

## Precision Diagnostics for the Transportation Industry

In industries where safety, reliability, and uptime are paramount, the ability to quickly and accurately diagnose faults in electronic systems is critical. Whether maintaining control systems in rail networks, avionics in aircraft, or communication modules in buses, Huntron's power-off diagnostic tools offer a non-invasive, highly effective solution. Huntron's Analog Signature Analysis (ASA) technology, combined with robotic probing and model-driven software, enables maintenance teams to troubleshoot complex printed circuit assemblies (PCAs) without applying power, eliminating the risk of further damage and allowing for safe diagnostics even in catastrophic failure scenarios.

### Key Challenges in Transportation and How Huntron Solves Them

| Industry Challenge                                                     | Huntron Solution                                                                                                                                             |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Diagnosing electronics in safety-critical systems                      | Power-on testing risks damaging electronics further. ASA enables safe, power-off testing to rapidly isolate faults.                                          |
| Maintaining legacy systems with limited to no documentation            | Huntron Trackers provide ASA fault detection without requiring schematics by comparing to a known-good board.                                                |
| Reducing downtime due to complex PCA layouts and fine pitch components | Huntron Access Probers utilize micron-level precision to automate diagnostics, speed up testing, and reduce human error in isolating faults.                 |
| Workforce Turnover                                                     | Huntron's available training resources make onboarding simple. Huntron Workstation centralizes ASA testing, to ensure tests developed are easily repeatable. |

## Huntron Features and Benefits

- PCAs of the current era continually get smaller and more complex. Automated micron level probing eliminates the error and time factor from manual hand probing for diagnostic or parametric testing.
- Huntron tools accelerate troubleshooting, providing a targeted area to look for issues on a PCA, reducing equipment downtime.
- Completely customizable test routines can be integrated with existing test procedures.
- Troubleshoot undocumented or obsolete circuit boards by comparing to a known-good reference board. Isolate faults and repair at the component level instead of discarding the entire board.
- Huntron Trackers equipped with a Scanner enable the ASA power-off testing of device's electronic ports.
- Multiple options available for training and onboarding onto Huntron systems as well as world-class support.



### New Perspectives: Unlocking Success for the Transportation Industry

Huntron products offer alternatives to the traditional fault-repair process. Its product suite supports preventative maintenance and fault prediction, helping identify issues before they occur. The open architecture system allows users to expand testing capabilities and choose solutions that best fit their needs.

*Let Huntron Help You Be Successful in Test and Repair of Transportation Electronics!*

# Huntron Products & Applications for Rail, Aero, and Busses

## Huntron Tracker – Models: 2800, 2800S, & 3200S

**Application:** The [Huntron Tracker](#) brings unmatched diagnostic capability to the transportation industry in safely troubleshooting faults on printed circuit assemblies (PCAs). This is especially important for devices such as safety-critical electronics, where powered testing could cause further damage. The [Tracker](#) helps technicians diagnose component-level faults without requiring circuit diagrams, even on mixed signal boards. It supports preventative maintenance by comparing baseline electronic signatures and can verify refurbished equipment before it is returned to service. This non-invasive method helps extend equipment lifespan, reduce downtime, and streamline the diagnostics of transportation-based electronics.

**Description:** The [Huntron Tracker](#) is a benchtop diagnostic tool that uses power-off Analog Signature Analysis (ASA) to identify component-level faults on PCAs.

**Tracker 3200S** is Huntron's most advanced model, offering expanded ASA capabilities and flexibility. It includes two 64-pin IDC connector Scanner Modules for testing connectors and ports using custom cable interfaces. Integration with an [Access 2 Prober](#) enables automated ASA testing.



**Tracker 2800S** is a durable entry-level model suitable for general troubleshooting and includes two 40-pin IDC connector Scanner modules for testing connectors and ports using custom cable interfaces.

**Tracker 2800** is a durable entry-level model suitable for general troubleshooting.

## Huntron Access Prober – Models: Access 2, DH2

**Application:** [Huntron Access Probers](#) accelerates diagnostics in the public transportation industry by automating the testing of complex electronics in rail, bus, and aeronautical systems. [Access Probers](#) use micro-stepping motors and linear encoders to place probes on the device under test with micron-level precision. These systems automate the testing process to reduce downtime, allowing technicians to focus on other tasks while tests are performed independently. [Access Probers](#) are optimized for low-volume, high-mix testing environments, making them suitable for repair depots and maintenance centers. Repeatable test profiles developed in [Workstation](#), simplify switching between different boards. These systems can also be configured to work with external electronic measurement instruments such as oscilloscopes, digital multimeters (DMMs), and LCR meters, enabling integration with existing workflows.

**Description:** [Access Probers](#) automate the testing of printed circuit assemblies (PCAs), achieving speeds up to ten times faster than manual methods. Using Huntron [Workstation](#), a built-in camera is used to target probing locations, when CAD files are not available. Maintenance is straightforward, requiring occasional lubrication of the axis rails.

**Access 2 Prober** includes a single flying probe head for benchtop testing. When paired with the [Tracker 3200S](#), it enables automated, power-off Analog Signature Analysis (ASA) testing in [Workstation](#).



**Access DH2** model features two flying probe heads and can test across components with a minimum spacing of 50 mils (0.050 inches / 1.27 mm). It is housed in a mobile cabinet and includes integrated ASA testing. This system can be configured for 4-wire measurements.

## Huntron Software – Huntron Workstation 4.3

**Application:** [Huntron Workstation](#) allows users to create and execute repeatable test sequences. It also supports integration with other electrical measurement tools, enabling centralized management of test procedures and data. Store test results of known-good boards to compare with suspect boards as they come in.

**Description:** [Huntron Workstation](#) is the central software platform used with [Huntron Trackers](#) and [Access Probers](#). It provides a unified system for managing and executing test procedures. Built on a database foundation, Huntron Workstation is reliable, user-friendly, and adaptable to various testing needs.