

GOWell's Array Noise Tool (ANT) uses an array of highly sensitive wide-band acoustic sensors to detect sound produced downhole by fluid movement.

## DESCRIPTION

The tool employs a set of innovative differential measurements to enable excellent rejection of unwanted noise such as "road noise" produced while the tool is moving in the wellbore. The sensor array also allows propagation-direction processing to further extract weak fluid movement sounds from behind multiple pipes.

By coupling both differential sensors with array processing this tool can acquire accurate measurements while logging up or down. This saves time and improves effectiveness in any leak detection applications.

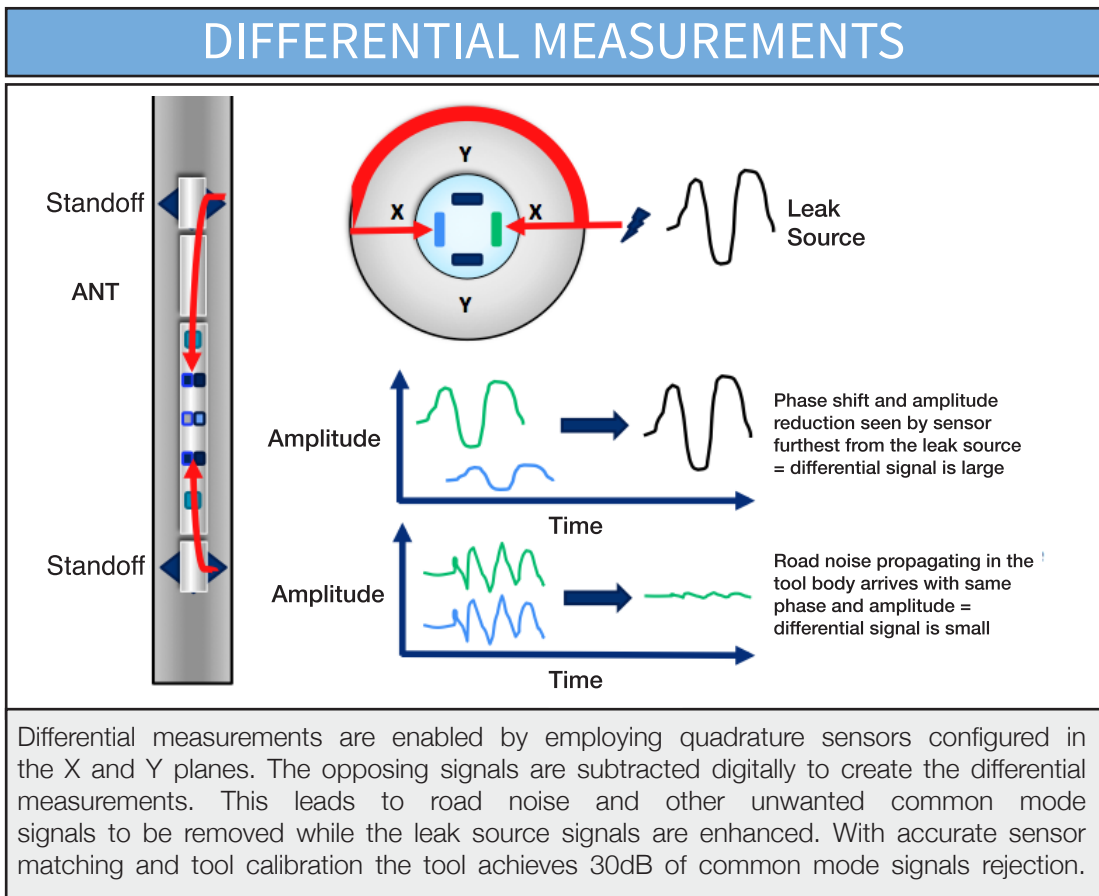
## FEATURES

- Total of 38 Hydrophones
- Sensor Configuration: 3 monopole + 6 differential
- X & Y Differential + Wave Propagation
- Provides accurate results while logging continuously
- Spectral Analysis
- Excellent (> 30dB) Road Noise Rejection
- Azimuthal Sensitivity
- Combinable including simultaneous RCBL logging

## APPLICATIONS

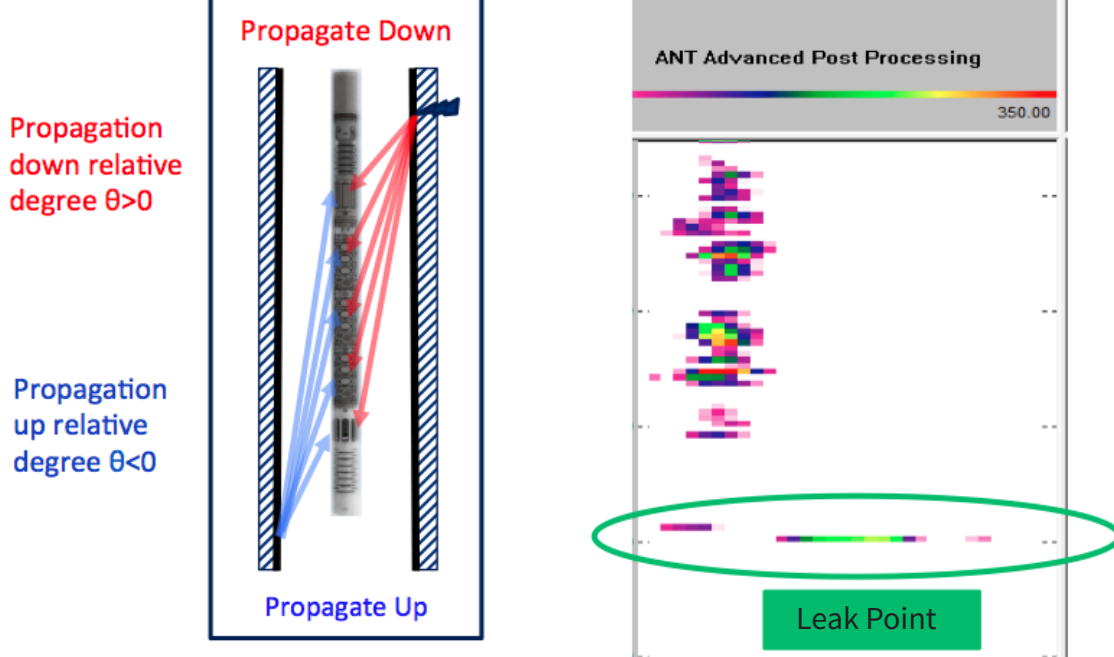
- Leak Detection (tubing/casing/packer leaks)
- Diagnosis of Sustained Casing Pressure
- Location of open perforations
- Identification of flow zones behind pipe
- Identification of channeling behind pipe

## HOW IT WORKS?



# ADVANCED POST-PROCESSING

Weak Leak Source Detection by Wave Propagation Processing



Advanced wave propagation processing uses the vertical array of differential measurements to further enhance weak leak source detection. As the tool moves past a stationary leak point, the angle in degrees between tool body and the propagation path of the signals of interest, rotates from negative to positive. By observing a change in propagation angle over a small depth interval, any stationary acoustic sources are easily distinguished even if weak compared to unwanted background noise.

## SPECIFICATIONS

### ANT - Array Noise Tool

#### General Specs

Maximum Operating Pressure	20,000 PSI (138 MPa)
Maximum Operating Temperature	350°F (177°C)
Diameter	1.69 in. (43 mm)
Length	8.40 ft (2.56 m)
Tool Weight	30.9 lbs (14.0 kg)
Logging Speed & Range	20 FPM / 40,000 ft.
Logging Sample Rate	4 SPF
Application	Dynamic & Stationary, Wireline/Memory
Signal Range	10 CH - 500Hz to 60 kHz with 130 dB-170dB (AGC)
Logging Modes	Survey and Scan
Borehole Temperature Log	-13°F-347°F (-25°C-175°C)
Log Data	Hybrid - Internal memory and configurable SRO
Interface	Pegasus™ dual CAN-Bus, 15V to 36V for 3W
Internal Measurements	Temperature, Voltage and Accelerometer
13 Wire Feedthrough	Through Wired for Inline Operation