

SMART DECODER

- ✓ M-ARY CODEC DUAL-DECODER
- ✓ HARDWARE SIGNAL FILTERS
- ✓ MULTI-SENSOR INPUT



SMART DECODER™ is a next-generation pulse signal decoder and sets the gold standard for Measurement While Drilling telemetry systems.

Each SMART DECODER™ comes stock with two pressure processing pipelines that operate independently or simultaneously depending on the situation. Exceptional pulse detection and decode performance is made possible thanks to our dual-channel decoder design.

Two sensor input connections are available to feed the system a continuous stream of pressure data. Users can toggle between connected sensors at the push of a button without interrupting the decoder or operations.

The core decoder hardware is adaptable, made to integrate easily into your MWD workflow, with flexible deployment strategies for new and legacy MWD tools in use today.

ACCURATE AND RELIABLE

This is a hardware-based digital signal processor and pulse decoder, completely self-contained.

DUAL-CHANNEL DECODER ARCHITECTURE

Two decoder data pipelines to filter and process the pressure stream.

SEAMLESS INTEGRATION

The SMART DECODER™ works with any existing equipment. Attach pressure sensors, connect to the network, log in to SMART Link from a web browser, and synchronize the configuration. Decoded telemetry is then displayed on any connected screen.

KEY FEATURES

- ✦ Two independent signal processing channels. *Hardware filters offer superior decode performance.*
- ✦ Two pressure input connections
- ✦ Compatible with M-ARY CODEC MWD tools.
- ✦ Get more connected pressure sensors with a Rhino Twinducer or Triducer, switch without interruption. (saves NPT).
- ✦ Remote monitoring management.

THE SURFACE SYSTEM

The SMART Link is a self-hosted web interface dashboard application, accessible from any device with a web browser. The web-based user interface offers a new level of flexibility that's unique to MWD systems in use today.

Use the SMART Link dashboard for system management and support hub:

- Configure the decoder and synchronize the configuration on all nodes.
- Display real-time decoded data to a convenient display device.
- Distribute telemetry for analysis using WITS.
- Generate reports and log summaries from within the application.

TELEMETRY

Supports all common telemetry mnemonics used in Directional Drilling, MWD/LWD, GyroWD, SMART DM:

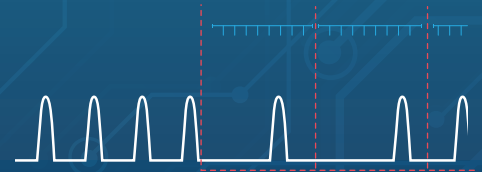
- ◆ **Wellbore Position**
Calculated Inclination, Azimuth, Toolfaces, Qualifiers, Raw Magnetometer & Accelerometer sensor vectors.
- ◆ **Formation Characteristics**
Bulk Gamma, Azimuthal Gamma, Resistivity.
- ◆ **Active Drilling Dynamics**
RPM, Shock, Vibration, Stick-Slip.
- ◆ 16 Generic Variables, 8 Virtual Variables, Packed Words, user-defined aliases.
- ◆ Babelfish mnemonics.

RIG SAFE



Decoder hardware is installed inside a certified Class 1, Division 2, rig safe computer system with a built-in touch-screen display.

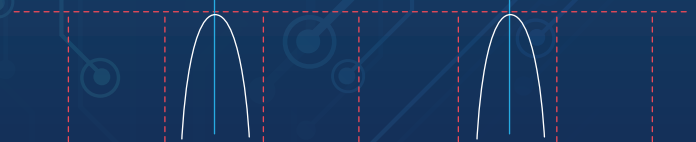
PULSE POSITIVE



Superior pattern detection to assist during turbulent conditions. Hardware filters reliably handle excessive noise while balancing the signal baseline.

PULSE WIDTH

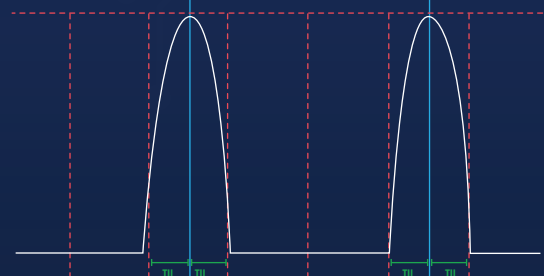
PULSE WIDTH



SMART Pulse detection uses a multidimensional approach to isolate and detect the peak of the pulse centroid.

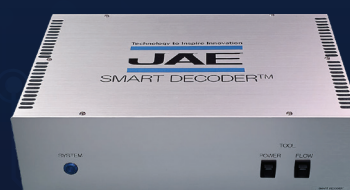
PULSE WIDTH

PULSE WIDTH



With SMART Sync Recovery, never miss a sync again.

SAFE ZONE



Decoder hardware is installed inside a rugged enclosure that is connected to the local network that users can access using a web browser.