



ACOUSTIC SEWER INSPECTION

SL-RAT™ -The Sewer Line Rapid Assessment Tool

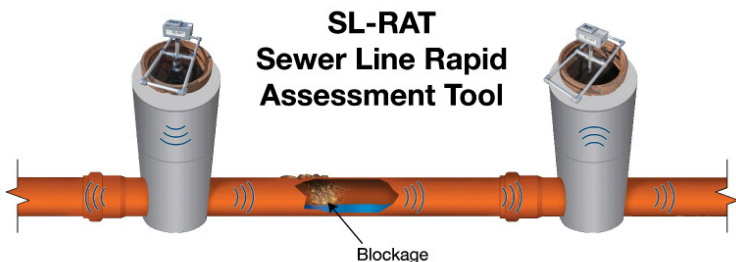


OVER 1 MILLION METERS INSPECTED

- Quickly find blockages in your network
- Inspect over 3,000 meters/day
- Low Cost: 1/10th – 1/20th the cost of CCTV
- Safe: No flow contact/confined space entry
- Highly portable and easy to operate

The Sewer Line Rapid Assessment Tool, or SL-RAT™, is a highly portable onsite assessment tool for quickly detecting blockage conditions in gravity-fed sewers. The SL-RAT's ability to provide a blockage assessment in 3 minutes or less, with no flow contact leads to an operating cost 1/10th to 1/20th that of CCTV. And, more importantly, the SL-RAT now enables wastewater utility operators to economically use a Condition-Based Maintenance strategy to improve SSO performance while using less resources.

The SL-RAT is composed of two components – the Transmitter (TX) and the Receiver (RX). Each SL-RAT device is sold or leased as a pair – with the TX providing the active acoustic transmission through the pipe. Think of the TX as “yelling” down the pipe, and the RX providing the microphone and signal processing capabilities to listen and interpret the received acoustic signal. Think of the RX as the brain “listening” for the blockage and processing the blockage assessment result.



Transmitter (TX)



Receiver (RX)



Winner 2012
WEF Innovative
Technology
Award



For a DEMO contact:



SL-RAT SPECIFICATION SHEET

FEATURE	DESCRIPTION	OPERATING CHARACTERISTICS
Dimensions (Travel mode)	RX 14cm x 35cm x 84cm TX 14cm x 35cm x 84cm	Easily folds for compact storage and transport
Dimensions (Deployed)	RX 61cm x 35cm x 84cm TX 69cm x 35cm x 84cm	Rugged swing arm with simple design for pivoting
Weight RX/TX	RX 5kg TX 8kg	Light weight design for easy field deployment
Travel Bag	CODE ALPHA - Nylon ripstop rugged custom wheeled duffel in combination with PUR foam/ Closed Cell PE travel trays	Provide cushion and device protection in a light weight and easily transportable package.
RX Battery	Custom Heavy Duty Lithium Ion, 1000 charge cycles, 11.1V, 3.6Ah, fully enclosed.	> 1 week battery life; fully charges in ~ 2 hours
TX Battery	Custom Heavy Duty Lithium Ion, 1000 charge cycles, 11.1V, 3.6Ah, fully enclosed.	> 2 day battery life; fully charges in ~ 2 hours
Extended range visual display	122X32 pixel graphic display with extended environmental protection	Able to operate from -20C to +70C
Speaker	Efficient marine grade heavy duty speaker with high fidelity across a broad sound spectrum	Rugged. Field proven. Reliable.
Microphone	Harsh environment microphone resists effects of water immersion, mud, sand and salt encrustation.	Rugged, Field proven design. Reliable with excellent acoustic performance.
Construction	Constructed using 6061-Aluminum, 301 Stainless, and a composite resin control box.	Provides strength and durability in a light weight package
Device memory	RX unit stores up to 200 measurements for download to PC via USB	Stores > 3 days measurements
Electronics	Custom designed for efficient power management and maximum signal processing performance. Manufactured in an ISO:9000 certified state-of-the-art facility	Accurate blockage assessments in real time with long battery life
Water & Environmental Resistance	Electronics are fully isolated within gasketed enclosures. The speaker is protected within a 6061-Aluminum housing	Reduced downtime and repair.
Cleanability	Durable surfaces can be cleaned with industrial wipes, alcohol, or other standard cleaning agents	Economically maintain crew hygiene and health safety
Communication/Data Synching	RX and TX communication and synchronization via standard IEEE RF transceiver modules operating within the 2.4GHz ISM band.	Provides infield operation verification and automation
GPS enabled	Uses the same energy-efficient and accurate 10Hz GPS chipset found in many high-quality mobile consumer devices	Enables more accurate data registration, time stamping, and crew productivity measurement.