MACKENZIE

Head End Controller

Communication System
Operator Interface

Key Features

- **Automatic Messaging System**
- **Handset Interface**
- **Convenient Route Updates**
- **Computer Interface**
- **Vacuum Florescent Display**
- **Monitor Speaker**
- **MackNet Interface**
- **Public Address System Interface**
- **Intercom Interface**
- **Passenger Emergency Communication Interface**

The Head End Controller(HEC) is the operator interface to Mackenzie's transit communication system. The HEC gives the operator a single user-friendly interface for controlling the various communications systems of a transit vehicle.

Automatic Messaging System - The HEC contains a solid state MPEG audio processor and pre-loaded audio and text databases. Door control, speed indicator or manual inputs initiate automatic announcements based on location or destination to the public address system and text display signage.

Handset Interface - and illuminated push buttons enable the operator to independently access the Public Address, Intercom and Passenger Emergency Communcation(PEC) audio channels.

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

Computer Interface - also allows convenient updates via laptop computer. When connected, access is provided to all resources on the MackNet network.

Vacuum Florescent Display - provides easy to read status and command information in a wide variety of lighting conditions.

Monitor Speaker - allows operator to monitor announcements and pages as well as intercom and passenger communications.

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

Head End Controller

Digital Audio / Display System Overview
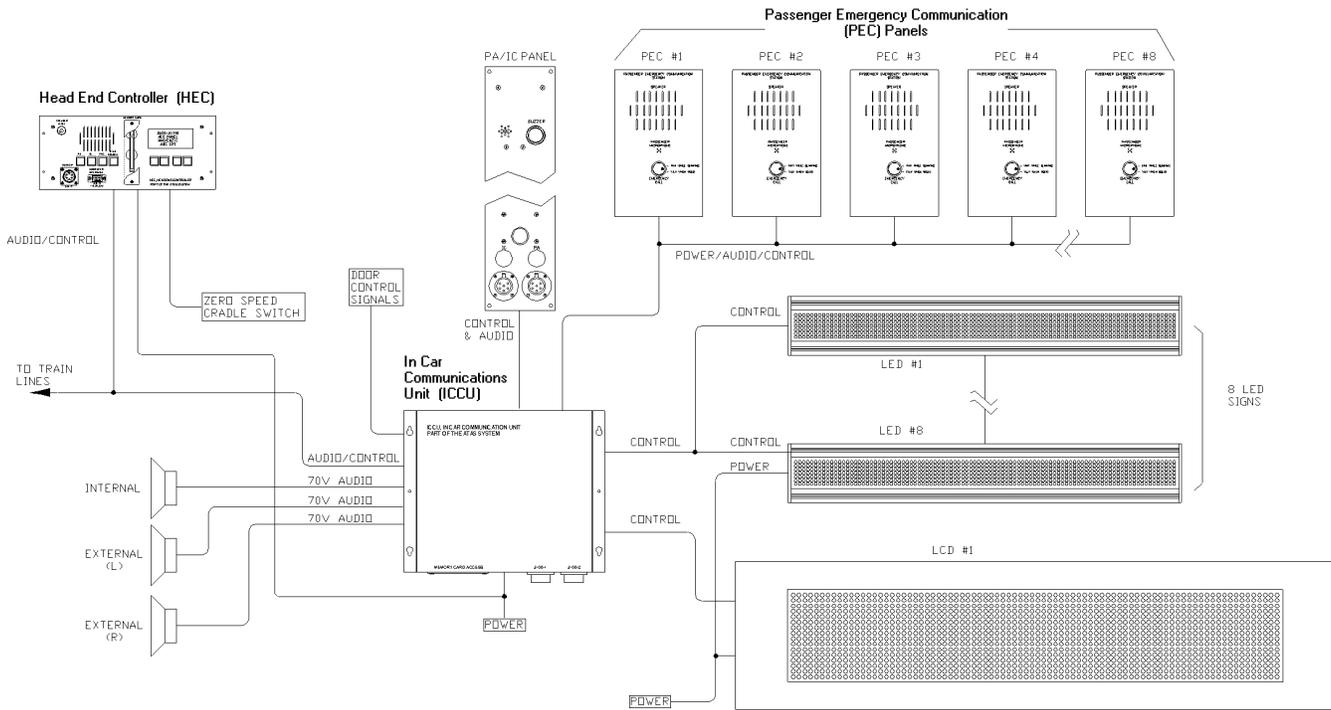
Specifications

Electrical Specifications

Input Voltage:	24 - 90VDC, automatic
Current:	1A @ 24VDC
Fuse:	2A

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
Output drive:	150 ohm, +4dB
Output format:	Single ended / Balanced

Power amplifier

Output power:	5W
Output interface	Internal speaker
Frequency response	200Hz to 15kHz
THD:	<1%

Communications

Train Line Com Link	RS485, 115.2K
Computer link (Local)	RS232, 115.2K

Memory

Type:	FLASH EPROM
Package:	Standard PC CARD

Mechanical Specifications

Size:	10" W x 8" D x 4"
Weight:	5 pounds
Material:	CRS#18 and 1/8" aluminum front panel.
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