

# Building a Better Passenger Experience

## Maintaining a state of good repair by incorporating a building block approach to **Bench Test Equipment**

Keeping your fleet in a state of good repair is essential to maximizing your transit assets, minimizing schedule delays, and improving customer satisfaction. One area of concern for transit agencies is fleet readiness and the availability of trains during peak hours.

The ability to maintain your fleet while also delivering on-time performance is invaluable and significantly enhances the passenger experience.

An added benefit of maintaining a state of good repair is that fleet downtime is greatly reduced due to quick turn-around of assets undergoing maintenance.

Additionally, with self-maintenance (or organic maintenance capabilities), operators can greatly reduce the amount of spares inventory required to maintain their fleet. The vehicle is back in service faster and more cost effectively than sending equipment out to a repair house.

Bench Test Equipment (BTE) that is universal (or addresses various aspects of testing) and scalable (with the ability to expand) can benefit rail car builders, OEMs, and transit authorities with a comprehensive, flexible platform.

Test solutions for the transit market can be broadly categorized as follows:

### Consolidated BTE:

Primarily included on new car contracts to provide testing for multiple OEMs. Typically delivered to support the transit authority repair shops for car-wide electronic repair.

### Focused BTE:

Supports testing of a particular sub-system such as door electronics or HVAC. OEMs may not need such a broadly targeted approach for consolidated BTE and can meet customer requirements with a scaled down test system as part of the overall sub-system delivery.

### In-House BTE:

Where OEMs can leverage the same BTE on their own manufacturing floor to support the build and test process. Having similar test support in-house and in the field can be a great advantage and cost savings.



Consider the following three major BTE platform types with compatibility, upgradeability, and the same user experience to support most transit test requirements. Each of these test systems can be targeted and downsized for a specific purpose or built upon to provide more general testing.

## Control and Communications



ATS-500 Functional Test System

Addresses the majority of the car body, voltage-driven electronic assemblies and sub-assemblies found on today's rail cars.

- Signs
- Communications
- Door Controls
- Propulsion Control
- Cab equipment
- Event Recorders
- ATO/ATC
- Temperature Control Units
- Monitoring and Diagnostics

## Electro-Mechanical



ATS-500 HVAC

Must support electrical and mechanical aspects for specific units under test. Depending on needs and throughput, could be a stand-alone test system or an addition to an existing platform.

- Door Operators
- Master Controllers
- Electric Couplers
- HVAC
- Motors
- Braking



ATS-500 DO (Door Operator)

## High Power



Safety and ease of use must be priorities for this type of BTE platform. Built upon a base configuration with additional support for third rail DC input power and output loading.



### ATS-500 HP

- Auxiliary Power Systems
- LVPS
- Propulsion Drive systems
- Rail Gap detectors
- Single and Multi-phase Inverters
- Dead Battery Starters
- High Speed Circuit Breakers

The building block approach to BTE benefits an OEM who is required to support a single sub-system, a car builder who must support all sub-systems, and the transit authority where the diagnostics and repair is accomplished.

To learn more or discuss a solution for your requirements, contact us today.

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