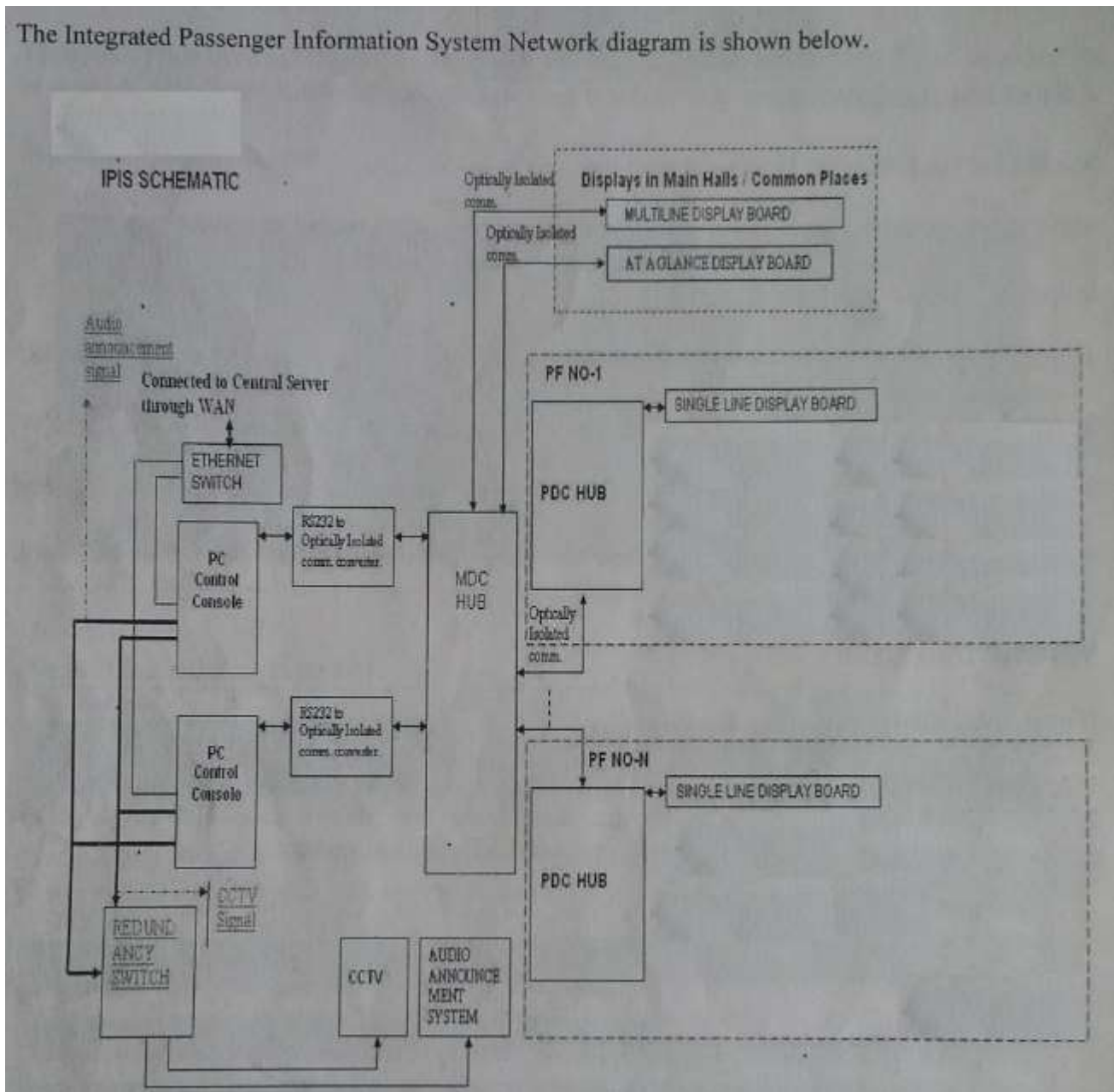


Integrated Passenger Information System

Integrated Passenger Information System provides the Visual and Audio Information of Trains Arrival / Departure to the Passengers. Train Information will be displayed on the Display Boards, CCTV and as well as the Announcement.



System Description:

The Integrated Passenger Information System consist of two control console units in redundant mode loaded with software for Announcement, Display Boards of different sizes, Multiline Display Boards, At-A-Glance Display Boards, CCTV, Main Data Communication Hub (MDCH) & Platform Data Communication Hub (PDCH).

The Multiline Display Boards shall display Train Number, Train Name, Expected Time of Arrival / Departure and Platform Number for five / ten trains at a time. The Single-Line Display Board shall display the information of one train at a time sheduled for that Platform. At-A-Glance Display Boards indicates details of train arriving on or departing from that platform as per requirement. The CCTV Monitor shall display the train information similar to that displayed by a Display Board.

CCTV:

Application Software in PC based CCU, provides the Controlling and GUI for the entire system. CCU provides complete control and data entry for the Integrated Passenger Information System.

MDCH (Main Data Communication Hub):

The Main Data Communication Hub standas between CCU and entire network. It receives packets from CCU and transmits to the network. It maintains all the network status.

PDCH (Platform Data Communication Hub):

All Platform Data Communication Hubs are connected to the MDCH and placed at suitable location of the platform. Each PDCH dessiminates data to both Single Line Display Boards and CGDBs.

System Hardware:

System is having the following modules:

MDCH / PDCH:

It contains four modules,

1. RS232 to RS485 converter module:
It receives RS232 input data and converts to RS485 output data.
2. HUB Controller Module:
It receives the command from CCU and transmits to Port module.
3. Ports module:
It consists of 16 ports. Some ports are connected to MDB, AGDB and CGDB.
4. Health Indication module:
Green colour indicates the Link OK and Red colour indicates Link fail. Amber colour indicates Port not configured.

MDH / AGDB / CGDB:

It contains two modules,

1. Master Controller module:
It controls all the slave controller modules.
2. Slave Controller module:

It receives the data from the Master Card and displays the data on the display board with 16x48 or 8x48 LED display matrix.

Control Console Unit (CCU)

System has a provision for fully redundant Control Console Unit. In case of failure, of the first CCU, the second CCU will become operative. There will be continuous data synchronisation between these two operator consoles through a LAN link.

The main and standby CCU comprise a standard PC with IPIS Software installed. The CCU will be operated from any suitable Control Centre or Enquiry Office. This Unit is provided with Voice Recording and Voice Playback facility for making PC based Voice Announcement.

Main Data Communication Hub (MDCH)

The Main Data Communication Hub will route the signals coming from either of the two console units to the destinations such as Platform Data Communication Hub, Arrival/Departure Train Information Display Board and Coach Guidance Display Board.

Main Data Communication Hub has multiport serial communication. It has two serial ports for Display Information coming from the two console units and a maximum of 16 serial output ports for driving various types of Display Boards or Platform HUBS. All Ports are of optically isolated communication type. The connectors for the data should be of type 9D. The HUB is having LED indications for monitoring the communication health of the Display Boards and Platform Data Communication Hub.

The serial port connection to the Coach Guidance Display Boards along a line is of daisy chained and in case of failure of a unit, the extension of communication link will not be affected. Also in case of removal of any Display Board for repair, the communication link can be extended.

The main HUB would be able to integrate any Display Board and Platform HUB and would get its response. With this, communication health (Connectivity) of each Display Unit or Platform HUB would be available in the Control Centre and one can quickly dispose the problem in case of faults.

Platform Data Communication Hub (PDCH)

The PDCH will route the data coming from the main HUB to be various Display Boards. For each platform separate PDCH will be provided. It has provision of 2 serial ports for interfacing the MDCH and 16 serial output ports for driving various types of display Boards. All ports will be of optically isolated communication type. The connectors for the data should be of type 9D.

The Platform Data Communication Hub is installed at the half way length of platform. PDCH and MDCH are interchangeable by modifying the configuration. In case of a failure of any particular port of MDCH, the spare port can be used immediately and system would start with minimum downtime.

Main Data Communication HUB (MDCH)/ Platform Data Communication HUB (PDCH)

MDCH / PDCH

