



Subsurface Instruments LC-5000 Leak Correlator Instruction Manual

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**LC-5000
Leak Noise Correlator**

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LC-5000 Leak Correlator



Compact and Light-Weight.

The Main Processor Unit, weighing less than 5 lb., can easily be carried all day



The Main Processor Unit displays up to 6 Correlations on one screen.
User can easily drill into individual correlation from touch screen.

Ruggedly Built & Weather-Tight

The Main Processor Unit and the Transmitter Sensors can operate in rain storms, sub-zero temperatures and direct sun for hours.

Rechargeable Batteries

Runs all day on Lithium Ion Batteries.

High Sensitivity Transmitting Sensors Standard

The new LC-5000 Transmitting Sensors are very sensitive, small in diameter, and totally submersible. 4 times the resolution of its predecessor the LC-2500.

Easy To Set Up & Run – 3

Steps & You Are On Your Way

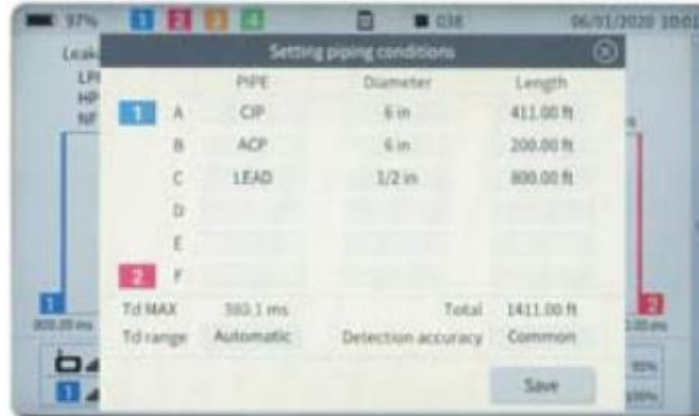
Input pipe materials, diameters, and lengths by simply selecting them in the program menus. Automatic functions can do the rest.

Easy To Set Up & Run

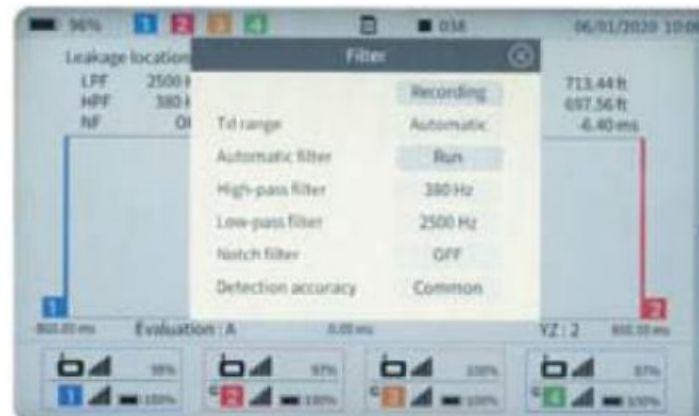
MAIN CORRELATION SCREEN, is the “home page” where every correlation begins. Icons at the bottom relay signal & battery strength.



In **PIPE DATA SCREEN**, user enters Material, Diameter & Lengths from the easy touch screen menu.



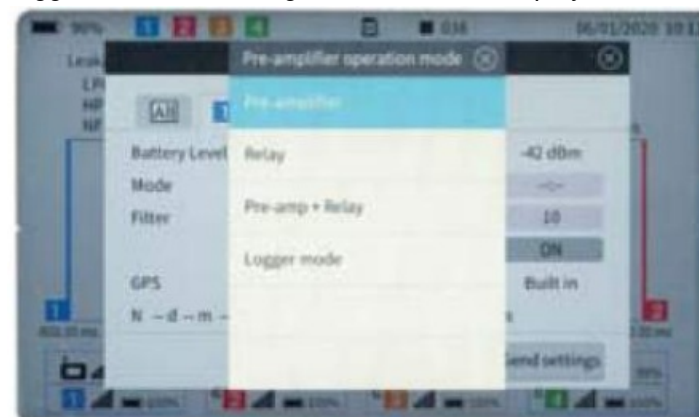
In **FILTER SCREEN**, user can adjust High & Low-Pass Filter ranges & adjust Notch Filter.



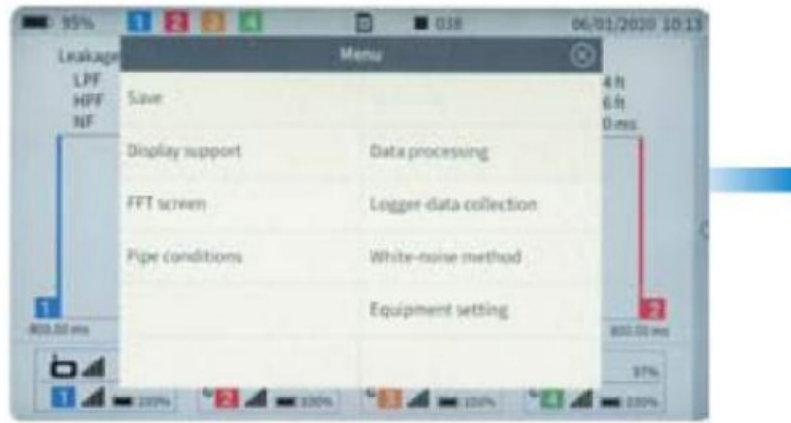
In **TRANSMITTER SENSOR SETTINGS**, the user can program & send settings to all units or select individual units for Relay or Relay & Pre-Amp Mode.



In **PRE-AMPLIFIER / TRANSMITTER MODE**, user has options for programming as Transmitters, Relays, Transmitter / Relays or Logger Mode for overnight or Short Term Deployment.



MENU SCREEN, is where user selects various functions like Data processing, Logger data retrieval, Equipment seting as well as FFT & White noise features.



Powerful Transmitter with Radios That Go Over Hills and Around Buildings



Pre-amp / Transmitter

“hear” the leak sounds at pipe locations and transmit them to the main processor.



aviation-grade stereo headphones are standard.
High sensitivity small diameter

LC-5000 Transmitter Sensors



standard for all pipe materials.
Patented Submersible Sensors

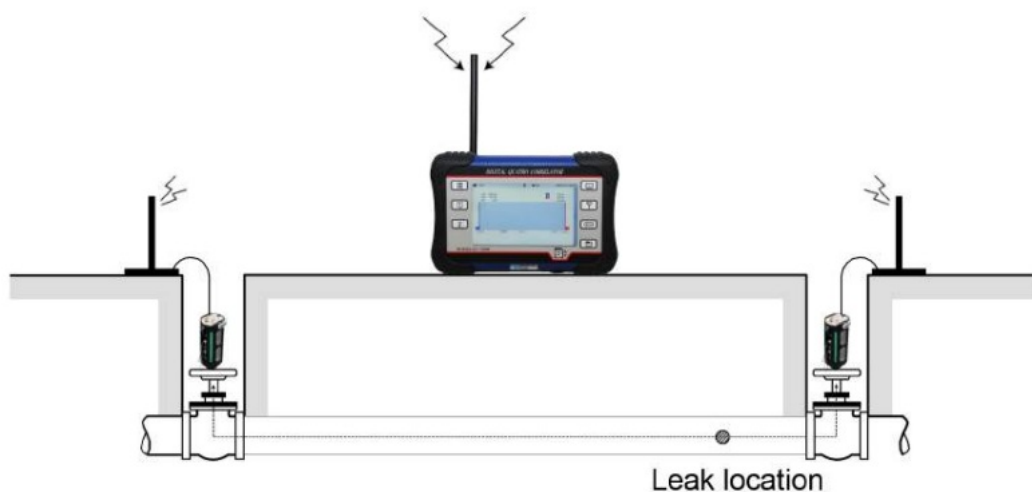


Deploying all 4 Transmitting Sensors allows for up to 6 correlations on Main Unit main screen.



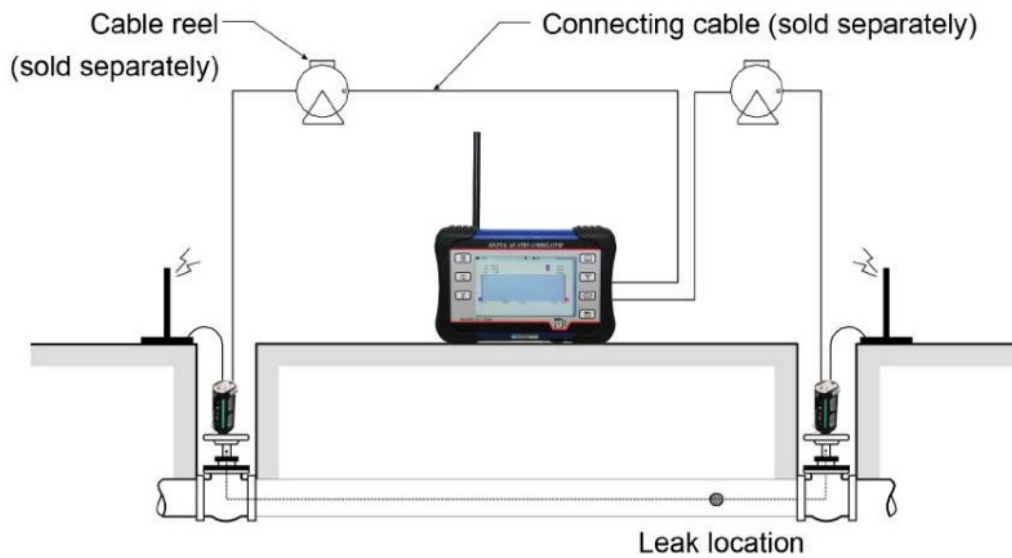
4-1 Radio and Cable Modes

(1) Radio mode



(2) Cable mode

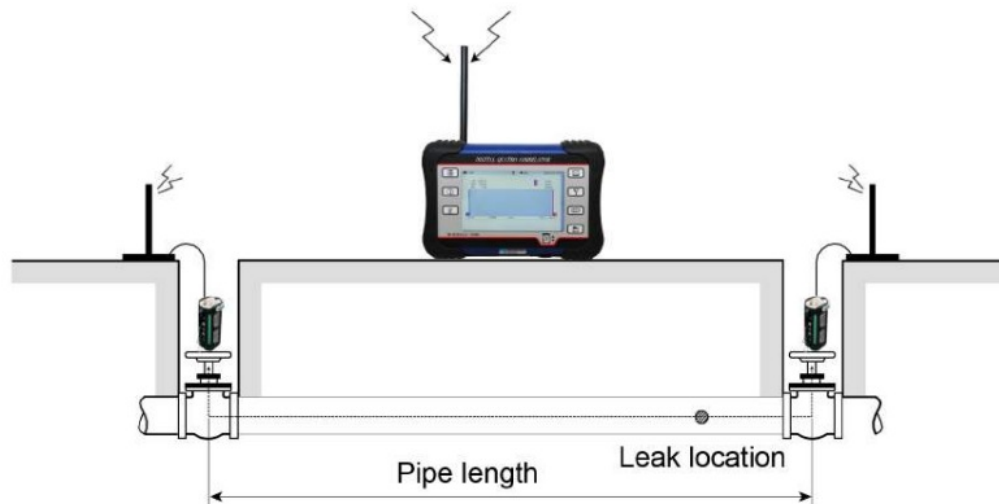
Cable mode is used when radio communication cannot be established between the leak detector and the pre-amplifiers due to interference from buildings or other radio stations etc. Normally, leak detection is done in radio mode as shown in (1) above.



4-2 Example of Detecting a Leak in a Pipe

This section explains how to perform leak detection for the pipe shown below.

In this example, it is assumed that the water leaks from a certain location in the pipe. The pre-amplifiers detect the leak noise and send the signals to the main unit.



MODEL LC-5000 LEAK NOISE CORRELATOR



The LC-5000 System Includes:

1. LC-5000 Main Processor Unit

2. 2 or 4 Transmitting Integrated Sensors
3. 6-inch Antenna Extensions
4. Pedestals for Transmitting Sensors
5. Headphones (see inside) & Battery Recharging Cables
6. Instruction Manual and SDHC Card
7. "Heavy Duty" Composite Carrying Case

Optional Accessories:

8. External Sensors w/10-foot Cable
9. Rechargeable Spare Battery for Main Unit

Specifications

Main Processor Unit

- Operating Temperature Range : 10 to 140°F
- Applicable Standard : 1P52 (weather tight)
- External Dimensions : 11.0 inches (W) x 7.0 inches (D) x 3.2 inches (H)
- Weight : Approx. 4.8 lb. (with batteries)
- Battery : Lithium Ion (rechargeable)
- Continuous Operating Time : 8 hours minimum (at 20°C, backlight OFF)
- Minimum Operating Voltage : 4.2V
- Input : Radio x4 or Cable x2
- Display : 7-inch TFT LCD with touchscreen
- Operation : Polarity correlation
- Td Range : +50ms, +100ms, +200ms, +400ms, +800ms, +1600ms, 3200ms or automatic setting
- Time Resolution : 25 ps (in ±50ms range), 50 ns (in ±100ms range), 400 ns (in ±200ms range), 200 ns (in ±400ms range), 400 ns (in ±800ms range), 800 ns (in ±1600ms range)
- Filter Range : THRU, 80Hz to 5,000Hz (4 low and 4 high)
- Notch Filter : OFF, 50Hz, 60Hz
- Auto Filter : Automatically selected from FFT operation
- Data Memory : 100 correlations
- FFT Monitor : 1kHz, 2.5kHz, 5kHz (common to both channels)
- Sound Memory: For 16 seconds
- External Interface : Antenna, Headphone, Power Switch, Cable, RS-232C

Red and Blue Pre-Amplifiers

- Operating Temperature Range : 13 to 140°F
- Applicable Standard : IP68 (weather tight)
- External Dimensions 3.14 inches (D) x 7.2 inches (H)
- Weight : Approx. 6.3 lb. (with batteries)
- Battery : Lithium Ion (rechargeable)
- Continuous Operating Time: 10 hours minimum (at 20°C, backlight OFF)

- Minimum Operating Voltage : 6.0V
- Input
Input Frequency Range: 20Hz to 5kHz (at THRU filter setting) 100Hz to 5KHz (at STD filter setting)
Input Sensitivity : 50 micro V., max.
Signal to Noise Ratio : 3648, min,
- Radio Communication System
Output Frequency : UHF under approved freq
Modulation: Direct frequency modulation
Output Power : 0.5W (500mW)
Output Impedance : 50Ω

Sensors

- Operation Modes : Correlation / Relay / Logger / Relay+Correlation
- Sensitivity Settings : 2.0 (1 to 20) Stops Manual & Auto
- Filter Setting Modes : Common Through
- Recording: Audio signal recording (300 Seconds, logger mode only)
- GPS Function: Transmit position coordinates & elevation to the Main Unit
- Weight: 220

Manufactured by:



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Distributed by:.....

Documents / Resources



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LC-5000 Leak Correlator, LC-5000, Leak Correlator, Correlator

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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