



Product size and connectors may vary depending on configuration

## TrainWise® Public Address Amplifier

The TrainWise® Public Address (PA) Amplifier (PC07) is an Ethernet connected audio amplifier that has four separate, independently controlled output channels to drive multiple speaker arrays.

It maintains high fidelity and clarity by dynamically adjusting for ambient noise and matching the output impedance of the audio speaker lines.

The PC07 is an important part of a modern, Ethernet based digital audio Passenger Information System.

The PA Amplifier is part of the complete TrainWise® Passenger Information System suite that includes servers, automated signage, and crew and passenger intercoms. Used together, these products provide an IEC 61375-3-4-compliant system that enhances rider comfort and optimizes communication between drivers, passengers, operations centers, and maintenance crews.

## Technical compliance

Railway standards	Compliant with IEEE and IEC rail design standards (including IEEE 16 and IEC60571/ EN50155) IEC 61375-3-4 Electronic railway equipment – Train communication network (TCN) – Part 3-4: Ethernet Consist Network (ECN) IEEE 1722 Audio Video Bridging and Time-Sensitive Networking protocols
Fire, smoke and toxicity	Compliant to 49 CFR Part 238.103 guidelines and NFPA-130

## Options

Assistive listening device support	Can be paired with a separate induction loop amplifier to drive on-board T-coil loops for passengers using assistive listening devices.
Trainline interface customization	Can be customized to support any legacy analog PA and IC trainline configuration.

## Electrical interfaces

Power supply	1	Operating voltage range: 16VDC – 90VDC
Power consumption		50 Watt (Max), 85 Watt peak
Configuration inputs	6	Self-powered inputs for jumpers or dry contacts; can be used to define unit location/ID
ECN Ethernet ports	1	M12 D-coded: connection to Ethernet Car Network (ECN)
Ethernet ring ports	2	M12 A-coded: allows PEI to be a member of a Quester Tangent Passenger Information System Communications Ethernet Network.
Serial ports	2	RS485 data channels
Trainline interface	✓	Audio trainline input/output signals Audio output frequency response: 100Hz – 10kHz, +1, -2dB

## Other interfaces

Speaker channels	4	Independently controllable audio output channels Frequency response: 100Hz – 10kHz, +1, -2dB Power output / channel: 10 Watts continuous, 50 Watts peak Total harmonic distortion: <1% @ 1Khz, full output
Audio input (external microphone)	1	For use with external microphones (e.g. Ambient Noise Sensing microphones)
Status LEDs	✓	Power, Health status, Fault

## Mechanical characteristics

Dimensions	13.7 in x 10 in x 5.2 in (34.8 cm x 25.4 cm x 13.2 cm)
Weight	9 lb / 4.1 kg (approximate)
Connectors	Ethernet: 2 x M12 D-coded; 2 x M12 A-coded Vehicle Interface: MIL-DTL-5015/SAE-AS50151 circular connector or alternate as required
Ingress protection	IP30

## Environmental conditions

Operating temperature	-40°F to +158°F (-40°C to +70°C)
Storage temperature	-40°F to +185°F (-40°C to +85°C)
Shock and vibration	IEC 61373; Category 1, Class A
Dielectric withstand	1.15kVAC circuit to circuit and circuit to chassis

## Electromagnetic compatibility

Surge immunity	IEC 62236-3-2, Table 7
Conducted emissions	IEC 62236-3-2, Table 3, 4, & 5
Conducted immunity	IEC 62236-3-2, Table 7 & 8
Radiated emissions	IEC 62236-3-2, Table 6
Radiated immunity	IEC 62236-3-2, Table 9 (with RF susceptibility verified to 6 GHz)
Electrical fast transient	IEC 62236-3-2, Table 7 & 8
Electrostatic discharge	IEC 62236-3-2, Table 9

## Communication

ECN protocol support	Protocols included in IEC 61375-3-4 Electronic railway equipment – Train communication network (TCN) – Part 3-4: Ethernet Consist Network (ECN) Other data exchange protocols supported on request
Ethernet ring protocol support	Compliant with IEEE Audio / Video Bridging and Time Sensitive networking protocols