



TOTAL LEVEL NEWS



The Direction In Level Detection

March 2007

Spring Edition 1

KSONIK™

Enhancements & Additions

KSONIK I & KSONIK III

DYNAMIC "GAP" CONTROL (GAIN - AMPLITUDE - PULSE):



Transmitter Dynamically (Automatically) Adjusts:

- **Gain** – the "listening" ability of the transmitter
- **Amplitude** – the actual voltage level of the pulse that is used to "excite" the transducer
- **Pulse** – the actual number of pulses sent to the transducer each measuring cycle

This "trinity" allows a measurement to be made with an absolute minimum of power, which eliminates extraneous signals inside the vessel. The addition of Amplitude Control also enables absolute minimal blanking distances and very narrow (minimal) beam angles. New algorithms systematically adjust this trio to obtain the optimum minimum signal.

In This Issue...

MORE KSONIK™ ENHANCEMENTS

- ◆ *Signal Enhancing Algorithms*
- ◆ *Threshold Adjustment*

[More Details](#)



MAGNETIC LEVEL GAUGE
 MAGNETOSTRICTIVE
 GUIDED WAVE RADAR
 LASER
 ULTRASONIC



THE DIRECTION
IN LEVEL DETECTION

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KSONIK™

ENHANCEMENTS & ADDITIONS



KSONIK™ I & KSONIK™ III

(CONTINUED FROM PG 1)

SIGNAL ENHANCING ALGORITHMS:



- **Averager Buffer** – averages 8 return signals to obtain a single echo profile. Then the software selectively determines which of the 8 to remove before adding a new signal to be averaged. This is the echo that is farthest away from the average, which has a pronounced “smoothing” effect.
- **Averaged Mean Segment (AMS)**– an algorithm that superimposes 4 echo profiles, greatly increasing the signal to noise ratio. Random noise is “averaged down” while the actual signal remains high.
- **Dynamic Gain Limit** – decreases gain and increases amplitude and pulses when there is a lot of “ambient” noise present. When the noise subsides, the KSONIK releases gain limit and resets amplitude and pulses. This feature allows measurement during filling operations.

THRESHOLD ADJUSTMENT:

- Allows internal vessel structure and anomalies to be ignored by the transmitter

Sonik Success

Product: KSONIK I

Application: Kitty Litter



A plant in Bakersfield, VA that manufactures kitty litter needed a level measurement solution. K-TEK offered the KSONIK I. The project engineer was pleased with the results and purchased another for a plant in King George, VA. The project engineer also said that KSONIK will become their Corporate Standard level transmitter for Kitty Litter plants.



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