

ECHOLOGICS®

a MUELLER brand

LEAKFINDER-ST™

EVERYTHING ELSE SEEMS
OLD SCHOOL



DETECT



MONITOR



CONTROL



REPAIR

MUELLER

ECHOLOGICS®

a **MUELLER** brand

SUPERIOR LEAK RESOLUTION AND ACCURACY ACROSS ALL MATERIALS, INCLUDING PLASTIC.

It began when Severn Trent Water (STW), in their drive to innovate the science of leak detection, commissioned fundamental research into leakage within plastic pipes. Collaborating with Loughborough University led to the development of a prototype leak noise correlator which demonstrated a marked improvement in performance. Results demonstrated that the new correlator out-performed all commercially available equipment.

Following extensive university research, STW approached Echologics to commercialise this correlator. We are globally recognised for our innovative research into leak detection on plastic pipes and were the ideal partner. Further development led to a commercial prototype and active trials using STW leak detection field crews. These trials deemed so successful that we launched LeakFinder-ST™ as our next generation correlator.

Known to the industry at large, leak noise correlators have had limitations in pinpointing leaks in plastic and large-diameter mains. The LeakFinder-ST™ correlator provides a superior level of speed and accuracy in locating leaks.

SUPERIOR LEAK RESOLUTION

The LeakFinder-ST™ correlator enables water companies to locate “quiet” narrow band, low-frequency leaks and leaks previously identified as background leakage on water mains, with a wide range of materials such as:

- Plastic (PVC & PE)
- Pre-stressed Concrete Cylinder Pipe (PCCP)
- Asbestos Cement (AC)
- Ductile & Cast Iron (DI, CI)
- Steel

RAPID CORRELATION TIME

As an advanced Windows-based leak noise correlator, the LeakFinder-ST™ correlator can quickly and cost-effectively locate leaks that other correlators cannot. Its enhanced correlation function accurately identifies narrow-band leak noise – making it ideal for plastic pipes, small leaks, multiple leak situations, and testing environments where there is high background noise.

EASY TO USE

The LeakFinder-ST™ correlator has been tested in the lab and field. It was designed and developed by acoustic engineers and the interface perfected in the field, through collaboration with end-users. This collaboration makes the LeakFinder-ST a highly accurate, non-invasive leak detection system which is simple to operate. Anyone that has ever used Microsoft Windows can easily and confidently learn how to operate the LeakFinder-ST™ correlator.



DIMENSIONS

- A. Receivers/transmitters: 16.8 x 10.8 x 6.9cm
- B. Sensor: 17.3 x 1.5cm
- C. Pelican case: 56.0 x 45.5 x 26.5cm

LEAKFINDER-ST™

Speed and Accuracy. Without Compromise. Without Digging.

FINDING LEAKS AND OPTIMIZING FIELD PERFORMANCE

During a 3-month field trial, the leading environmental engineering company Jalur Cahaya Sdn. Bhd. (JCSB) used LeakFinder-ST to pinpoint leaks throughout pipe networks in Malaysia. They discovered 109 distribution main leaks, 82 ferrule leaks, 288 service connection leaks, and 3 valve leaks. The ability to pinpoint leaks resulted in a smaller excavation footprint, leading to less disruption and inconvenience to the local communities.

TAKING THE GUESSWORK OUT OF PIPE REPAIRS

After dealing with leakage over recent years, two companies near Russia's Ural Mountains needed a new solution and selected the LeakFinder-ST. In addition to its ability to quickly detect and pinpoint leaks, it could operate in harsh weather conditions and was compact enough to transport across the rugged terrain. Following a two-day training session, the team discovered a leak, whose location was where the correlator said it was. The teams now use the LeakFinder-ST weekly when they suspect there is a problem in their pipelines.

SAVING WATER AND PROTECTING INFRASTRUCTURE

The Australian City of Gold Coast's water network reaches into remote areas that can be hard to access. As a result, leaks could easily go unnoticed. The City selected the LeakFinder-ST to help get ahead of leaks before they caused bigger issues. Using the correlator, they successfully pinpointed a non-surfacing leak losing 11 litres of water per second. Within 72 hours, the leak was repaired and flow returned to normal immediately. This resulted in an annual potential savings of AU\$1 million. The City now uses the LeakFinder-ST as part of their ongoing leak detection programme.

LEAKFINDER-ST™ GIVES YOU:

Feature: Automatic noise filter and velocity calculator

Advantage: Highly accurate pinpointing of leaks on any pipe material or multiple pipe types

Benefit: Save money and effort through the avoidance of dry holes

Feature: Advanced engineering of sensor acoustics and signal processing

Advantage: Finds low-acoustic-frequency leaks, such as in PVC or other quiet leaks, that other correlators miss

Benefit: Save water and money from the discovery of long-running and previously undetectable leaks

Feature: PC-based software platform with streamlined user interface

Advantage: Easy to determine leak position, frequency levels and filter settings

Benefit: Save time and effort of field operators

OUTSTANDING INNOVATION AWARD



MOST INNOVATIVE NEW TECHNOLOGY AWARD



These awards are a unique demonstration of what can be achieved with collaboration between a top research university, a leading water utility, and commercial enterprise.

OPERATIONAL PARAMETERS

Ambient Temperature	-33°C to +55°C
Liquid Temperature	0.5°C to 38°C
Liquid Flow Velocity	1.5 m/s*
Pressure	1 bar - 10 bar
Pipe Material	Cast Iron, Steel, Ductile Iron, Asbestos Cement, PCCP, PVC, PE, and other plastics
Pipe Diameter	DN15 to DN400**
Optimal Sensor Spacing	Contact Sensor: Up to 185m Hydrophone: Up to 305m

* Higher velocities may result in turbulent flow introducing noise into the pipeline. Measurements can be performed at higher velocities, however sensitivity may be limited.

** Dependent on pipe material and site condition. Please contact Echologics specialists for more info.

SPECIFICATIONS

Features	Enhanced correlation function Built-in noise reduction Selectable frequency range (automatic or manual) Propagation velocity calculator Support multiple pipe materials Support mixed pipe sections Playback of recorded leak sounds Volume-controlled 3.5mm stereo output Available in languages other than English
Sensors	2 x Accelerometers with high-sensitivity piezoelectric sensing element Built-in amplifier with Automatic Gain Control (AGC) 14.5Kg pull base magnet 3m cable having -40°C to +90° C temperature rating
Optional Sensors	2 high-sensitivity hydrophones Operating frequency range from 0.5 - 1500Hz Low pressure operation up to 10bar, or High pressure operation up to 27bar
Communication	Wireless radios operating in the Low Power Frequency Bands: - Industrial/Business Pool Group A1 (450 to 470 MHz) - ISM 433 MHz (70 cm) band. Operating range: 2Km Note: radio operating licence depends on geographic location
A/D Converter	2 channels, 16 bit resolution 0.5 to 20,000 Hz frequency response (-3 dB @ .1 Hz) Time resolution: 25-microsecond (44.1 kHz sampling rate) Signal to Noise Ratio (SNR) = 84 dB (44.1kHz, Gain = 0dB) Adjustable gain: -31 dB to 24 dB Plug and Play Driver
Security	HASP key encryption
EMI	FCC15 Class A/ICES-003/EN 55011
Power Supply	Input Voltage: 15VDC Rechargeable high-capacity NiMH batteries Low-battery indicator Battery charge indicator 15 hours of operation on fully-charged battery @ 20° C
Enclosure	Conforms to Waterproof IP68 Rugged aluminum case Protective rubber boots for durability and shock resistance Foil switches
Warranty	Two-year limited warranty. Hardware protection plans covering extended warranty or accidental damage are available. Warranty covers manufacturing defects only. It does not cover failure resulting from misuse, accident, modification, field maintenance and unsuitable physical or operating environment. The warranty does not cover the sensors except for dead-on-arrival cases.



STEP 1: VERIFY UNITS ARE FUNCTIONAL.



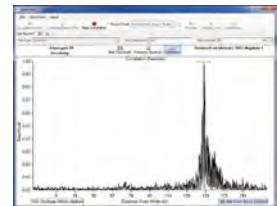
STEP 2: MOUNT TWO SENSORS SELECTED PIPE ON AIR VALVES, FIRE HYDRANT OR OTHER EXISTING APPURTENANCES.



STEP 3: SELECT PIPE MATERIAL ON TRANSMITTERS.



STEP 4: VERIFY RADIO COMMUNICATION ON THE RECEIVER.



STEP 5: START CORRELATION ON THE LAPTOP AND QUICKLY FIND YOUR LEAK.

For more information about us, or to view our full line of products, please visit www.echologics.com or call International Customer Service at:

UK: +44.1438.487410 Dubai: +971.4.214.6640 Singapore: +65.6816.3088 USA: +1.800.423.1323 International@muellerwp.com

Mueller refers to one or more of Mueller Water Products, Inc. (MWP), a Delaware corporation, and its subsidiaries. MWP and each of its subsidiaries are legally separate and independent entities when providing products and services. MWP does not provide products or services to third parties. MWP and each of its subsidiaries are liable only for their own acts and omissions and not those of each other. Mueller brands include Mueller®, Echologics®, Hydro Gate®, Hydro-Guard®, HYMAX®, i2O®, Jones®, Krausz®, Mi.Net®, Milliken®, Pratt®, Pratt Industrial®, Singer®, and U.S. Pipe Valve & Hydrant. Please see muellerwp.com/brands to learn more.

© 2022 Mueller. All Rights Reserved. The trademarks, logos and service marks displayed in this document are the property of Mueller, or other third parties. Products marked with a section symbol (§) are subject to patents or patent applications. For details, visit www.mwppat.com. These products are intended for use in potable water applications. Please contact your Mueller Sales or Customer Service Representative concerning any other application(s).

