

LOG 3000 - Leak Detector for Gas and Water Pipes

**New Technology
New Dimension
New Software**



LOG 3000— advanced correlation technology

Leak detection for water and gas pipes with centimetre accuracy

The age of large, bulky correlators is now a thing of the past. Our newly developed LOG 3000 is a compact and elegant high-performance correlator which is being very well received.



Vibraphone

Using advanced piezo technology, we have manufactured a vibration pick-up which can differentiate between leaks in metal and plastic on the basis of frequency range. Physically robust yet designed to pick up the smallest vibrations, the sensor is suited to daily use in the field. Thanks to its compact dimensions, the microphone can be sited in almost all conceivable situations.

Transmitter

Simple operation is a major plus with this high-tech instrument. The transmitters are only fitted with one switch. The operator need only distinguish between metal and plastic pipes. Transmission power is automatically adjusted to the optimum setting. Three LEDs provide information on battery status. For acoustic control purposes, the transmitters have a connecting socket for headphones.



Receiver

The signals received are checked with the "On/Blue/Red" switch. The "Volume" potentiometer is used to set the acoustic reproduction of the loudspeaker. The leak sounds are transmitted in analogue form to the notebook's sound card.



Notebook

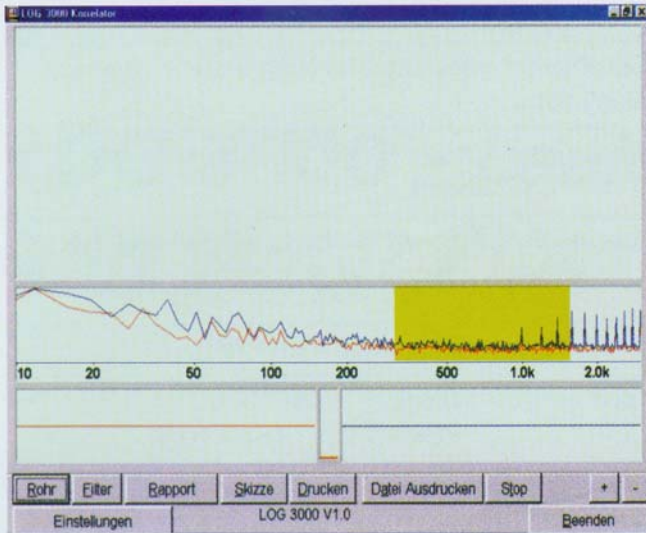
Today's technology allows us to read in the receiver signals directly via the sound card. A state-of-the-art analogue-digital converter installed in the notebook is a major benefit. The leak sounds can be reproduced through the notebook's own internal loudspeakers independent of the receiver setting.

Software

The LOG 3000 software designed for use with Win 95/Win 98 operating systems is highly innovative. Great care was taken to ensure that it is easy to use even without any knowledge of information technology. A brief introduction at our training facility is sufficient.

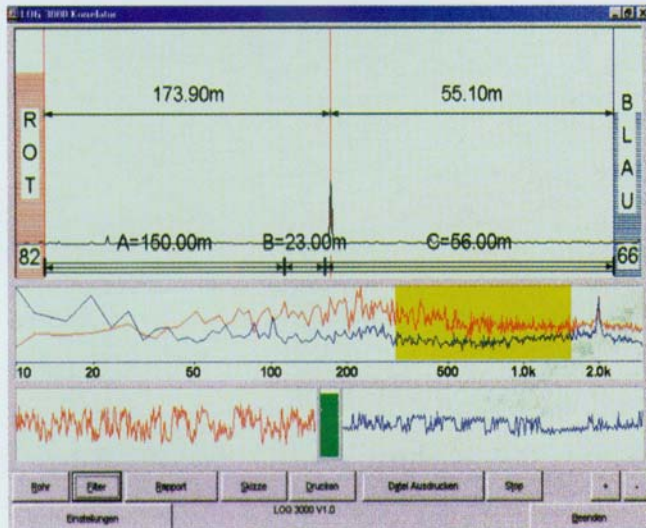
Intelligent software cuts errors

The generous data on leak frequencies and input signal voltages show the properties of the leak thereby preventing any incorrect handling of the unit. A red bar is displayed on screen if a transmitter is not switched on. The strength of the signal received is also indicated by the height of the red and blue hatched end bar.



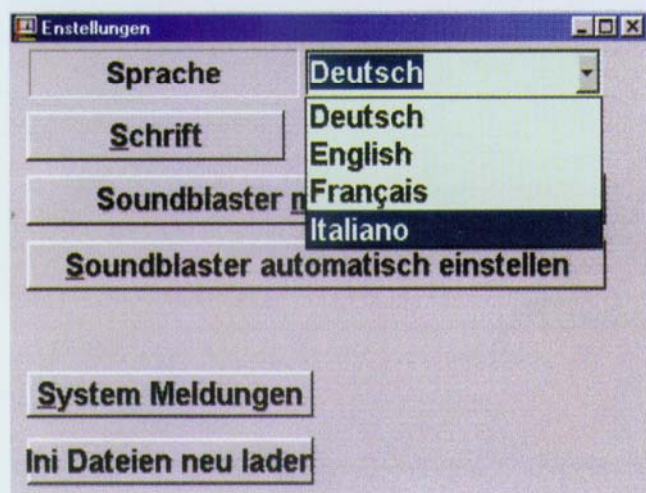
Forward-looking system

LOG 3000 is a leading contender with its hardware adjustment in the field of plastic leak detection and its software adjustment to the latest operating systems.



Maximum performance - minimum costs

The use of a notebook as a correlation computing centre makes the system approximately 60% less expensive than traditional correlators. However, we are offering you an integrated, high-performance EDP system.



Application

Pipe menu

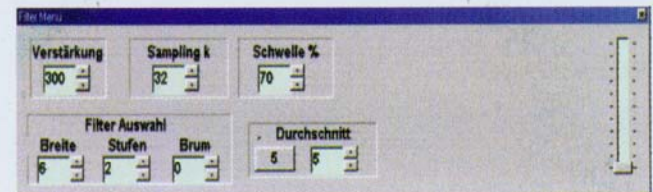
After the transmitters have been installed, the leak is displayed shortly after the software has been started. It is only necessary to enter data for the length of the pipe, the pipe material and the diameter of the pipe. Several pipe materials of different dimensions and pipe lengths are easy to access via pull-down menus by clicking on the Pipe menu.

Menu: Frequenzbereich bestimmendes Rohr

Länge m ↓	Material	Durchmesser	Schall m/s
A 100	Stahl	100	1301
B 0	Stahl	100	1301
C 0	Stahl	100	1301
D 0	Stahl	100	1301
E 0	Stahl	100	1301

Filter menu

The input frequency installed provides information on the frequency range of the two leak sounds. The upper and lower frequency limits can be set in the Filter menu. Leak definition is set to a maximum with this setting.



Filter selection

Three filters are used to set the precise leak curve. Width, step and hum are set according to the best appearance. If 50Hz interference is present, it is filtered away via the hum setting.

Average

The average is used to state how many records are to be linked to each other until a completely new display appears on-screen. An ideal default of "5" is set by the software. This provides a steadier display.

Threshold

The maximum leak display is the most interesting aspect of a correlation. However, there is stray resonance in all pipes and this is also depicted as a certain percentage. The threshold can be set from 0% to 70% in order to fix the display on the area of the leak.

Sampling

The calculating capacity for correlation is set with the sampling. This is a binary value between 1 and 64. The best default is set automatically.

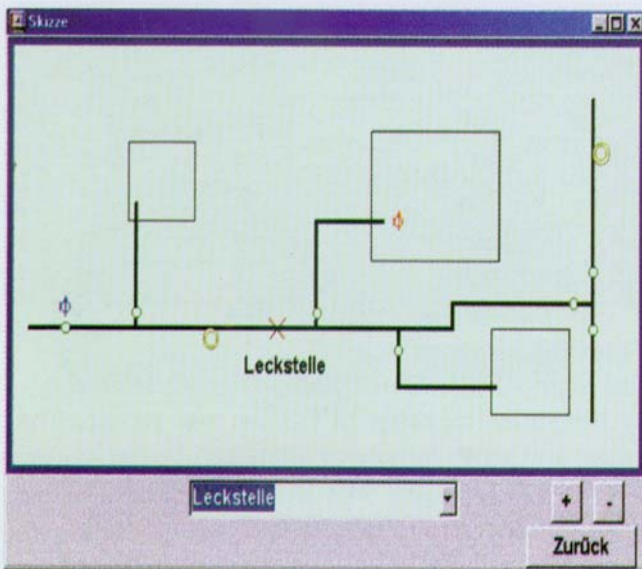
Amplification

Amplification is handled exclusively by the software and serves to make maximum use of the screen.

Report

If the leak display is correct, it can be saved to a report by clicking on it. There are two menus, one for the entry of technical data and another for the production of sketches.

Sketch



Report

Messpunkt blau	Haus-Zähler	Rot	Hauptschieber
Adresse	Wagamet Gas & Wassertechnologie		
Strasse/Nr.	Staffelnhofstrasse 34		
PLZ/Ort	6015 Reussbühl		
Bemerkungen	Hauptleitungsdefekt		
Arbeitszeit	1.50	Spesen	Zuschläge
Sachbearbeiter	J. Muster	Reisezeit	0.30
		Km	16

Transmitter

Splashproof transmitter housing made of die-cast aluminium.

Transmission power 10mW on the licence-free 433MHz ISM band

Special SMA (sub-millimetre array) antenna jack

Microphone with AGC (automatic gain control)

Headphone jack for audio monitoring

Filter options: Steel 300-3000 Hz
Plastic/PE 5-3000 Hz

Combined microphone/charging jack

Battery: 6 V = 5 Ah, lead acid/gel

Battery monitoring: 5.3 V ± 0.1V

Automatic battery charging limit: 150 mA

Operating time: 10 hours of continuous use

Battery charging: 10-16 hours

Temperature range: -20°C to +50°C

Internal fuse: 5x20 mm, 1A

Weight: 0.5 kg

Receiver

Strong, die-cast aluminium housing for use in hostile environments

Twin receiver (red + blue)

BNC antenna jack for 433 MHz vehicle antenna connection

Monitor loudspeaker, switchable to the "RED" or "BLUE" channel

3.5 mm stereo jack for a computer connection

2.1 mm coax charging jack

Battery: 6V = 1.2 Ah, lead acid/gel

Battery monitoring: 5.3 V ± 0.1 V

Automatic battery charging limit: 150 mA

Operating time: 15 hours of continuous use

Battery charging: 10-16 hours

Temperature range: -20°C to +50°C

Internal fuse: 5x20 mm, 1 A

Weight: 1.1 kg