



SeCorr® 08



SeCorr® 08
Correlator with latest DSP technology
for precise detection of water leaks

The principle

What's correlation?

Correlation is a method used to detect leaks in buried pipe networks.

Technique

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. It follows that the noise will take longer to travel to the microphone furthest from the source; this is referred to as the "time delay" or Δt . Utilising 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**.

SeCorr[®] 08

- ▶ **Digital Signal Processor (DSP)** – Fast accurate calculations allowing quicker leak location
- ▶ Direct microphone and headphone sockets – Allows **SeCorr[®] 08** to be used as a basic electro-acoustic leak detector
- ▶ High resolution pixel display – High definition of display
- ▶ All system components contained in one robust case – All parts can be recharged whilst remaining in the case
- ▶ Lightweight ergonomic design – Comfortable to use over a full working day
- ▶ Application specific menu structure – Intuitive operator sequences
- ▶ **Fast Fourier Transformation (FFT)** correlation – precise location even with the most challenging leaks
- ▶ Radio transmission of over 2,000 m – Correlation possible over long distances
- ▶ Wide selection of components available – Select optimal configuration for the prevailing conditions
- ▶ Two levels of software, "standard" and "professional" – Choose the version most suited to your requirements.
- ▶ Input via jog dial and / or water resistant film pad – Users can select best or both methods according to their personal preference e.g. with gloves on or off
- ▶ "Coherence analysis" – Allows automatic or direct settings of frequency filters for optimal performance and easier location of the most difficult leak noises

Advantages

Electro-acoustic methods of leak detection can be affected by external noise interferences such as cars, wind etc. The correlator **SeCorr[®] 08** is unaffected by these interferences 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.

The operator's experience and sense of hearing is paramount when utilising electro-acoustic devices; Correlation is based on purely mathematical calculations. Consequently the reliance on these subjective views are eliminated allowing anyone with minimal training to carry out leak location.



Receiver **SeCorr[®] 08**



System components

Signal reception

Highly sensitive piezo accelerometers record noises in the frequency ranges of approx. 1 to 10,000 Hz. A range of adapters enables connection to a wide variety of measuring points.



Hydrophones do not pick up the sound from the pipe material, but directly out of the water column. This offers a considerable improvement of the location range, especially with correlations on plastic pipes.



Locating leaks over several hundred metres is possible.

Signal editing and transmission

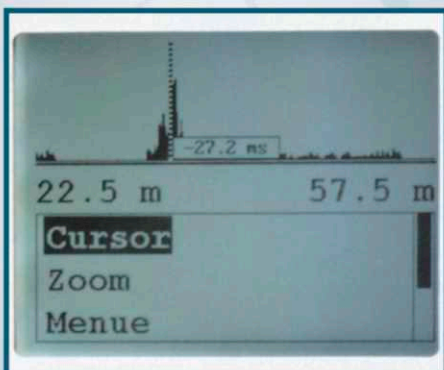
As soon as microphones receive the noise from a leak, the signal is automatically amplified to the optimum level and transmitted digitally along with the amplification details to the **SeCorr® 08**.

Both pieces of information are analysed and processed by the **SeCorr® 08**. Utilising 500mW transmitters signal transmission is clear and strong. Correlation of up to 4 km is possible; local conditions may affect the range. Even if the radio transmitter is located within buildings or behind cars or trees correlation can be carried out successfully.

Since correlation requires two microphones, these can either be connected to both radio transmitters or if using only one radio channel, directly to the **SeCorr® 08**.



Software SeCorr® 08



- Software "professional" for all location demands
- Software "standard" for less experienced operators

System case



This robust plastic case offers space for all system components. The receiver and two transmitters can be charged simultaneously inside the closed case.

Technical Data

Receiver SeCorr® 08

- Display 320 x 240 pixels with background LED illumination
- PC connection for information download
- Socket for direct connection of a variety of microphones
- BNC connector for antenna input with 90 deg. rod aerial (rotary)
- 1 or 2 radio channels
- Built in NiMH rechargeable batteries and 12V socket for direct power or charging from vehicle
- Operation by 12 V= from a vehicle is possible
- Operating / storage temperature: -10 °C ... +40 °C / -20 °C ... +60 °C
- Protection class: IP 54
- Weight: approx. 1.3 kg
- Dimensions (W x H x D): approx. 12.5 x 18 x 6.5 cm
- Operating time: approx. 8 hours



Radio transmitter RT 06

- Automatic microphone recognition when attached
- Automatically on when microphone connected
- Selectable low-pass filter to increase performance on non-metallic pipes
- Automatic signal control
- 500 mW output power level with optimal selectivity
- Operating / storage temperature: -10 °C ... +40 °C / -20 °C ... +60 °C
- Protection class: IP 67
- Weight: approx. 1.3 kg
- Dimensions (W x H x D): approx. 12.5 x 19 x 7.3 cm
- Operating time: approx. 10 hours



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