PA & Intercom

ITS

Public address & intercommunication system

Fully digital railway audio system. Combines public address functionalities, ambient music reproduction and passenger emergency intercommunication in a digital integrated system.
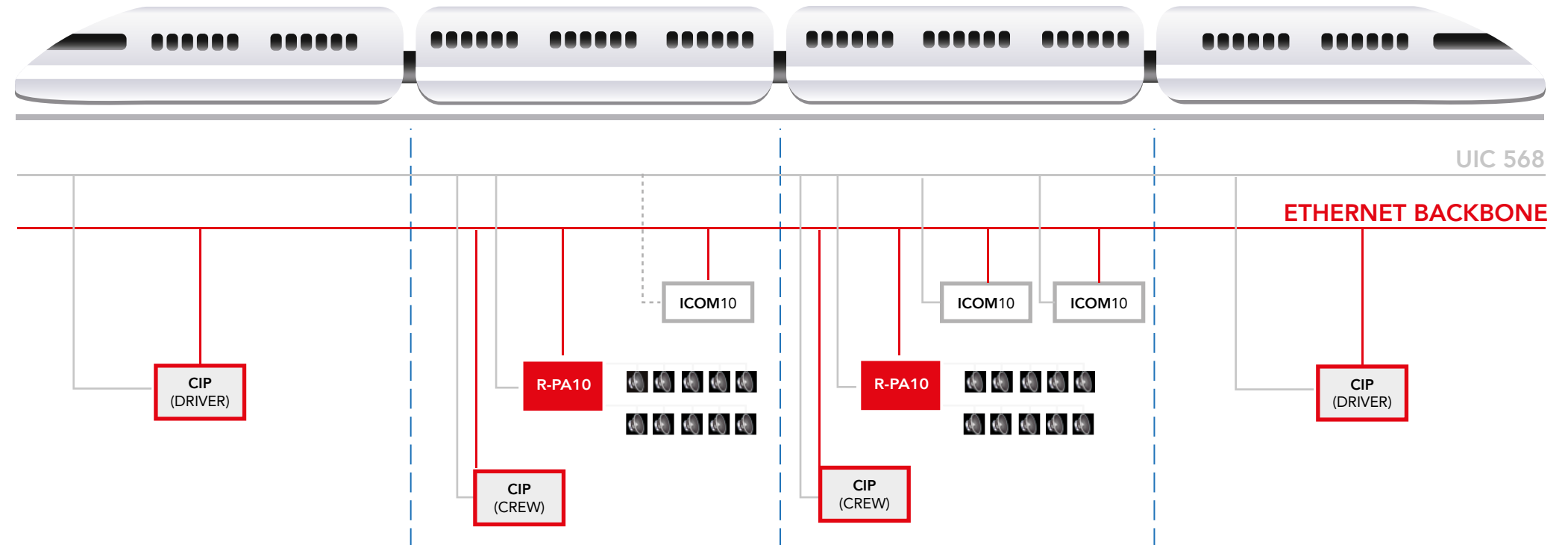
marketing.transport@gmv.com

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ARCHITECTURE

- Fully digital architecture. All elements of the system are interconnected through the Ethernet backbone of the train.

- PA units distributed along the train, provide amplified audio to the passengers areas. This device interconnects with other elements of the system and provides connectivity with other systems.

- Several 100V speaker lines are distributed inside each coach, for redundancy purposes.

- Crew intercommunication posts are installed in both cabins and crew areas. Emergency intercommunicators are distributed throughout the train, where required. There are no limits in the number of these elements on the train.

- All elements are also connected to UIC568 bus, for backup mode in case of an Ethernet failure.

UIC 568

ETHERNET BACKBONE

ICOM10 | ICOM10 | ICOM10

CIP (DRIVER) | R-PA10 | R-PA10 | CIP (DRIVER)

CIP (CREW) | CIP (CREW)

FEATURES

AMBIENT MUSIC BROADCASTING
- Multiple sources: digital streaming (from a Content Server) or analog audio connected to any PA unit

- Multiple music channels supported

- Different audio broadcasting per class and per coach

PUBLIC ADDRESS
- Public addressing from any Crew Intercommunication Post (driver or crew)

- Addressing to the whole train, a class or a single coach

- Broadcast through the Ethernet network. UIC 568 backup in case of Ethernet failure

- Public address from GSM-R (driver and Control Centre), over UIC standard

- Priorities management for different audio/ communication sources in the system

INTERNAL INTERCOMMUNICATION
- Voice communication between any two crew intercommunicators

- Voice communication between crew and the driver

- Data communication over Ethernet

- UIC 568 communication as backup modes

- Voice communication with Control Centre via GSM-R

EMERGENCY INTERCOMMUNICATION
- Emergency intercommunication 'passenger to driver'

- Data communication over Ethernet network. UIC 568 communication as backup mode

- Direct communication 'passenger to Control Centre' via GSM-R

AUTOMATIC TRIP ANNOUNCEMENTS MODULE
- Optional module to perform automatic trip information broadcasting (next stop, correspondences with other lines)

- Positioning information is retrieved from the train. RFID beacons, odometer and GPS are supported

- PA units manage the information of the topology of the line and generate the corresponding audio announcements for every trip

- Both, Text-to-Speech and pre-recorded audio (mp3) are supported

- Contents update (topology and pre-recorded files) via USB / Ethernet

TECHNICAL CHARACTERISTICS

All equipment compliant with the main European railway standards (EN50155, EN50121-3-2, EN61373).

Rugged design and connectors in all devices.

Supported voltage levels: 24, 48, 72, 110Vdc. Voltage range according to EN50155.

PA UNIT. R-PA10
- CPU-based device. High audio processing capabilities

- Ethernet and UIC 568 interfaces

- 30W per line. Low distortion amplifiers. Wide frequency range

- Dynamic volume adjustment, according to surrounding noise level

- Direct speaker output or transformer-isolated 100V line

- Additional isolated audio output line, for connection to other systems

- Audio streaming input from a content server

- Two isolated audio inputs, for analogic devices connection

- Direct MIC/SPK connection for interface with driver

- Digital inputs/outputs and RS-485 serial ports for interfacing with other systems

- USB port for local contents update

- Redundant power supply (optional)

CREW INTERCOM POST. CIP

- IP based device

- Ethernet and UIC568 interfaces

- Robust handset. Rugged hook mechanism

- High sensitivity mic, high quality speaker

- Graphic display. Multi-alphabet support. (Cyrillic, Arabic...)

- Rugged aluminum keypad

- Power-over Ethernet (optional)

EMERGENCY INTERCOM. ICOM-10

- Digital IP-based intercom

- Ethernet and UIC568 interfaces

- Rugged steel alarm button

- Connection to external emergency handle

- LED communication indicators

- Front IP54 grade

- Power-over Ethernet (optional)

- Stainless steel housing. Optional braille labeling

- Customizable housing dimensions, by customer request

SALOON LOUDSPEAKERS. SPK-TR10

- Transformer-isolated, 100V line

- Assembled in a metallic base, for easy installation

- From 2W to 8W output power available

GMV SERVICES

All the systems are supplied with mating connectors together with all the required documentation for system installation and operation: user manuals, installation and configuration guide and wiring schemes. Additional documentation could be also provided by customer request.

A catalogue of spare parts is available during the whole life-cycle of the system.

In-factory assistance for the installation and setup of the system is optionally provided.

GMV offers customized maintenance contracts for all the systems supplied.

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