the 950T, plus a 200-kHz frequency for more difficult locates and more versatility.
- . Five-watt output is the most productive in our line.
- . The longest battery life in its class: 80 hours.
- . LCD is backlit to allow for work in low-light conditions.
- . In direct-connect mode, provides additional transmitting information such as true voltage, DC resistance, and current.
- . Equipped with built-in circuit protection, reverse battery protection, and live wire hookup protection for reliability.

**Operation**

Operating Temp. Range	-4° F to 122° F	
Antenna Configurations	Single peak, twin peak, null, left/right (line only)	
Audio Output	Speaker	
Operating Modes		
Active Line (standard)	512 Hz, 1 kHz, 8 kHz, 29 kHz, 80 kHz, 200 kHz, 33 kHz (EML)	
Active Line (optional)	400 Hz, 560 Hz, 815 Hz, 200 kHz	
Beacon (locate/depth only)	512 Hz, 29 kHz, 33 kHz	
Passive Line (standard)	50 Hz, 60 Hz, 33 kHz (EML)	
Passive Line (optional)	50 P power, 60 P power, 31 kHz, radio, 100 Hz, 120 Hz	
Radio (optional)	Passive locate only, no depth available	
Locating Range		
Lines 15 ft	4.6 m	
Beacons 10 ft	3 m	
Depth Estimate Tolerances**		
Active Line ± 3%	0.2-5 ft	0.06-1.5 m
Active Line ± 5%	5-10 ft	1.5-3 m
Active Line ± 10%	10 ft and deeper	3 m and deeper
Passive Line ± 10%	0.5-10 ft	1.5-3 m
Beacon ± 5%	0.5-10 ft	1.5-3 m
LCD Backlight	LED (green)	
External Ports	RS-232 serial	

**Batteries**

- Type 6 C-cell alkaline
- Battery Life Approximately 50 hours (continuous use at 70° F / 21° C)
- Battery Saver Unit shuts off after 5 minutes of inactivity



**We carry the full Subsite Line.  
Contact us for more information!**

\*\*Locators are calibrated to these tolerances under ideal test field conditions. Actual operating field conditions may have signal distortions or may contain noise sources which result in depth estimates accuracy that is less than specified.

**ELECTRONIC MARKER LOCATOR**

**CALL OFF THE SEARCH:** the Subsite EML accessory virtually eliminates the search for buried facilities when properly marked with 3M ScotchMarkT Electronic Markers. When buried with the facility, these markers serve as signaling devices. Each marker is color-coded to APWA standards and produces an industry-specific frequency that is pinpointed by the Subsite 910R or 950R locator and EML. With the Subsite EML, your identity problem is over.

**KEY FEATURES**

- . Metallic conductors, fences, AC power lines or other utility electronic markers will not affect the locating process.
- . Easy to use; the locator transmits a signal to the buried marker, and the marker returns a signal to the EML; location of the marker is indicated by an audible tone from the locator.. The longest battery life in its class: 80 hours.
- . Water-resistant polyethylene shells withstand minerals, chemicals, and underground temperature extremes.
- . Electronic Markers can be buried over key facilities such as valve boxes, splices, service stubs, and cable paths during construction or at the time of maintenance.
- . Marker's passive antenna requires no internal power source.

**EML Locator Accessory - Locates All 3M Markers**

Weight 2.3 lb (1.1 kg)  
 Shipping Weight 4.0 lb (1.8 kg)  
 Battery Life 40 hours (typical)  
 Batteries 6 AA Alkaline  
 Temperature Range -4° to 122° F (-20° to 50° C) operating  
 Storage -40° to 158° F (-40° to 70° C)

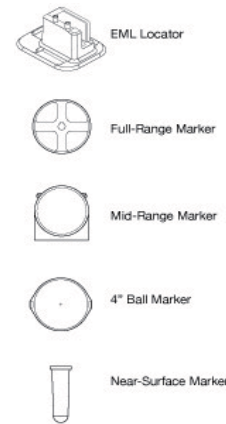


Description	Utility	Range	Color Code	Frequencies
Full-Range Marker	Telephone	8 ft (2.4 m)	Orange	101.4 kHz
Full-Range Marker	Power	8 ft (2.4 m)	Red	169.8 kHz
Full-Range Marker	Water	8 ft (2.4 m)	Blue	145.7 kHz
Full-Range Marker	Wastewater	8 ft (2.4 m)	Green	121.6 kHz
Full-Range Marker	Gas	8 ft (2.4 m)	Yellow	83 kHz

Shipping Weight 1.75 lb (0.08 kg) each, 44 lb (19.9 kg) per case  
 Product Size 15" diameter x 1" thick (3810 mm x 250 mm)  
 Shipping Quantities 25 per case, 200 per pallet

Description	Utility	Range	Color Code	Frequencies
Near-Surface Marker	Telephone	2 ft (0.6 m)	Orange	101.4 kHz
Near-Surface Marker	Power	2 ft (0.6 m)	Red	169.8 kHz
Near-Surface Marker	Water	2 ft (0.6 m)	Blue	145.7 kHz
Near-Surface Marker	Wastewater	2 ft (0.6 m)	Green	121.6 kHz
Near-Surface Marker	Gas	2 ft (0.6 m)	Yellow	83 kHz

Shipping Weight 0.88 oz (24.9 g) each, 3.75 lb (1.71 kg) per case  
 Product Size 3" length x 0.75" diameter (890 mm x 160 mm)  
 Shipping Quantities 50 per case (pallet N/A)



**We carry the full Subsite Line.  
 Contact us for more information!**



**2150GR GROUND PENETRATING RADAR**

LOOK OUT BELOW. Here comes the Subsite 2150GR, our most extensive, sophisticated locating system. The 2150GR detects both metallic and non-metallic pipes and cables to depths of up to 19 feet (6 m), depending on soil conditions and antenna selection. With 5.6 mph (9 km/h) survey speed-four times faster than that of competitive models-and digitally controlled radar, the 2150GR provides faster, cleaner images. For municipalities, subsurface utility engineers, school systems, and other organizations with significant infrastructure and outdated utility maps, the 2150GR puts everything in perspective.

**KEY FEATURES**

- . 2150GR provides an accurate survey whether the operator is pushing or pulling it across any surface.
- . User-friendly software enables the operator to manually input landmarks such as water hydrants and sewer drains, for more accurate survey maps.
- .Digitally controlled radar provides faster survey speed-up to four times faster than competitive models-and better images.
- .Earth-engaged antenna provides better contact on uneven terrain and reduces signal loss.
- .Data recording and storage capabilities provide on-site data review, post-collection analysis, and proof of workwhen jobs require it.
- .Two interchangeable antenna options to customize the unit for the job conditions.
- .Auto-calibrating gain and filter take the guesswork out of setup.
- .Folds for easy transport in a standard car trunk.

**Data Collection Type**

Parallel profile lines, perpendicular to the expected orientation of utilities

Survey Path Width 19.7 in 500 mm

Recording Channels 1

Transmitting Frequency 100 kHz

Typical Antenna Frequency 250 or 700 mHz

Typical Collection Speed 100 100 (scans/second)

Typical Collection Speed 5.6 mph 9 km/h @ 2" (5-cm) sampling interval

Display Mode Gray scale/color palette

Zoom Up to 4X

Data Storage Onto the laptop hard drive

Maximum Profile Length Virtually unlimited

Stored Data Format Raw data (for further data analysis)

Setting of GPR Propagation Velocity Ground truth or hyperbola fitting methods (to get accurate evaluation of depth of detected targets)

Reading of Pipe Position/Depth By a software cursor

System Output Printable radar map with descriptor of detected utilities

Diagnostic Radar and power supply status, excessive speed, data loss

Radar Power Requirements Battery Operating Time >10 hours

Power Supply 12V sealed lead acid, 12Ah

**Mechanical/Environmental**

Operating Temperature 14° F to 104° F -10° C to 40° C

Humidity 100% (sealed)

Weight (without battery) 19.8 lb 9 kg

Length (without handle) 26.7 in 680 mm

Width (without handle) 31.4 in 800 mm

Environmental IP65

250 MHz Antenna Performance Antenna Technology Ultra-wide band, ground coupled, shielded dipole

Typical Range 0.6-8.2 ft 0.2-2.5 m

Maximum Range 0.6-19.7 ft 0.2-6.0 m

700 MHz Antenna Performance

Antenna Technology Ultra-wide band, ground coupled, shielded dipole

Typical Range 0.32-4.9 ft 0.1-1.5 m

Maximum Range 0.32-8.2 ft 0.1-2.5 m



**AF2/FT14 FAULT LOCATING SYSTEM**

YOU'LL FIND PLENTY OF FAULTS with the Subsite AF2 A-frame detector and FT14 fault transmitter system. This sophisticated, extremely accurate system locates secondary faults in direct-buried, unshielded cables to within inches- at streetlight circuits and meter risers; across driveways, sidewalks, and streets; and even under snow or frozen ground. The FT14 places high-voltage, pulsed DC signals on target lines, breaking down corrosive buildup in the process; the AF2 then probes the ground to locate leakages and pinpoint faults. The AF2 features a remote probe extender for locating faults around obstacles. Let the AF2/FT14 system point out your faults.

**KEY FEATURES**

**AF2 A-FRAME DETECTOR SPECIFICATIONS**

Battery	Alkaline 9VDC (1)
Sensitivity	Adjustable
Balance (meter centering)	Adjustable
Direction Indicator	Analog meter is intended to show direction to the fault when the detector orientation is correct (red probe toward the transmitter, black probe down the cable path)
Battery Indicator	Indicates battery condition
Remote Probe	On/off, electronically disconnects the red A-frame probe and connects the remote probe



**300SR/ST CABLE AVOIDANCE SYSTEM**

GET A GRIP on what's beneath your feet with the 300SR/ST system, one of the most efficient and cost-effective methods for locating and avoiding buried telephone, CATV, power, gas, and water lines. Consisting of a passive or active 300SR receiver and 300ST transmitter, this simple, lightweight system features multiple antennas, intuitive controls, an easy-to-read backlit display, and depth estimation up to 15 feet (4.6 m). Whether you use it passively or actively, the 300SR/ST helps you get a handle on any situation.

**KEY FEATURES**






- . At-a-glance controls are arranged for simple, balanced operation.
  - . Rugged design and moisture-resistant cases stand up to long-term use and tough weather conditions.
  - . Transmitter's dual-power output levels help save battery life when the application requires low-level output. Operation
- |                            |  |                 |
|----------------------------|--|-----------------|
| Operating Temp. Range      | -4° F to 122° F  | -20° C to 50° C |
| Antenna Configurations     | Peak, null   |                 |
| Audio Output               | Speaker  |                 |
| Operating Modes            |  |                 |
| Active Line                | 8 kHz or 29 kHz  |                 |
| Beacon (locate/depth only) | 29 kHz option only                                       |                 |
| Passive Line               | 50 Hz or 60 Hz, no depth available                       |                 |
| Radio                      | Passive locate only, no depth available                  |                 |
| Locating Ranges            |  |                 |
| Line                       | 15 ft  | 4.6 m           |
| Beacon                     | 10 ft  | 3 m             |
| Maximum Depth Ranges*      |  |                 |
| Active Line ± 5%           | 0.5-10 ft  | 0.15-3 m        |
| Active Line ± 10%          | 10 ft and deeper   | 3 m and deeper  |
| Beacon ± 5%                | 0.5-10 ft  | 0.15-3 m        |
| LCD Backlight              | LED (green)  |                 |
| Batteries                  |  |                 |
| Type                       | 6 C-cell alkaline  |                 |
| Battery Life               | Approximately 40 hours (continuous use at 70° F / 21° C) |                 |
| Battery Saver              | Unit shuts off after 5 minutes of inactivity             |                 |



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Subsite Markers

Marker Type	Utility	Range	Color	Frequency	Case Qty	Pallet Qty
Full Range Marker 15" x 1" Thick						
	Telephone	8 ft	Orange	101.4 kHz	25	200
	Power	8 ft	Red	169.8 kHz	25	200
	Water	8 ft	Blue	145.7 kHz	25	200
	Wastewater	8 ft	Green	121.6 kHz	25	200
	Gas	8 ft	Yellow	83 kHz	25	200
Mid Range Marker, 8.25" diameter x 1.25" thick						
	Telephone	6 ft	Orange	101.4 kHz	50	600
	Power	6 ft	Red	169.8 kHz	50	600
	Water	6 ft	Blue	145.7 kHz	50	600
	Waste Water	6 ft	Green	121.6 kHz	50	600
	Gas	6 ft	Yellow		50	600
4" Ball Marker, 4" (1020 mm) diameter sphere						
	Telephone	4 ft	Orange	101.4 kHz	24	576
	Power	4 ft	Red	169.8 kHz	24	576
	Water	4 ft	Blue	145.7 kHz	24	576
	Waste Water	4 ft	Green	121.6 kHz	24	576
	Gas	4 ft	Yellow	83 kHz	24	576
	CATV	4 ft	Black/Orange	77 kHz	24	576
Near-Surface Marker, 3" length x 0.75" diameter						
	Telephone	2 ft	Orange	101.4 kHz	50	n/a
	Power	2 ft	Red	169.8 kHz	50	n/a
	Water	2 ft	Blue	145.7 kHz	50	n/a
	Waste Water	2 ft	Green	121.6 kHz	50	n/a
	Gas	2 ft	Yellow	83 kHz	50	n/a
EML Locator Accessory Attaches to Subsite receivers - Locates All 3M Markers						
	Weight: 3 lbs.					
	Battery Life: 40 hours					
	Batteries: 6 x AA Alkaline					

We carry the full Subsite Line. Contact us for more information!

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## Electronic Markers

### 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.			
<i>Application</i>	<i>Color</i>	<i>Model</i>	<i>Frequency</i>
Electrical Power	Red	170	169.8 kHz
Water	Blue	171	145.7 kHz
Sanitary	Green	172	121.6 kHz
Telephone	Orange	173	101.4 kHz
Natural Gas	Yellow	174	83.0 kHz
Cable TV	Black/Orange	175	77 kHz
Non-Potable/Gen1	Purple	178	66.35 kHz



**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.			
Application	Color	Model	Frequency
Electrical Power	Red	170	169.8 kHz
Water	Blue	171	145.7 kHz
Sanitary	Green	172	121.6 kHz
Telephone	Orange	173	101.4 kHz
Natural Gas	Yellow	174	83.0 kHz
Cable TV	Black/Orange	175	77 kHz

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### 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.





Traffic Control Products  
For The Construction and Safety Industry

Traffix Devices, Inc.

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### Portable signs and stands

The stands are constructed of steel plate molded into a recycled rubber base (weight 38 lbs). Two mold-in carrying handles allow for easy movement and placement of the Zephyr Portable Sign Stand. A wide range of standard sign legends in 36" x 36" and 48" x 48" sizes, as well as, a variety of sign materials. There are no minimum run or special screen charges for any of these standard signs and overlays.



All Traffix products meet the crashworthy requirements of NCHRP 350

### Safety Vests

Traffix Devices offers a wide range of Vest, Pants and T-Shirts in both reflective and non-reflective materials.

In most cases no minimum order is required.



### 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. From the Traffix Type III, breakaway barricade system to the Traffix-CADE modular barricade system. Whatever your application, Traffix Devices has the barricade Incident Management.

### Traffix-Cones, Tubes and Drums

Made of durable high-density polyethylene plastic, the rugged Traffix-Cones, Tubes and Drums have multiple uses in a wide variety of different applications. These products are stackable for storage and transportation but won't "stick together" like other vinyl products. The Traffix products have a hollow base that can be filled with up to 23 lbs. of sand, or simply drop a sandbag on it in windy conditions. The Traffix-Cones are 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.



All Traffix products meet the crashworthy requirements of NCHRP 350

We carry the full Traffix Line. Contact us for more information!



T&T Tools

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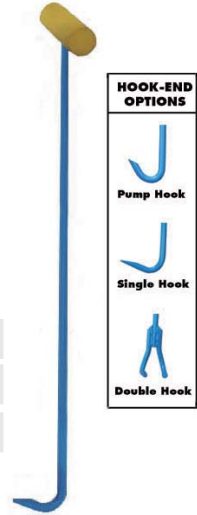
## Handy Hook

Multi-purpose back-saving tool.

The Handy Hook™ is designed for those hard to reach lifting jobs such as:

- Lifting riser covers
- Opening steel grates
- Lifting septic tank lids
- Pulling skids in trucks
- Moving machinery
- Moving portable toilets

HLS36P	Standard Duty Stainless Steel 36" Pump Hook
HLS36S	Standard Duty Stainless Steel 36" Single Hook
HLS16P	Standard Duty Stainless Steel 16" Pump Hook



## Snub Nose Hook

NEW!!! Specially designed to fit in many different sized openings especially where other hooks are too big to fit. Our most effective solution for the simple round holes found in manhole covers or for the manhole covers that have cut outs with a bar across them. 9/16" Hex alloy steel Heat treated for durability. Resists bending and flexing. Bright color, easy to see.

SNB30S	30" - Short hook
--------	------------------



## Top Popper

The ultimate in high quality manhole cover openers. The Top Popper™ is designed for superior strength. The rigid 5/8" hex alloy steel offers versatility in handling tasks safely. 5/8" Hex alloy steel. Heat treated for durability. Bright blue color, easy to see. Oversized "D" handle for gloved hand. In-line handle, standard. Rotated handle, optional. Head has a Forged tip for inserting in small openings. Special rocker head provides additional leverage for "popping" open even the most difficult covers!

TPOP30L Top Popper	30" In-Line D Handle
TPOP30R Top Popper	30" Rotated D Handle



T&T Tools specializes in the innovative design, manufacture and sales of sub-surface hand tools. Established in 1989, they recognized the customer is their future. They are committed to earning your loyalty by continuing to provide quality sub-surface hand tools at a value that will exceed your expectations of durability and reliability. Their products are 100% guaranteed, excluding normal everyday wear.

We carry the full T&T Tool Line. Contact us for more information!

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### 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. With a 3/8" Hex rod that is approximately 20% stiffer than round rod.

*The Mighty Probe™ is to be used for secondary protection and is not intended to replace the user's personal protective equipment.*

*The Mighty Probe™ 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).

**MPA48-X Mighty Probe** Insulated Probe 48" w/ 3/8" Hex Rod Standard Tip

**MPA54-X Mighty Probe** Insulated Probe 54" w/ 3/8" Hex Rod Standard Tip

**MPA60-X Mighty Probe** Insulated Probe 60" w/ 3/8" Hex Rod Standard Tip



### 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.

#### WPA60 Water Probe 60"

**Grips:**

- Bright color, easy to see
- Insulates against cold
- Comfortable, smooth

**Handle:**

- 1" steel tubing
- 3/4" brass standard hose connector

**Valve:**

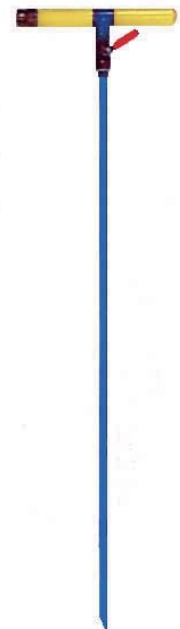
- Brass
- 1/2" full port
- Conveniently located control
- Threaded for easy replacement

**Shaft:**

- High quality thick-wall steel tubing resists bending
- Handle and shaft threaded for secure connection and ease of replacement

**Tip:**

- Improved design for less clogging
- Beveled for better penetration
- Hardened steel



We carry the full T&T Tool Line. Contact us for more information!

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