

PIG LOCATOR COMPARISON

Overview

Tracking of pipeline pigs is recommended for most applications. As a minimum for precommissioning a tracking device should be fitted to the front & rear pigs of the FCG (Flood, Clean, Gauge) and DW (Dewatering) pig trains.

Propipe has a range of pig tracking equipment (Trident) and within this range, TWO main communication technologies are used:

1. Acoustic
2. Electromagnetic

Features & Benefits

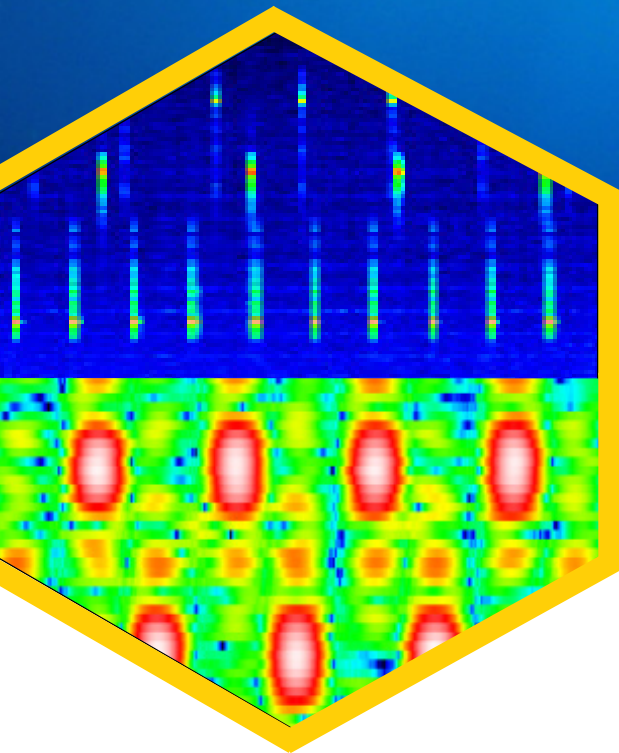
The table below identifies the features and benefits of both technologies when related to pig tracking within a pipeline.

Specification	Acoustic	Electromagnetic
Frequency Range	11 - 40 kHz	10 - 30 Hz
Detection Range (in pipe)	300 - 750 m	5 - 15 m
Positioning Accuracy	300 - 500 mm	10 mm
Pipe-in-Pipe Compatibility	NO	YES
Buried Pipeline	NO	YES
Pigging Medium	Fluid ONLY	ANY
Wet-Contact Start	YES	YES
Pressure-Switch Start	NO	YES
Single-Hit SMART Gauge	YES	YES
Multiple-Hit SMART Gauge	NO	YES
Onboard Logging	NO	YES
Through-Wall Comms	NO	YES
Leak Detection	NO	YES

Acoustic vs Electromagnetic Pig Tracking

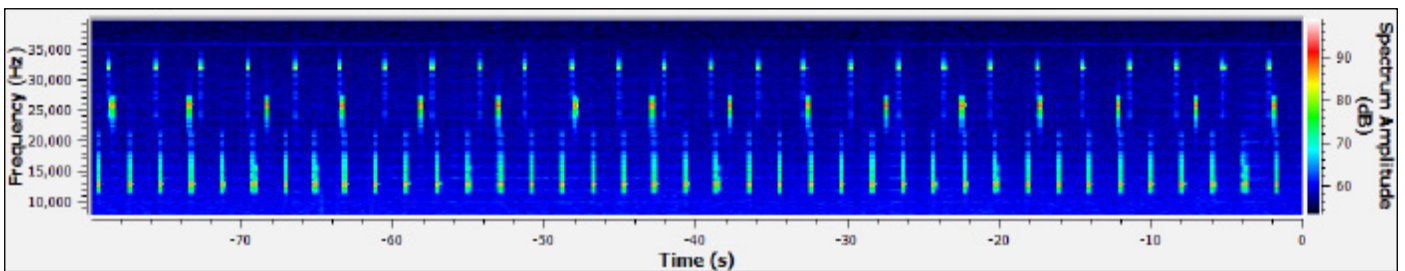


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Acoustic Signals

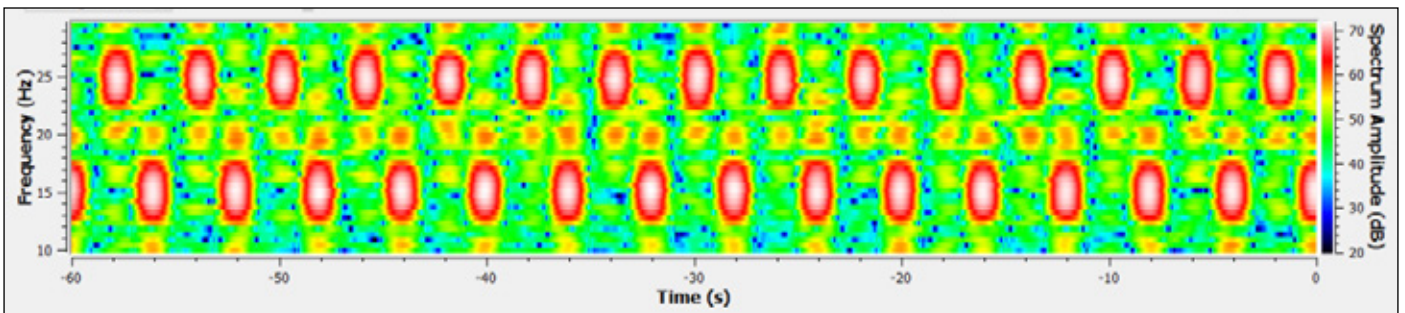
Acoustic signals are used in fluid filled pipeline applications where there is no Pipe-in-Pipe OR buried pipe at the points where pigs are required to be located. Long range detection can be done when using acoustics. Acoustic devices can be activated by manual activation, prior to loading the pig into the launcher or by the presence of fluid (wet-start).



Typical Multiple Acoustic Signals Detected by PigView Software (13, 25 & 32kHz Shown)

Electromagnetic Signals

Electromagnetic (EM) devices can be used in any pipelines, buried OR Pipe-in-Pipe. The detection range is significantly shorter than acoustics and is reduced by the thickness of the pipe wall. Pin point positioning is achievable by identifying the “null spot” of the signal. EM devices can also be configured with manual start (prior to loading the pigs), or if delayed activation is required by the use of wet-start or pressure-switch.



Typical Multiple EM Signal Detected by PigView Software (15 & 25Hz Shown)

