



AMANO KOREA Total Parking Management System  
Based on the experience and know-how of AMANO KOREA Co., Ltd.,  
we present a sure method for parking system, management and operation to maximize customer satisfaction.

# AMANO KOREA Comprehensive Product Catalog

Parking Control System | Parking Guidance System | Parking Image-Guidance System | WEB · Mobile System  
Total Parking Management System



## Parking lot thinking from the customer's perspective!!

AMANO KOREA is actively practicing three management philosophies of creation and development, co-existence and co-prosperity, active management.



### Characteristics of AMANO KOREA

Based on the know-how through the operation of hospitals, schools, shopping malls, parks etc., we operate in a way that can be the best parking lot while thinking from the customer's perspective and worrying with customers.



### With AMANO KOREA

Through periodic service training and image education of AMANO KOREA, you can get the results of customer satisfaction. Education through external service instructors with self CS evaluation can encourage the service mind of employees and allow you to approach customers with a friendly image.



### Operation of AMANO KOREA

You can manage revenue transparently through the equipment owned by AMANO KOREA.

Monitoring through real time vehicle in/out vehicle status and sales totalization provides services for more transparent revenue management.

With the development and change of Parking Control system, the construction of a system suitable for site conditions has become more and more important.

Parking Control system of AMANO KOREA Co., Ltd. maintains smooth communication of vehicles during in/out by building a system optimized according to the parking environment and provides both maintenance and profitability as well as parking lot management of the operator and convenience of visitors by providing the efficient parking management system environment with a minimum of management personnel.



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# Parking Control System

## Parking Control System

### System Overview

For safe operation of each other, vehicles coming from and going to the parking lot provide the convenient and safe use to drivers through parking facilities and optimized system to vehicles and drivers and administrators promote smooth and efficient parking management with a minimal of management personnel.

### Manual Fee Calculation, Auto Pay Station System

#### 1. Exit Auto Pay Station System

With twice enforcement system, LPN is recognized when exit with parking fee displayed, driver can calculate the parking fee by direct inserting the ticket to the Exit Auto Station, or by the various payment (cash/credit card/traffic card).

##### Equipment Configuration Image

[Exit Auto Pay Station System]

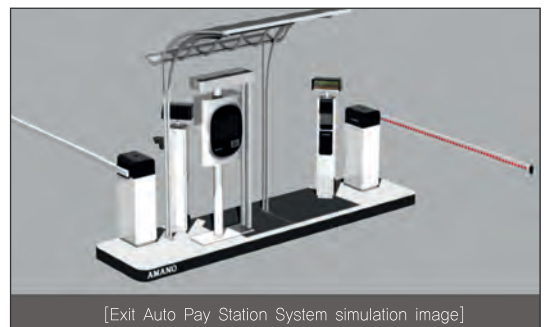


[Licence Plate Recognition(DUAL)]

[Licence Plate Recognition]



[Automatic Barrier Gate]



[Exit Auto Pay Station System simulation image]

#### 2. Auto Pay Station System

As a system for smooth and efficient exit in the medium · large site, it has various payment methods (Cash / card / transportation card, etc.) and lets vehicles exit by calculating fee before exit and then, recognizing the number with the license plate recognizer to identify the vehicle information, [If not calculated, exit after completing exist card calculation]

##### Equipment Configuration Image



[Integration LPR]



[Auto Pay Station System]



[Integration LPR]

[Exit Auto Pay Station System]

license plate recognition entry

Driver Exit Auto Pay Station completion (auto exit)

License plate recognition exit after payment of unpaid vehicle exit card



[Auto Pay Station entry simulation image]



[Completing fee calculation before exit]



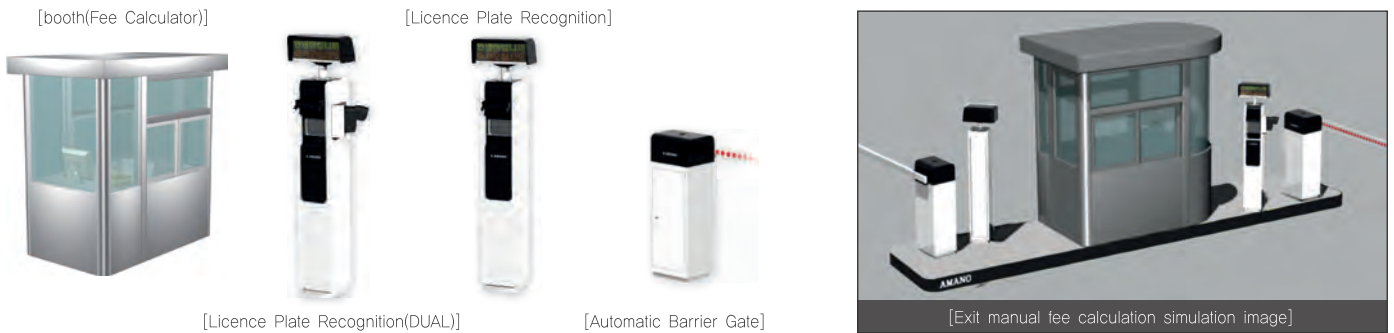
[Auto Pay Station exit simulation image]



### 3. Exit Manual Fee Calculation System

As the most common operating system of an exit fee calculation system, it manages general vehicles / regular vehicles at the same time and increases the recognition rate with license plate dual recognition during entry and lets vehicles exit after completing manual fee calculation. [Ideal for the site requiring external vehicle management such as large shopping malls, government offices, multipurpose officetel etc.]

#### Equipment Configuration Image



## Commuter Management System

### 1. License Plate Recognition

The management is conducted after registering the license plate in advance. By automatically recognizing the license plate registered when the vehicle enters the entrance and exit, it offers free entry/exit when checking the registered vehicle.

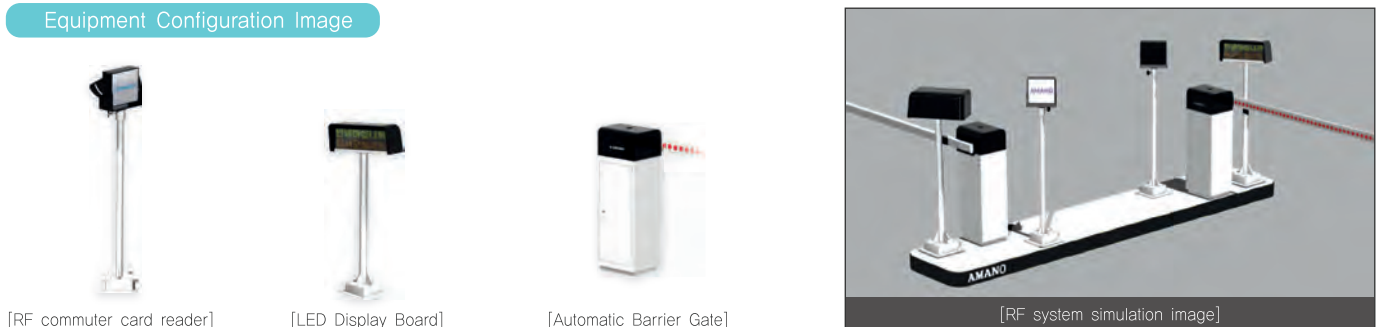
#### Equipment Configuration Image



### 2. Commuter Card System (RF CARD)

If RF TAG attached to the vehicle is approached to the card reader during entry, the entrance is opened automatically and vehicles come and go NON-STOP. After entry, if vehicles walk past Loopcoil, the breaker is closed automatically to provide smooth management. [Ideal for most sites such as apartment, multipurpose officetel etc.]

#### Equipment Configuration Image



# Parking Control System

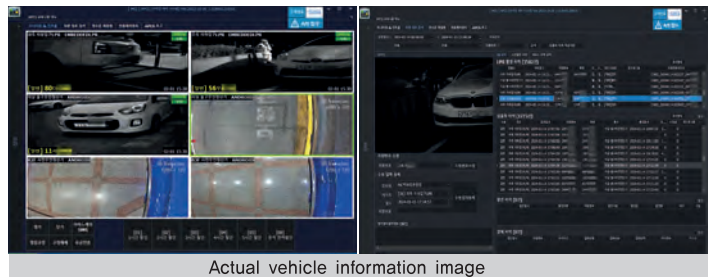
Parking control business

## License Plate Recognition System

**LPR : License Plate Recognition System** : License Plate Recognition is a system of searching a license plate with the image obtained by taking the image of a vehicle, reading the characters of the license plate searched and textualizing data extracted through the analysis process to store them in DB.



- Minimizing unnecessary rebooting by self-system optimization
- Automatic adjustment according to the environment by embedded illumination value sensor
- by embedded industrial controller



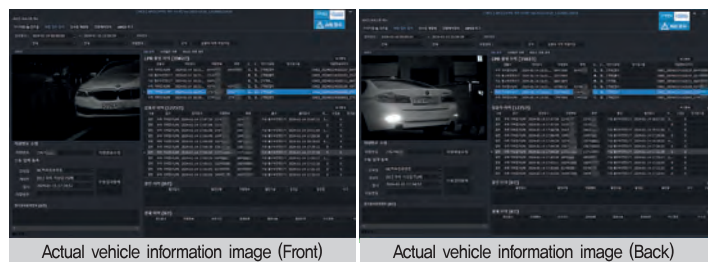
Actual vehicle information image

## License Plate Recognition Dual System

**LPR Dual : License Plate Recognition Dual System** : License Plate Recognition improves the license plate recognition rate by configuring the license plate recognizer as dual and recognizing both the front / back license plates during vehicle entry.



- front/rear license plate number recognition & data analysis for the same vehicle
- poor recognition rate improvement for revised license plate and snowy day
- more than 99% of LPN(License Plate Number) recognition



Actual vehicle information image (Front)

Actual vehicle information image (Back)

[License plate recognizer dual all-in-one Type]



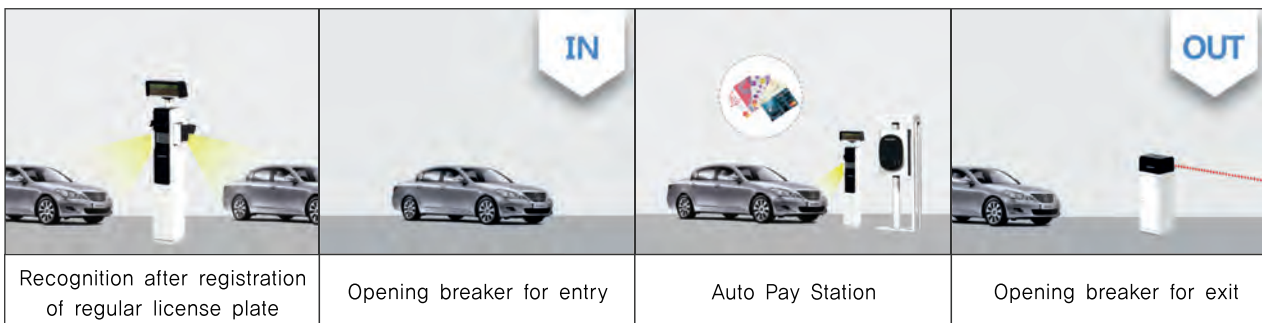
[License plate recognizer Dual detachable Type]





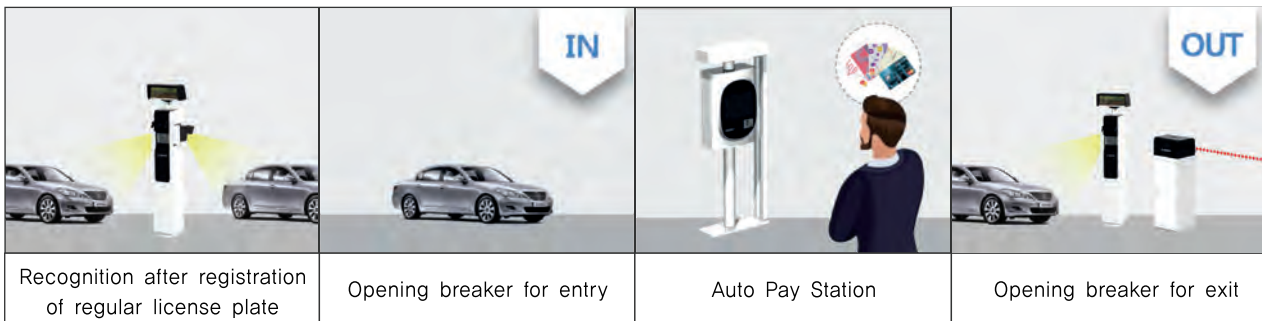
## Progress flowchart for License plate recognition system

### · Exit Auto Pay Station System



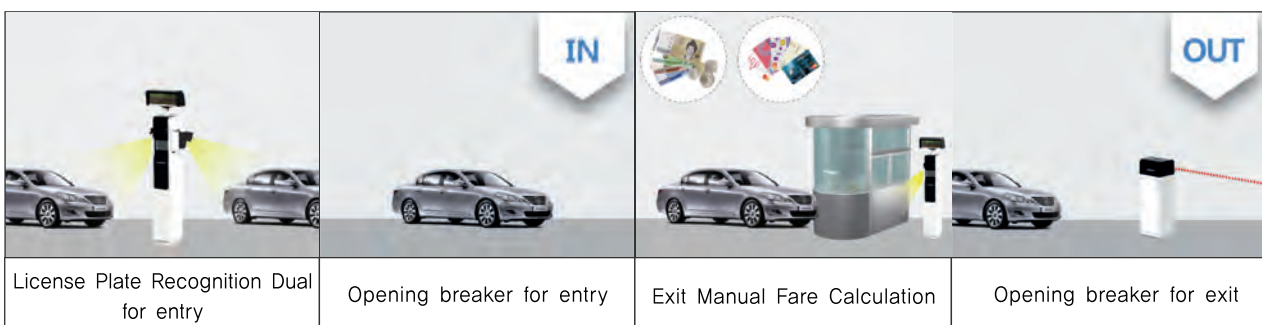
A car accesses to the parking system through the license plate recognition, When exiting from the parking system, the car pays the parking fee at the exit auto pay station system.

### · Auto Pay Station System



A car accesses to the parking system through the license plate recognition, When existing from the parking system, the car pays the parking fee at the auto pay station and is recognized by the license plate recognition for free pass.

### · Exit Manual Fare Calculation System



A car accesses to the parking system through the license plate recognition, When exiting from the parking system, the car pays the parking fee at the exit manual fare calculation system with cash/credit card/traffic card or others.

# License Plate Recognition(LPR/DUAL LPR)



AK-3000 Series



AK-3420



LPR Ceiling  
GT-8320K



LPR Camera  
AK-3300H

### Main Features

The licence plate recognition camera analyzes the trans mitted image to recognize the license plate number.

As the number control computer is connected to LAN, the recognized license plate number image is transmitted.

After the signal is received from the car detection sensor, the strobe lighting device is activated for the shooting of the car with a certain illumination.

Even if the license plate number is changed in the future, the compatibility is kept for the changed license plate during the period of warranty.

On the electric display, the car number, guiding words and parking fee are marked.

As the electric display uses LED device, it is well visible at the outside even during day time regardless of the weather.

One license plate recognition device can recognize both the front and rear license plates of a car.

### Embedded Camera Specification

Maximum frame rate : 30fps

Minimum illumination : 1146mV @F5,6

Lighting angle : 30°

Effective pixels: 1,456(H)X1,088(V) or 2,064(H) X 1,544(V)

Imaging device : 1,5M or 3,0 CMOS Sensor

Vehicle speed for imaging : within 30Km/h

Lens focus: 3,6~16mm

Authentication model : AK-3100 / AK-3110 / AK-3400 / AK-3410 / AK-3430 / AK-3440 / AK-3450

### Recognition Specifications

Recognition rate : 99% or more (except front and back bad license plate, special license plate)

Recognition target : Cars and trucks

Recognition details : Hangul and numbers of license plate

License plate recognition speed : Less than 1 second

Shooting method : Trigger method

Communication method : LAN(TCP/IP)

### Camera Specifications

Shutter speed : 1/60 ~ 1/10,000

Lighting device : IR LED lighting

Lighting angle : 20 °

Resolution : Horizontal 1440 pixels, Vertical 1080 pixels

Image pickup device : CMOS sensor

Vehicle speed in which shooting is possible : 30Km/h less

Communication method : Giga Ethernet

### LED Display Board specifications

LED Display Board module : 48mm X 48mm module (2 columns, 6 rows)

Communication method : LAN(TCP/IP)

### AK-3300H Specification

Type : Independent and outdoor type

Recognition rate : 98% or more (except front and back bad license plate, special license plate)

Recognition target : Cars and trucks

Recognition details : Hangul and numbers of license plate(eco friendly vehicle)(option)

License plate recognition speed : Less than 1 second

Shooting element : 1/1,8 Global Shutter CMOS Sensor

Lens : 8mm or 12mm

Resolution : max, 2064 x 1544 pixels

LED Lighting : 24bulbs White LED

Frame rate : 30 fps

Vehicle speed in which shooting is possible : 30Km/h less

Shooting method : Trigger method and video method(option)

Workable temperature : -30°C ~ 70°C

Communication method : LAN(TCP/IP)



## Parking Control System

# Integrated License Plate Recognition(Integration LPR)

### Integration License Plate Recognition



AK-8800



AK-8600



AK-8700 Series

※ For front advertising 23.8inch LCD



DID

#### Main Features

the license plate by disassembling the image transmitted by the Number recognition camera.

Connected to the number management computer via LAN, transmit the recognized license plate image screen

Receive a signal from Vehicle Detection Ultrasonic Sensors and transmit a signal that can operate the strobe lighting device for shooting of constant illumination

When changing the license plate in the future, support the compatibility for the changed license plate during the defect period,

Display the license plate, guide letter, and parking fee in the LED Display Board

As the electric display uses LED device, it is well visible at the outside even during day time regardless of the weather.

One license plate recognition device can recognize both the front and rear license plates of a car.

The automatic barrier gate automatically open due to the opening signal from the car gate. Once the car passes, it automatically is closed due to the loop coil,

#### Embedded Camera Specification

Maximum frame rate : 30fps

Minimum illumination : 1146mV @F5.6

Lighting angle : 30°

Effective pixels: 1,456(H)X1,088(V) or 2,064(H) X 1,544(V)

Imaging device : 1,5M or 3,0 CMOS Sensor

Vehicle speed for imaging : within 30Km/h

Lens focus: 3,6~16mm

#### Recognition Specifications

Recognition rate : 99% or more (except front and back bad license plate, special license plate)

Recognition target : Cars and trucks

Recognition details : Hangul and numbers of license plate

License plate recognition speed : Less than 1 second

Shooting method : Trigger method

Communication method : LAN(TCP/IP)

#### Camera Specifications

Shutter speed : 1/60 ~ 1/10,000

Lighting device : IR LED lighting

Lighting angle : 20 °

Resolution : Horizontal 1440 pixels, Vertical 1080 pixels

Image pickup device : CMOS sensor

Vehicle speed in which shooting is possible : 30Km/h less

Communication method : Giga Ethernet

#### LED Display Board specifications

LED Display Board module : 48mm X 48mm module (2 columns, 6 rows)

Communication method : LAN(TCP/IP)

#### Automatic Barrier Gate Specifications

Driving method : BLDC Motor direct drive and BLDC control

Operating speed : Can adjust shutter bar rise / fall from 1.5 seconds to 3 seconds

Bar length : Up to 3M

#### Equipment Installation Image



## Parking Control System

# Auto Pay Station(Basic/License recognition)

Auto Pay Station Model : AK-7410 / AK-7400



AK-7410



AK-7400

### Main Features

- The payment terminal completed KTC as security testing certification.
- Detect an approaching vehicle with no help of a separate license plate recognition device through the license plate recognition camera and automatically charge a payment
- Check the current state of use in real time through the upper camera
- Read a barcode or QR code to apply and execute discount automatically (optional)
- Issue a paper receipt or e-receipt once a fee is paid completely (optional)



### Equipment Installation Image



※ Credit card terminals are KTC certified, which is security test certification

### AK-7410 Specification

- Type : Independent and outdoor type
- Monitor : 15" Touch Panel Display, 1000cd or more
- Resolution : 1024x768
- Operating system : Android 10
- Payment : IC credit card
- Image camera : CMOS IP camera with 2 million pixels

### AK-7400 Specification

- Type : Independent and outdoor type
- Monitor : 15" Touch Panel Display, 1000cd or more
- Resolution : 1024x768
- Operating system : Android 10
- Payment : IC credit card
- LPR camera : CMOS single camera 1.5 million pixels
- Image camera : CMOS IP camera with 2 million pixels

## Parking Control System

# Exit Card Auto Pay Station(DCT)

Exit Card Auto Pay Station Model : AK-7200



### Main Features

- Credit card terminals are KTC certified, which is security test certification
- The shutter installed on the front prevents external impurities and dust.
- Exit management with Prepaid card based on an amount/ Prepaid card based on a period/Credit card
- Instructions for use on the front LCD panel
- There is an option to check the operation status of the equipment and the equipment error(Optional)



※ Credit card terminals are KTC certified, which is security test certification

### AK-7200 Specification

- Printing device : Issuance and Individual records of thermal printer receipt, Printing Aggregate Data
- Display device : 15 inch LCD display
- Use magnetic card : Parking ticket, commuter pass, service ticket, credit card, transportation card)
- Power : 220VAC±10%, 50/60Hz
- Fee calculation : Payment of parking fee by credit card / transportation card
- Authentication model : AK-7700 / AK-7720

### Equipment Installation Image





## Parking Control System

# LED Display Board

LED Display Board Model : AK-5900



### Main Features

LED makes it easy to identify outdoors even in daytime and climate changes.

License plate, text message and parking fee are displayed.

### Specifications

Display surface SIZE : (W)418mm X (H)110mm

Module : 2 stages 6 columns (64\*64mm / 8 Color)

Rated power : 5V, 60Hz

Use temperature : -20°C ~ +70°C

· Equipment Installation Image



## Parking Control System

# Automatic Barrier Gate(BLDC)

Automatic Barrier Gate Model : AK-1100 / AGB-1600



AK-1100



AGB-1600

### Main Features

Block of reckless access of external vehicles

BLDC Motor and Up & Down speed control of the barrier gate bar

Slow Stop function to reduce an impact at the time of stop

Easy analysis of data about the use count, switch adjustment, etc, through self-diagnosis

Built-in control unit and loop detector

### AK-1100 Series Specifications

Power supply : 220V10%, 50/60HZ, Class 3 ground

Driving method : BLDC Motor direct drive and BLDC control

Operating speed : Can adjust shutter bar rise / fall from 1,5 seconds to 3 seconds

Bar Material : Square aluminum, LED mounting (BLDC Red / Green)

Bar length : Up to 3M

Authentication model : AK-1110/ AK-1120/ AK-1130/ AK-1140/ AK-1150/ AK-1160/ AK-1170

### AGB-1600 Specifications

Power supply : 220V10%, 50/60HZ, Class 3 ground

Driving method : BLDC Motor direct drive and BLDC control

Operating speed : Can adjust shutter bar rise / fall from 1,5 seconds to 3 seconds

Bar Material : Square aluminum, LED mounting (BLDC Red / Green)

Bar length : Up to 3M

· Equipment Installation Image



# KIOSK

Model : AK-6900



### Main Features

KIOSK organizes and produces guide and GUI of facilities to provide users with information they want

After searching the 4-digit license plate, it guides the location of the vehicle and the moving line

When the four digits of the same vehicle are retrieved, guidance is provided by a scroll method.

Information on both a photo of vehicle and its parking location is offered.

The payment terminal completed KTC as security testing certification.



※ Credit card terminals are KTC certified, which is security test certification

### Specifications

Operational voltage : AC220V / 60Hz

Power consumption : Permanent 60W / 360W when operating / 1200W including heater

Operating temperature : -20°C ~ 40°C (including heater)

Shape : Self-standing indoor type

Printer type : Width 58mm Thermal Printer type

Embedded processing unit : Industrial PC (Windows-based)

Communication specification : Ethernet

Method of payment : Credit card (M/S, IC), transportation card, barcode recognition (optional)

· Equipment Installation Image



# Camera for photographing appearance

Camera for photographing appearance Model : AKC-CCTV



### Main Features

Take a photo of the appearance of an approaching vehicle and send the image to NVR

Support 180o FOV and take the appearance of a vehicle with two cameras

Support the adjustment of a pole's length in line with a field condition

Send a clear image at night due to the IR light built in the camera

All exterior recognition of 180 degrees FOV



### Specifications

Image sensor : 1 / 2.7" Progressive Scan CMOS Sensor

Resolution : 4M / 3M pixels ( 2688 x 1520 @ 25fps / 30fps )

Lens : 1.68 mm ultra wide fixed lens

Video : H,264 / H,265

WDR : 120 dB

FOV : 180°

Operating temperature : -10°C ~ 40°C

Power : PoE / 12V DC

Parking Control System

## VoIP Interphone (Call and visitor's ticket Issuance)

VoIP Interphone Model : AK-5110



### Main Features

전면의 호출버튼을 누르면 지정된 전화기로 연결되어 양방향 통화가 가능

진입 허가시에 방문증이 출력되고, 방문증을 뽑으면 차량차단기 BAR가 올라감

전면에 카메라가 장착되어 있어 필요시 카메라에서 촬영된 영상 확인 가능

Relay Output 포트가 있어서 필요시 차단기 BAR Open 가능

### Specifications

Type : Independent and outdoor type

Call Button: Waterproof

Printer type : Thermal printer with 58mm in width

EMP type : Power AMP, Pre AMP external & internal AMP

Speaker : 4Ω, 8W

Communication type : 10/100 Base-T Ethernet

Use voltage : AC220V / 60Hz

Use temperature : -20℃ ~40℃(heater included)

Parking Control System

## VoIP Interphone (Calling and issuing a visitor's ticket by selecting the Dong · Ho)

VoIP Interphone Model : AK-5120



### Main Features

By entering the Dong number and Ho number to visit (the place to visit) on the front 10.1" screen and pushing "Call" button, it is possible to talk to a resident of the place on the phone.

Once access is allowed, a ticket of visit is printed out. After the ticket is taken out, the barrier gate bar lifts up.

Since a camera is installed in the front, it is possible to check the image shot by the camera, if necessary.

It is possible to open the barrier gate bar through the Relay Output port, if necessary.

### Specifications

Type : Independent and outdoor type

Monitor : 10.1" (Resolution: 1920 x 1080)

Monitor brightness : 1,000cd

Printer type : Thermal printer with 58mm in width

EMP type : Power AMP, Pre AMP external & internal AMP

Speaker : 4Ω, 8W

Communication type : 10/100 Base-T Ethernet

Use voltage : AC220V / 60Hz

Use temperature : -20℃ ~40℃(heater included)

· Equipment Installation Image





## Parking Control System

# Interphone (Slave)

Interphone Model : VGS-EB50C



### Main Features

It can be connected with the child device installed in the parking equipment for a phone call.

TCP / IP allows multiple users to use simultaneously and ensures outstanding scalability.

### Specifications

System : IETF Recommendation(SIP-RFC 3261)

Communication : LAN (10/100 Base-T(RJ45-jack))

Protocol : TCP/IP

Input voltage : +5V / 1A

Operational voltage : AC 100~240

Input signal : Contact point method

Self-standing case : Manufactured in the same color as the parking control system equipment

· Equipment Installation Image



## Parking Control System

# Interphone (Master)

Interphone Model : IP-200



### Main Features

It can be connected with the child device installed in the parking equipment for a phone call.

TCP / IP allows multiple users to use simultaneously and ensures outstanding scalability.

### Specifications

System : IETF Recommendation(SIP-RFC 3261)

Display : Dot LCD Type

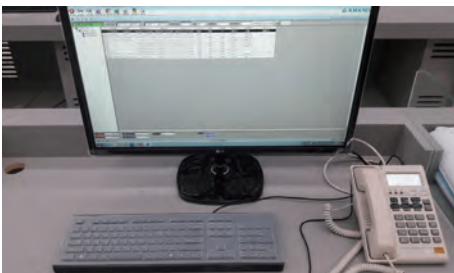
Communication : LAN (10/100 Base-T(RJ45-jack))

Protocol : TCP/IP

Input voltage : +5V / 1A

Operational voltage : AC 100~240

· Equipment Installation Image



## Parking Control System

# Lobby phone

Lobbyphone Model : IP-2000



### Main Features

Installed at the entrance of the residential parking lot, Equipment for visitors to make a household call and janitor's office call

The lobby phone calls directly from the visiting vehicle to the household, and interlocks with each device of the parking control to allow access from the household

The lobby phone wire interworking with HA company mutual cooperation, janitor's office and household

### Specifications

Enclosure material : POLE-STEEL 1,6T(powder coating)

Enclosure shape : Self-standing waterproof structure POLE type

Communication : RS-485

Communication speed : 7,8K BPS

Power supply : Lobby phone: DC 12V / Power supply unit: AC 220V, 60Hz

How to install : Self-standing POLE mounting structure

Power consumption : Maximum 6W

Operating temperature : -20°C ~ 50°C, humidity 90%

Manufacturing : Reflecting products reflected in residential buildings

· Equipment Installation Image



## Parking Control System

# RF Reader

RF Reader Model : TF-3790H



### Main Features

It controls the equipment alone by interlocking with the RF reader configured in the parking lot device or access control device.

Data can be transmitted and received by connecting to a PC.

It communicates with the parking management computer to register the commuter pass ID and period.

It can be operated independently even if communication with the parking management computer is interrupted.

Display contents in LCD window and send parking management computer in case of failure

### Specifications

Number of ID registrations : 20,000

Number of event data : 2,000

Data memory : 512KBytes

RF CARD : Semi-permanent use

Frequency used : 900MHZ

· Equipment Installation Image



## Parking Control System

# Fee Calculator

Fee Calculator Model : TFK-5620S



### Main Functions

Providing convenience to drivers by displaying fee

Shortening each vehicle exit processing time by rapid fee calculation

Printing out various kinds of data and using them for audit

Report output, daily report, monthly report, yearly report output and vehicle access information management

### Specifications

Processing device : I 3\_6100 (3,7Ghz) or more

Memory : 4GB

HDD : 500GB

Monitor : 22" LED

Device connection : 6CH standard interface (RS-232C, RS-485)

1 Printer port / 2 USB Port / Gigabit LAN Card

Width 60mm or more Serial Printe

Operating System : Hangeul Windows 10 or higher

Discount type : Classify more than 10 kinds of button discount

## Parking Control System

# Fee payment booth

Fee payment booth



### Main Functions

The fare adjustment agent and the customer Built to facilitate

Exterior materials are made of STAINLESS-STEEL

cold weather for summer and winter a heater and a container Installation included

Maintain internal light of 20W × 2 or more

### Specifications

Power supply unit and communication terminal box are embedded in BOOTH

The built-in finish is a non-combustible built-in panel or FIBER BOARD,

The floor structure is made of iron core PIPE, and anti-tarnish is applied

A small desk facility is embedded inside the calculation office

Four 2-hole outlets for 110 / 220V (2 for appliance only, 2 for electric heater) are embedded inside the calculation office

Ventilating FAN (300 × 300) is installed on the inside top

Others: fluorescent light (32W), electrothermal outlet, desk, distribution board (single phase ELB 20A), air conditioner

※AC 220V/5KW is supplied separately for heat transfer equipment in winter

## Parking Control System

# Canopy

Canopy



### Main Functions

Protects unmanned settlement machines by blocking the sun, snow, and rain

### Specifications

Material: Steel

Specifications: 2000(W)x2600(D)x3200(H) mm (variable depending on the site)

Product Description: Iron pipe, blue embossed acid 3T



## Parking Control System

# Vehicle Detector

Vehicle Detector Model : VD100 / VD200



### Main Functions

Construct 10 levels from low sensitivity (0) to high sensitivity (9)

Can set the warning light time to 0 seconds, 3 to 60 seconds

Relay action to match roof coil entry or entry

Direction from close range (10 seconds) to long distance (30 seconds) directional discrimination mode by discrimination and proximity loop

Up to 4 vehicles entering remember and perform functions



### Specifications

Frequency adjustment : 4 levels adjustable

Display: Power LED, Detection LED, Light LED

Sensitivity control: 10 levels adjustable (0 : dullness, 9 : sensitive)

Power consumption : Maximum 11W

Relay contact capacity : 10A / 120VAC

Operating temperature : -20°C ~ 50°C, humidity 80%

Maximum temperature change : 0.5°C/min @30°C

Power supply : AC 220 V, 60 Hz

## Parking Control System

# Loop Coil

Loop Coil Model : AKC-LP



[Embedded type]

### Main Functions

Detection of metal objects under the body,

Installed as buried or cutting type,

The function of receiving the high frequency signal from the vehicle detector and forming the magnetic field around the coil to transmit the change of the impedance due to the passing of the vehicle to the detector,



[Cutting type]

### Specifications

Material of coil : Chloroprene Tire Cable

Life of coil : Semi-permanent

Number of turns : 4LC

Spacing between road surface and coil : 20 ~ 30 mm

## Parking Control System

# Manual switch

Manual switch Model : SW-1



### Main Functions

A manager manually turns ON / OFF BAR of the breaker with the switch

Soldering a connection terminal

Housing material PHENOL

A contact material is plated with silver (long life) on copper (Cu)



### Specifications

Shape : Desktop typeOperation

Method : Button type

Material : PHENOL

Electric current : 125V -3A , 250V-2A

## Parking Control System

# Center Control Panel

Center Control Panel Model : TF-MC



### Main Functions

Receives a signal from the detector to automatically calculate the progress of the vehicle, such as in/out vehicles of a parking lot

Displays full and entrance by floor when the set number of full sets is reached

The driver identifies the parking status (number of parking spaces) with LED DIGITAL number display by outputting in full lamp

### Specifications

Form and structure : Wall Mount Type

Power supply : AC 220V,  $\pm 10\%$ , 50/60HZ(Class 3 ground)

Power Consumption : 100VA

Service Environment : Temperature  $-20^{\circ}\text{C} \sim -45^{\circ}\text{C}$ , Humidity 10%  $\sim$  90%

Appearance Dimensions : 380mm ' 650mm ' 245mm

Outer material : STEEL 1,6T

## Parking Control System

# Internal Alarm Lamp(LED)

Internal Alarm LED Lamp Model : TF-AS-LED



### Main Functions

A signaling device informing the vehicle entering the parking lot

A traffic light that automatically releases an alarm signal and alarm sound by the vehicle detector to prevent accidents and to communicate smoothly

### Specifications

Alarm sound : Minimizes noise pollution and raises awareness around by operating it as a crackdown sound

Rotation alarm lamp : When operating, operates simultaneously with alarm sound

Configuration : LED LAMP

Furiker gear Speed Control Volume: 0~150RPM

Cover: Yellow or Red (pick 1)

Buzzer: Compact panel-type powerful buzze

Power supply : AC 220V / DC 12V 2A

Enclosure shape : Installed as a ceiling type and length is adjustable on site

Enclosure Material : Ceiling type SUS 1,2t

## Parking Control System

# 출차주의등(LED)

Exit Alert LED Lamp Model : TF-COW-LED



### Main Functions

Traffic lights to detect vehicle in/out, to prevent accidents and to flow smoothly by ringing caution alarm signals and alarm sounds

### Specifications

Alarm sound : Minimizes noise pollution and raises awareness around by operating it as a crackdown sound

Rotation alarm lamp : When operating, operates simultaneously with alarm sound

Letter display : "Caution for outgoing car" appears in the form of white letters on a milky white acrylic blue background and the internal LED lamp lights up when the alarm sounds are operated

Operation type : Operated by the signal received from the vehicle detector

Enclosure shape : Installed in SUS self-standing type. The length of self-standing pole is 500mm as standard and height adjustable according to the field conditions

Power supply : AC 220V-1P / DC 12V 2A

## Parking Guidance Equipment

# Entrance Full Display Lamp

Entrance Full Display Lamp Model : TF-DPFB



### Main Functions

- Providing real-time information
- Classifying parking occupancy status and availability of parking space by floor
- LED displays the remaining space, number of clearances, congestion, fullness, etc.

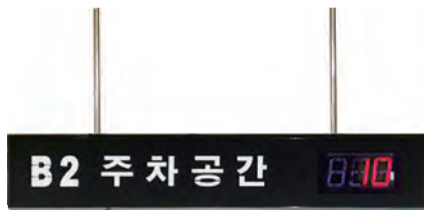
### Specifications

Form and structure : Self-standing type
Power supply : AC 220V, ±10%, 50/60HZ(Class 3 ground)
Power Consumption : 100VA
Service Environment : Temperature -20° C ~ -45° C, Humidity 10% ~ 90%
Appearance Dimensions : 380mm ´ 650mm ´ 245mm
Outer material : STEEL 1.6T

## Parking Guidance Equipment

# Floor Full Display Lamp

Floor Full Display Lamp Model : TF-DSF



### Main Functions

- Installed on each floor entrance of parking lot, Whether each floor is full or not/Guidance on availability of parking
- Shorten the parking time by inducing the use of other floors quickly with the current floor full display signal guidance lamp that automatically turn on and off by receiving the output signal of the central supervisory control panel
- The lamp installed in the ceiling of a parking place helps drivers in vehicles find the status of parking lots easily with the naked eye.

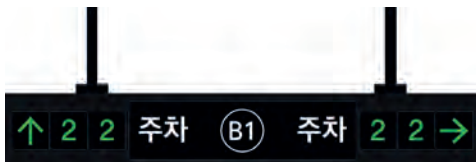
### Specifications

Input voltage : AC90 ~ 132V/180 ~ 264V, 50/60Hz(44 ~ 440Hz)
Operating temperature : -25°C ~ 75°C
Operating humidity : Less than 90%(there should be no condensation)
Shape : Ceiling suspension type
Outer material : STEEL 1.6T
Display panel : FND
Communication method : RS485(Multi-Drop)

## Parking Guidance Equipment

# Entrance Full Display Lamp

Entrance Full Display Lamp Model : TF-S(1side) / TF-SS(2sides)



### Main Functions

- LED Display Board informing the driver of the direction in which the vehicle can be parked and the traveling direction of the exit
- Displays the direction of the parking area only for the disabled or female depending on the area
- Display the direction of a parking lot for the handicapped or for women depending on a section
- Preventing safety accidents by allowing the driver to identify the direction in advance

### Specifications

Form and structure : Ceiling-attached aluminum structure (1side/2sides)
Power supply : AC 220V, ±10%, 60HZ
Power Consumption : Ordinary 40W
Material : AL
Color : Black
Internals : LED lighting
Display panel : White letters on green background



## Parking Control System

# Radar Sensor

Radar Sensor Model : AK-5200

### Main Functions



- Track a vehicle being travelled in an on-street parking place
- Detect whether a vehicle is parked in the parking area in the installation section
- Interact with the central control board at entrance
- Offer information on parked vehicles accurately
- Not influenced by weather, nighttime, or other conditions
- Object identification: Vehicle type /Non-vehicle type (person, motorcycle)

Radars	PC
Power type : POE	CPU: Intel Core i5 or higher
검지방식 : 레이더검출방식(60GHz)	RAM: 16Gb
검지거리 : 0,3m~6,0m (조정가능)	Hard disk: at least 200 Mb
검지폭 : 0~2,0m (조정가능)	Ethernet: 10/100/1000Mbps
방향판별 : 가능	OS: Windows 10 Pro 64bit or higher

## Parking Control System

# Vehicle exterior imaging device

Vehicle exterior imaging device



### Main Functions

- Save images transmitted from each camera
- Images are saved with time and provide clear image quality when played
- Check images in the event of complaint for customer vehicle damage
- Can search various recording methods such as continuous, motion detection, sensor etc
- Simultaneous search of 16 channels

### Specifications

- Operating system : Windows 7 or higher
- Maximum channels : 16 channels
- HDD : 2TB more
- Compression method : H,264, MPEG-4, MJPEG
- Resolution : CIF~5M
- Recording method : Continuous, Motion, Sensor

## Parking Control System

# Vehicle exterior management computer

Vehicle exterior management computer



### Main Functions

- Search and search in conjunction with each vehicle exterior image device
- Automatically delete images that have passed a certain period of time

### Specifications

- CPU : i7-4790 quad-core processor
- Memory : 8GB (DDR3 1600 MHz)
- Graphic : NVIDIA GeForce GTX750 Ti
- HDD : 1TB
- ODD : Super Multi S-ATA
- LAN : GIGABIT LAN
- Power supply : AC 220 V, 60 Hz
- Power Consumption : 350 W

Parking Control System

## Parking Management Computer

Parking Management Computer Model : ATS-3000



### Main Functions

Reports including daily profit status, sales by equipment, daily In / Out status, commuter pass registration status can be printed

Installed in the parking management room and linked with the parking system to perform parking management work.

### Specifications

Operating System : Windows® 10 Professional (64-bit)

Memory : 4GB DDR3L Memory at 1600MHz (4GB x 1)

Storage device : 1TB more

Main power supply : AC220V~230V±10%, 50/60Hz

Processor : Intel® Xeon® E5-2609(4core, 2.40GHz, 10MB, 80W) or higher

Input device : PS/2 keyboard, USB optical mouse

Parking Control System

## License Plate Number Management Computer

License Plate Number Management Computer Model : ATS-2000LPR



### Main Functions

The license plate transmitted from the license plate recognizer and the card information transmitted from the entrance card checker are combined and stored in the database

The information of the vehicles stored in the number management computer is used to search for long-term neglected vehicles and process statistical data by parking time

When changing a license plate in the future, support to maintain compatibility for changed plates during defect period

### Specifications

Operating System : Windows® 10 Professional (64-bit)

Memory : 8GB이상

Storage device : 1TB more

Main power supply : AC220V~230V±10%, 50/60Hz

Processor : Intel® Xeon® E5-2609(4core, 2.40GHz, 10MB, 80W) or higher

Input device : PS/2 keyboard, USB optical mouse

## Fiber distribution frame(FDF)

### Fiber distribution frame



#### Main Functions

Equipment installed to distribute optical cables before connected to the optical equipment

#### Specifications

Material : Cold rolled steel plate 1,2T

Port : 4 ports to 24 ports

Connector : SC, ST, FC, LC type

## Fiber Optic Gigabit Ethernet Media Converter

### Fiber Optic Gigabit Ethernet Media Converter



#### Main Functions

Easy operation of system by interconnecting optical fiber cable and optical transmission device

#### Specifications

Number of ports mounted : 1 to 8 ports (max)

Power supply : AC 220V,  $\pm 10\%$ , 50/60HZ (12 V DC / 1,5 A)

Communication speed : 10/100/1000 Mbps

## Hub

### Hub



#### Main Functions

A device that connects network equipment

#### Specifications

Port : 8 ( Ethernet RJ 45 )

Power supply : AC 220V,  $\pm 10\%$ , 50/60HZ (12 V DC / 1,5 A)

Communication speed : 10/100/1000 Mbps



# On-Street Unattended Parking System

## On-Street Unattended Parking System

### System Overview

This is a system of recognizing a license plate and saving entry and exit images by installing license plate recognizer only for On-Street Unattended parking lot mounting a high-performance megapixel camera and calculating parking fee directly by parking lot users in Auto Pay Station

- On-Street Unattended Parking lot License Plate Recognition Device Automation Management
- Time operation by Auto Pay Station calculation
- Ensuring transparency of fee calculation
- Issuing a bill to arrears and unpaid getaway cars
- Delivering parking information in real time
- Annual excessive revenue growth and labor cost reduction

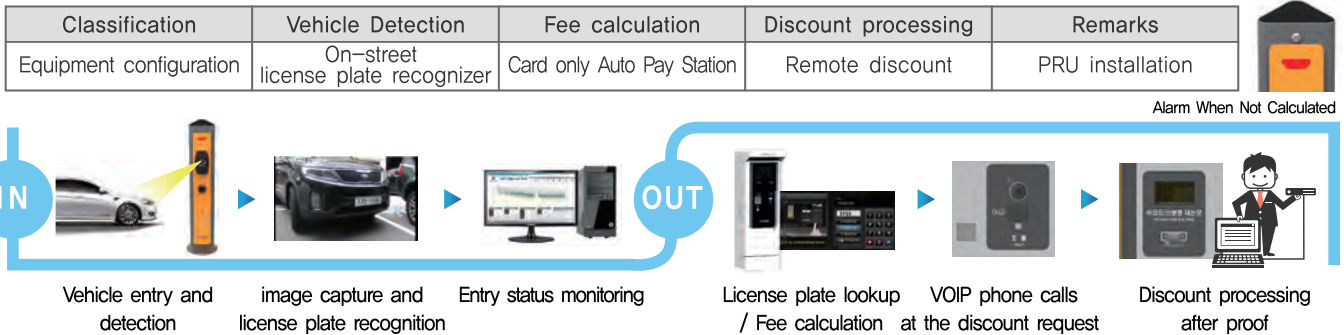
Patent Appli-cation



Patent for license plate recognition by Play-Back mode of PRU

### Unmanned System

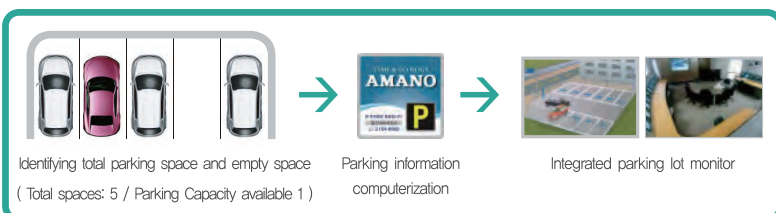
Unmanned system requiring no administrator is a method of recognizing the license plate by capturing images automatically when a car enters and calculating parking fee by the customer directly querying the license plate in Auto Pay Station during exit and discount is applied through a call with a center worker if necessary.



### Expected System Benefits

By introducing On-Street Unattended Parking System, civil complaints can be reduced through accuracy of entry, exit time and transparency of fee charging and working environment can be improved. In addition, you can manage the parking lot continuously and efficiently for 24 hours.

- Can transfer parking status on on-street parking side accurately in real time - associated link with parking lot use information provided by the local government
- License Plate Recognition and results transfer during vehicle entry - associated link with Accounting Division of the local government when finding arrears vehicles



- Ensuring transparency of sales through Auto Pay Station
- Encouraging unpaid getaway cars to pay or issuing unpaid bills
- Fee charging for small parking lot with less than 10 spaces
- Real time parking status information guide service
- Municipal accounting system link for habitual delinquent vehicles

# On-street license plate recognizer(LPR/DUAL LPR)

On-Street Unattended Parking System with License Plate Recognition (LPR) Technology



Model : AKC-LR20R-1    Model : AKC-LR20R

Uni-directional on-street license plate recognition  
(Perpendicular parking space)



Bi-directional on-street license plate recognition  
(Diagonal parking space)



Uni-directional/bi-directional on-street  
license plate recognition (Parallel parking space)



## Main Functions

Recognizing images by unidirectional and bi-directional camera by using high-performance megapixel camera

Real-time monitoring in integrated vehicle status center with security function and state-of-the-art system

Fee calculation by checking license plate recognized during entry in Auto Pay Station

If existing without paying, charging additional dues by checking parking video for the vehicle

Realizing slim plumbing and simplification of wire, simplification of construction by parallel connection between equipment in a daisy-chain manner

## Equipment Specifications (Uni-directional on-street license plate recognition)

Camera : 1/2,8" COLOR 5,1M CMOS

Per space configuration : 1 parking lot space per car

LED operation : Empty – green lighting / – entry: red lighting

Charging – red flashing / – calculation: green lighting

Night light : 730nm Infrared LED

Vehicle detection: Video detection

Data transmission: Maximum speed 100Mbps, TCP/IP Communication

Power used : AC220V±10%, 60Hz

Frame : 30fps

Resolution : 2592x1944

## Equipment Specifications (Bi-directional on-street license plate recognition)

Camera : 1/2,8" COLOR 5,1M CMOS

Per space configuration : 2 parking lot space per car

LED operation : Empty – green lighting / – entry: red lighting

Charging – red flashing / – calculation: green lighting

Night light : 730nm Infrared LED

Vehicle detection: Video detection

Data transmission: Maximum speed 100Mbps, TCP/IP Communication

Power used : AC220V±10%, 60Hz

Frame : 30fps

Resolution : 2592x1944

Authentication model : AKC-LR3D-F / AKC-LR30S-F

## Equipment Installation Image



## Parking Control System

# Parking Recognition Unit

Parking Recognition Unit Model : AKC-PRU1



### Main Functions

- Linked with on-street license plate recognizer
- Transfer image saving / search / monitoring etc.
- Applying ultrasonic sensor distance detection algorithm
- Video saving period of more than 1 month (Based on 5 cars a day per parking space)

### Specifications

Power used : AC220V±10%, 60Hz
Hardware : Intel i7, DDR4 16GB, 256GB SSD, 2TB HDD
Number of linked LPR : uni-directional: 12 or bi-directional: 6
License recognition S/W : Applying playback method, license plate extraction / Recognition method after analyzing saved images
Communication method : TCP/IP Ethernet Communication
O.S: Windows 10 Pro 64Bit

## Parking Control System

# Parking Management Computer(Local Control Unit)

Model : AKC-S800



### Main Functions

- On-Street Unattended parking lot parking status management
- Checking and correcting license plate recognition results
- RF vehicle registration and management
- Vehicle in/out information history management
- SMS text message service management

### Specifications

Power used : AC220V±10%, 60Hz
Hardware : Intel i7, DDR4 16GB, 256GB SSD, 1TB HDD
Database : MS SQL 2008 or more
Report management : Daily sales report, cash/Card payment details, Arrears (getaway) vehicle details
O.S : Windows 10 Pro 64Bit

## Parking Control Equipment

# Parking Control Supplies

## Parking Control System



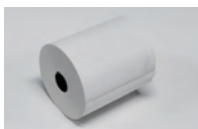
### CE 316252 (Ribbon cartridge (small))

The ink for printing on tickets is contained as a ribbon type. Replace if time, calculated amount printed on a ticket blurs. Applied equipment : Auto Pay Station, Parking ticket issuing machine, Ticket reader



### CE 313872 (Ribbon cartridge (large))

Mounted in pose type Manual Fee Calculator model, used when printing on receipt paper. Replace if printing on receipt paper blurs.



### Auto Pay Station Receipt Paper

Thermal receipt paper issued in Auto Pay Station



### Exit Manual Fee Calculator Receipt Paper

Receipt audit paper issued in pose type manual fee calculator



### Barcode Ticket

Roll type ticket paper issued in barcode dispenser



### Magnetic Ticket

Box type magnetic ticket paper issued in a general parking ticket issuing machine (1 box : 5000 sheets )



### PC Type Exit Manual Fee Calculator Receipt Paper

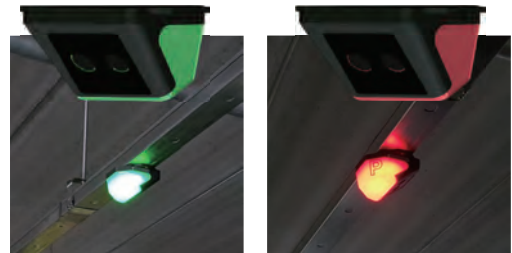
Thermal receipt paper used in the receipt printer of PC type exit manual fee calculator

# Ultrasonic Parking Guidance System

## Ultrasonic Parking Guidance System

### System Overview

An Ultrasonic Parking Guidance System is a system guiding rapid parking by monitoring empty parking space in real time and providing parking lot information to drivers with an ultrasonic sensor installed in the parking space. The parking lot administrator monitors various statistical data and situations in real time.

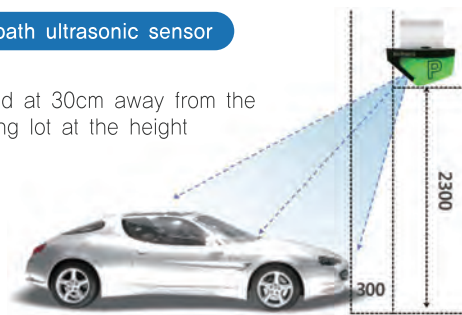


Parking path ultrasonic sensor

### Ultrasonic Sensor

install Parking path ultrasonic sensor

It is to be installed at 30cm away from the front of the parking lot at the height of 2.3 to 2.5m.



Transmit / Receive Separate type



Integrated transmission

As it is installed in front of the parking lot, the driver can check the parking lot available without conventional space marking light. The work is possible even if there are the parked cars. → So, the required work period can be shortened.

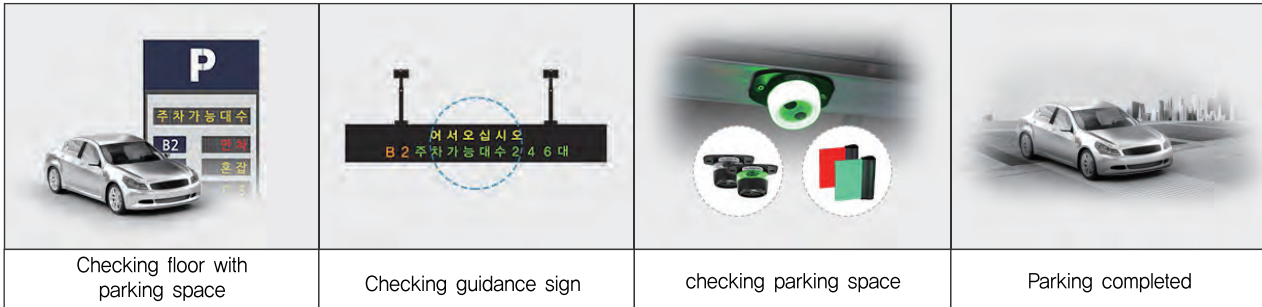
### Expected System Benefits

Providing convenience to parking lot users	Increased efficiency of administration	Enhanced brand image
Minimizing congestion in the parking lot by guiding fast, accurate parking	Flexible parking lot operation by various statistics and real-time parking lot management	Enhanced external brand image by applying the latest system to the parking lot

- Providing rapid, accurate parking information in real time in letters, numbers, and lights of vehicles using the parking lot,
- Monitoring vehicle flow and checking various statistical data in real time
- Easy to manage long-neglected vehicles by using statistical data
- Saving the fuel use amount by reducing idling and creating comfortable parking environment



## Parking Guidance Progress Flow Chart



## Positioning System (Ultrasonic sensor + PTZ camera)

- 1 A system which makes it easier to find a vehicle parked in the parking lot and searching with the license plate
- 2 When an ultrasonic sensor detects a vehicle, a position recognition camera(PTZ) recognizes the license plate of the position
- 3 Managing parking status position information of vehicles in real time and providing parking location lookup services, (Auto Pay Station, KIOSK, Mobile etc.)



## Ultrasonic Parking Guidance System Applied Site



▶ Samsung H3 Parking Tower



▶ Incheon Luwon City Daesung Berhill



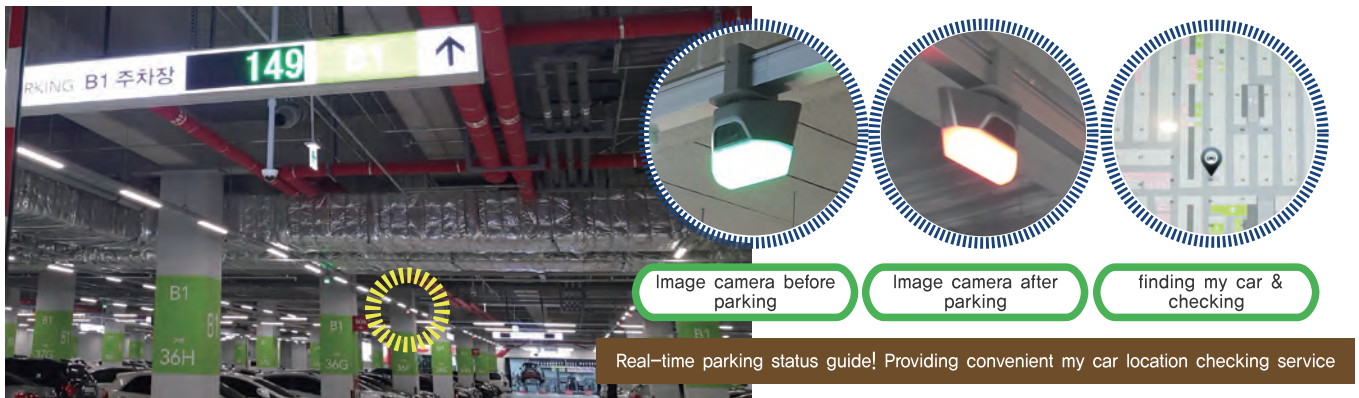
▶ Gimpo Lotte Mall

# 4 Side Managing Parking Guidance System

## 4 Side Managing Parking Guidance System

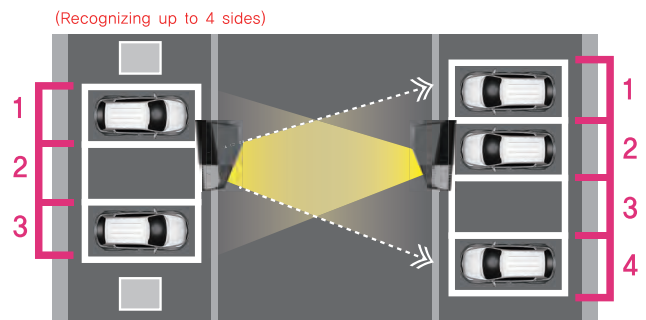
### System Overview

It is a system of analyzing images of parking side cameras (3 sides, up to 4 sides) of 5 million~12 million pixels and not only guides parking status information to customers by being installed on the opposite side of the vehicle but provides real time parking information and my car location service by linking with vehicle guide light, emergency bell etc.



### System Features

- Recognizing 3 parking sides with 1 camera (recognizing up to 4 sides)
- Shooting and saving real time video to ensure evidence in the event of an accident
- Recognizing parking car number and saving data
- All-in-one of camera and full display lamp
- Checking vehicle location such as finding my car etc.



[Parking side camera monitoring range]

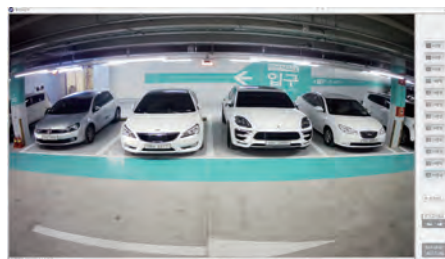
### Image Guidance Surveillance System

Camera image comparison [Induction / image / security functions by dual streaming cameras]

- Performing the security function without blind spot using images of 5 million~12 million pixels, linked with emergency bell
- 3~4 sides recognition, providing dual streaming function and dual monitoring
- Electric ZOOM function by remote camera in the center
- The wider field of view shows up to 4 parking sides



[3 sides recognition]

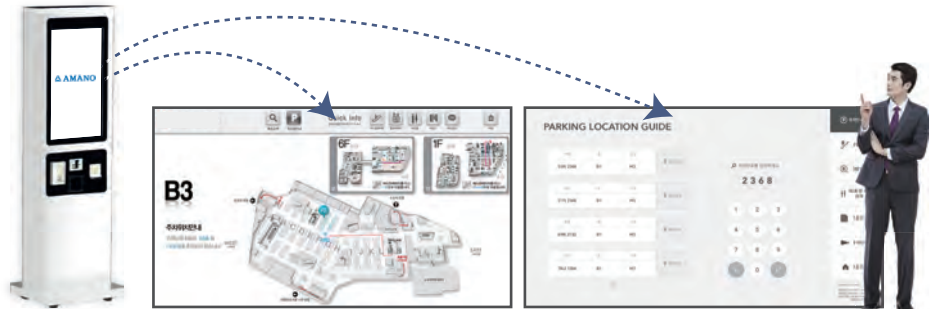


[4 sides recognition]



Remote Electric Zoom

## Positioning System



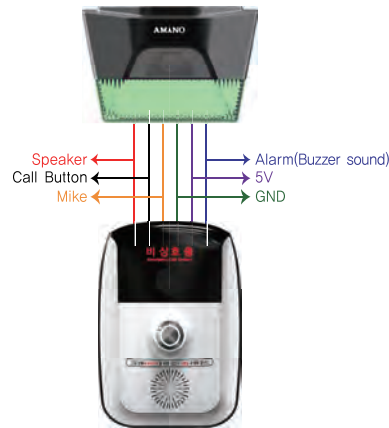
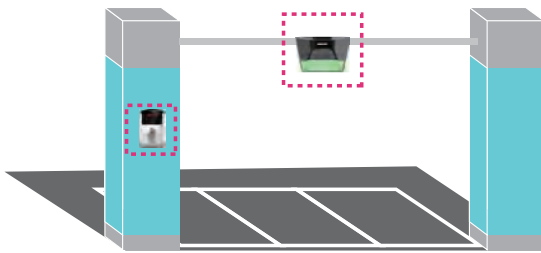
▶ Vehicle parking status monitoring by each parking area

[My Car location search/Checking parking location/Store location guide etc.]

- Customized KIOSK design suitable for the site (Auto Pay Station, KIOSK, Mobile etc.)
- License plate image management for KIOSK lookup
- Real-time vehicle information lookup

## Linked with Emergency Bell

- Bidirectional voice call in the event of emergency, linked with parking side camera, flexible handling
- Emergency alarm after when calling emergency bell
- To parking side camera and communication connection center - there should be no wires



[Expressing the area in the parking administrative office operating screen]

## 4 Side Managing Parking Guidance System Applied Site



▶ Yeouido Parc1



▶ Starfield Hanam



▶ Pyeongtaek Samsung Parking Tower

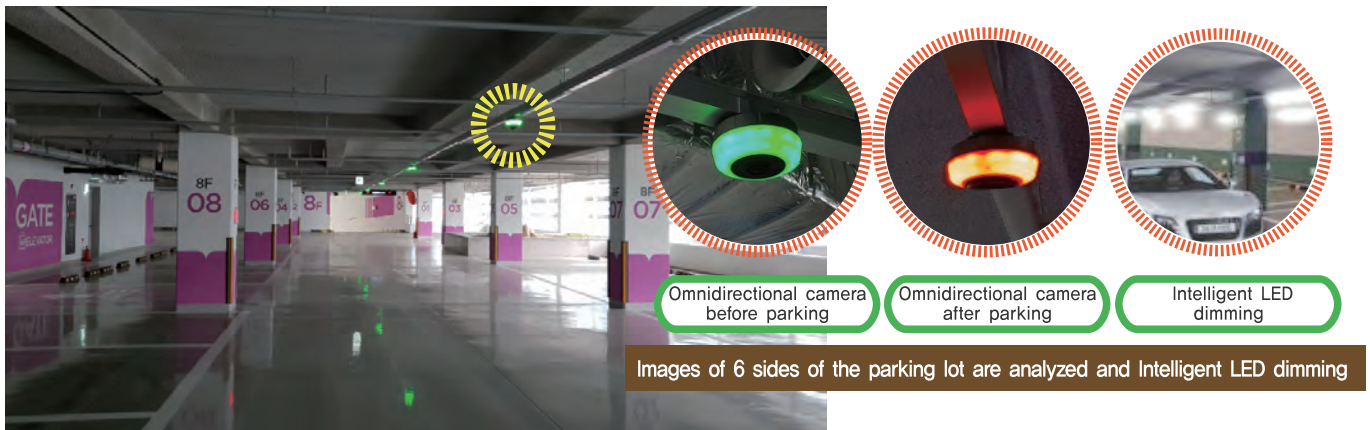


# Omnidirectional Camera Guidance System

## Omnidirectional Camera Guidance System

### System Overview

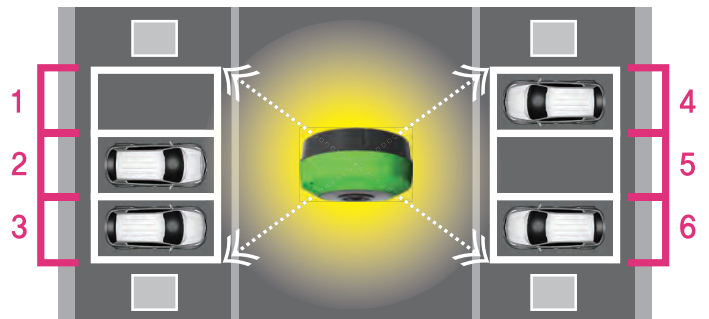
Images of 6 sides of the parking lot are analyzed and linked with 1 omnidirectional parking side camera of 12 million pixels at the same time and this is a system of not only guiding parking status information by floor, area to customers using the parking lot but monitoring vehicles or people passing the passage and providing parking guide and my car position checking service by perfect security, surveillance (41/130/200/3 million pixels) without 360° blind spot



### System Features

- Parking guidance
  - Providing real time parking information
  - Rapid parking and in/out
- Location checking
  - Intelligent 12 million pixels 360° camera
  - Vehicle location information guide
- Lighting control
  - Lighting control by motion detection
  - Energy saving by integrated 3D control technology
- Security
  - No blind spot by 360° omnidirectional camera
  - Effect of installing 4 CCTV cameras

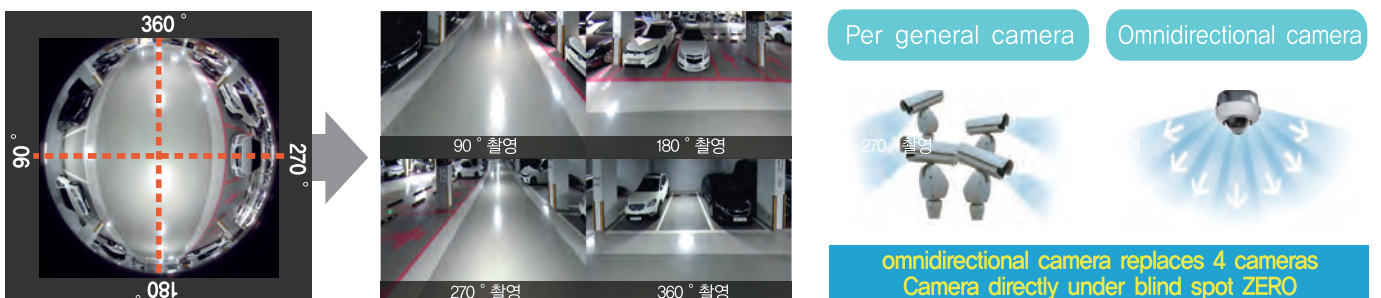
(Recognizing up to 6 Sides) [Omnidirectional camera monitoring range]



Performing the security function using 5 million~12 million pixels images, recognizing 6 sides by linking with emergency bell, providing dual streaming function and dual monitoring

### Cross-sectional camera effects of up to 4 cameras per camera

Cross-sectional camera effects of up to 4 cameras by shooting the location with 1 camera at 360°  
Solid pattern horizontal angle 180°, directly under 90°, angle 360° image shooting





## Camera directly under blind spot ZERO

Implementing directly under area blind spot ZERO by directly under 90° image shooting

Regular Camera



Directly under area blind spot present

Omnidirectional Camera



## Positioning System

- Image correction technology of 12 million pixels
- Providing real time guide to similar vehicles, parking fee, even parking space
- Search with KIOSK, Exit Auto Pay Station, Mobile etc.



## Intelligent LED dimming

- Detecting vehicles, people movement of 20 meters on both sides, diameter 40 m by using 360° omnidirectional camera
- Individual, group control of LED lights of the location (Automatic response to external illumination, lighting control by time zone)

Motion detection

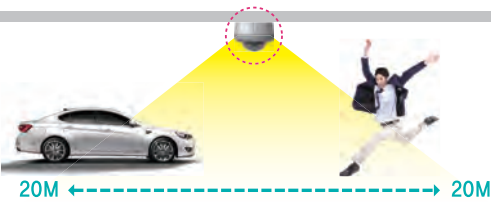
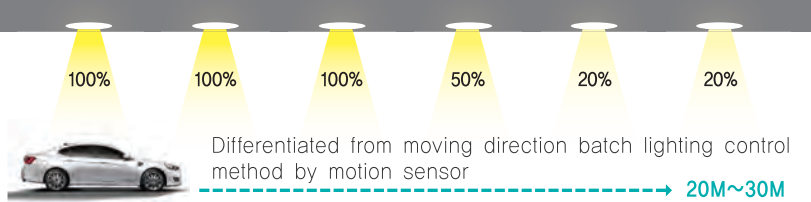


Image detection lighting control (20 ~ 30m ahead by considering speed)



Differentiated from moving direction batch lighting control method by motion sensor



- Automatic light adjustment by image shooting and maximum brightness when detecting

## Parking Guidance Equipment

# Parking path ultrasonic sensor (Transmitter / Receiver Detachable)

Parking path ultrasonic sensor Model : VGS-US3a



### Main Functions

Install location of 30cm in front of the parking surface and 2,3~2,5m in height

Consisting of multiple board and Less noise generated

No space indicator required

Faster project completion without car control

### Specifications

Power : DC24V

Voltage :  $\pm 24V(\pm 19V \sim \pm 29V)$

Electricity : 6mA(max) (Equal to Green / RED LED)

Sensing Distance : 0,3m  $\sim$  3m( $\pm 0,3m$ )

Frequency : 40KHz( $\pm 0,5\%$ )

Detection Distance : 30cm $\sim$ 3m

Ultrasonic transmission angle: 25°  $\sim$  50° (6-step adjustable)

Set ID : 1  $\sim$  127

Service Environment : Indoor

· Equipment Installation Image



## Parking Guidance Equipment

# Ultrasonic Sensor(Transmitter / Receiver Detachable)

Ultrasonic Sensor Model : VGS-US1/VGS-US2



US1

US2

### Main Functions

Install every parking surface of a parking lot that requires parking surface management

Detect the presence or absence of the vehicle and provide a signal to the controller

Detection distance can be adjusted when installed on the ceiling (300  $\sim$  3000mm)

### Specifications

Sensor type : Ultrasonic Sensor transmission / reception separable (Ceiling RACEWAY attachment type) 40KHz

Input voltage : DC24V

Workable Temperature :  $-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$

Operating humidity : 10 $\sim$ 85%RH

Appearance material : Flame retardant ABS

Communication method : Nonpolar 2-wire DC POWER LINE(FM0)

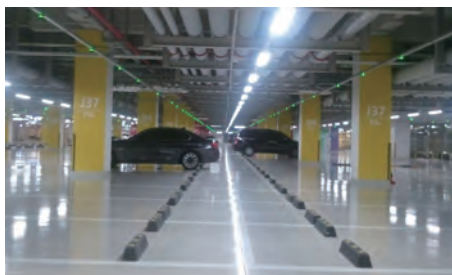
Detection accuracy : 99,9%

Display panel : Integrated parking surface indication(Up and down 120 degrees, left and right 360 degrees)

ID setting : 1  $\sim$  127

Service environment : Indoor

· Equipment Installation Image



## Parking Guidance Equipment

# Ultrasonic indicator floor type

Ultrasonic indicator floor type Model : VGS-BIF

### Main Functions



Ultrasonic indicator to be installed in the floor

Floor display lamp for the guidance control in a parking facility

Set a color to a designated parking area, and turn on or off, or flick the lamp.

Send or receive a signal to or from a section control device through power line communication (FMO DATA FORMAT)

1~31 (Able to control up to 31 vehicles per section control device)

### Specifications

Size : 120(W)×120(D)×15(H)

Weight : Approximately 358g

Material : Aluminum diecast base (SUS 1,5T)

Fixture type : Adhesive or asphalt

LED : RGB 3-color LED combination for color display

LED cover : Transparent polycarbonate

No. of parking lots to support : Max,127 lots, different designation by LED display lot

Voltage : ±24V(±19V ~ ±29V)

Electricity : 85 mA(max)

Workable Temperature : -10°C ~ 50°C

· Equipment Installation Image



## Parking Guidance Equipment

# Floor mount Parking bay Sensor

Floor mount Parking bay Sensor Model : VGS-USO

### Main Functions



Floor mount parking bay sensor to control outdoor parking areas

Detect a vehicle through power line communication with a section control device

Transmit ultrasonic waves at 90°; adjust the detection of detection (300~1500mm)

Improve a recognition rate through the application of Rx/Tx separate sensor improves

Prevent interference with adjacent parking areas through ultrasonic interference avoidance function

Transmit a signal with a section control device through power line communication (FMO DATA FORMAT)

Able to control up to 127 vehicles per section control device

### Specifications

Size : 130(W)×120(D)×49(H)

Weight : 650g

Material : Aluminum diecast base (SUS 1,5T)

Fixture type : Adhesive or asphalt

Input voltage : DC24V

Electricity : 4,5mA(max)

Workable Temperature : -10°C~50°C(there should be no condensation)

Detection distance range: 0,3m~1,5m

Sensing angle : 90°

· Equipment Installation Image





## Parking Guidance Equipment

# Ultrasonic Indicator

Ultrasonic Indicator Model : VGS-USI



### Main Functions

Easy to identify in the vehicle driveway in the parking lot

Passing the parking information in the designated block

The parking space is blocked and green when there is parking space

Red if the parking block is occupied

### Specifications

Display type : LED

Input voltage : DC24V

Workable Temperature : -25°C ~ 75°C

Operating humidity : 10~85%RH

Communication method : Nonpolar 2-wire DC POWER LINE(FM0)

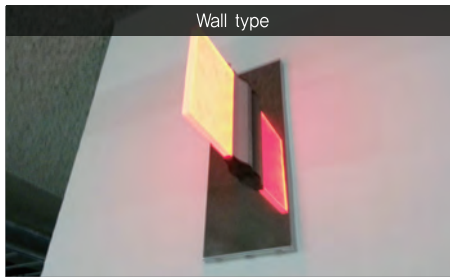
ID setting : 1 ~ 64

Service environment : Indoor

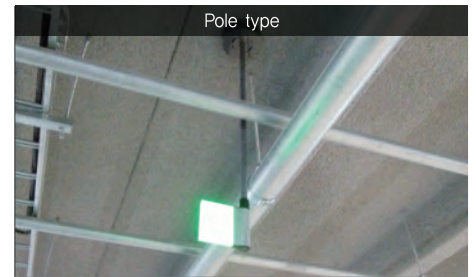
· Equipment Installation Image



Ceiling type



Wall type



Pole type

## Parking Guidance Equipment

# Local Control Unit

Local Control Unit Model : VGS-LCU



### Main Functions

Detect whether the vehicle is parked from an ultrasonic sensor and calculate the situation and sends it to the higher controller (System Control Unit)

Control scan of Ultrasonic Sensor and provide and control information to Ultrasonic Indicator, Floor guide board and Local guide board

### Specifications

Input voltage : AC100 ~ 240 V (50/60Hz)

Workable Temperature : -10°C ~ +50°C

Operating humidity : 10~85%RH

Appearance material : SPCC 1.0(Powder coating)

Communication method : RS 485 communication or Nonpolar 2-wireDC POWER LINE(FM0)  
 - Parking surface sensor, Parking space display, Emergency switch, Slope Sensor: RS-485 (Multi-Drop)  
 - LED floor guide board, LED local guide board: RS-485

ID setting : 1 ~ 16(Dip Switch)

· Equipment Installation Image





# Parking Guidance Equipment System Control Unit

System Control Unit Model : VGS-SCU



### Main Functions

Receive parking surface data collected from Local Control Unit and parking information for each parking surface and transmit the result of operation on the parking available quantity to the installed LED display board in real time and transmit the information on parking status to server

· Equipment Installation Image



### Specifications

Input voltage : AC100 ~ 240 V (50/60Hz)

Workable Temperature : -10°C ~ +50°C

Operating humidity : 10~85%RH

Appearance material : SPCC 1,0(powder coating)

Communication method : RS485(Multi-Drop)Local Control Unit, RS485(Multi-Drop) Entrance full direction board , TCP/IP - Parking Guide Server

# Parking Guidance Equipment Parking Guide Server

Parking Guide Server Model : VGS-PGS



### Main Functions

DATA record received from System Control Unit, comprehensive management and control of each equipment in the parking lot

Provide information to entrance guide LED Display Board, floor guide LED Display Board, local guide LED Display Board, Control management

Mark the status graph of various parking lots

Function to check long-term parking status image by MAP management

Provide data for parking management in real-time

### Specifications

Processing device : intel CORE i7-3770 Processor(3,40GHz, 8MB)

Memory : 8GB(DDR3 1600 MHz)

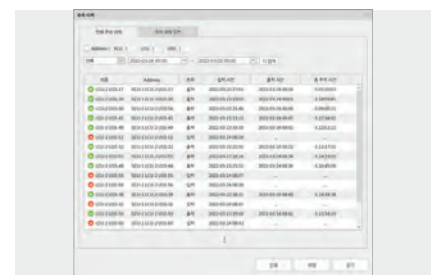
Hard Disk : 1TB

O,S : Hangeul Windows Professional 7 or higher

Perform various tasks : Multi-Tasking function

Monitor : 23-inch LED or larger

· 화면 이미지



## Parking Guidance Equipment

### 4 Side Image Recognition Camera (Type A - With display lamp / Type B - Display lamp separately / Type C - Display lamp)

Type A : AKC-4W-CB / Type B : AKC-4W-B / Type C : AKC-4W-C



#### Main Functions

Provide parking status information to driver passing through parking lot with LED lamp

Guide quickly into an empty parking space

Transmit super-high-quality video of 500 to 1200mega pixels to the server in real time by illuminating the parking surface (maximum 4 sides)

Real-time monitoring and license plate recognition

The operator can selectively store images such as 130 mega pixels, 41 mega pixels, etc.

#### Specifications

Input voltage : PoE 36~57V DC

Photographing element : 1/2,8" COLOR 6M CMOS, 1/2,3" COLOR 12M CMOS

License plate recognition range : MAX,4(Simultaneous analysis of all license plates)

Power consumption : About 6W(including full/empty display lamp) /

Type B-About 4W / Type C-PoE 36V~57V(DC) 2W

Communication method : Type A, B - 100M Ethernet / Type C - TCP/IP

Minimum subject illumination : 1,2~1Lux @ F1,3 / 1,5

Frame : 6M COMS 최대 30FPS , 12M COMS 최대 20FPS

Memory : Flash : 256M / DRAM : 1G

Lens focus : 6M 2,7~12mm / 12M 3,6~11mm

Form : Type A, B, C - Race Way Attached Typ / Type A - LED Display panel Included

Authentication model : AKC-4W-C

· Equipment Installation Image



## Parking Guidance Equipment

### Omnidirectional Camera

Omnidirectional Camera Model : AKC-OW-CB



#### Main Functions

Rapid parking guidance to empty parking space, video parking detection and parking surface real-time video shooting and transmission, Obtain evidentiary materials in case of an accident

The parking surface (up to 8 sides) is photographed at 360° to detect the vehicle and license plate recognition

Transmit the video shot by the omnidirectional camera in the type of max, 30FPS and in the format of H,264 or H,265.

Correct the 4-split JPEG image to be transmitted with an imaging process device according to the optimized set values for vehicle detection and license plate recognition

#### Specifications

Input voltage : PoE 36~57V DC

Shooting element : 1/2,3" COLOR 12M CMOS

Resolution : MAX, 4000 x 3000

License plate recognition range : MAX, 8대(번호판(숫자4자리) 동시분석)

Power Consumption : About 12W (including full/empty display lamp)

Communication method : 10/100M Ethernet

Synchronization method : Internal Trigger

Frame : 5FPS Up to 30FPS for video, 5FPS for JPEG image

Lens focus : 1,55mm

Form : Race Way Attached Type

Video : H,264 / H,265

Vehicle image : JPEG

TYPE : Including LED

Recognition rate : 98% or more (for normal license plate)

· Equipment Installation Image



## Parking Guidance Equipment

# Omnidirectional CCTV Camera

Model : AKC-OW-C

### Main Functions



As the security function of the parking lot, the operator can selectively store and transmit the images such as 1,3M pixels and 0,41 pixels

Video storage, utilization of evidence in case of accidents, maximization of security

To reduce the load on the network, transmitted as the H,264 video of 1,3 M pixels at all times. Also, the image of 5M pixels is transmitted to the parking analyzer using the JPEG method

### Specifications

Input voltage : PoE 36~57V DC
Shooting element : 1/2,3 " COLOR 12M CMOS
해상도 : 최대 4000 x 3000
차량번호인식범위 : MAX, 8대(번호판(숫자4자리) 동시분석)
Power Consumption : 6W
Communication method : 10/100M Ethernet
Synchronization method : Internal Trigger
Frame : Up to 30FPS for video, 5FPS for JPEG image
Lens focus : 1,55mm
Form : Race Way Attached Type
Video : H,264 / H,265
Vehicle image : JPEG
TYPE : LED포함
인식율 : 98% 이상(정상번호판일 경우)

· Equipment Installation Image



## Parking Guidance Equipment

# Emergency Bell

Model : APG-EM01

### Main Functions



Installed in hazardous area and underground parking lot, Press button to send janitor's office emergency IP intercom operating PC

Connected to emergency IP interphone operating PC of janitor's office, emergency IP interphone

When operated, emergency IP interphone operation position, time, real time image

Displayed on janitor's office monitor in real-time, real time two-way call

After parking on the parking lot, emergency voice interphone is used to voice the current parking position

### Specifications

Communication method : TCP/IP(interworking with video camera)
Standard : Wall-mounted type
ADDRESS : Auto setting the same as IP camera's IP
Microphone : 48dB/600Ω condenser Mike
Speaker : 3W 4Ω
material : Aluminum / Copolymer ABS

· Equipment Installation Image





## Parking Guidance Equipment

# Slope Sensor

Slope Sensor Model : VGS-SS



### Main Functions

Vehicle detection is identified with an opaque object with a length of 1.5M or more

Infrared light emitting diode transmission type detection system

Maximum 10M detection distance

After the vehicle passing, control the warning light for a specified time

### Specifications

Input voltage : AC90 ~ 132V/180 ~ 264V, 50/60Hz(44 ~ 440Hz)

Operating temperature : -10°C ~ 65°C / Operating humidity : 35~85%RH

Outer material : SPCC 1,2t(powder coating)

Detection method : Infrared transmission type (2 sets)

Output : RELAY(N,O)

Communication method : Contact point output

· Equipment Installation Image



## Parking Guidance Equipment

# Entrance Full Display Lamp

Entrance Full Display Lamp Model : VGS-EF

### Main Functions

Indicate parking situation on each floor to induce smooth vehicle flow in the parking lot

Classify parking information by floor, provide real-time information

If the parking lot is full, a separate full-time display (FUUL) will be guided to prevent the vehicle from entering

The Center Control Panel collects the parking information and calculates the exact in / out status of vehicles

### Specifications

Input voltage : AC90 ~ 132V/180 ~ 264V , 50/60Hz(44 ~ 440Hz)

Operating temperature : -10°C ~ +50°C

Operating humidity : 10~85%RH

Shape : Self-standing

Outer material : SPCC 1,2 t (powder coating)

Color : Decision on approval after proposal

Display panel : Used Device - LED 128x128mm Module (SMD)

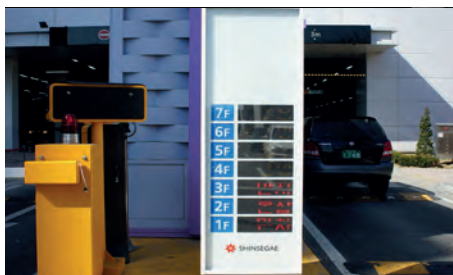
LED Module color : 3 colors (RED, GREEN, AMBER)

Communication method : RS485(Multi-Drop)



Basic Type Design Type

· Equipment Installation Image





## Parking Guidance Equipment

# Floor Full Display LED Panel

Floor Guide LED Panel Model : VGS-FGP / VGS-FGPD



### Main Functions

Inform the parking lot customer of the number of parking spaces in the floor to induce prompt judgment

Display the guidance on the driving direction with arrows, pictures showing directions

Display information of parking spaces for the disabled

### Specifications

Input voltage : AC110~220V

Operating temperature : -10°C ~ +50°C

Operating humidity : 10~85%RH

Shape : Ceiling suspension type

Outer material : SPCC 1,2t(powder coating) or Aluminum Extrusion 1,6Tor more

Color : Decision on approval after proposal

Display panel : Used device - LED 128x128mm Module(SMD)

Used device slim type - LED 96 (W) x 96 (H) mm,

Light Guide Panel with 2 stage and 2 columns (LGP lamp)

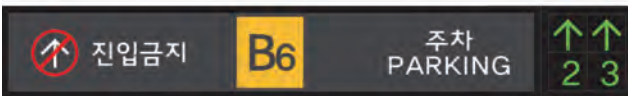
LED Module Color : 3colors(RED, GREEN, AMBER)

Communication method : RS485(Multi-Drop)

## Parking Guidance Equipment

# Local Guide Led Panel LED

Local Guide Led Panel Model : VGS-LGP / VGS-LGPD



### Main Functions

Provide real-time information on parking status and parking space in your area

Numbers and letters indicate the number of cars that can be parked through a Local Guide Led Panel

Display the guidance on the driving direction with arrows, pictures showing directions

Display information of parking spaces for the disabled

### Specifications

Input voltage : AC110~220V

Operating temperature : -10°C ~ +50°C

Operating humidity : 10~85%RH

Shape : Ceiling suspension type

Outer material : SPCC 1,2t(powder coating) or Aluminum Extrusion 1,6Tor more

Color : Decision on approval after proposal

Display panel : Used device - LED 128x128mm Module(SMD)

Used device slim type - LED 96 (W) x 96 (H) mm,

Light Guide Panel with 2 stage and 2 columns (LGP lamp)

LED Module Color : 3colors(RED, GREEN, AMBER)

Communication method : RS485(Multi-Drop)

## Parking Guidance Equipment

# Parking Guidance Lamp

Parking Guidance Lamp Model : VGS-PGL / VGS-PGLD



### Main Functions

Display Board informing the driver of the direction in which the vehicle can be parked and the traveling direction of the exit

Displays the direction of the parking area only for the disabled or female depending on the area

Indicating parking information for each direction to the driving vehicle for parking to induce faster parking

### Specifications

Power : AC 110 ~ 220V

Operating temperature : -10°C ~ +50°C

Operating humidity : 10~85%RH

Shape : Ceiling suspension type

Outer material : SPCC 1,2t(powder coating) or Aluminum Extrusion 1,6Tor more

Color : Decision on approval after proposal

## Parking Guidance Equipment

# POE HUB

POE HUB Model : APG-S100



### Main Functions

The images and data received from the camera are transmitted to the NVR  
Provide IEEE802.3af PoE function embedded in all 24 ports provide to data used and power at the same time  
24 RJ-45 ports automatically ensure maximum speed, support Auto uplink function  
POE Enclosure is made robustly to protect the POE HUB from external impact

### Specifications

POE capacity : 192W
Mac Address : 8K
Switching Capacity : 12,8Gbps
Maximum power consumption : 225W
Workable temperature : 0~50° C
Workable humidity : 0~90%, Non-Condensing
Network : 24 10/100 Mbps auto sensing, 2 10/100/1000 Mbps auto-sensing
Gigabit Ethernet switching ports(RJ-45), 2 combo Gigabit copper/SFP slots

## Parking Guidance Equipment

# Monitoring Computer

Monitoring Computer Model : APG-S600



### Main Functions

Sense even minute movements coming in through the camera to store and process images, View stored data at remote locations  
Video recording can be done for at least 30 days  
Rack type configuration and installation for easy maintenance  
Image storage is set up by the operator such as 0,41M pixels, 1,3 M pixels, 5 M pixels  
The number of cameras connected is more than 36 channels

### Specifications

Operating System : Windows® 10
Memory : 16GB
VGA : GeForce GTX 1650 4GB
Storage device : SSD 256G, HDD 1TB
Main power supply : AC220V~230V±10%, 50/60Hz
Processor : Intel® Core™ i7 7C 3,0Ghz
Input device : PS/2 keyboard,, USB optical mouse

## Parking Guidance Equipment

# Parking Guide Consulting PC

Parking Guide Consulting PC Model : APG-S500



### Main Functions

Output related information using the license plate or location information  
Various display split modes (full screen, 1 split, 4 split, 6 split, 9 split, ..., 36 split, 49 split 64 split, 100 split) are supported, and providing monitoring function while automatically switched  
Display alarm warning in the event of communication failure of parking camera, lamp  
Enter the license plate to display the location image of the vehicle and view as text, and display the location of the vehicle on the map

### Specifications

Operating System : Windows® 10
Memory : 16GB
VGA : Intel HD 630
Storage device : SSD 256G, HDD 1TB
Main power supply : AC220V~230V±10%, 50/60Hz
Processor : intel® Core™ i7 7C 3,0Ghz
Input device : PS/2 keyboard, USB optical mouse

## Parking Guidance Equipment

# Database server

Database server Model : APG-S100



### Main Functions

Address management for each parking surface camera so that the video taken by the parking surface camera can be viewed by license plate search or time.

Displayed as an always necessary channel, monitor the parking situation at all times based on criteria set by the operator, channel management

All data integration occurring in parking lot management, DB interworking

Interworking data that can be provided to higher level systems

### Specifications

CPU : Intel Xeon® Silver 4210 10Core 2,2GHz/14M 2CPU

Memory : 32GB

SSD : 480GB X 2EA (RAID 1)

HDD : 4TB NLSAS X 4EA (RAID 5)

OS : WinSvr 2019 64Bit

V3 vaccine (for server)

Apply when less than parking surface 3000

## Parking Guidance Equipment

# Network Video Recorder

Network Video Recorder Model : APG-NIP1



### Main Functions

Detect even minute movements through the camera, save images, recognize and save license plate with processing device, and view the data stored at remote site

Check parking surface camera status

Display image information remotely

Image recording can be done for at least 30 days

The reverse parking can be distinguished, data is transmitted to the DB server and the parking recognition device displays the image of the parked vehicle

### Specifications

CPU : Intel® Core Intel Core i7 -8Core 3.0Ghz

Memory : 16GB

Storage device : SSD 256G, HDD 11TB (3TB+4TB+4TB)  
(HDD is matter of consultation)

Communication : TCP/IP

Communication speed : 1Gbps

VGA : Intel HD 620 (Built-in type)

Number recognition speed: 1 or more times / 2 seconds

OS : Windows® 10

## Parking Guidance Equipment

# KVM SWITCH

KVM SWITCH



### Main Functions

Monitor and control computers locally and remotely.

Perform CD-ROM / DVD and other storage devices remotely with virtual media support.

Daisy chain connection allows connection of up to 16 levels of PRIMA-T series..

High resolution 2048 x 1536 support (remote 1600 x 1200)

There is a password protection function to prevent password stealing

### Specifications

Processor : Intel® Xeon® X3450 Quad-core processors 2,66 GHz

Memory : PC3-10600 4GB DDR3 (2X2GB)

Cache Memory : 8MB (2 x 4MB) Level 3 cache

Hard Disk : 500GB 7,2k HP MDL SATA II 1y Wty HDD

Optical Drive : 16 x SATA DVD-ROM

Network Controller : Built-in type NC105i PCIe Gigabit Server Adapter

## Parking Guidance Equipment

# RACK [19"]

### RACK



#### Main Functions

Can effectively store servers and network equipment in a limited space.

19" standard RACK

#### Specifications

Shape : Self-standing RACK CASE

Power supply : AC 220V 50/60Hz

Maximum PC storage block capacity : MAX, 8 units

Outer material : AL 2,0T

FAN : AC 220V 0,6A

## Parking Guidance Equipment

# uninterruptible power supply(UPS)

### uninterruptible power supply



#### Main Functions

Supply power to the center equipment of the system

Power failure does not affect system operation

#### Specifications

Rated output : 10KVA

Nominal Output Voltage : 230V

Input frequency : 50/60Hz +/-3 Hz

Battery-based backup time : 30 minutes (half load)

Battery type : No Maintenance no liquid leakage lead-acid battery

## Parking Guidance Equipment

# Main Switch

### Main Switch



#### Main Functions

Supply power to the center equipment of the system

Power failure does not affect system operation

#### Specifications

Switching Capacity : 32Gbps

Maximum power consumption : 13W

Workable temperature : 0~40° C

Workable humidity : 15%~95%, Non-Condensing

Network : 10/100/1000 Mbps auto-sensing Gigabit Ethernet switching ports(RJ-45),  
2 combo Gigabit copper/SFP slots



# WEB · MOBOIL Systemv

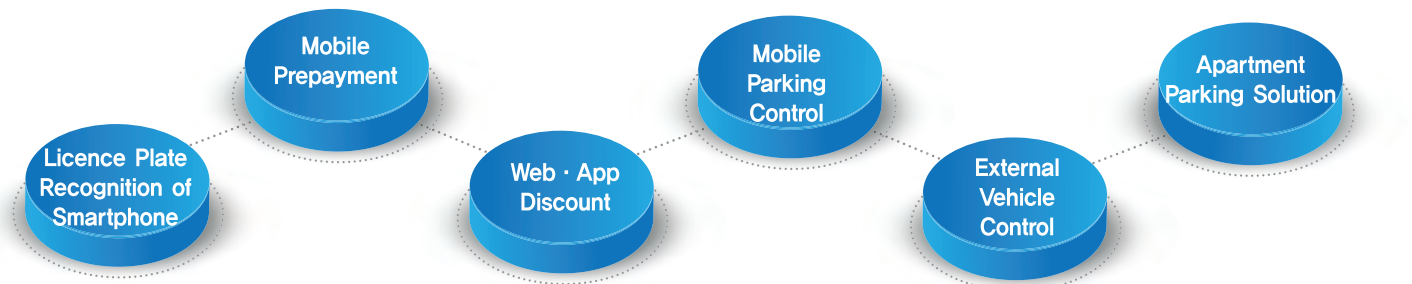
## What is AMANO Web · Mobile System?

### ▶ Introduction to Web · Mobile System

The Mobile · Web Service of AMANO KOREA makes it possible to create the profits of users and managers and provide convenience.

- Provide not only offline but online service in the rapidly changing society
- Provide a platform based service in communication between parking hardware system and Web · Mobile system in real time

Establish Unmanned Parking Control System in the expansion of Web · Mobile service and Web Parking Management System



### ▶ Web · Mobile Prepay System

This system shortens the use time through the non-stop process from parking to fee payment and provides convenience of parking.

- Solution to the vehicle bottleneck caused by standby for payment at exit
- Fast passing of drivers with no need to visit parking fee office or unmanned fee calculation machine
- Simple online payment regardless of time and place

※ Sample Image



Make "QR CODE" recognized directly with smartphone. It is possible to interact with Prepay System automatically.



### ▶ Web · Mobile Discount System

This automatic drive-out system gives an ID and a Password to a shop or a work facility that needs a parking discount. A user accesses Parking Discount Website (access with internal network or private fixed IP address) to search for a license plate and a discount time and register the license plate as a discount vehicle before driving out.

- Web-based simple and convenient discount process regardless of places
- Web-based parking discount information offering



# Apartments Information & Communication Solution Consulting

## What is apartments Information & Communication Solution Consulting?

Consultation on Construction Direction – Everything can be managed by Amano Korea until completion.  
 (Compliance with the Telecommunications Business Act, the Multi-Family Housing Management Act, and housing-related guidelines and procedures ※ Fines imposed for non-compliance)

### MANAGEMENT

- Integration with apartment management app
- Visitor vehicle management
- Resident vehicle management
- Providing a comfortable parking environment

### IP CCTV

- Surveillance unit (monitor type)
- Recording device
- Video information processing devices and intrusion detection systems

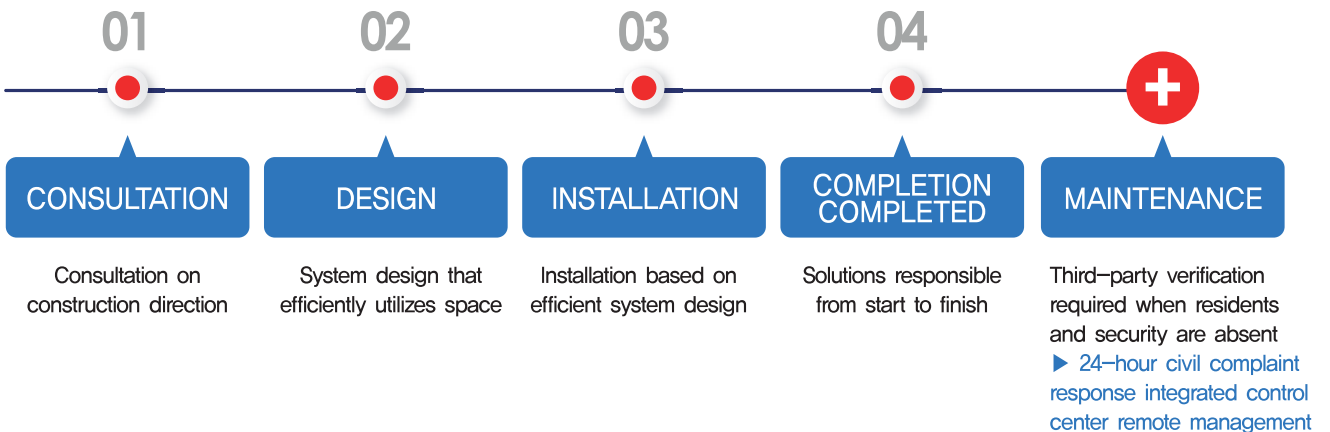
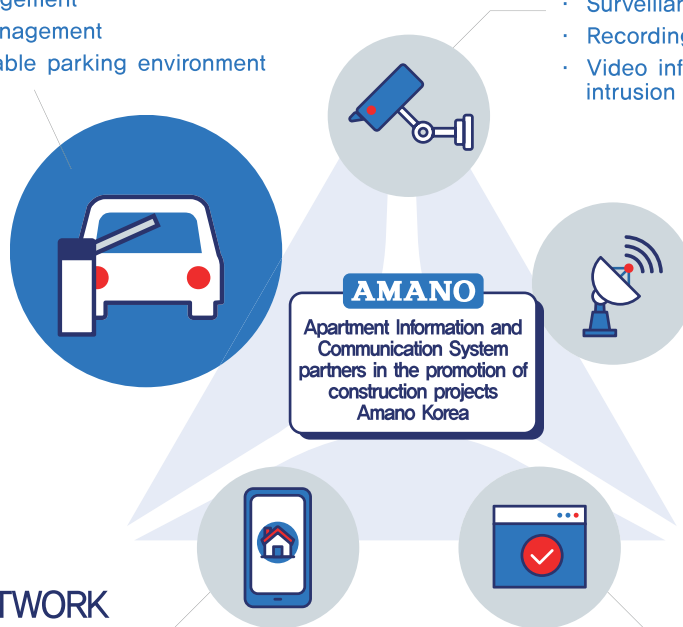
### TELECOMMUNICATION & BROADCASTING SYSTEMS

- Amps and Speakers
- Broadcasting reception facilities

### HOME NETWORK

- Home network devices
- Equipment for communal systems in the complex

### AUTOMATIC ENTRANCE DOOR



## Management system of vehicles which visit apartments

### Smart interlocking system

Amano Korea realized mobile-based apartment management software by connecting an apartment management mobile app to a parking control system. Residents can manage vehicles visit them through the app by matching it with the apartment parking system operated by the unmanned security system.



#### Parking control system for recognizing license plate numbers

- Advertising LPR system
- Providing individual promotional messages for residents



#### Development solution for AKC apartments

- App for residents and interlocking software (S/W)



#### Integrated control center

- In case that residents are absent, responding to and managing complains for 24 hours



#### Apartment management program

- Interlocking apartment story
- Interlocking smart village
- Interlocking wall-pad

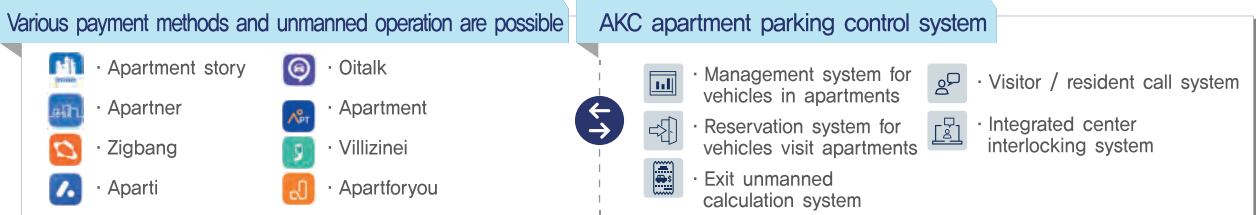
#### Intercom for managing vehicles which visit at the entrance

- Issuing visitations for vehicles which make advanced reservations automatically
- Checking and issuing them for vehicles which do not make any reservations

### Compatible apartment management web

#### Mobile-based and convenient apartment management

- Effective apartment vehicle management through linkage between apartment management S/W and APP companies



### Apartment Management APP Features



#### Pre-registration of visiting vehicles

Apartment app + apartment homepage use



#### Managing Blacklists

Maintain a pleasant parking lot and strengthen security



#### Texting visiting vehicle information

Vehicle number, phone number, visiting household (dong/lake), Parking time (real-time text dispatch)



#### Operation of settlement system

Deducting parking time by household, Settlement function, etc



#### Apartment APP + WEB Check visiting vehicle information

Detailed information of the visiting vehicle can be checked



#### Automate the issuance of a visit certificate

24 hours of unmanned operation available



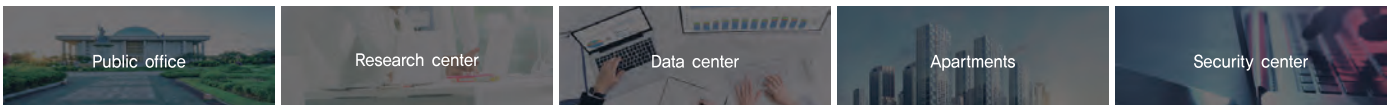
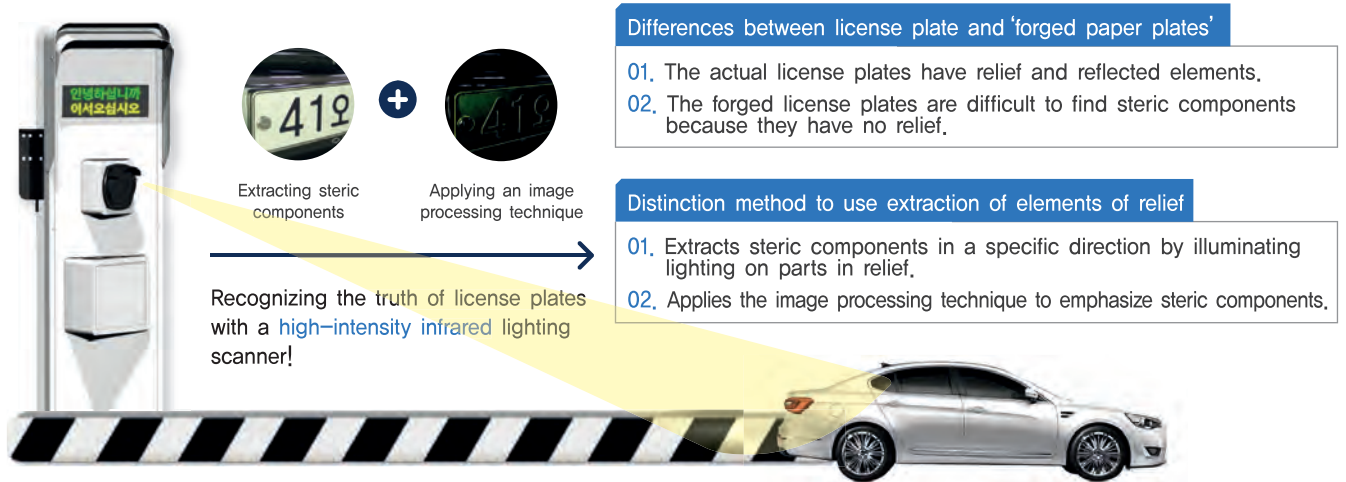
#### Resident vehicles, visiting vehicles Can check information

Security guards, management office workers can use the app you can use it to search for a visiting vehicle

# License plate recognizer for distinguishing forged ones & Camera for photographing appearance

## Forged license plate discriminator

Proposer's patent registration number: 10-2355402 Apparatus for determining forgery of vehicle license plate using relief of vehicle license plate



### Advantages of Amano Korea's forged license plate discriminator



Providing functions to distinguish forged license plates to strengthen physical security!



Maximizing space efficiency by the integral license plate number recognizer.



Realizing various customized programs according to types of parking lots!

## System for photographing vehicles' appearance

Before

Photographing all directions of vehicles with 4 cameras per lane.



After

Photographing all directions of vehicles and panorama images with 2 cameras per lane.



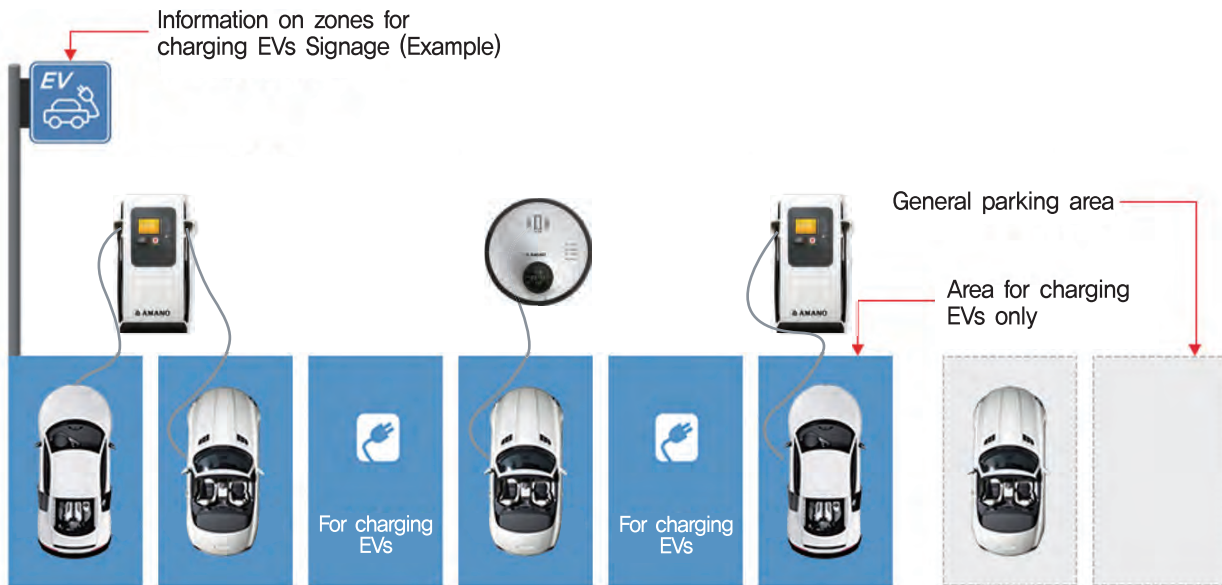


# Electric Vehicle Charging system

## What is an EV charging system?

### Convergent EV charging system

The system saves and manages vehicles which enter as a 2.0 megapixel high performance camera recognizes their license plate numbers, makes users pay in a lump sum by totaling parking fees and EV charging costs up and them go out by the non-stop method by using unmanned adjustment machines.



## Smart charging license plate number recognizer

Customer services which combines license plate number recognition for managing parking lots with charging EVs "Solving parking and charging EVs simultaneously when using parking lots with EVs."



# Parking Lot Operation Management Consulting

## Parking Lot Management

Amano Korea leads the market based on its **technical expertise** in **independently developing** and producing parking-related systems. Using parking lots as a platform, we develop various related businesses, including smart parking systems.

## Outsourced Management

We take full responsibility for **all tasks related to parking lot management**, provide optimized **facility investments**, and supply the necessary **human and material resources**.

## Advantages of Outsourced Management

01

No burden of facility costs

02

Promotion of specialized parking management

03

Minimization of stabilization period following parking lot monetization

## Types of Outsourced Management Contracts

Type  
01

**Lease**

Operation Method

Guaranteeing customers' fixed rental income and paying appropriate rental fees.

Type  
02

**Revenue Sharing**

Operation Method

Distributing stable parking income to customers, deducting the costs of necessary resources (personnel and other elements) from the revenue.

Type  
03

**Fixed Fee**

Operation Method

Providing necessary human and material resources and paying the contracted amount.

## Scope of Outsourced Management



### Universities

- ▶ Management of staff and student vehicles
- Semester passes



### University Hospitals

- ▶ Integration with parking OCS, treatment discounts



### Offices / Buildings

- ▶ Management of tenant vehicles, visitor parking discounts



### Multiplexes

- ▶ Integration with customer parking discounts

# Integrated Control Center

## Operation of the integrated control center for 24 hours for 365 days (1899-7275)

### Differentiated management system from other companies

**Location:** Integrated Control Center of the Head Office of Amano Korea in Yangpyeong-dong, Seoul  
Integrated Control Center in Magok, Seoul (The integrated control center was dualized to prepare for emergency)

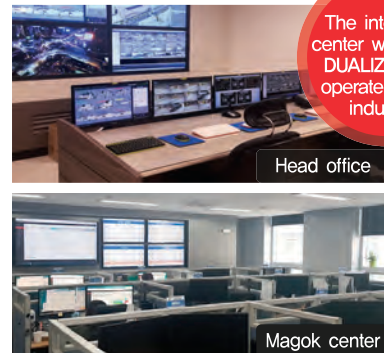
**Current status of management:** Services for responding to customers (drivers)  
calls: More than 2,300 places / Services for responding to receipt of failure: More than 10,000 places

**Current status of manpower:** 61 counselors and 12 people in the remote response team



### 24HOUR CS SYSTEM

Amano Korea can receive after-sales services anywhere any time by operating the integrated control centers for 24 hours for 365 days. The integrated center's average response time is within 10 seconds and boasts the high response rate of 99% or more.



The integrated center was **FIRST DUALIZED** and operated in the industry

## – PROCESS

01. After-sales services in site

02. The call center receives it (Manage history of receipt, situations of handling it, etc.)

03. Respond to after-sale services by remote access (Person in charge goes to the site when it is not handled)

04. Normal operation

### Integrated control center and maintenance

**01. The most important point in unmanned parking lots, the importance of the integrated control center and maintenance**  
As there are unmanned parking lots which reduce costs for managing parking lots, are operated for 24 hours, and can be monitored in real time, the integrated control center that maintenance and quick response to customers is possible for the system's stability is important.

#### 02. Reasonable No. 1 Amano Korea's integrated control center and maintenance services

- Amano Korea treats all the after-sale services in parking lots by itself by operating the call center for 24 hours.
- Employees in call centers professionally respond to 2,300 places.
- More than 80 professional engineers respond to and manage 6,000 places.



Real-time A/S reception



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