Signal.X
TECHNOLOGIES LLC

We deploy software products and engineering services in the most demanding production and laboratory environments.

Application Spotlight: STAX for Component Testing with CAN Controls

Motivation:

Automotive components are becoming more complex, with integrated and active control units as a standard part of the subsystem. Production testers must be able to configure and control these parts in addition to testing their functionality and performance. Disparate hardware and software solutions provide disjointed, unsynchronized, and hard-to-use systems. Signal.X Technologies addresses these challenges with a comprehensive hardware and software solution built for the plant floor.

Solution Benefits:

- Deploy a single, integrated solution for control and acquisition of the part and analog data
- Leverage globally available National Instruments hardware for production test machines
- Synchronize analog and controller high-speed data for processing pass/fail status
- Integrate with Signal.X tools for data analysis, archival, and calibration
- Enable extensive tracing and event logging for diagnosis of faults in production
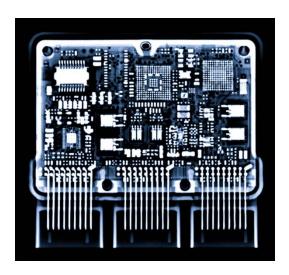
To learn more about this and other Signal.X projects, please visit signalxtech.com/about/portfolio/

XCP Communications

In addition to high-speed DAQ list streaming, STAX can be used to read and write calibration parameters on demand to verify part integrity and configuration. All parameters can be checked and logged as part of the test sequence.

```
 1   CAN Log created 1/17/20 1:25:19 PM
 2   01/17/2020 13:25:15.221 x00000305    01 08 01 00 00
 3   01/17/2020 13:25:15.221 x00000305    02 00 01 00 00 F8 00 03
 4   01/17/2020 13:25:15.221 x00000305    03 EC FD FF FF
 5   01/17/2020 13:25:15.222 x00000305    05 00 00 BF 41
 6   01/17/2020 13:25:15.222 x00000305    05 00 00 00 00 00 00 00
 7   01/17/2020 13:25:15.222 x00000305    05 00 00 00 00 00 00 01
 8   01/17/2020 13:25:15.223 x00000305    06 00 4F 08 44 08 6C 08
 9   01/17/2020 13:25:15.223 x00000305    06 03 00
10   01/17/2020 13:25:15.223 x20F01D13    94 7E 60 00 C3 D4 05 B3
11   01/17/2020 13:25:15.230 x20FFF113    EB FD 00 00 F8 00 03 13
12   01/17/2020 13:25:15.230 x19FFF013    F8 00 00 00 00 07 01 E3
13   01/17/2020 13:25:15.231 x00000305    00 15 02 0F 01 00 00
14   01/17/2020 13:25:15.231 x00000305    01 09 01 00 00
15   01/17/2020 13:25:15.231 x00000305    02 0C 01 00 00 F8 00 03
16   01/17/2020 13:25:15.231 x00000305    03 EB FD FF FF
17   01/17/2020 13:25:15.232 x00000305    04 00 00 BF 41
18   01/17/2020 13:25:15.232 x00000305    05 00 00 00 00 00 00 00
19   01/17/2020 13:25:15.232 x00000305    06 00 00 00 00 00 00 01
20   01/17/2020 13:25:15.233 x00000305    07 00 4F 08 44 08 6C 08
```

Diagnostic Interfaces

STAX threads can be customized to adapt to vehicle cyber security standards, including extended seed/key programming sessions, flashing the ECU, and reporting trouble and fault codes as part of the test sequence. STAX leverages Unified Diagnostic Services over CAN and other diagnostic interfaces.
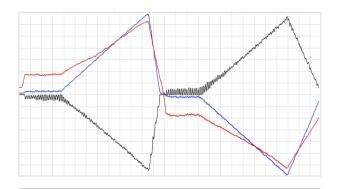
Integration with Analog Data

STAX systems bring together high-speed analog data with all of the networked data sources (CAN, LIN, Ethernet) for a single synchronized data file that can be processed to pass/fail using our Shield platform. Close the loop around the data using Trove, and extract more value from the data collected in production.

Easily combine data from multiple sources for analysis.

This application showcases our ability to realize a vision to fit one customer's circumstance. Let us help you realize yours.

About Signal.X:

Since 2004, Signal.X has specialized in Test & Measurement Products for noise & vibration (NVH), production and laboratory test automation, functional test design, large data management, and custom application development.