Railway training model product series
Brand: iTrain

Experiment Table for Air Braking Simulation System of Vehicle in Rail Transit

Description

System Overview
Teaching test platform focuses on actual operation and use, combines basic principle, makes students learn about structural features of air braking units of urban rail vehicles, makes repair and maintenance of urban rail vehicles more efficient and scientific, makes them correctly understand degradation, failure state and failure position of air braking units and components, failure definition, nature, diagnostic method and principle. With flexible application purposes, it can meet the requirements of cultivating professional talents who are quick and efficient in overhaul of air braking system failure of train in rail transit, cultivate compound drivers, operation and management personnel.

Training Functions
- Provide visual teaching for structural composition, function and principle of air pipeline system and parts;
- Provide air pipeline maintenance and inspection;
- Provide wheel and rail friction experiment;
- Provide decomposition, assembling, inspection and debugging of unit brake;
- Provide visual teaching for valve structure, function and principle of air pipeline;
- Provide test practice activities of unit brake equipment;
- Provide brake system manipulation and maintenance;
- Provide air brake manipulation and rehearsal.
Turnout Simulation Experiment Table for Rail Transit Turnout Signal Training System

Description

System overview
Signal turnout simulation experiment table adopts integrated design and turnout conversion. The signal if annunciator displays the same as that of the real object in site. It stimulates the actual operating principle of signal turnout and various failure. Various experimental projects conducted in the signal turnout simulation experiment table renders the students majoring in signal a feeling of being personally on the scene. It can make them learn about maintenance and use situations of outdoor equipments, facilitate the teaching of teachers in signal major and make the students majoring in signal achieve a better learning effect that the site.

Configuration of experiment table equipments
1 point switch
1 3-aspect signal lamp with short feel
1 turnout model
1 turnout console
1 mounting bracket

Locomotive
Brand: iTrain

Railway passenger transportation
Brand: iTrain

Description

System overview:
This training system is equipped with an integrated and complete 25G AC passenger train model with a scale of 1:1 for teaching and training of bullet train attendant work in high-speed railway. Attendant operation training and failure simulation training are provided in the model train. Through training, students can further understand the internal structure of AC passenger train, equipment functions, installation position, equipment inspection process in AC passenger train, hypothesis troubleshooting and equipment operation process. It will provide students sufficient time and space to repeatedly practice and improve themselves, making them truly master the technical application capacity of equipment use, maintenance, repair, disassembly, assembly and troubleshooting. It can cultivate students’ adaptability to occupational changes, spirit and awareness of observing labor discipline, safe production, work dedication and cooperation with others and fully enhance their comprehensive quality.

System composition:
1. Integrated training model for 25G AC passenger train
2. Attendant model training room

1) Four-in-one integrated control cabinet

2) Emergency brake valve model

3) Manual brake model

4) 25G train sliding plug door model

5) CRH380B bullet train model

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**Railway freight**

Brand: ................................. iTrain

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**Railway vehicles (Passenger Car)**

Brand: ................................. iTrain

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**Railway vehicles (Truck)**

Brand: ................................. iTrain
Training system of machinists in bullet train unit

Brand: iTrain

Description

Main applications of the system:

The simulation training system of machinists in the CRH bullet train unit is mainly used to train the machinists with bullet train unit principle, structure, overhaul and maintenance training and occupation skill appraisal. This system integrates multiple high-tech technologies such as computer simulation technology, VR communication technology, multimedia technology, 3D modeling technology and network communication technology. The logic and correlation of electric, electronic, mechanical and pneumatic systems should be consistent with the real bullet train unit. It can provides such functions as theoretical training of machinists in bullet train unit, some practical training, teaching guidance, teaching management, learner management, appraisal and assessment management, file and document encryption management.

System composition:

The system includes simulating teaching system, simulation teaching software system and bullet train unit simulation model. Simulation teaching system simulates such models as CRH380A, CRH380A, CRH1 and CRH5. The system is composed of simulated driver’s cab subsystem, vehicle connection subsystem, train roof high-pressure subsystem, traction drive subsystem, train door subsystem, bogie subsystem, braking air supply subsystem, environment subsystem in train, auxiliary power supply subsystem, simulation machinist monitoring room and instructor monitoring management subsystem. Simulation teaching software system is composed of CRH380A, CRH380A, CRH1 and CRH5.

High-speed railway attendant simulation training system

Brand: iTrain

Description

System overview:

This training system is equipped with a complete CRH380A bullet train model with a scale of 1:1 for teaching and training of bullet train attendant work in high-speed railway. Attendant operation training and failure simulation training are provided in the model train. Through training, students can further understand the internal structure of bullet train, equipment functions, installation position, equipment inspection process, hypothesis troubleshooting and equipment operation process. It will provide students sufficient time and space to repeatedly practice and improve themselves, making them truly master the technical application capacity of equipment use, maintenance, repair, disassembly, assembly and troubleshooting. It can cultivate students’ adaptability to occupational changes, spirit and awareness of observing labor discipline, safe production, work dedication and cooperation with others and fully enhance their comprehensive quality.

Composition of attendant training in bullet train unit:

This training system is equipped with complete head car of CRH380A bullet train unit and an integrated simulation training system for carriage. It is added with a set of simulated AC system. Overall appearance, interior trims, driver’s cabin, equipment and facilities in the head car of bullet train are fabricated in a simulated manner. Some of equipment are substituted in kind and comply with the standard of Ministry of Railways. Head car and carriages of CRH380A (MPV/sightseeing vehicle) are manufactured with a scale of 1:1 according to the drawings of original factory in a simulated manner. They are used for teaching and training of the structure
CRH bullet train is composed of two parts: head car (including sightseeing cabin, VIP compartment and high-class seats) and carriages (including dining car, ordinary compartments and second-class seats); (2) 4 CRH sightseeing cabin seats (including 2 business seats, 1 single-seat sofa and 1 double-seat sofa), 2 three-seat sofas in VIP compartment, 2 three-seat sofas in sofa compartment, 4 seats in business compartment, 5 first-class seats, 18 second-class seats, 4 seats in dining car and 1 seat for the disable. (3) 6 automatic doors in carriage (including 3 controllable doors); (4) 4 air conditioners and 2 ventilation systems; (5) 2 lighting systems; (6) 1 dining bar counter in the CRH body; (7) 2 display screens in the train; (8) 2 luggage racks and coat and hat hooks; (9) 3 toilets (1 pedestal toilet, 1 squat toilet and 1 multi functional toilet); (10) 2 electric boiling water furnaces; (11) 4 mobile fire extinguishers; (12) 1 simulated driver’s console; (13) 1 simulated driver’s seat; (14) 6 inner end doors; (15) 2 trash bins; (16) 1 broadcasting telephone; (17) 2 large luggage cabins; (18) 1 platform for the disable; (19) 1 passage platform facility; (20) stainless steel luggage rack.

High-speed railway transportation sand table simulation training system

Brand.................................................................iTrain

Description

System overview:

The system adopts a set of high-speed railway communication signal training room construction solution which has complete functions, is advanced and practical and targets at teaching. It simulates an operation training environment which contains preparation of operation plan, train reception and department, dispatching command issuing, train reception and department in abnormal situations, shunting and railway transportation. It can help students learn about the whole process of train operation and command and systematically understand operation content and flow of each link.

System functions:

CTC train control system training, maintenance and monitoring in the control center including synthetic judgment of electric service monitoring unit, maintenance coordination, ATS equipment management and maintenance in the control center, mobile equipment maintenance and management including management and maintenance of AC equipment, management and maintenance of operation line control system equipment including management and maintenance of annunciation for basic equipment, point switch, digital track circuit, loop line equipment, calibrated equipment, CTC track side equipment, main track interlocking system, other signal equipment and transmission network equipment in the station.

Training objects:

Station watch keeper, assistant to watch keeper, signalman, train dispatcher, assistant to dispatcher and railway transportation personnel.

Effect picture of rail transit laboratory at Jiangsu University of Mining and Technology

Brand.................................................................iTrain

Description
**Effect Picture of Overall Solution For Rail Transit Laboratory**

**Sand table simulation training system for rail transit**

**Brand**

| iTrain |

**Description**

**System overview:**

The system is based on railway microcomputer interlocking, CTC, high-speed rail microcomputer interlocking, CTC3, urban rail OCC and miniaturized lines. The teaching simulation training system is shown through the sand table. It can provide a simulation training environment for dispatcher of control center, station watch keeper, duty office head, watch keeper of vehicle depot operation, dispatcher of signal building and train driver. It can provide simulation training for train dispatching signal, command system and dispatching system. It can simulate and demonstrate signal failure, explain driving rules and the duty office head's ability of train driving and dispatching and accident handling.

**System composition:**

The sand table is a star structure in internal LAN, and its communication medium is twisted pair. Centering the application server and basing on database server, a three-layer client/server distributed system structure is established. It is a hardware framework system of OCC training system which has the same functions as real metro and urban rail control systems.

OCC training system is equipped with 1 database, 1 communication server, 1 vehicle depot controller, 1 remote control terminal computer for locomotive (locomotive control system is installed to remotely manipulate the train) and 1 dispatching monitoring computer (to manipulate the large screen display system). 1 central control computer is installed respectively for ATS subsystem, ATP/ATO subsystem and C_LOW system (to realize operation dispatching, operation chart preparation and adjustment, command issuing and failure setting). The dispatching monitoring system can completely display the operation throughout the whole line. It can display the video images for train arrival.
Description

The teaching software is based on computer technology, virtual simulation technology, robot technology, 3D visual technology and environmental acoustics technology. The system establishes an integrated teaching environment which is close to the site for the students and achieves a better learning effect than the site.

- OCC system training and teaching software for trail transit
- Teaching software for AFC sales and check system
- Teaching software for station operation flow simulation
- Teaching software for rail transit driving standardized flow simulation
- Teaching software for urban rail vehicle structure
- Teaching software for virtual disassembly and assembly urban rail vehicle

Training objects:

Metro driving and dispatching-related posts: dispatcher of control center, driving dispatcher, electric power dispatcher, information dispatcher, ticket agent, duty office head, platform manager, watch keeper and train driver.

Modern train simulation training system

Brand: iTrain

Description

The system adopts a set of rail transit training room construction solution which has complete functions, is advanced and practical and targets at teaching. All-round tram training can be realized through carrier platforms such as sand table and model. Simulation training can be conducted for operation control system, signal priority control system, GPS positioning system and dispatching command. Railway right perception training, tram part equipment perception training and disassembly and assembly training can be conducted.

Modern tram operation sand table system

Simulating line operation with mini urban and modern tram equipment, the system can conduct simulation training for driving of driver and conductor in line, communication signal priority control system, special circumstance treatment and dispatching system. It has integrated the fixed and mobile equipment of common urban and modern trams and can simulate the operation process of urban and modern tram system to form an integrated simulation training platform with a combination of hardware and software.

Simulation training system of rail transit line engineering

Brand: iTrain

Description

System overview:

In the construction scheme, rail transit training room is constructed to have compound applications according to rail transit engineering and integrated application requirements. It aims at setting up a bridge between theory and practice of rail transit engineering system. On the one hand, it will help students digest and understand the rail transit engineering knowledge in class. On the other hand, it makes students contact the real rail transit system as early as possible and devote themselves to work as early as possible.
System functions:
The system can simulate the practical training of each post during equipment maintenance, repair and protection in rail transit engineering and let students learn about regular repair and maintenance of bridge, tunnel, culvert, roadbed, rail, turnout, sleeper and railway ballast, track walking, railway maintenance and mechanical operation.

Training objects:
Lineman, bridge and tunnel worker, track walker, watchman, gate worker, flaw detection worker, foreman of line (bridge and tunnel) work area and maintainer of rail transit construction equipment.

Rail Train Training Equipment (Rail Operation Electrical Course Classroom 1-2)

Description

Specification:
1. Electrical control circuit components are installed in mesh platform, easy to operate and expand function by adding different components. 
2. Operation desk needs three-phase four-wire power supply to work, which covers very small space. 
3. Each training platform is equipped with 2 independent power supply, which means two students can operate at the same time.

Function:
1. Input power: three-phase four-wire power supply, 380V±10%
2. Temperature: -5°C～+40°C, Relative humidity < 85% (25°C)
3. Capacity: < 1.5KVA
4. Size: 1600mm×750mm×1690mm

Electrical Course - Electrical fabrication weld ability assembling line

Description

Specification
1. Input Power: 220V±10% 50Hz
2. Temperature -10°C～+40°C, Relative humidity < 85%(25°C) Elevation < 4000m
3. Capacity: < 200VA
4. Size: Single training platform 1.6m×1.3m×2m (double side), both side widths is 500mm.

Function
The system consists of training platform, Power Cabinet, circuit board, components, and tools.

System Configuration
The system consists of training platform, Power Cabinet, circuit board, components, tools.
OCC Training Module

Description

Specification:
As The appendix with AFC Ticket service

Function:
Training for the ticket service, such as ticket selling, ticket check in and check out, ticket management, ticket machine maintenance and repairing. The training system can practice to improve the sense of service of students, improve the skill of maintenance.

Train Model

Description

Function:
1) Knowledge about the train overall parts.
2) Precautions and maintenance of Rail Train.
3) Assembly and disassembly and inspection of the Rail Train.
4) Acknowledgement, assembly and disassembly for the main parts.

Specification:
1) Module Scale : real train scale 1:15
2) Module Size : 2600 x 300 x 270 mm
3) Chassis Size : 4000 x 400 x 70 mm
4) Aluminium plastic test plate size : 4000 x 500 x 700 mm

Equipped with : Aluminium alloy with copper rail tray 6 meters longs, Aluminium plastic test plate, one tool set.

Function
This Equipment can help the students to understand the structure of the train and its names, locations and functions.
Steel material, 1:1 as real train, color, paint gloss closed to the real train, all parts are all made of metal;
Trains can show the ventilation and air conditioning system with the actual ventilation equipment
Bogie with 12 mm thick steel plate, enough strength to support body weight
All the equipment in the train are the same as the physical one, all equipment under the train can be completely disassembled.
Transparent cover in wiring slot part, it can clearly identify high, medium and low voltage circuit, and also see the main circuit and auxiliary circuit lines, with the corresponding drawings.
The physical configuration based on the Lighting system, can be turned on and off.
The door can be controlled by the driver chamber (plug door), indicator lamps can be turned on, unlock/removal device is available for the door;
Maintenance shell adopts colored organic glass, by connecting the electricity, it can demonstrate the process of the plug door.
Bogie and train bottom equipment are corresponding to real train object, and with nameplate attached.
The workshop is equipped with safety protection and transmission alarm system as required;
switch button on the train driving platform and indoor electrical equipment are made by CSR.

### Pantograph Model

**Description**

**Specification**
1. Module Scale: real train scale: 1:1
2. Module size: 2200mm×1300mm×600mm.
3. Wooden Chassis size: 1900mm×1400mm×60mm.
4. Plastic test plate size: 1900mm×1400mm×400mm

**Material:** all the parts are made of metal material and simulate the real parts. The surface is polished.

**Function**
Main function: practical training
1) get to know single arm Pantograph and each components
2) precautions and maintenance of single arm Pantograph
3) dismantling of its main components
4) installation and dismantling of the single arm Pantograph

### Rain Train Automatic Coupler

**Description**

**Specification**
(1) Model Size: 1000×400×300.
(2) Aluminum tray size: 1000×500×60.
(3) Aluminum-plastic test Plate Size: 1000×500×700mm.

**Material:** The shell is made of high quality of transparent acrylic and the inside components are made of colorful acrylic, aluminum alloy, copper.

**Function**
**Practical training**
1) Knowledge about the Rail Train Automatic Coupler
2) Precautions and maintenance of Rail Train Automatic Coupler
3) Rail Train Automatic Coupler of assembly and disassembly and inspection.
4) Acknowledgement, assembly and disassembly for the main parts.
5) The lock and unlock of the assembly performance
3) the main fragments of the assembly and disassembly and inspection.
4) Acknowledgement, assembly and disassembly for the main parts, oil buffer, differential valve, levelling valve.
5) lock and unlock of the assembly performance
   Equipped with: A bogie special air pump. A set of air connector is 5 meters long, a special tool set.

Platform Simulation System Control Table

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composed by a virtual three-dimensional simulation platform and system models virtual platform can be used to control the car's electric double door and screen door control, analog control for electric trains and ATS double door and screen door, the use of virtual platform simulation station personnel for electric double door and screen door checking operation procedures.</td>
<td></td>
</tr>
</tbody>
</table>

Double Open Electric Plug Door

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Material Requirements: all stainless metal production; 2) And metro vehicles electronically controlled double-door is 1:1 proportion of the real objects; 3) door opening degree: 1400 ± 10mm; 4) Net door height: 1860 ± 5mm; 5) Opening and closing time: 3.5 ± 0.5s; 6) detect the smallest obstacle Dimensions: width × height = 30 × 60mm; 7) Operating voltage: DC110V;</td>
<td></td>
</tr>
</tbody>
</table>

CCTV Monitoring System of the Practical Training Devices

| Description | |
|-------------| |
Function:
The CCTV monitoring system control center can dispatch administrators station operators. Platform staff can monitor passengers flow when they get on and off the station, to improve operation skills and administrative efficiency. This system ensure train safety, punctuality of delivering passengers, the monitoring system can also monitor the tickets machines, ticketing gates, in and out port and other places.

Specification :
The CCTV system can produce the high resolution images which can be acquired and processed arbitrarily. CCTV monitoring system front end has advanced gun-type camera and hemispheric video recorder, the terminal end adopt the digital disc record control system. The advanced design of this system and its perfect and simplified equipment, well-equipped, reliable, easy to operate and strong expansion. The main components include digital video recorders, video matrix host, monitor display, camera power supply, master keyboard, gun type camera, PTZ.

Broadcasting System Training Facilities
Description
Function
The broadcasting system are beneficial to the passengers, informing them on and off station time, metro transferring, timetable change, delay of the train, and safety precautions in advance. In case of the accidents, it can help to organize and regulate in case of a fire accidents happening in the station, hence improving the emergency capabilities.

Specification:
Station broadcasting analog system includes the following facilities: Speaker radio amplifier, the station broadcast console, the station broadcast a control terminal, radio control units, microphone etc.

Circulated Local Control Cabinet
Description
Function:
The simulation of environment control cabinet can switch the local/remote control.

Specification:
The control cabinet adopt standard industry criteria, with combination of each components and the top of the cabinet has compulsory ventilation fan, and the door of the cabinet has designed anti-static wrist. The advantages of adopting design in modules which is easy to install, connected with the local and remote I/O expansion rack, making it easier for centralization and distribution control structure. It is compatible to TCP/IP agreement and MODBUS agreements and supporting other customized protocol.
BAS System computer controlling workstation

Description

Function:
Student could check the information of every system and can control every system.

Specification:
The training equipment could realize the same function as the real train station by setting the hardware and software, including ATS signal system, AFC monitor terminal, BAS monitor terminal, FAS, PIS, CCTV, Radio system, communication alarm system.

Station Dynamic Model Control System

Description

Function:
It has the function of switching between the local system and remote system. Monitoring the location of the train by signal.

Specification:
Display the dynamic working state by the LED, Relay, Motor etc. Easy to install under the module design. It use the local or remote I/O extension Rack to realize the centralized and distribute control. It is completely compatible with TCP/IP agreement and MODBUS agreement. It is acceptable for the user-defined agreement.

Simulation training system of rail transit traction power supply

Brand: iTrain

Description

System overview:
Traction power supply simulation training sand table system is a kind of teaching equipment which carries out simulation training for integrated dispatching of rail transit traction power supply, traction power supply SCADA system, traction substation (distribution station) remote video monitoring system and traction power supply principle structure model product.

System functions:
The training system can carry out the operation of rail transit traction power supply system equipment and skylight operation, handle the accidents and abnormalities which affect the normal operation of the whole traction power supply system and conduct practical teaching experiment. It can simulate the operating equipment in site, monitor and control them and realize all kinds of training functions such as data acquisition, equipment control and measurement, parameter adjustment and signal alarms. It can monitor the operation status of equipment of substation, section post and switching station in the traction power supply system and complete all kinds of training functions such as remote control, remote metering, remote signaling, remote regulation, remote vision, protection and dispatching management, accident analysis and treatment. It controls the traction power supply through the computer control software, truly represents traction power supply control and operation function (including turning on/off operation of transformer, disconnecting switch and breaker) and realize the dispatching simulation of real power supply system by dispatching the simulation screen.

Training objects:
CBTC training module in rail transit

Brand: iTrain

Description

Construction content:

CBTC simulation training system for rail transit is composed of OCC control center construction, station and track side equipment construction and mobile unit simulation. It is detailed as follows:

(1) OCC control center construction
- One ATS workstation of control center
- One dispatcher workstation
- One CBTC system (ATP/ATO/ATS)
- One data and communication server
- One teacher workstation
- Four local operation stations in LOW station (station ATS)
- One local operation stations in LOW vehicle depot (vehicle depot ATS)
- One OBTC complete simulation software (OCC control center ATS)
- One ATS large-size screen display system (46-inch 3*2 spliced screen)
- One data storage unit (DSU)

(2) Station and track side equipment construction
- One AP cabinet with track side wireless access
- One axle counter cabinet
- One main cabinet for spot responder
- Two integrated electric control cabinets in station
- One FAS mainframe
- One FAS training screen
- One controller cabinet in Zc area
- One interlocking console
- Two combination racks of safety relay
- Two interlocking main cabinets for computer interlocking system
- Two interlocking interface cabinets for computer interlocking system
- Two power source screens
- One LEU cabinet
- One data storage unit (DSU)

(3) Mobile unit construction
- One small rail car
- One mobile responder querier (beacon antenna)
- One mobile wireless communication equipment
- One CC simulator for train group
- Two interlocking main cabinets for computer interlocking system
- Two interlocking interface cabinets for computer interlocking system
- Two power source screens
- One LEU cabinet
- One data storage unit (DSU)

Simulation training system of microcomputer interlocking signal turnout

Brand: iTrain

Description

System overview:

It is composed of a signal turnout system with a 20m real object. With integrated design and turnout conversion, it has made the signal of annunciation displayed the same as that of the real object in site. It
simulates the actual operating principle of signal turnout, setting and
handling of various failures. The integrated linkage in CBTC simulation
training module in rail transit renders the students majoring in signal a
feeling of being personally on the scene. It can make them learn about
maintenance and use situations of outdoor equipment, facilitate the
教学 of teachers in signal major and make the students majoring in
signal achieve a better learning effect than the site. The training module
of turnout signal of outdoor equipment is configured with two experiment
tables to meet the grouping training requirements of 30 students.

**Equipment configuration:**

One switch machines, one 3-aspect signal lamp with short feet, one 20m
turnout, two axle counter heads, two spot res-ponders and two outdoor
AP antennas.

### Training system of simulated driving in rail transit

**Brand:** iTrain

**Description**

#### System overview:

This training system conducts simulation calculation and analog control by
establishing a mathematical model according to relation between train
electric circuit and air circuit, line section, driver's manipulation and train
operation dynamics and represents real train control and operation rules.

#### System functions:

Real-time computer control can accurately simulate train manipulation and
represents train operation environment. The system can be used for
learning, training and assessment.

#### Training objects:

Driver of power-driven train, driver of rail car, attendant of power-driven
train, signalman and connection personnel.

### Training model of vehicle structure utilization and overhaul in rail transit

**Brand:** iTrain

**Description**

#### System Overview

This training system conducts simulation calculation and analog control by
establishing a mathematical model according to relation between train
electric circuit and air circuit, line section, driver's manipulation and train
operation dynamics and represents real train control and operation rules.

#### System Functions

Real-time computer control can accurately simulate train manipulation and
represents train operation environment. The system can be used for
learning, training and assessment.

#### Training Objects

Driver of power-driven train, driver of rail car, attendant of power-driven
train, signalman and connection personnel.
Training series of vehicle structure utilization and overhaul in rail transit

Brand: iTrain

Description

System overview:

This training system is equipped with two complete metro train models (1:2) which are used for teaching and training of metro train structure.

System functions:

Through the training, the students can further learn about the structure of metro train, equipment functions and installation positions, train wiring structure and alignment, operation process training in train inspection, hypothesis troubleshooting training, perception of trainable metro train parts and equipment and training of disassembly and assembly.

Training objects:

Metro train driver, vehicle equipment maintainer, bench worker of power-driven train, mechanical bench worker, vehicle connection personnel and signalman

Passenger elevator, escalator and other training products for rail transit platform

Brand: iTrain

Description

Provide overhaul and maintenance training, simple preventive maintenance of all parts, disassembly and installation training. In outage, manual control can be conducted to demonstrate the teaching about tractor and elevator. Control experiment of elevator and escalator can be conducted.

Training objects:

Station management, maintenance and service posts: station agent, duty office head, watch keeper, station equipment maintainer.

1:1 operation and training system for operation of rail transit station

Brand: iTrain

Description

System overview:

The training system is composed of simulated B-type metro vehicle, simulation station, shield door of fully-closed platform.

System functions:

Provide perception function of train door and shield door, operation function of door closing and opening, function of overhaul and maintenance of electrical failure of train door, design experiment of train door closing and opening control simulation system, design function of shield door and motor control units, linkage function of train door control
system, training of metro vehicle bus technology, operation training under management, function of emergent troubleshooting and monitoring function of PSD shield door under integrated monitoring of ISCS.

Training objects:
Station management, maintenance and service posts: station agent, duty office head, watch keeper, station equipment maintainer.

Training system of FAS firefighting joint control board in station
Brand: iTrain

Description
System overview:
Hardware setting and reliable functions are required to be consistent with the real station and have fire zoning alarm system.

System functions:
Learn about basic composition and main functions of FAS fire alarm system, display the situations of smoke sensor, temperature sensor and fire sensor and monitor the fire in site.

Training objects:
Station management, maintenance and service posts: station agent, duty office head, watch keeper, station affairs room controller, station affairs room personnel.

Specification:
Setting the detector such as smoking detector, temperature detector, fire detector to detecte the fire condition, Than send the simulation data to the fire controlling system.

Function:
Training the basic knowledge of the FAS fire system the function of the FAS System.

IBP disk simulation monitoring training system of integrated control room in station
Brand: iTrain

Description
System overview:
The training system is composed of BP disk, BAS monitoring terminal, CCTV monitoring terminal and PA broadcasting terminal.

System functions:
The system simulates the operation flow of operators in the integrated control room, including monitoring of IBP function areas, mouse console areas, firefight joint control board, transfer and execution of dispatching command, intra-station communication, route arrangement, phone block handling, driving organization (backing-out and detaining) under special circumstances and simulation of other functions.

Training objects:
Station management, maintenance and service posts: station agent, duty office head, watch keeper, station affairs room controller, station affairs room personnel.
Function:
Training the controlling process for the students.

Specification:
The training equipment could realize the same function as the real train station by setting the hardware and software. Including power supply area, elevator area, station emergency area, PSD area, ATS area, Tunnel emergency area, comprehensive control area, service area, PIS area, AFC area etc. The button on the pannal are connected with the hardware.
**Station operation simulation training system in rail transit**

**Brand**

iTrain

**Description**

**System overview:**

Taking a miniaturized model as a platform, station operation simulation training system in rail transit including monitoring and control of HVAC large scale system, mini system, AC water system, tunnel ventilation, platform shield door, escalator, firefighting equipment, lighting equipment, environmental control equipment and electromechanical equipment.

**System functions:**

It can realize mode control of system equipment, such as ventilation season, AC season, single/double week, fire and civil air defense and other mode control simulation. It is equipped with a fire zoning alarm system and SCADA electric power automation system.

**Training objects:**

Station management, maintenance and service posts: station agent, duty office head, watch keeper, electromechanical equipment maintenance and safe operation supervisor.

**Specification**

Size: 1:20

Model size 8000:1200:1350

With tunnel, the piston wind well, station model

**Function**

Include the station air condition small system and large system, air conditioning water system, tunnel ventilation, station door system, elevator, fire equipment, lighting equipment.

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**OCC system training and teaching room**

**Brand**

iTrain

**Description**

1) OCC control center construction

- One ATS workstation of control center
- One dispatcher workstation
- One CBTC system (ATP/ATO/ATS)
- One data and communication server
- One teacher workstation
- Four local operation stations in LOW station (station ATS)
- One local operation stations in LOW vehicle depot (vehicle depot ATS)
- One OBTC complete simulation software (OCC control center ATS)
- One ATS large-size screen display system (46-inch 3’2 spliced screen)
- One data storage unit (DSU)

**OCC system training and teaching software for trail transit**

Teaching software for AFC sales and check system

Teaching software for station operation flow simulation

Teaching software for rail transit driving standardized flow simulation

Teaching software for urban rail vehicle structure

Teaching software for virtual disassembly and assembly urban rail vehicle

**Function**

System enables students to fully understand the whole process of train departure and taking over and its operating scenarios, to master the operation of ATS signal system and improve their labor skills. Through the training system, the students can master the capability of accessing faults points of the system. Improve the punctuality and safety of metro.
operation, vocational skills, serious working attitude in the group coordination work.

Specification
Training the students'ability of the reception and departure of the train. It is consist of PC technology, simulation technology. It could simulate the operation of the real train, based on the real data, and it could be display and it could be monitor the position of the train.
AFC sales and check training system
Brand: iTrain

Description

System overview:
The system adopts a set of rail transit training room construction solution which has complete functions, is advanced and practical and targets at teaching. It is a highly simulated AFC system which can provide a metro operation service flow (including ticket purchase, check-in, check-out, compensation fare, cash management, simple ticket and card management), equipment maintenance and repair technology.

System functions:
This system can provide basic information of operation equipment, ticket management and service, electromechanical equipment maintenance and other practical expertise. It can fully meet school teaching training requirements, cultivate students' service awareness based on mastering necessary rail transit expertise and practical operation capacity of repair and maintenance and provide teachers with a good scientific research platform.

Training objects:
Management, maintenance and service posts in the ticket system of urban rail operation companies, including station agent, duty office head, passenger watch keeper, driving watch keeper, sales and check watch keeper, electromechanical equipment maintenance and safe operation supervisor.

Rail Train Sandboxie Module
Brand: iTrain

Description

Based on urban rail traffic drilling equipment, Operation Management Simulation Training System for Rail Transit consist of rail transit operations and table training system, control center management system, AFC sale and check training system, platform simulation control training system, station operation simulation training system, station integrated control room simulation training system and simulation interface of relevant systems. Thus, an integrated training platform is built to link the various systems.

System overview: Using sand table as a platform, the training system applies digitized IC card for track circuit technology based on CBTC-based wireless communication and CVT worm rod rail vehicle technology. Driving dispatching training can be conducted through ATS/ATP/ATO systems in the control center.

System functions: Real function of rail transit driving post, basic operating principle of CBTC system, operating principle of vehicle depot microcomputer interlocking system, main track driving dispatching training function, vehicle depot driving dispatching training function, system management function, failure setting and processing function.

Training participants: Metro driving, dispatching-related posts: dispatcher of control center, driving dispatcher, electric power dispatcher, information dispatcher, ticket agent, duty office head, platform manager, watch keeper and train driver.
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