

Communication Device

ICCP (Integrated Communication Control Panel)



CCP (Communication Control Panel)

Communication Control Panel is installed in a driver's desk. It communicates and interfaces with train control device. Manual control is available.

- Input voltage : 100Vdc, 37.5Vdc
- Power consumption : 100 or less [W]
- Panel size : 7inch, touch panel
- Communication : UART, Ethernet
- O/S : Windows

Intercom is installed near exits or platforms. Passengers can communicate with an operator or control center by using PAI.

- Input voltage : 100Vdc, 72Vdc, 37.5Vdc
- Power consumption : 25 or less [W]
- Communication : UART, Ethernet
- Microphone sensitivity : -45dB or less
- Impedance : 600Ω

PEI (Passenger Emergency Intercom)



Interior speaker



Exterior speaker



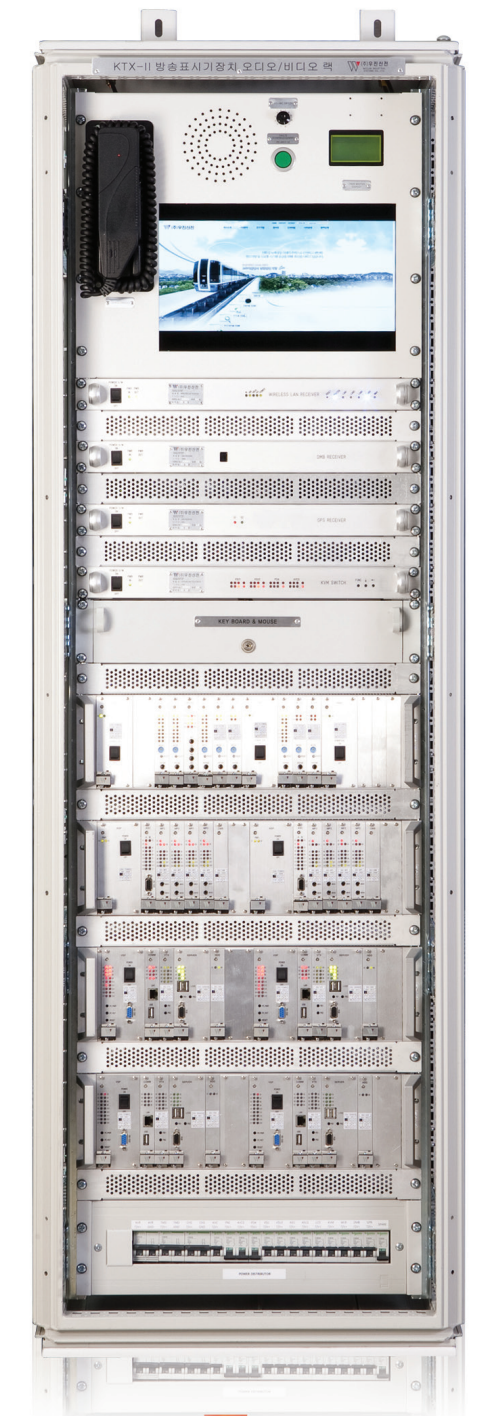
Speaker outputs automatic or manual communication to interior and exterior through the power amplifier.

- Rated output : 5W, 10W, 20W
- Speaker type : 2Way, Cone Speaker
Horn Speaker
- Impedance : 8Ω



"Woojin Industrial Systems Co., Ltd.
produces the best customized product."

Communication / Display System

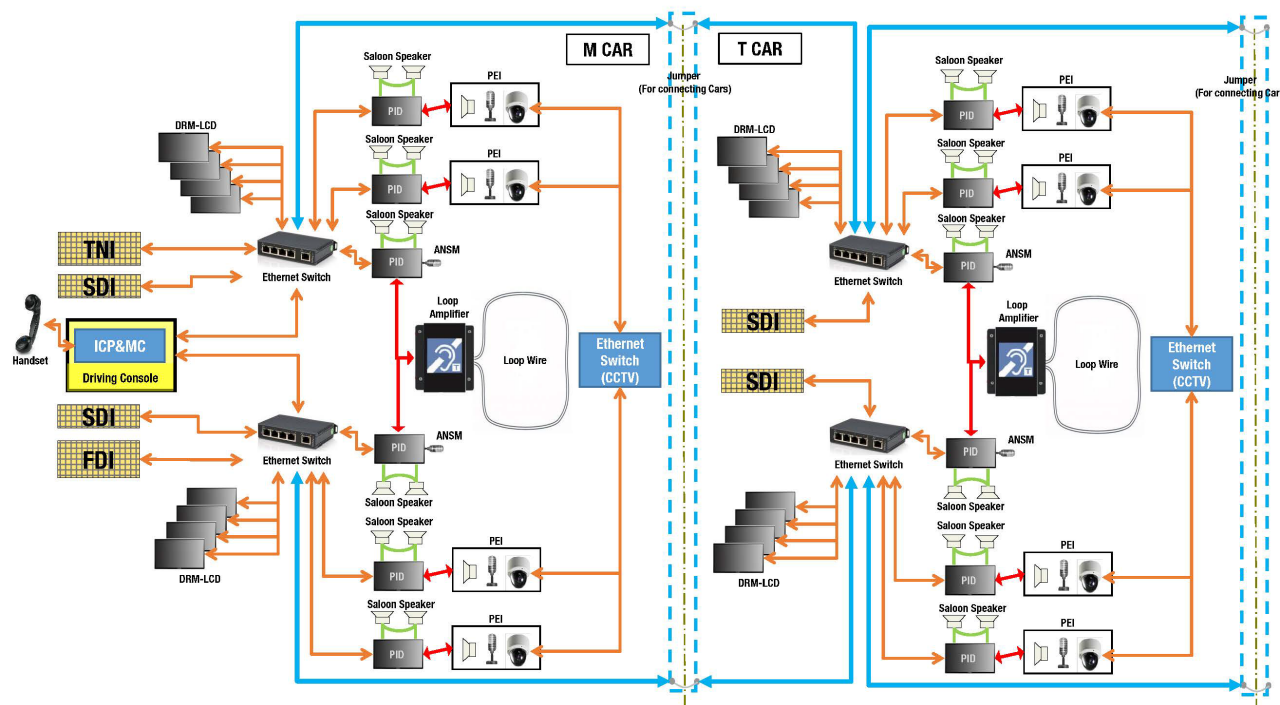


Communication /Display System

Outline

Communication/Display Device automatically displays directions and messages for passengers' safe trips. CCTV in each car receives video signals from cameras and sequentially records it to Video Recorder, also displays it on a monitor in a driver's desk.

• System configuration



Communication /Display System Controller



Controls automatically displaying directions, videos, commercials, messages, communications, CCTV and deliver voice messages from Control Center or crew members. MOR is used for controlling multi-coupled trainset and LOR is used for controlling respective cars.

- Input voltage : 100Vdc
- Power consumption : 100 or less [W]
- Audio : RMS-3V, 600Ω
- Communication : RS-485, MVB, LAN
- O/S : Embedded, Windows XP
- CCTV Video : 1024 x 768

Communication /Display System

Controls automatically displaying directions, videos, commercials, messages, communications, CCTV and deliver voice messages from Control center or crew members. CRA is used for controlling and multi-coupled trainset. CRB is to control respective cars.

CRA (Communication Rack A)



CRB (Communication Rack B)



- Input voltage : 37.5Vdc
- Power consumption : 100 or less [W]
- Audio : RMS-3V, 600Ω
- Communication : RS-485, LON work, LAN
- CPU : 32bit CISC, Core Duo

Display Device



Single sided monitor



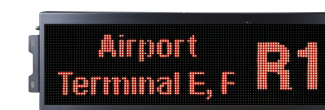
Double sided monitor

Digital signals received from a splitter output high quality videos on TFT-LCD according to standardized LVDS video signals.

- Input voltage : 100Vdc, 72Vdc, 37.5Vdc
- Power consumption : 100 or less [W]
- Panel size : Configurable
- Brightness : 1000cd/m
- Resolution : Full HD



Side Destination Indicator



Front Destination Indicator



Stretched LCD



Passenger Information Indicator

LED modules with high density, high brightness are installed in passenger compartment to display messages at side or front angles.

- Input voltage : 100Vdc, 72Vdc, 37.5Vdc
- Power consumption : 100 ~ 250 or less [W]
- Communication : RS-485
- CPU : 32bit RISC
- Memory : Flash memory
- LED module : Single color, 3color, Full color chip, Lamp, COB LED type

Video signals received from cameras in cars are recorded on Video Recorder and display it on a monitor in a driver's desk. Video Recorder is connected to car system and transfer information about CCTV system status.

Interior Camera



CCTV monitor in cab



Side Camera



- Input voltage : 12Vdc
- Power consumption : 10 or less [W]
- CCTV monitor : 17inch
- Image sensor : HAD CCD
- TV system : NTSC, PAL