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## Intelligent Parking Management System

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**Pay-to-Park Parking Management System**

PMS (Parking Management System) is a system for managing pay-to-park parking lots, for season parkers only. Composed of Entry Station, Exit Station, Barrier, Communication Controller, Loop Detector, software and other optional devices, DASHOU PMS makes your parking lots secure, intelligent and high-efficient, providing below typical different systems for different applications:

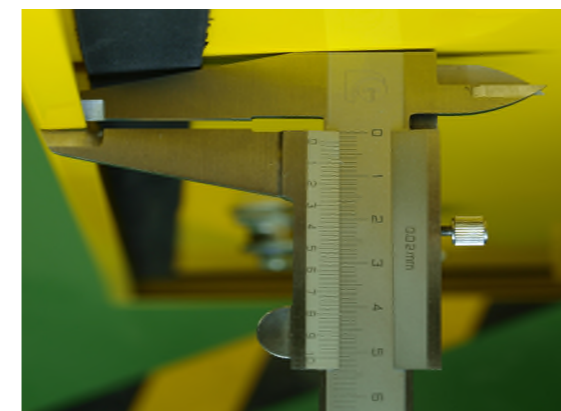
### **PM 510D/E Economic—Card Reading Parking System**

PM510D/E Economic is an Economic Parking System for managing pay-to-park facilities with medium traffic flow and requirements of economy and high cost-performance ratio, for season parkers only. Season parkers get access and leave by self-service swiping cards on Entry Station & Exit Station respectively, or enter and leave w/o stop if tag on window shield is read by long range reader. It is ideal solution for parking lots with medium traffic flow such as residential community, office building, firms and factory etc.

## Features

### Heavy duty, well finished IP54 cabinet

The cabinet of Entry Station, Exit Station and Barrier adopts 2mm precise machining cold-rolled plate and static electricity sprayed anti-UV surface which is non-scale and unfading, conformed to the IP54 dustproof and waterproof. Modern design also decorates your premises.



### Unmanned Entry

No guard is needed at the entry, Season parkers enter by self-service swiping their cards on Exit Station, or enter w/o stop if tag onto window shield is read by long range reader, this reduces your labor cost.



### User-Friendly LED screen and Voice Prompt

The Entry Station & Exit Station can be equipped with LED screen on which detailed operation and system info. are simply and friendly shown. Voice Prompt gives warm-hearted welcome and operation guide to parkers.



### Unmanned Exit

No guard is required at the exit. Season parkers leave by self-service swiping their cards on Exit Station, or leave w/o stop if tag onto window shield is read by long range reader, this



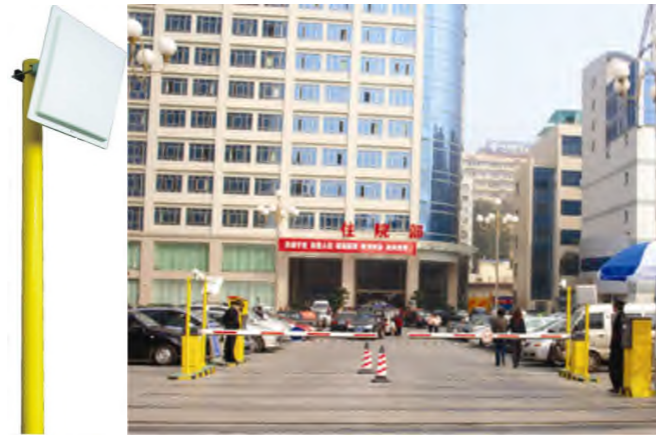
### Intelligent Barrier

The digital barrier adopts 70w integrated decelerating torque motor and intelligent control unit. It integrates pressure wave resistance-rebound, loop detector / infrared triple anti-collision and anti-collision rubber pole to ensure the safety of vehicles coming in or out.



### Long Range RFID (optional)

A registered vehicle comes to entry or exit, the tag on the windshield is read by long range RFID reader, barrier opens and it enters or leave without stop. It is ideal solution for parking lots with high traffic flow such as shopping center, exhibition center, hospitals, airports, etc.



### Industrial CAN Field Bus

Long line communication adopts industrial CAN field bus, which is fast(12 times as RS485), distant (8 times as RS485), CRC checksum, and strong in hardware arbitration, error correction and real time.(RS485 has no function of arbitration, error correction and checksum)

### Idiot proof Software with Multi-function

The software provides the operators with idiot proof and user-friendly interface, and practical multi functions, such as managing registered parkers, real-time surveillance etc. It also supports network version.

### Suitable for Various Installing Environment

Modularized configuration structure fits various installing environment, such as double lane, single lane, separated entry & exit, and integrated entry & exit, etc. It is also capable of prompt function with check-in and check-out simultaneously in single lane.

### “Photo Comparison” ensures double parking safety (optional)

When vehicle leaves at the exit, two photos respectively taken by CCTV cameras (installed at entry and exit) will be shown together side by side on PC screen for comparison to ensure the safety of parking.

### Unique Technology of Detecting Unpaid Vehicle

System automatically records cars coming or leaving without reading cards or without paying.

### Entry Station, Exit Station and PC Can Work Separately

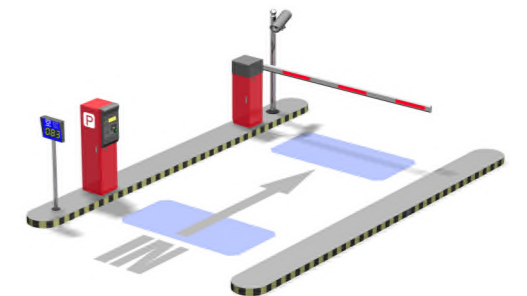
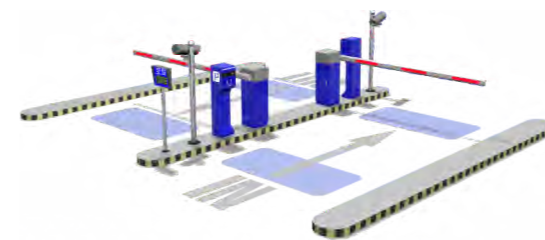
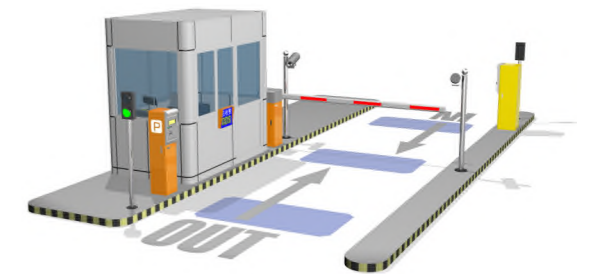
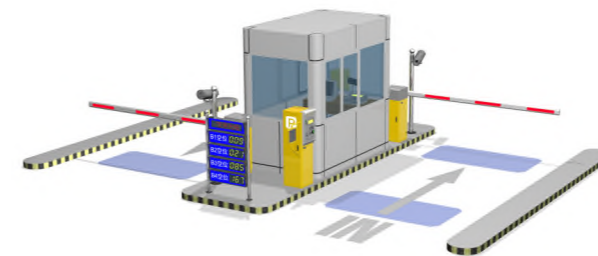
Entry Station and Exit Station can separately work fine without connecting to a PC. The data stored in Entry Station & Exit Station will be automatically uploaded to a computer if connected.

### 'One-card-one-vehicle'

With this function, other parkers can not use the same card to enter before the owner of this card leave parking lot. It ensures safety for season parkers` vehicle and avoids loss of parking fee for owner of parking lot.

### Multi-type of Card

IC/ID card type such as time-card, number-card, stored value card, cluster card (multiple-card for one-parking-space) can be set by parking management software.



## System Configuration

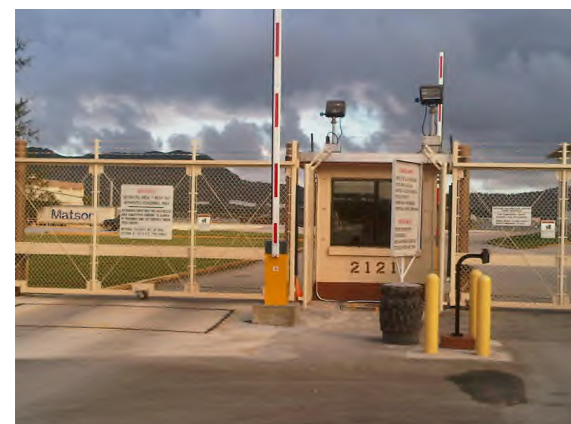
• Entry:	Entry Station, Loop Detector, Entry Barrier
• Exit:	Exit Station, Loop Detector, Exit Barrier
• Management Center	Parking Management Software(simple version), PC,Kiosk
• Optional:	Photo Comparison, Voice Prompt, Intercom, Middle Distance Card Reader, Long Distance Card Reader, Red & Green Lights, Heating System etc.

## Components Description

### Barrier Gate

As one part of parking management system, barrier gate stops unauthorized parkers entering your premises, or giving access to authorized parkers. Straight / crank / fence arm for your options.

Power Supply	AC 220V±10%, 50/60HZ, Max.0.5A
Motor (AC)	70W concentered decelerating torque motor
Controller	Intel 80C51 MCU, 40 MHz, controlled silicon motor control
Spring	Multi-spring balance
Loop detector input	Pulse width 100>ms
Infrared detector input	Pulse width 100>ms
Up & Down input	Pulse width 100 > ms
Traffic light output	Relay output, max. current 1A
Loop detector Syn. output	Relay NO output, AC 220V/0.5A, DV 12/1A
Wireless remoter(optional)	Two button remote transmitter, distance > 20m
RS 485 interface	9600bps, ASCII decimal encoded
Arm	45×100mm Aluminum alloy, Max. 6m
Housing	2mm cold-roller sheet, IP 54 level
Housing dimension	329mm×345mm×950mm
Weight	Around 55 KG
Operating temperature	-25℃-55℃
Humidity	10%-95%



## Entry Station

Season parkers get access by self-service swiping their proximity cards onto the reader built-in Entry Station, or enter w/o stop if tag onto window shield is read by external long range reader. Typically Entry Station is coupled with Entry Barriers, Loop Detectors, and optional accessories, depending on the site requirements.

### Specification

Power Supply	AC 220V±10%, 50/60HZ, Max. 1.5A
	AC 110V±10%, 50/60HZ, Max.3.0A
Operating temperature:	-10℃-55℃ (w/o heater)
	-40℃-55℃ (with heater)
Humidity:	10%~95%
Card reader Interface:	2 nos. Wiegand26 interface
Card Reader type:	EM-ID, Mifare-IC, passive /active long range optional
Reading and verifying time	<1s
Reading range:	EM-ID 10cm
	Mifare-IC 5cm
	Passive long range 3-12m
	Active long range 3-15m
LED Display:	Resolution64×16, active size 256mm×64mm
Intelligent Control Unit:	40MHz Intel 80C51 Microprocessor
	SRAM with holding circuit of losing electricity
	With Real time Calendar Clock
	Multi Rs232 interface
	Multi 0-5V On-Off input
	Multi Relay output
	DC-DC Electrical Isolation CAN interface, compatible with Peli CAN2.0B
	Lightning protection circuit
Dimension (D Style):	370mm (L) ×150mm (W) ×1200mm (H)
Dimension (E Style):	370mm (L) ×150mm (W) ×1200mm (H)



D Style



D Style



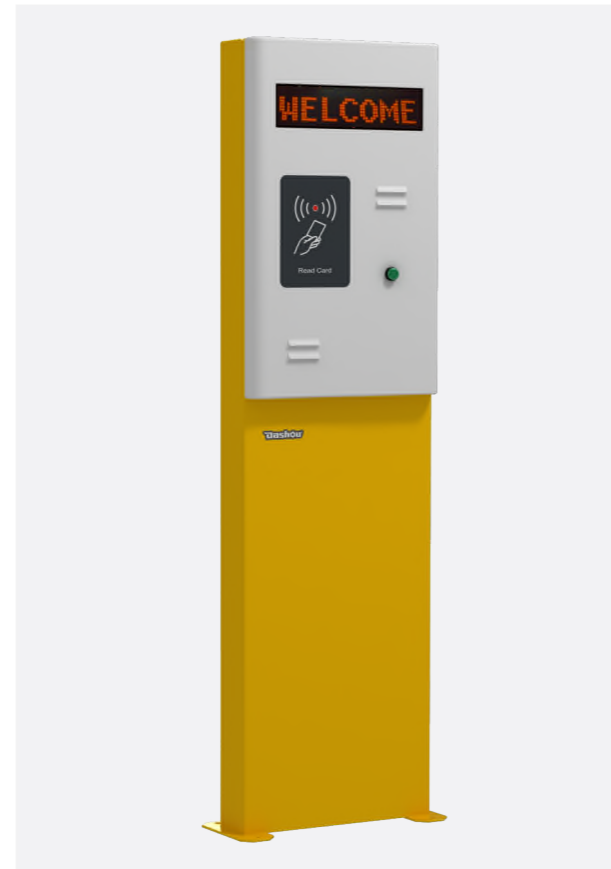
E Style

## Exit Station

With it season parkers can leave by self-service swiping their cards onto the reader built in Exit Station, or leave w/o stop if tag onto window shield is read by external long range reader. Typically Exit Station is coupled with Exit Barriers, Loop Detectors, and optional accessories, depending on the site requirements.

### Specification

Power Supply	AC 220V±10%, 50/60HZ, Max. 1.5A AC 110V±10%, 50/60HZ, Max. 3.0A
Operating temperature:	-10℃-55℃ (w/o heater) -40℃-55℃ (with heater)
Humidity:	10%~95%
Card reader Interface:	2 nos. Wiegand26 interface
Card Reader type:	EM-ID, Mifare-IC, passive /active long range optional
Reading and verifying time	<1s
Reading range:	EM-ID 10cm Mifare-IC 5cm Passive long range 3-12m Active long range 3-15m
LED Display (optional):	Resolution 64×16, active size 256mm×64mm
Intelligent Control Unit:	40MHz Intel 80C51 Microprocessor SRAM with holding circuit of losing electricity With Real time Calendar Clock Multi Rs232 interface Multi 0-5V On-Off input Multi Relay output DC-DC Electrical Isolation CAN interface, compatible with Peli CAN2.0B Lightning protection circuit
Product dimension:	370mm (L) ×150mm (W) ×1200mm (H)



D Style



D Style



E Style

## Loop Detector

Connecting to a ground induction coil with two relays output, loop detector is to detect existence of vehicles.

### Specification

Power Supply:	AC 220V / DC 12V, 20mA
Dimension:	74(L)×36(W)×85(H)mm (AC 220V) 27(L)×21(W)×37(H)mm (DC 12V)
Frequency:	29~90KHZ
Sensitivity:	three level sensitivity adjustable by manual
Environment Compensation:	Automatic Drift Compensation technology avoids wrong detection caused by environmental temperature change.
Ground induction coil:	80uH— 300uH.
Storage temperature:	-40℃-85℃
Working temperature:	-20℃-55℃
Humidity:	10%~95%

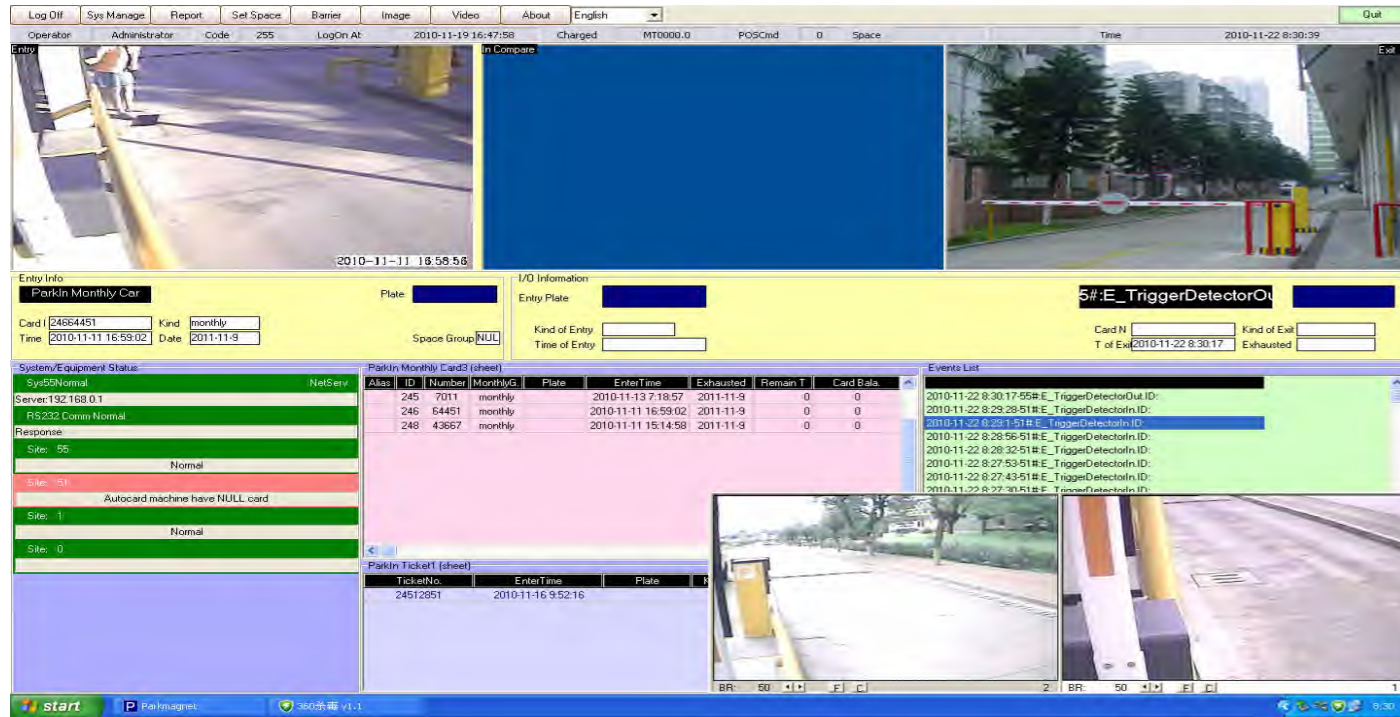


## Optional

Photo Comparison  
Driver Face Capture  
Voice Prompt  
Voice Intercom  
Parking Space Display  
Parking Fee Display  
Middle Distance Card Reader  
Long Distance Card Reader  
Red & Green Lights  
License Plate Recognition  
Heating System etc.

## Parking Management Software & PC

The Windows-based PMS software provides the operators with idiot proof and user-friendly graphic interface, using it is extremely simple, even without training. Operator will be able to run the system quickly. It provides multi functions, such as managing season parkers, real-time surveillance, parking space display, managing events, managing report, registering card etc.



## Parking Management System Diagram

