

SeCorr® O8



New SeCorr® O8 correlator

Correlator with latest DSP-technique for the calculated detection of water leakages



The principle

What's correlation?

Correlation is the calculator based leak detection at buried pressure pipe networks. The noise created by a leak spreads over the pipe material and reaches two fittings (valves, hydrants, stop taps) at different moments, depending on the distance of the leak to the contact points.

Highly sensitive microphones record the incoming noises at the fittings, a radio transmitter forwards them to the receiver. That is where the run time delay is calculated. The exact leakage position is subsequently determined from the information material, diameter and length of measuring section.

In difference to the electro-acoustic methods of water leak detection, correlators work independently from the volume of leak noises. Consequently the intensity of surrounding noises has nearly no effect on the measuring result.

Even close to much frequented roads can be correlated successfully during day time, when the electro-acoustic method cannot be used.

Also factors like depth of the pipe, surface, type of soil or other disturbing environmental factors, such as wind or rain, have no effect on the correlative leak detection. At the same time the success of the leak detection is no longer dependant from the hearing or experience of the operator. The quality of the measuring result is determined by the technical abilities of the correlator – whose handling is quite easy to learn.

Both available software variants "professional" and "standard" offer optimal system solutions for all SeCorr[®] 08 operators, the less experienced operator as well as the

advanced professional.

Features of the SeCorr[®] 08

- Latest DSP-technique (Digital-Signal-Processor)
- High-resolution pixel display
- Water-resistant film-keyboard and increment selector for comfortable operation
- Application as electro-acoustic water leak detector
- FFT analysis (Fast-Fourier-Transformation)
- Coherence analysis for optimal filter settings
- Automatic frequency analysis
- Highest calculating accuracy and very high speed of measurements
- Radio reception for more than 2.000 m per channel
- High flexibility in combination of all components (1 or 2 radio channels)
- Radio-signal monitoring
- Measuring assistant for standard situations

System components

Signal acquisition



Highly sensitive Piezo accelerometers record noises in the frequency ranges of approx. 1 ... 10.000 Hz reliably. Diverse adapters enable an optimal coupling to the measuring points.



Hydrophones do not pick-up the sound from the pipe material, but directly out of the water column. This reaches a considerable improvement of the location range, especially with correlations on plastic pipes. Also successful locations over several hundred metres are possible. Active filters do support these effects.

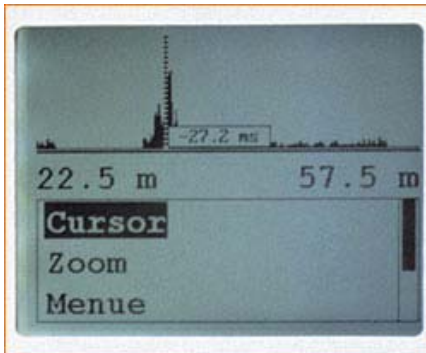
Signal editing and transmission

As soon as the microphones recorded the noise, the integrated amplifiers of the radio transmitter RT 06 prepare the signals for transmission. Controlling the incoming signals and their intensification occurs automatically in 10 steps, which are switched dependently from loudness' level. The chosen adjustment is digitally transmitted to the receiver together with the noises. Both signals are analysed by the receiver and evaluated according to the chosen intensification.

The radio transmission itself is realized by output power levels with a transmission of 500 mW each. The radio signals are transferred over a distance of more than 2.000 m per channel. Several kilometres can be correlated at optimal conditions. Nevertheless the actual transmission range depends on the geographic circumstances.

As the SeCorr[®] 08 disposes of a direct microphone input, it is also possible to correlate with just one transmitted channel.

Software SeCorr[®] 08



- **Software "professional"** for all location demands
- **Software "standard"** for the 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

- Matrix display with 320 x 240 pixel and LED background illumination
- Connection for PC communication



- Socket for direct microphone input
- BNC antenna input with 90° rod aerial (rotary)
- 1 or 2 radio channel receipt
- Built-in NiMH accumulator with capacity for 8 hours operating time
- Operation by 12 V= from the vehicle is possible
- Operating/storage temperature:
 - 10° ... 40 °C / - 20° ... 60 °C
- Weight: approx. 1.3 kg
- Dimensions (W x H x D):
 - approx. 12.5 x 18 x 6.5 cm



Radio transmitter RT 06

- Automatic microphone recognition when attaching
- Automatic switch-on by microphone plug-in
- Automatic signal control
- 500 mW output power level with optimal selectivity
- operating/storage temperature:
 - 10° ... 40 °C / - 20° ... 60 °C
- 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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