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.
**AT5549 Compact EOT Tag**

**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_{rms}, 10-200 Hz

**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.