



# CONTROL KEYBOARD

User Manual

# DCK-100



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# 1. CAUTION

Thank you for using our product. Please read up this instruction manual before installing the unit.




If you have any questions about this product, please contact the manufacturer or distributor.

## ■ PRECAUTIONS

• Please read the followings and install the unit before installation. • Be sure to avoid the following places.	
	<p>□ <b>Place with too much/low temperature</b> Installing where the temperature over 40°C or below -5°C will cause the unit malfunctions or reduce the performance.</p>
	<p>□ <b>Place with humidity, water or snow</b> Any liquid or water ingress to the unit can make the unit faulty.</p>
	<p>□ <b>Where there is a possibility of oil, gas, any liquid ingress</b> Any kind of liquid ingress to the unit cause problem.</p>
	<p>□ <b>Place with vibration or impact</b> If the unit is installed in a place with vibration or tremor, it may cause problem to the unit.</p>
	<p>□ <b>Place of direct rays or exterior</b> Don't expose the unit directly to the sun or outside of inclement weather or the unit can cause failure.</p>
	<p>□ <b>Place of high frequency and power lines</b> Installing near communication equipment or power cables with electromagnetic waves can be reasons for malfunctions.</p>

■ **Caution in Use**

• **Be sure to read the following facts before installing the unit.**

	<p>□ <b>Don't take apart or put foreign substance in the unit.</b> Taking apart (disassembling) the unit can cause problem.</p>
	<p>□ <b>Be sure to turn off the power of the unit.</b> Check out the appropriate power for the unit and turn on the power switch.</p>
	<p>□ <b>Do not give the unit a shock, impact or harsh operation.</b> Too much impact to the button or terminal of the unit can cause problem. (Much too power to the joystick, it can be broken.)</p>



**This product has been designed and manufactured in accordance with the harmonized European standards, following the provisions of the below stated directives.**  
Electromagnetic Compatibility Directive 89/336/EEC(EN61000-3-2:1995, EN61000-3-3:1995, EN50081-1:1992, EN50082-1:1997)

**This devise complies with part 15 of the fcc rules operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) This device must accept any interference received including interference that may cause undesired operation**

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## 2. INTRODUCTION

### 2-1. Components

a) Control Keyboard : 1 EA



b) Power Supply (DC 12V 1.0A) : 1 EA



c) Instruction Manual : 1 EA



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## **2-2. Summary and Features**

### **- Summary -**

This is a control unit that can control Speed Dome, CCTV Receiver etc.

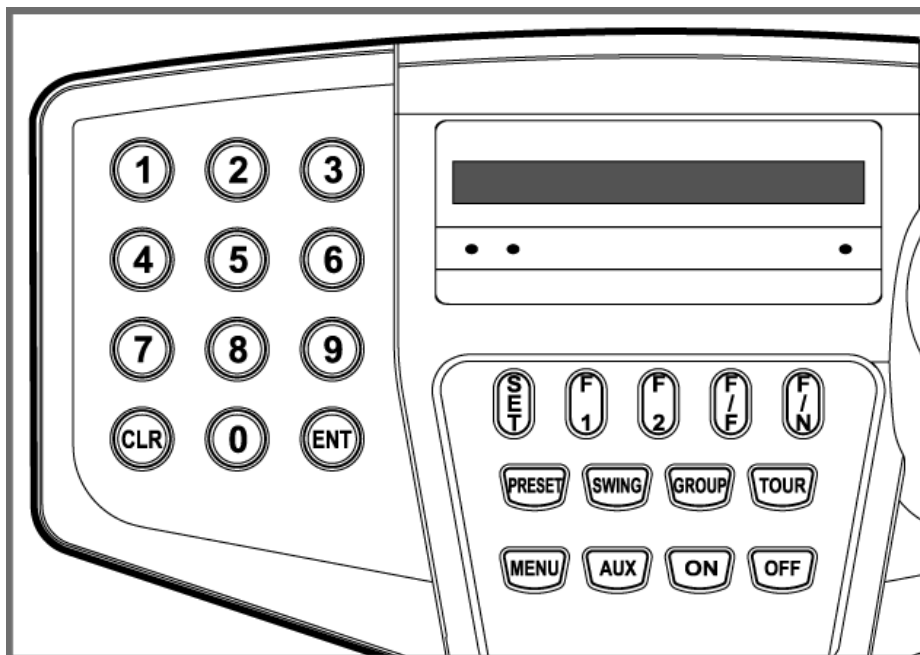
Connecting to Speed Dome, CCTV Receiver, Auto selecting, Preset etc. can be set and operated.

### **- Features -**

- **Maximum 255pcs of cameras can be controlled.**
- **Pan/ Tilt/ Zoom by 3-Axis Joystick..**
- **Maximum 250 Preset positions allow you to observe wider areas.**
- **It can control PAN/TILT Swing(Auto Pan)**
- **Group functions**
- **Tour functions setup and operation.**
- **PTZ Trace**
- **Spiral Setup**
- **Support of Multi Protocol**
- **User-friendly OSD of camera setting.**
- **Camera, Light, Power, Aux of Receiver**

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## 2-3. Function of Each Button

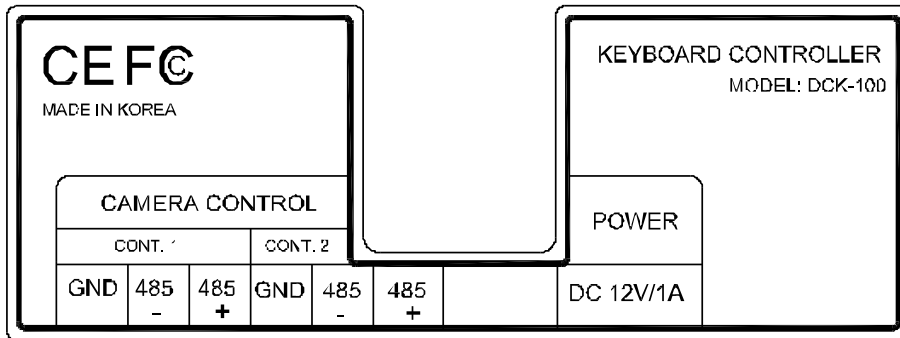


- 1) **Numbers** : (0 - 9) used to input numbers for numerical value or relevant functions.
- 2) **CLR (CLEAR)** : Press this key when you want to remove functions or cancel input command.
- 3) **ENT (ENTER)** : Use this to save input functions or run the functions.
- 4) **SET** : used for setup mode.
- 5) **F1** : Preliminary Key
- 6) **F2** : Preliminary Key
- 7) **F/F, F/N** : When using zoom lens, these keys can control focus (far/near).
- 8) **PRESET** : Press this key to save Preset position or move the camera to pre-set location.
- 9) **SWING** : with 2 preset points, you can set it as Pan or Tilt swing and do a repeated surveillance.
- 10) **GROUP** : Up to 12 Preset points can be bound as 1 Group and moving speed, dwell time in between Preset points.
- 11) **TOUR** : Maximum 12 Groups can be combined in as a Tour and you can continuously watch closely.
- 12) **MENU** : This key is used when you want to set functions. Refer to each function key for details.
- 13) **AUX** : This is preliminary contacts of Receiver and On/Off key of Camera, Light power. This is used when you want to control special units.
- 15) **ON, OFF** : These are used to stop or run functions.

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## 2-4. Connector (terminals at the bottom of unit)

RS-485 is used for communication.



### (Terminals at the bottom of unit)

- **Camera control**

1~128 numbers of Speed domes or CCTV Receivers can be connected here. Parallel connection on RS485 communication.

- **Camera control 2**

129~255 numbers of Speed domes or CCTV Receivers can be connected here. Parallel connection on RS485 communication.

- **POWER**

Power supply unit (Jack type) DC 12V 1A should be connected.



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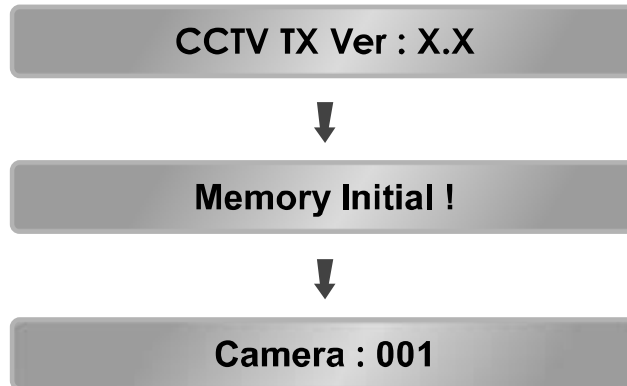
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## 3. How to Use Detailed Functions

### 3-1. Attentive Points at Initial Setup

This unit can exclusively used as a **CCTV Transmitter keyboard**.

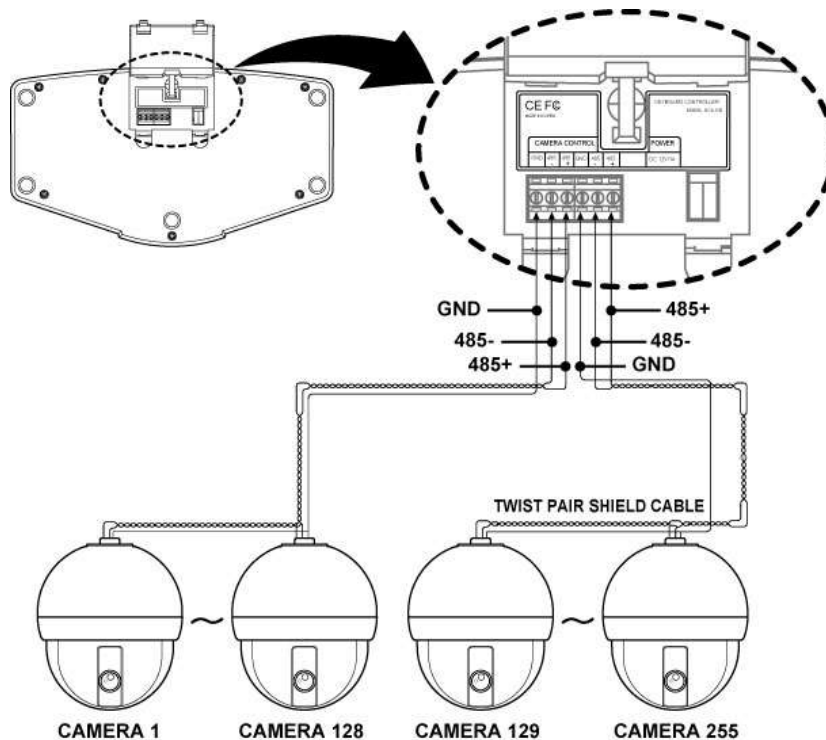
- Once you give the power to the unit with DC Jack, version will be shown and it will do the Memory Initial as below.



### 3-2. Basic Connection

- 3 Lines (485+, 485-, GND) can be used for data.

(It can work in some cases even 'GND' is not connected, connect cables after opening the cover on the backside of the keyboard)



### 3-3. How to Use

#### 3-3-1. Basic Use of CCTV Transmitter

Followings are how the unit is exclusively used as a **main CCTV Transmitter** and how you set.


#### ■ Protocol setting

DCK-100 keyboard supports the protocol of D-max, Pelco-P, Pelco-D, Samsung-T

**Notes** D-max, Samsung-T support only Baud rate 9600bps,  
Parity bit, data bit, start bit = N,8,1

	D-max	Pelco-P	Pelco-D	Samsung-T
9600bps	O	O	O	O
4800bps	X	O	O	X
2400bps	X	O	O	X

- Way of changing Protocol

- ① Protocol setting displays when power is on as pushing the  button on the keyboard.

**1=Dmax 2,3=P 4=S**

- ② Select the protocol by pushing the numbered button on the left side of the keyboard.

No.	Protocol
1	D-max
2	Pelco-P
3	Pelco-D
4	Samsung-T



**1=96 2=48 3=24**

Baud rate Setting displays on LDC after selecting the protocol

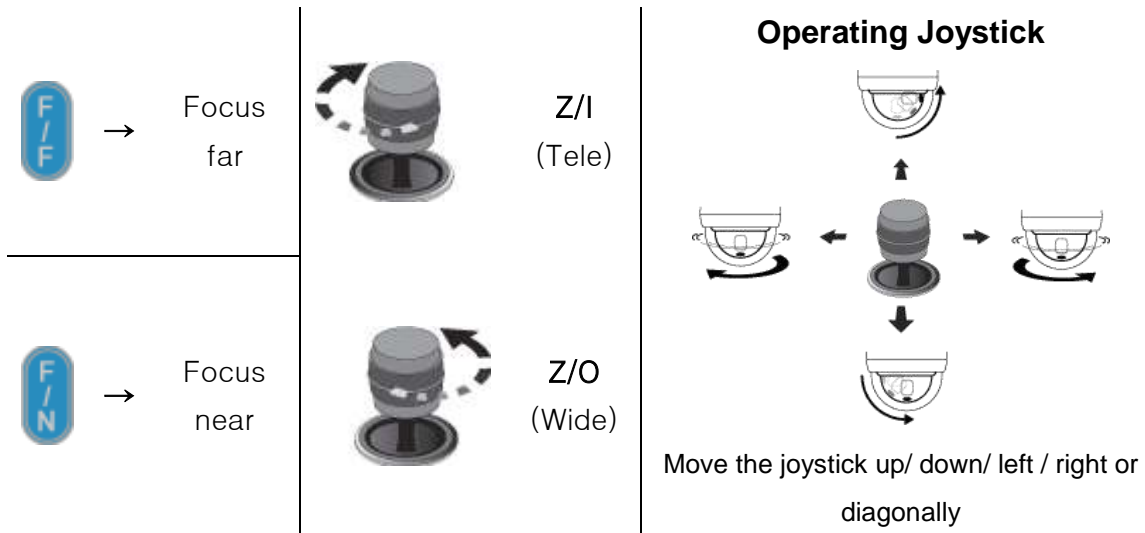
- ③ Set up the Baud rate (1=9600bps, 2=4800bps, 3=2400bps)

■ **Select Camera**

To control camera you want, press a number you want (1~255) and 'ENT'.



■ **Basic Functions of Joystick and Camera**

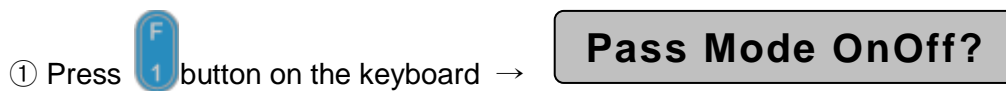


**3-3-2. Password Function**



When password mode is on, all the functions of keyboard don't work.

Password is 3 digits, only number is available, and the initial password is "000".


■ **Way of selecting Password mode**




Press "ON" or "OFF" button, when "Pass Mode OnOff" message displays.

	Unable to control Keyboard
	Able to control Keyboard

- When Password mode is on





Press  button on the keyboard →

**Password:**

Press  button by the number pad on the left side after entering 3-digit password.

(Initial password is "000".)

### ■ Way of changing the Password

 (Press long)  → (Enter current password)  → (Enter new password) 

Change Password?

→ Password: \* \* \*

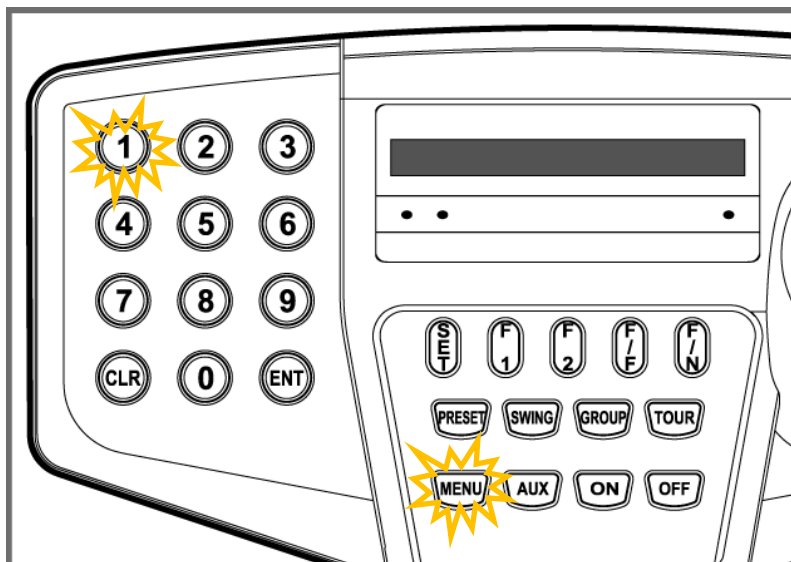
→ New Password: \* \* \*

### 3-3-3. How to enter OSD (On Screen Display) and Use.

#### ■ OSD Control

It brings up the OSD menu of Speed Dome Camera.

#### ■ Entering OSD Menu



Press the buttons above and OSD menu will appear on the monitor with buzzer sound.

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### ■ OSD Menu Control

A cursor will be blinking on the monitor. (waiting for command)

Move the Joystick up/down/left/right and place it where you want.

### ■ Escape from OSD Menu



Press like above and OSD menu on the monitor will disappear and you should get out of the menu.

### 3-3-4. Setting Preset Positions

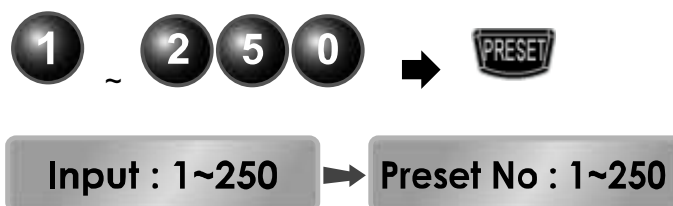
Up to 250 preset positions can be programmed on each camera.

#### ■ Save preset



To save Preset setup (1~250), move the camera you want to observe and take above steps repeatedly. You could do this on each camera..

#### ■ Moving to pre-set Positions



Press Preset number (1~250) and press 'PRESET' key to designated position.

#### ■ Deleting each Preset individually

Press 'CLR' button for about 2seconds and follow steps below when buzzer sounds.

Ex) Deleting Preset No. 5



- Press **CLR** key if you want to get out of the procedure.

### ■ Deleting all programmed Presets

Press 'CLR' for 3 seconds and follow steps below when you hear a beep..



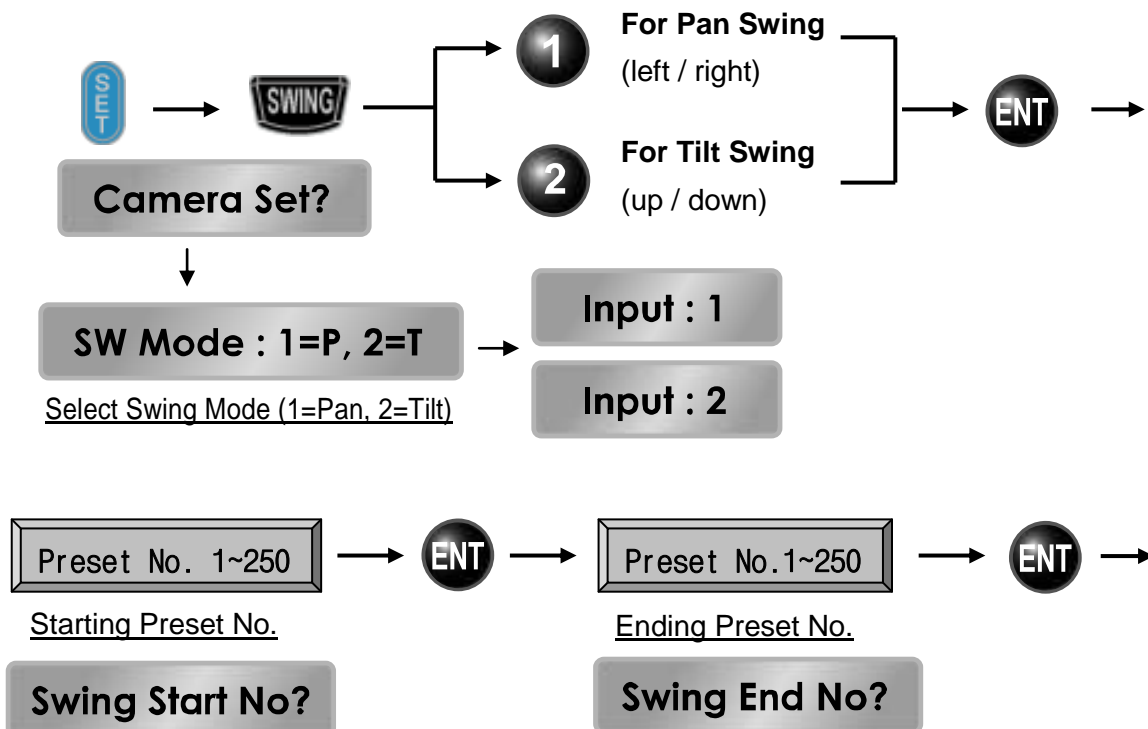
**Notes** Without deleting Preset positions if you set another Preset number on it, it will move to later Preset positions and you don't have to clear.

### 3-3-5. Setting Swing Mode (Auto Pan)

You can put Speed Dome under repeated observation mode by letting it move back and forth in between 2 Preset positions. (Pan or Tilt)

(This setup can be used as 'Auto Pan' function in CCTV Receiver.)

### ■ Swing Setup





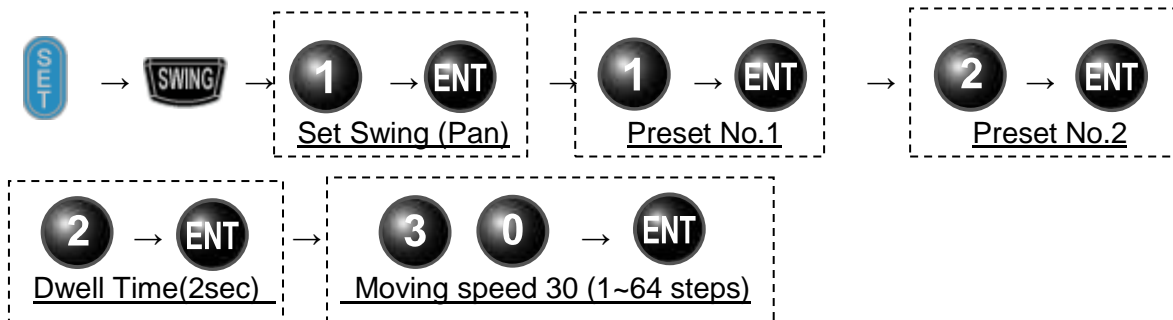
Dwell time (1~127sec) after movement

Moving speed (1~64sec)

**Dwell Time? 1~127**

**Move Speed? 1-64**

Ex). when you want to set 'Pan Swing' with Preset number 1, 2 and 2sec of dwell time, at the moving speed of 30.





- Dwell Time: Time interval (sec.) between 2 Preset positions.
- Swing Speed: Moving speed from A to B point. (64=Highest, 1=Lowest)
- Be sure to set Pan for left-right, Tilt for up-down.
- Be sure not to mix Preset No between up/down, left/right.

### ■ Run Swing



### ■ Stop Swing

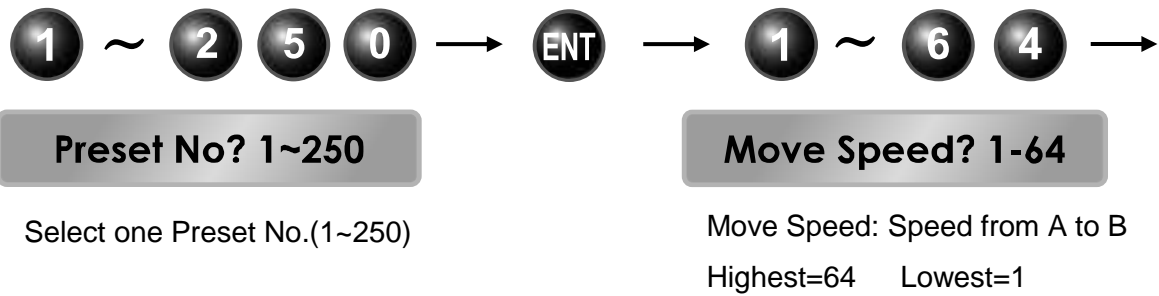
Press  key or touch the joystick. 

### 3-3-6. Setting Group Mode

Maximum 12 Preset points can be bound in 1 Group. You can put Speed Dome under repeated observation mode by binding up to 12 Preset points with specific moving speed and dwell time.

(Up to 12 Groups can be set.)

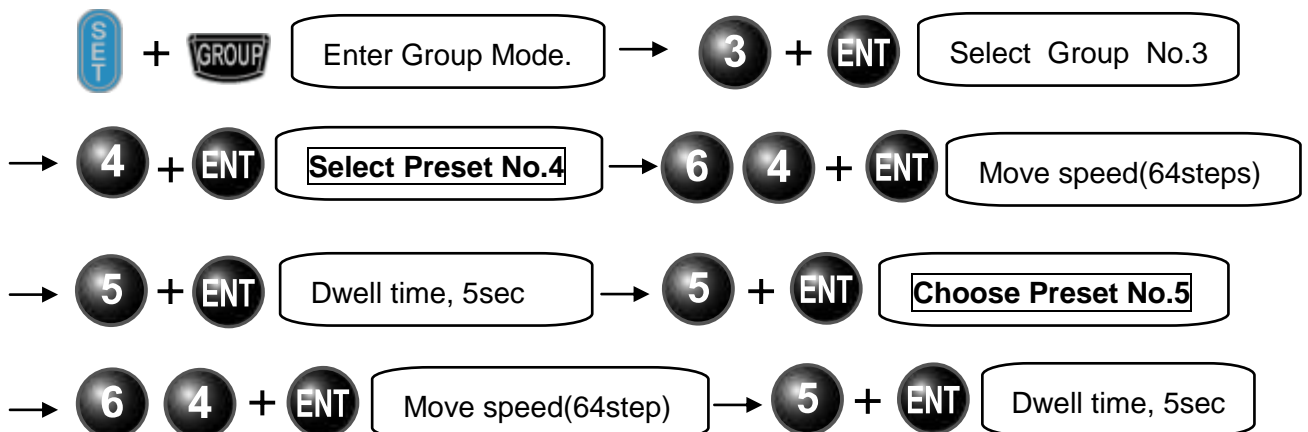
■ Setting Group



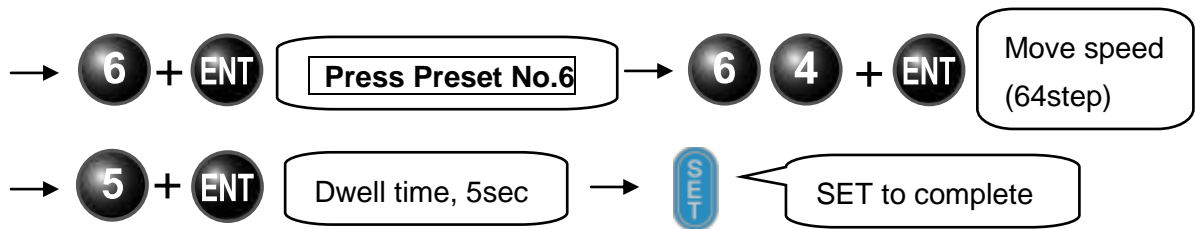
Dwell time: Time for which the camera stays before it starts to move.

- Start again from **Presets** to **keeping inputting**.
- Press **SET Key** **when you are done** to enter normal mode.
- When you set another Group, follow steps as above and save up to 12Groups.

Ex) Save Preset No.4 to No.6 in Group No.3 at the speed of 64 and dwell time for 5sec.







### ■ Run Group



### ■ Stop Group

Press **GROUP** key or move the **JOYSTICK** to stop.

### ■ Delete Group



Clear Function !

All Group Clr ?

Camera 1~125

#### Notes

If you delete Group, Preset value would also be deleted at the same time.

- If you set another Group on existing Group instead of deleting, renewed Group will remain, which means you don't have to delete it and set another Group on it.

## 3-3-7. Tour Setup

Up to 12 Groups can be bound in a Tour and all Groups can automatically operate in a row.

### ■ Set tour mode

① Tour Setup Mode



② Select Group among Group No.1~12.

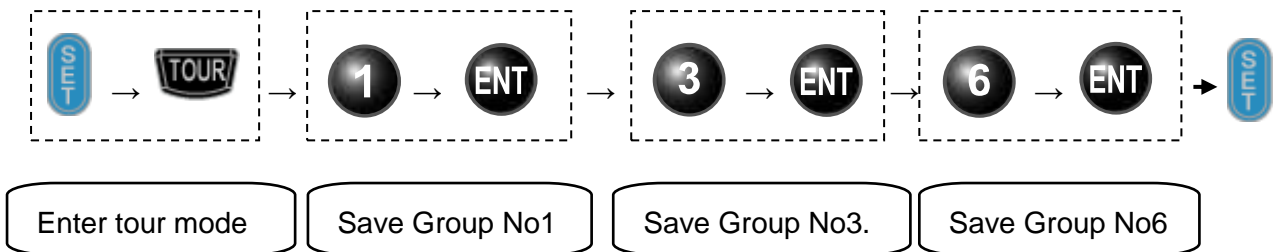


③ Repeat the process if you want to input many Groups..



When you are done with inputting, push **SET** key to complete Tour setup.

Ex) When you want to save Group No. 1, 3, 6 in Tour.



### ■ Run / Stop / Delete Tour



### ■ Delete Tour



#### Notes

If you delete Tour, all Group, Preset value will also be deleted.  
Without having to delete Tour, you may set Tour again on the existing Tour.

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### 3-3-8. Spiral Setup

You can observe helically.

#### ■ Spiral On / Off:



### 3-3-9. P/T/Z Trace Setup

You can save some traces where the dome moved. And the dome will remember it and automatically tracks again and again for up to 180 sec.

#### ■ Run / Stop Trace



#### ■ Set Trace



#### ■ Delete Trace



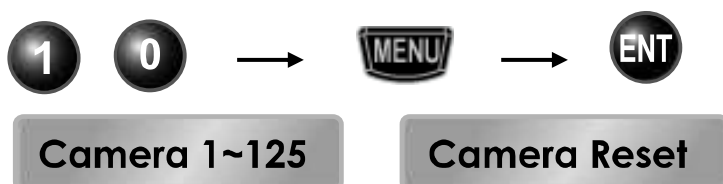
#### Notes

Consult PTZ manual for detailed explanation.

### 3-3-10. Camera Remote Reset

This function allows you to **reset** a relevant camera or CCTV Receiver when they have error.

- Choose Camera you hope to control and press **10 + MENU**.



### 3-3-11. Other Setting

#### ① Camera / Light / External (Aux 1, Aux 2) / Power On/Off



- ② Left/Right conversion 1 2 → MENU → ENT
- ③ Zoom in/out 1 3 → MENU → ENT
- ④ Focus 1 4 → MENU → ENT
- ⑤ Slow Joystick Speed 2 1 → MENU → 0 → ENT
- ⑥ Buzzer Sound On/Off 2 0 0 → MENU → ON or OFF
- ⑦ Read P/T position 3 0 → MENU → ENT
- ⑧ Read Lens Position 3 1 → MENU → ENT
- ⑨ Speed Dome Home Position setup 6 → MENU → ON or OFF
- ⑩ Speed Dome Internal Fan setup 2 1 2 → MENU → ON or OFF
- ⑪ Speed Dome Internal Fan On/Off 2 1 3 → MENU → ENT
- It works on D-max Receiver only.
-

## 4. Cautions and Check Points

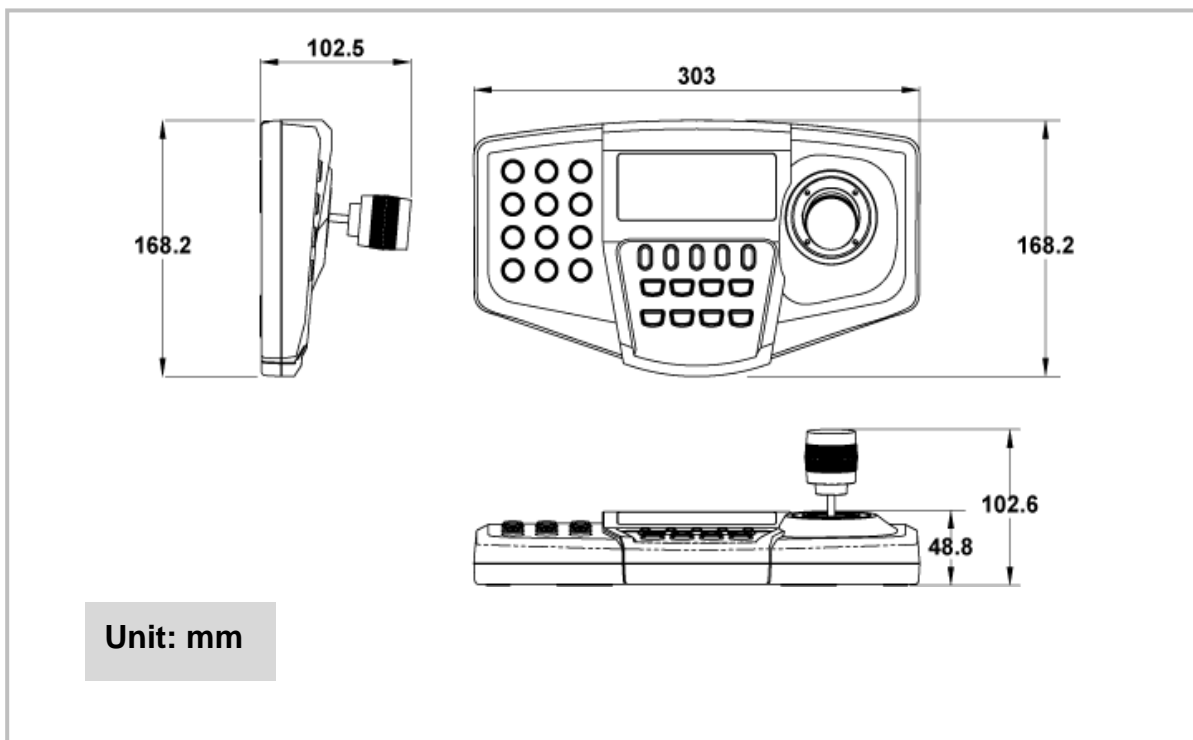
- Do not provide any power to the unit during installation.
- Install the unit where is well ventilated because its operating temperature is 5°C - 50°C.
- Be cautious of places with strong shock or vibration that can cause malfunctions of the unit.
- Don't expose the unit directly to the sun or outside of inclement weather or the unit can cause failure.
- Avoid installing the unit in places with much magnetic or electric wave that can cause communication error.
- Be careful not to misconnect the lines when you install the unit.
- Never operate the unit until Buzzer sound is off.
- Provide power to the unit after checking if the lines (cables) to outside are insulated.
- Do not give too much power when you handle the joystick.

### ■ Simple Troubleshooting and checking

Please check and do the troubleshooting as below if the unit malfunctions.

Malfunctions	Check point	Troubleshooting
Power doesn't come on	Is the power properly provided?	Check if the DC Jack is well connected.
		Check out if the adaptor (power supply) is working well..
Pan/ Tilt is not working.	Did you input correct camera number?	Press 'CLR' key and input correct number
	Is RX (Receiver)'s Address the same as Camera number?	Check the DIP switch of RX (Receiver) again.
Preset (move) function doesn't perform well.	Did you set and save the Preset number at PRESET mode?	Do the PRESET setting again and try it again.
	Does the camera (itself) have PRESET function?	Some cameras support PRESET and some don't.

## 5. Dimension



## 6. Standards

### 6-1. General Specification

Section	Specifications
<b>Output signal</b>	<ul style="list-style-type: none"> <li>• RS – 485</li> </ul>
<b>Comm. speed</b>	<ul style="list-style-type: none"> <li>• Speed 9,600BPS, No parity, 8Bit data, 1Bit stop</li> </ul>
<b>Operational function</b>	<ul style="list-style-type: none"> <li>• Operate Pan/Tilt /Zoom lens</li> <li>• Camera power On/Off , Light power On/Off , AUX On/Off</li> <li>• Setting and Running Preset, Swing, Group, Tour, Trace</li> </ul>
<b>Operation (Display)</b>	<ul style="list-style-type: none"> <li>• Display: LCD Display</li> <li>• Input ? : Number what you input will be outputted.</li> <li>• Camera: If you input Camera number, the input data will let designated camera(1-256) show video on the monitor.</li> <li>• Alarm : LED light on when Alarm on</li> </ul>
<b>Sound in use</b>	<ul style="list-style-type: none"> <li>• When you input relevant key: Buzzer will beep for about 0.5 second.</li> <li>• When you input wrong key: It will beep 3 times.</li> </ul>
<b>Component</b>	<ul style="list-style-type: none"> <li>• Keyboard Body -1-</li> <li>• Power Supply: DC 12V 1.0A -1-</li> <li>• Instruction Manual -1-</li> </ul>

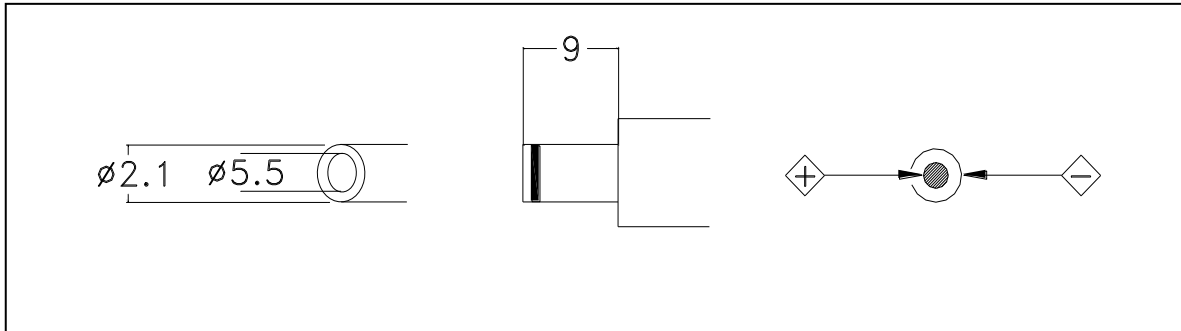
### 6-2. Controller Specification

ITEM	Specification
In/ Output Terminal	Terminal Block
Communicate with Camera	RS-485
Operating Temperature	0 ~ 40。 C
Storage Temperature	-5 ~ 55°C
Operating Humidity	10 ~ 75%
Storage Humidity	10 ~ 95%
Dimension	303(L)×168(W)×45(H)
Weight	About 1.2kg

### 6-3. A Source of Electric Power

Voltage: DC 12V ( $\pm 20\%$ )

Current: 1.0A (min)



### 6-4. Camera Control Interface

ITEM	Specification
Length of data/ sync	Asynchronous Serial
	1 Start bit
	8 Data bit
	No parity
	1 Stop bit
	11 Byte command
Signal polarity	Mark logic "1"
	Space logic "0"
Way of transmission	Half duplex
Transmission speed	9600 bps



## 7. Table of Operation

Operation	Function	기능입력
Keyboard [1-255] + [ENT]	Selecting Camera	◎
[SET] [J.S Stop]+[SET]+[+][Keypad 1~250]+[PST] [Preset No]+[PST] [CLR+2sec]+[Keypad 1~250]+[PST] [CLR+2sec]+[PST]+[ENT]	Start setting Preset Mode Moving and running Preset Deleting Preset One by One Deleting all Preset	◎
[SET]+[SWING] [1/2]+[ENT] [Keypad1~250]+[ENT]+[Keypad 1~250]+ [ENT] [Keypad 1~127]+[ENT] [Keypad 1~64]+[ENT] [1/2]+[SWING] [SWING]/Joystick	Startup Swing Mode Selecting Pan or tilt swing Setting 2 Preset points Setting Dwell time Setting Swing Speed Run Pan or Tilt Swing Stop Swing	◎
[SET]+[GROUP] [Keypad 1~6]+[ENT] [Keypad 1~250]+[ENT] [Keypad 1~64]+[ENT] [Keypad 1~127]+[ENT] [SET] [Keypad 1~12]+[GROUP] [GROUP]/Joystick	Start Group Mode Select Group number Select Preset point Setting Moving speed from Preset to Preset. Set Dwell Time Confirm input value Run Group Stop Group	◎
[SET]+[TOUR] [Keypad 1~12]+[ENT]←repeat [SET] [TOUR] [TOUR]/Joystick	Start Tour Mode Repeat Tour value Confirm Run Tour observation Stop Tour observation	◎
1+[AUX] + [ON/OFF]	CCTV CAMERA Power ON/OFF	◎
2+[AUX] + [ON/OFF]	CCTV LIGHT Power ON/OFF	◎

[7]+[MENU]+[ON]	Spiral function On	⊙
[7]+[MENU]+[OFF]	Spiral function Off	
[8]+[MENU]+[ON]	Run P/T/Z Trace	⊙
[8]+[MENU]+[OFF]	Stop P/T/Z Trace	
[9]+[MENU]+[ON]	P/T/Z Trace memorizing	⊙
[9]+[MENU]+[OFF]	Deleting memorized P/T/Z Trace	
[Keypad] [1~255]+[ENT]+[10]+[MENU]+[ENT]	Reset of chosen Camera	⊙
[11] + [MENU] + [ENT] (Available on Receiver)	Up / Down switching mode	⊙
[12] + [MENU] + [ENT] (Available on Receiver)	Left / Right switching mode	⊙
[13] + [MENU] + [ENT] (Available on Receiver)	Zoom in / out switching mode	⊙
[14] + [MENU] + [ENT] (Available on Receiver)	Focus far / near switching mode	⊙
[CLR] Press for about 2 seconds. [PRESET No 1~64] + [PST] [PST] + [ENT] [GROUP] + [ENT] [TOUR] + [ENT]	Enter CLEAR MODE Deleting Preset one by one Deleting all Preset Deleting all Group Deleting Tour	⊙

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## 8. Warranty

### WARRANTY

Model		Control Keyboard (DCK-100)
Date of production		
Production Number		
User	Name	
	Address	

- Product features can be subject to change without any notice to improve its quality or specifications.



