



## news & updates May 2026 | Issue 19

In this issue:



### CEO's Corner

As automotive electronics become increasingly sophisticated, traditional diagnostic tools are struggling to keep pace with the complexity of today's high-speed communication buses, EV power systems, sensor arrays, and intermittent fault conditions. The [Micsig AH01 Series](#) Automotive Oscilloscopes has been engineered specifically to address these modern diagnostic challenges, combining laboratory-grade oscilloscope performance with the portability and ruggedness required for real-world field service environments.

The [AH01 oscilloscopes](#) are an all-in-one, battery-powered solution: with a built-in 8" touchscreen display there's no need for an external laptop, so you can easily move it anywhere around the vehicle. They feature a 12-bit ADC, 4

analog channels with 200MHz bandwidth, a real-time sampling rate of 1GSa/s, and a memory depth of 110Mpts. With an ultra slim 1.2" thick portable design, built-in high -capacity Li-ion battery, and USB Type C charging the AHO1 is ideal for mobile and outdoor repair situations.



Alan Lowne  
CEO, Saelig Company Inc.

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## Promotions

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Alan Lowne, CEO

"I founded Saelig in 1988 to search the world for unique electronic control and instrumentation equipment, including economical oscilloscopes, PC and RF spectrum analyzers, USB and logic analyzers, MTCO, power RF sources, DMMs, data loggers, DR and DC controllers, PCB test, high-impedance/parallel PCL, EM enclosures, USB-wired converter cables, etc."

Our satisfied customers include Intel, Apple, Philips, Matsushita, NEC, TI, Harris, Sony, HP, General Dynamics, Raytheon, Chubb, many other Fortune 500 companies, military, industrial, educational institutions, hospitals, industrial enclosures, students, hobbyists, etc.

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(U.S. domestic orders only, AK, HI and some products excluded)

The dedicated automotive and general-purpose oscilloscope software suits both professional vehicle diagnostics and general electronic measurements. The AHO1 series oscilloscope also incorporates a handy 4 1/2-digit multimeter function, supporting a variety of simpler measurements including voltage, current, resistance, continuity testing, diode testing, and capacitance measurement, removing the need for an additional multimeter for simultaneous quick testing requirements



Designed by **Micsig Technology**, a recognized leader in portable battery-powered oscilloscopes since 2004, the AHO1 Series delivers an impressive blend

of high-resolution waveform capture, automotive-specific diagnostic intelligence, and flexible remote operation capabilities. Available through [Saelig Company, Inc.](#), these oscilloscopes provide engineers and advanced technicians with a powerful platform for troubleshooting both conventional internal combustion vehicles and next-generation electric vehicle architectures.

## 12-Bit Resolution: Seeing What 8-Bit Oscilloscopes Miss

One of the most significant technical advantages of the [AHO1 Series](#) is its true 12-bit ADC architecture. While conventional oscilloscopes typically rely on 8-bit analog-to-digital conversion, the AHO1 Series provides up to 4096 quantization levels — a 16x improvement in vertical resolution.



For experienced engineers, the practical implications are substantial:

- Improved visibility of low-amplitude waveform anomalies
- Greater accuracy when analyzing sensor outputs
- Enhanced ability to identify noise and ripple
- Better differentiation of subtle waveform distortions
- Reduced quantization noise during precision measurements

This higher-resolution acquisition capability becomes especially valuable when analyzing:

- CAN FD and FlexRay communication systems
- Injector and ignition waveforms
- EV inverter and charging systems
- Precision analog sensor outputs
- Low-level transient disturbances

The combined features of 200MHz bandwidth, 1GSa/s real-time sampling rate, and 110Mpts memory depth, the [AHO1 Series](#) provides the capture fidelity necessary for both fast transient analysis and long-duration event recording.

## Automotive-Specific Diagnostic Intelligence

Unlike general-purpose oscilloscopes adapted for automotive work, the [AHO1 Series](#) was designed from the ground up for vehicle diagnostics. Micsig integrates dedicated automotive software alongside standard oscilloscope functionality through a dual-software architecture that allows users to transition seamlessly between advanced electronic measurements and guided automotive diagnostics.



The scope includes extensive built-in diagnostic presets covering:

### Charging and Starting Systems

- 12V and 24V charging systems
- Alternator AC ripple
- Ford Smart Alternator diagnostics
- Cranking current analysis

### Sensor Diagnostics

- ABS sensors
- Crankshaft and camshaft sensors
- MAP and airflow sensors
- Knock sensors
- Throttle position sensors
- Fuel pressure systems

### Actuator Testing

- Fuel injectors
- EGR solenoids
- Glow plugs
- Cooling fan controllers

- Variable valve timing systems

## Network and Communication Analysis

- CAN High / CAN Low
- CAN FD
- FlexRay
- K-line diagnostics

## Ignition and Combination Testing

- Primary and secondary ignition analysis
- Crankshaft/camshaft synchronization
- Injector and ignition correlation testing

## Pressure Diagnostics

- Intake manifold pressure
- Exhaust backpressure
- In-cylinder pressure
- Crankcase pressure analysis

These integrated diagnostic modes dramatically reduce setup time while improving troubleshooting consistency and repeatability.

## Segmented Memory for Intermittent Fault Capture

Intermittent electrical faults remain among the most difficult problems in automotive and industrial diagnostics. The [AHO1 Series](#) addresses this challenge using segmented memory acquisition, dividing available storage into multiple capture segments for efficient recording of infrequent or sporadic events.



This capability provides major advantages when diagnosing:

- Random CAN bus errors
- Intermittent injector failures
- Ignition dropouts
- Startup anomalies
- Transient sensor glitches
- EV charging irregularities

Rather than wasting memory capturing inactive periods, segmented storage preserves only relevant events, enabling engineers to isolate rare anomalies more quickly and efficiently.

## Portable Yet Fully Featured

Field diagnostics often require engineers to work in constrained or mobile environments where traditional bench instruments become impractical. The [AHO1 Series](#) addresses this with a highly portable mechanical design measuring only 10.4" × 6.9" × 1.2" and weighing approximately 3.8 pounds.

Additional portability advantages include:

- Rugged soft-rubber protective casing
- 8" touchscreen with physical knobs
- Backpack-friendly compact form factor
- 16,000mAh high-capacity lithium-ion battery
- USB Type-C charging support
- Power-bank compatibility for extended field operation

This combination enables truly mobile diagnostics without sacrificing oscilloscope performance or operational flexibility.

## Flexible User Interface and Remote Operation

Recognizing that different users prefer different interaction methods, Micsig provides three operational modes:

- Full touchscreen operation
- Traditional buttons and rotary controls
- Combined hybrid operation

This flexibility allows engineers to work efficiently in diverse environments ranging from laboratory benches to crowded service bays.

The AHO1 Series also supports:

- SCPI command control
- Smartphone remote operation
- PC-based remote access
- Mobile app integration
- HDMI external display output

or engineering teams, educators, and trainers, HDMI output and remote operation capabilities make the scope particularly useful in collaborative diagnostic and instructional environments.

### **Integrated Multimeter Functionality**

A particularly practical advantage of the [AHO1 Series](#) is its built-in 4½-digit multimeter functionality. Engineers can perform:

- Voltage measurements
- Current measurements
- Resistance testing
- Continuity checks
- Diode testing
- Capacitance measurements

This integration eliminates the need to carry a separate handheld DMM for many common troubleshooting tasks, streamlining both field service workflows and bench diagnostics.

### **Designed for the Future of Vehicle Diagnostics**

As the automotive industry transitions toward increasingly electrified and software-defined architectures, diagnostic instrumentation must evolve accordingly. The [Micsig AHO1 Series Automotive Oscilloscopes](#) provides engineers with a uniquely capable platform that bridges traditional automotive service work and advanced electronic system analysis.

Its combination of:

- High-resolution waveform capture
- Automotive-focused diagnostic presets
- EV system compatibility
- Portable battery-powered operation
- Advanced segmented acquisition
- Remote connectivity
- Rugged field-ready construction

makes the [AHO1 Series](#) an exceptionally versatile tool for modern engineering diagnostics.

For engineers seeking deeper insight into increasingly complex electrical systems — whether in automotive development, advanced service diagnostics, EV maintenance, or embedded electronics troubleshooting — the Micsig AHO1 Series offers a compelling balance of precision, portability, and application-specific intelligence.

They are available now from [Saelig Company Inc.](#), Micsig's USA technical distributor.

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