

# AT5549 Compact EOT Tag

## Features

- ▶ Used on railroad end-of-train devices
- ▶ Fully compliant with Association of American Railroads (AAR), American Trucking Associations (ATA), TransCore Super eGo® (SeGo) protocols
- ▶ Compatible with multiple Amtech®-brand readers
- ▶ Field-programmable using AP4118 Rail Tag Programmer
- ▶ 1088-bit user data storage
- ▶ Data encryption and authentication
- ▶ Permits exterior mounting in a compact weather-resistant, ultrasonically sealed case.
- ▶ Uses two small lithium batteries, compliant with U.S. DOT 49 CFR § 173.206(f) and ICAO (international) safety standards for unrestricted shipping.
- ▶ Provides an average tag life of 10 years under continuous use. Battery life is not affected by the number of times the tag is read or by RF fields from other sources.



The AT5549 Compact end-of-train (EOT) tag is a battery-powered radio frequency (RF) field disturbance device used in railroad end-of-train devices.

The AT5549 tag encodes the signal received from an Amtech-brand reader system with an identification number or a data message. The encoded signal is reflected (backscattered) back to the reader system.

The tag's mutual authentication feature uses hardware-based protection that is more difficult to compromise than software-only protection. Mutual authentication prevents unwanted data from being written to the tag's protected memory space.

The tag is field-programmed by the user using the AP4118 Rail Tag Programmer outfitted with a special programmer adapter.

The tag has extended data capacity of 1088 bits, including the 20 six-bit alphanumeric characters of data (120 bits) compatible with previous ATA/AAR read-only readers.

Integral battery power improves the RF performance of the AT5549 tag, permitting reliable performance at extended range or low power.

The AT5549 tag must be mounted on metal surfaces.

TransCore's Amtech brand readers — series AI1200, AI1300, AI1400, AI1600, and the Encompass® series of multiprotocol readers — can read the AT5549 tag.

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## COMMUNICATIONS

### Frequency Range

902-928 MHz

### Typical Working Range

5 to 15 ft (1.5 to 4.6 m)

Range depends on system parameters

### Polarization

Parallel with longer side

## MEMORY

### SeGo Mode

**Total:** 32 pages, 256 bytes, 2,048 bits

**Unique ID:** 1 page, 8 bytes, 64 bits

**User data, general use:** 20 pages, 168 bytes, 1,344 bits

**User data, AAR:** 17 pages, 136 bytes, 1,088 bits

**Reserved for security authentication:** 11 pages, 88 bytes, 704 bits

### ATA Mode

Up to 20 six-bit alphanumeric characters (120 available bits)

### Security

The AT5549 EOT provides data encryption and authentication.

## POWER REQUIREMENTS

### Power Source

Two lithium batteries (10-year average life)

## PHYSICAL

### Dimensions

**Size:** 3.7 x 2.4 x 0.55 in. (9.4 x 6.1 x 1.4 cm)

**Weight:** 2.6 oz (73.7 g)

### Case Material

Sealed, weather-resistant, polycarbonate alloy

### Mounting Surface

Metallic surface

### Mounting Location

Exterior rail EOT device with cover

## ENVIRONMENTAL

### Operating Temperature

-40°F to +185°F (-40°C to +85°C)

### Storage Temperature

-67°F to +212°F (-55°C to +100°C)

### Humidity

95% relative humidity, condensing

### Vibration

2 G<sub>rms</sub>, 10-200 Hz

## Shock, Normal Environment

30 G, half-sine pulse, 6 ms duration, 3 axes

## STANDARDS

The AT5549 tag meets the standards for automatic equipment identification (AEI) set by AAR. Fully protocol-compliant with ISO 10374 and ATA standards.

### Tag Case Color

The standard color is beige.

## ACCESSORIES

### AP4118 Rail Tag Programmer

The AT5549 tag can be programmed in the field via non-contact programming with the AP4118 Rail Tag Programmer. The AP4118 programmer contains serial interface logic for connection to a PC. TransCore offers an AP4118 programmer (14-4118-002) complete with programmer adapter to fit the EOT.

### Programmer Adapter

TransCore offers a programmer adapter (20-4118-001) for AP4118 programmers currently deployed in the field.

For more information:

Call **800.923.4824** (Sales Support) **505.856.8007** (Technical Support)

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