

MACKENZIE

In Car Communications Unit

Multiple Function Communication Processor

Key Features:

- 60 Watt Audio Amplifier
- 70 Volt Speaker Distribution
- Automatic Messaging System
- Public Address System Interface
- Intercom Interface
- Text Display Interfaces
- Passenger Emergency Communication Interface
- MackNet Interface



The In Car Communications Unit (ICCU), provides connectivity for all of the audio paths of a train set or individual vehicle. Standard audio paths supported include the public address system, the intercom system and the passenger emergency communication system.

The ICCU also supports automated next stop and destination announcements. This includes both audio and visual messages, inside and outside the vehicle.

Amplification - The ICCU contains a 60W amplifier to drive the public address system. 70 Volt distribution is provided for the speaker interface. Synchronized routing allows the ICCU to support independent internal and external audio messages.

Automatic Messaging System - The ICCU contains a solid state MPEG audio processor and pre-loaded audio and text databases. Automatic announcements are triggered by the Head End Controller (HEC) which monitors door control, speed indicator or manual inputs to determine location.

Text Display - The ICCU supports two independent channels of communication for use with LED/LCD variable message displays. One channel is typically used for internal next stop text displays while the other is used for external destination text displays.

PCMCIA Memory - removable memory cards allow convenient route/stop database and program updates.

Public Address System - The ICCU interfaces to the vehicle's PA connector access, and routes the audio to the public address system across the train lines

Intercom System - The ICCU interfaces to the vehicle's IC connector access, sends the appropriate attention signal, and routes the audio to the intercom system across the train lines.

Passenger Emergency Communications - The ICCU provides connections and communication protocol for PEC panels.

MackNet - a serial communication protocol which allows a variety of products in Mackenzie's Digital Audio Display (DADS) family to interact with one another. These products include:

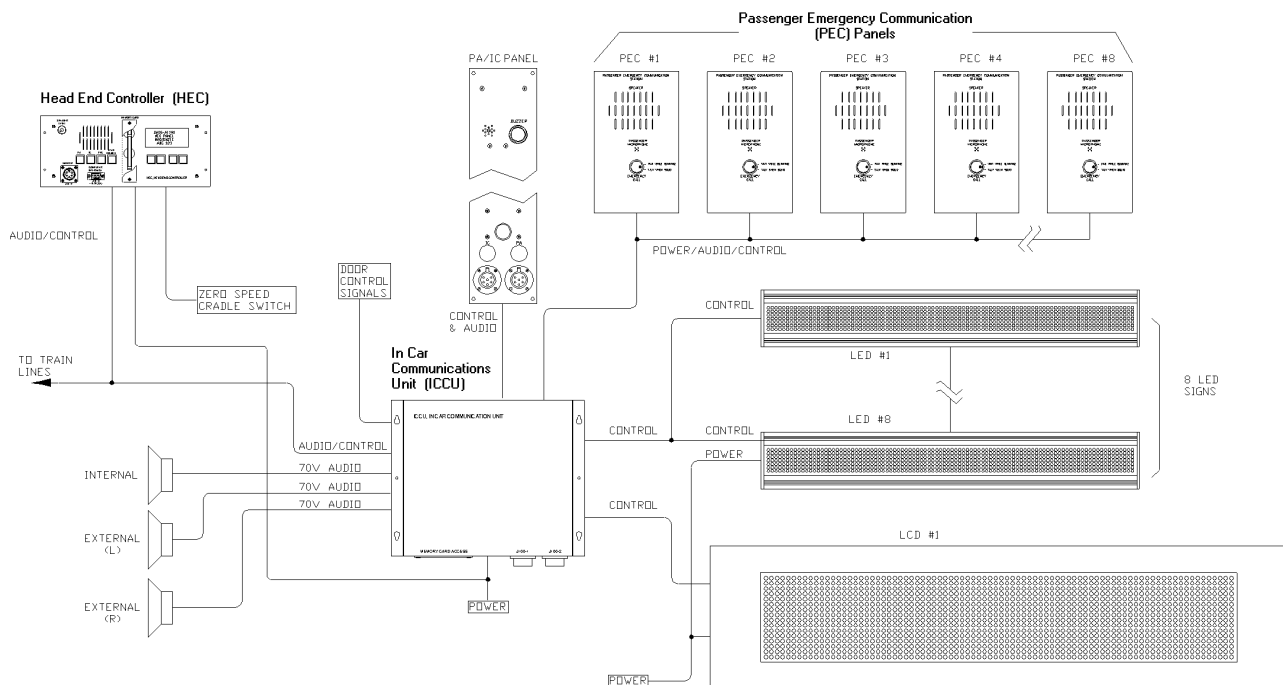
- In Car Communications Unit (ICCU)
- Multiple channel audio amplifiers
- Passenger Emergency Communications (PEC) panels
- Text Display Signage (LED/LCD)

Making A Difference, One At A Time

In Car Communications Unit

Multiple Function Communication Processor

Digital Audio / Display System Overview



Specifications

Electrical Specifications

Input Voltage: 24 - 90VDC, Automatic
 Current : 2A
 Fuse: 5A

Communications

Train Line Com Link: RS485, 115.2K
 To Internal Signage: RS485, 9600
 To External Signage: RS485, 9600
 To PEC: RS485, 115.2K

Audio Specifications

Performance: 16 bit, mono.
 Dynamic range: 90dB(highest rate)
 Frequency response: 20Hz to 20kHz,
 +/-1dB(highest rate)
 THD: <0.1%
 Signal to noise ratio: 90dB
 Channels: One, switched to multiple zones
 Output drive: 150 ohm, +4dB
 Output format: Single ended / Balanced

Power Amplifier

Output power: 60W
 Output interface 70V distributed
 Frequency response 50Hz to 15kHz
 THD: <1%

Memory

Type: FLASH EPROM
 Package: Standard PC CARD

Mechanical Specifications

Size: 10" W x 12" D x 4"H
 Weight: 15 pounds
 Material: CRS#18/powder coated
 Mounting: Flanges w/ mounting holes

Environmental Specifications

Storage Temp: -40 to +70 degrees, Celsius
 Operating Temp: -20 to +60 degrees, Celsius
 Vibration, operating: 1.5G RMS, 5Hz to 150 Hz
 Endurance: 8G RMS, 100Hz to 1,100Hz
 Shock: 30G pk, 6 milliseconds
 EMI/RFI: FCC, Part 15, section A

Specifications and Pricing are subject to change without notice

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