

IP On-board Train Comms

IP Driver/Guard Communications & PA Equipment



- PRM-TSI compliant
- IP-based communication system
- Integration with visual displays for synchronised information
- Self-diagnostics and fault reporting
- Ambient noise monitoring system & automatic adjustment of output levels
- Compliant with Rail standards including RIA12



UK train journeys generally fit the customer requirement of being comfortable, reliable and safe.

As trains are updated to comply with PRM-TSI* regulations, the passenger experience is improved with the inclusion of features to assist persons of reduced mobility, e.g. Call for Aid panels in toilet and wheelchair areas with two way-speech.

Once-perceived luxuries, such as fast wi-fi, charging sockets, and real time passenger information screens, are increasingly becoming standard requirements by rail passengers.

So how do you differentiate your fleet to exceed expectation?

Audio communication such as public announcements throughout the carriages, have the expectation that they work - consistently and to a high sound quality. A train communication system that works well can increase perceived and actual satisfaction and safety during a journey.

- *Modular units: make your system as big or small as you need it*
- *Audio interface for connection into PIS*
- *Text to Speech capability*
- *Ensures Passenger Assistance is accesible for all rail users*
- *Offers same functionality as legacy systems across UK rail*
- *Swap carriages within your fleet, units auto realign*
- *Compatible with existing Ethernet backbone*

*Persons of Reduced Mobility - Technical Specifications for Interoperability

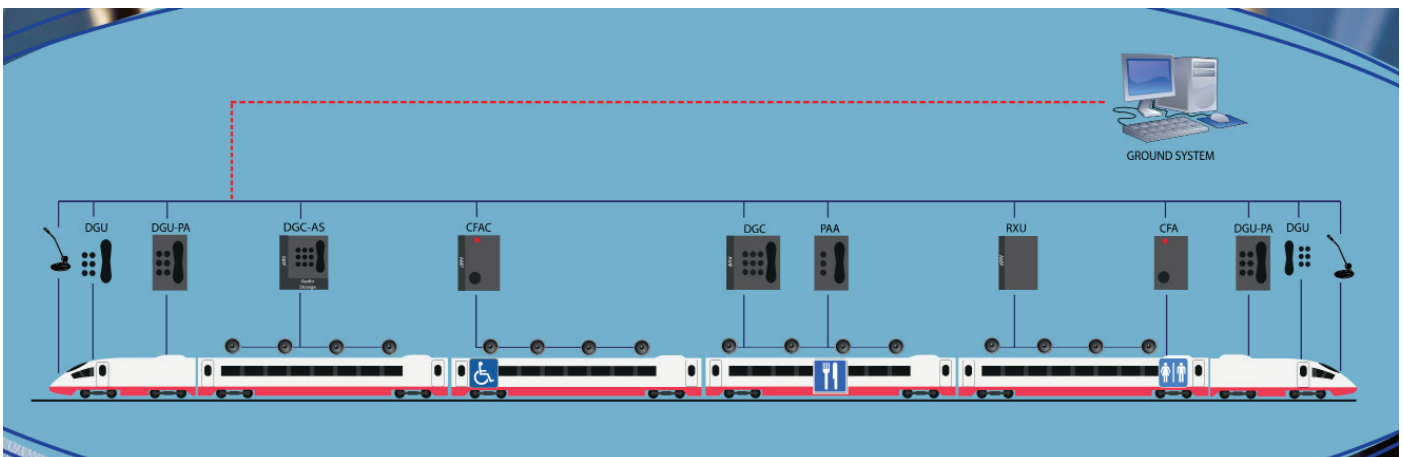
GAI-Tronics offers a solution for on-train audio communication to benefit the passenger, crew and driver, as well as the fleet manager. This system has PRM-TSI compliant Call for Aid units; Integration with PIS for real-time clear announcements and text to speech; Exceptional sound quality and reliability for calls and announcements; And real-time reporting and remote testing to ensure system operation is maintained to the optimum.

The IP-based on-train communications system is designed to be compatible with existing Ethernet backbone on current rolling stock; and there is an audio interface for connection into Passenger Information Systems (PIS). Other connection options are also available.

GAI-Tronics' new IP-based system offers the same functionality as the legacy analogue systems currently installed across the UK rail network, with additional benefits through being linked into the IP network. The strict design, manufacture and test processes give you the high quality assurance you expect from GAI-Tronics products, and peace of mind that your new system will be easy to install, use and maintain.

With considerable experience of telephony, audio and radio transmission technology, GAI-Tronics is equipped to supply sophisticated answers to the problems of modern integrated communications systems, particularly when associated with the rail industry.

Offering a full range of standard or bespoke modular units, GAI-Tronics can meet individual requirements for driver, crew and passenger communication.



Example of typical train layout showing GAI-Tronics' IP Communication Equipment

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GAI-Tronics' technologically advanced Initiated Protocol (IP) solution is modular. Units are powered from the train's DC power source with low power operation. Ethernet connections are rail-approved M12 connectors. Units meet, and are certified to, the necessary EN50155 & 50121-3-2 standards.

Examples of units to choose from (one or more of the following units can be used within each carriage):



Driver/Guard Combination Unit

The DGC offers a handset and up to 5 buttons to provide Driver Guard Speech, Driver Guard right away buzzer and call button. The unit also includes a class D amplifier capable of driving audio to multiple loud speakers located throughout the carriage. The DGC is capable of simultaneously broadcasting PA announcements/pre-recorded messages whilst being used as an intercom station.

- Includes Class D amplifier
- Takes audio feed from PIS to synchronise the audio with PIS display messages
- Driver to Crew communication
- Crew call
- Answer Call for Aid – two-way speech
- Public Address (to all and to zones)

Driver/Guard Combination Unit with Audio Storage

In addition to the DGC features, this unit includes audio storage for pre-recorded messages.

Call for Aid Panel

The CFA unit is used in toilet or wheelchair areas, and provides a faceplate with pushbutton for two-way speech between the crew member and user. The raised PRM-TSI compliant push button with raised alarm bell symbol and blue LED is displayed against contrasting colours. An automated comfort message is played and LED is lit once the button is pressed, and an automated announcement or tune is played over the PA system to alert crew members.

- Two-way speech
- PRM and DDA compliant button with raised alarm bell symbol
- Comfort message plays and LED illuminates when button is pressed
- Auto announcement over PA when button is pressed

Call for Aid Combination Unit

The CFAC can be housed in the ceiling space and provides the interface for up to 2 CFA call panels. The unit also contains a highly efficient class D amplifier capable of driving zoned audio to multiple loud speakers located throughout the carriage. The CFAC is capable of simultaneously broadcasting PA announcements from a Driver/Guard unit or pre-recorded messages whilst the CFA is in use.

- Provides interface for up to 2 CFA call panels
- Includes Class D amplifier

- Driver/Guard Communications
- Passenger Announcement
- Crew Communications
- Driver/Control Centre Radio Comms
- Emergency Driver/Passenger Communications
- Disabled Persons Communications
- Call For Aid Units with two way speech
- Pre-Recorded Digitised Special Messages

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