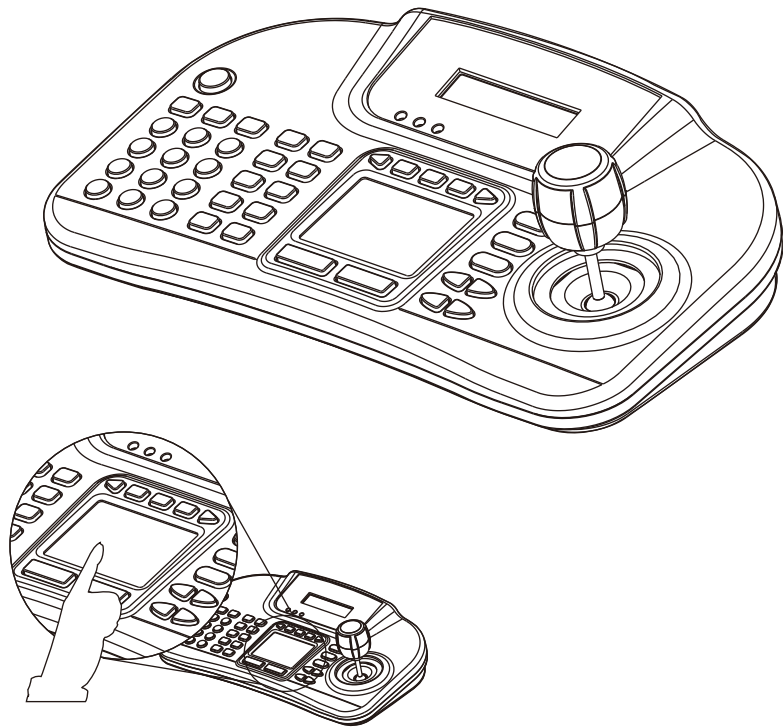




INTEGRATED CONTROLLER



Please read the instructions carefully and keep this manual for future reference.

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USE PRECAUTIONS

To prevent risk or damage on the property must keep the following information please.



*Please note the "Warning" and "Caution".
"Warning" and "Caution" mean as follows.



Warning: Violation of the instructions may cause death or injury.

Caution: Violation of the instructions may cause personal injury or property damage.



WARNING

- Before using this product, please be sure to read the user manual.
 - Install this product in the stable and right place.
 - Do not place conductive material (such as screw driver, coin, iron...etc.)nor vessel full of water.
 - Use the indicated power only.(DC 12V).
 - Do not use this product where flammable substances are used.
 - Do not touch electrical parts with wet hands.
 - Products used to be a problem, please discontinue.
 - When this product is not normally operated, contact seller or service center.
 - Never disassemble the equipment.
- (Problems caused by user's disassembly are not responsible.)



CAUTION

- This device is recommended for indoor use only.
- Outdoor/Place exposed to rain or moisture should not be used.
 - Drop in water may cause severe damage.
 - Do not use in too heavy dust, smoke nor humid environments.
 - The device do not leave too hot or cold.
 - Always keep the operating temperature between 0°C and 45°C.
 - Do not put this unit in direct sunlight.
 - (It causes discolor or damage.)
 - Do not give this unit a severe shock.
 - Unplug the power when thunder, lightning storm.
- (May cause fire or damage.)

MAINTENANCE

- When controller body dirt, turn off the power and wipe the surface with a soft cloth.
- Alcohol, benzene and other chemicals to prevent contact. (The surface is changeable)

== MAIN FUNCTIONS AND FEATURES

1. Summary

This product is system integrated controller which can control up to 255 units such as speed dome, DVR, receiver...etc.

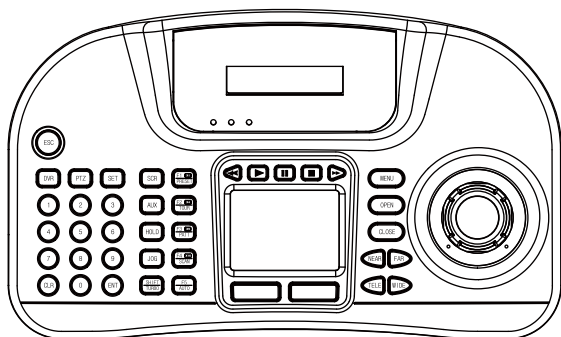
Excellent system compatibility with a variety of protocol implementations.

An array of buttons, user convenience easy connection with other products and fine control make this unit as market needful product. This CCTV dedicated controller is very convenient to use by anyone.

2. Features

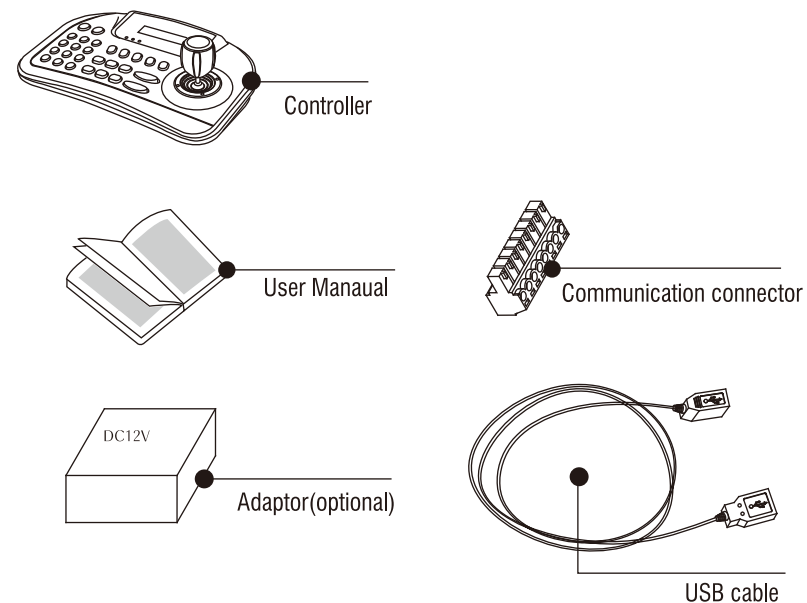
- Touch Pad Mouse function
- Elegant and ergonomic design
- One unit can control up to 255 pan/tilt cameras and other equipments.
- Long distance remote control is possible through RS-485/422 communication.
- Low power consumption design (150mA, 40mA <-Backlight off)
- Joystick pan/tilt speed controlling is possible.
- Menu control, company logo input are possible by adopting LCD window.
- Easy to control preset, tour, scan, pattern by using function key.
- The administrator's password can be set.
- Easy connection with DVR and other devices(Interface).
(Protocol modifications are required)
- Easy to set-ended by built in signal splitter function.(3ch.Max)

3. Controller button overview

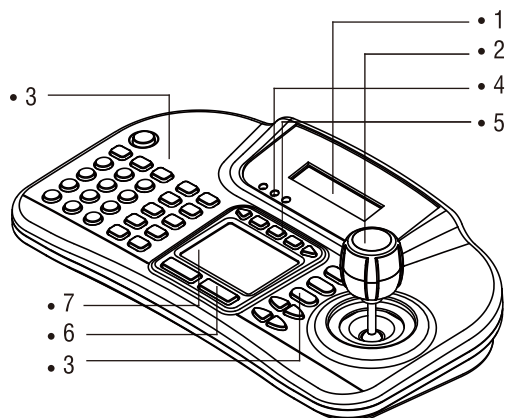


== CONTENTS

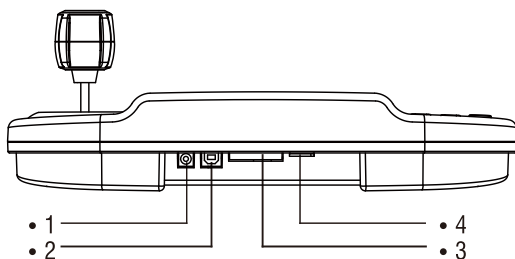
1. Products



== PART NAME & FUNCTION

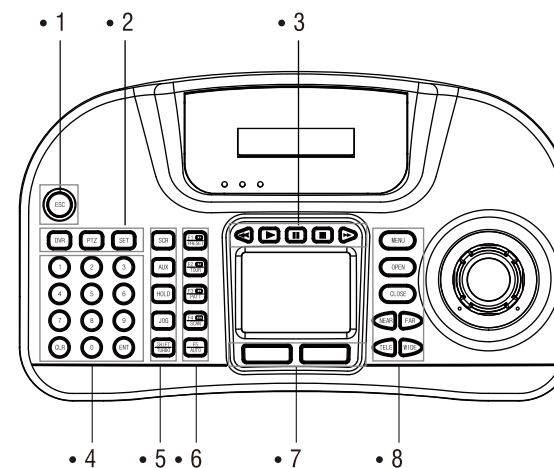


1. LCD Display : 16 x 2 character LCD, Shows the number entered, system state and running features.
2. Joystick :PTZ's up, down, left ,right position control and MENU settings.
3. Key button : Control various functions of controlled devices.
4. LED : Power on and clear the entered value, or Pre-move is used.
5. DVR Control Key button
6. Touch Pad Mouse Right / Left button
7. Touch Pad Mouse



1. DC Power : DC 12V, 150mA
2. USB Port : Touch pad mouse, DVR control terminal
3. RS422/485 Port : Communication terminal
(RS-485 : 1port, RS-422: 3port)
4. F/W download port : Program update port

== PART NAME & FUNCTION



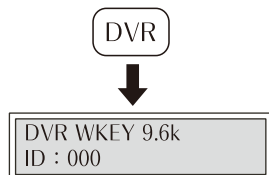
1	ESC	Clear the entered value
2	1. DVR 2. PTZ 3. SET	Select DVR mode (Long Key : Press 2 sec.) Select PTZ mode (Long Key : Press 2 sec.) Enter the camera setting menu (Long Key : 2 sec.)
3	1. ◀◀ 2. ▶ 3. 4. ■ 5. ▶▶	Fast rewind in DVR mode Video play in DVR mode Pause button in DVR play mode Stop button in DVR play mode Fast play in DVR mode
4	1. 0~9 2. CLR 3. ENT	Enter the numbers or Set up camera ID/PTZ. Clear the selected function and channel Enter the camera OSD
5	1. SCR 2. AUX 3. HOLD 4. JOG 5. SHIFT/TURBO	Set the screen in DVR mode (x1, x4, x9, x16) Control AUX of camera System features pause JOG function of joystick (optional) Optional (special functions, custom functions) functions are used in.
6	F1~F5	F1 ~ F5 : Control various functions(preset, tour, pattern, scan, auto) of controlled devices.
7	M_Right, M_Left	Left and right side button of Touch pad Mouse
8	1. MENU 2. OPEN 3. CLOSE 4. NEAR / FAR 5. TELE / WIDE	Control camera menu(Pan/Tilt) IRIS OPEN IRIS CLOSE Adjust Zoom camera's focus.(Manual mode) Activate Zoom camera's Wide/Tele function

CONNECTION

DVR Connection

Connect USB cable of this equipment to DVR.

To go into the DVR mode, press the DVR key of controller for 2 seconds.

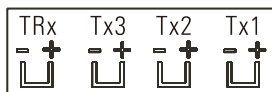


LCD Window shows as below.

- DVR : Shows current mode
- WKEY : Protocol
- (See page 28~29 for protocol information)
- 9.6K : communication speed
- ID 001 : DVR ID

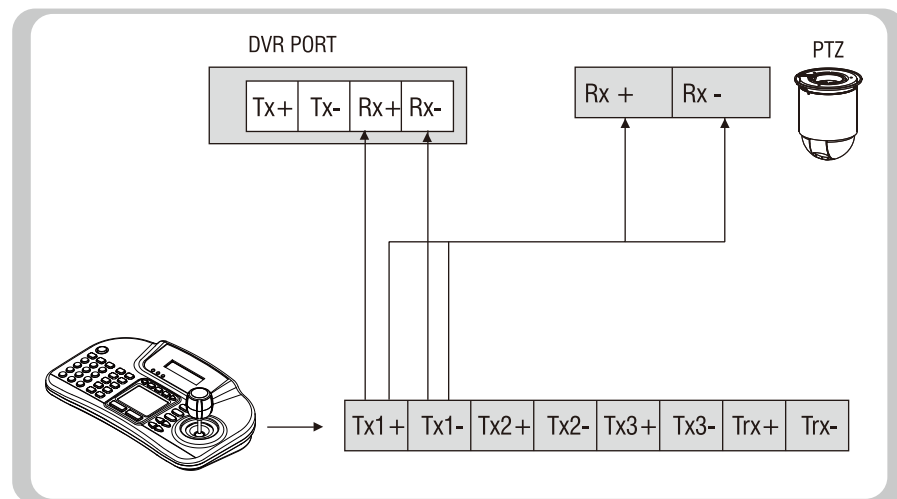
RS-485/422 Connection

External device's RS-485/422 port is connected to this Keyboard's RS-485/422 terminal block.



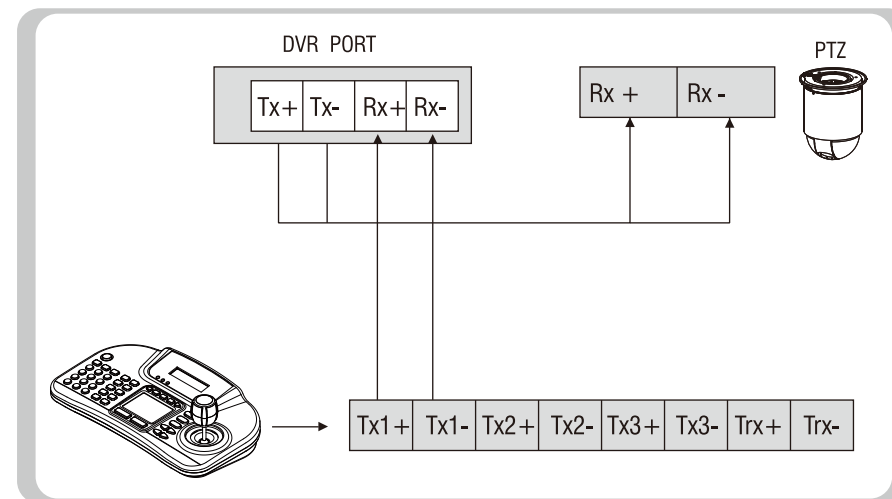
When RS-485/422 connection, be careful +, - polarity not be changed. And check device's RS-485/422 support is available or not.

Single system configuration

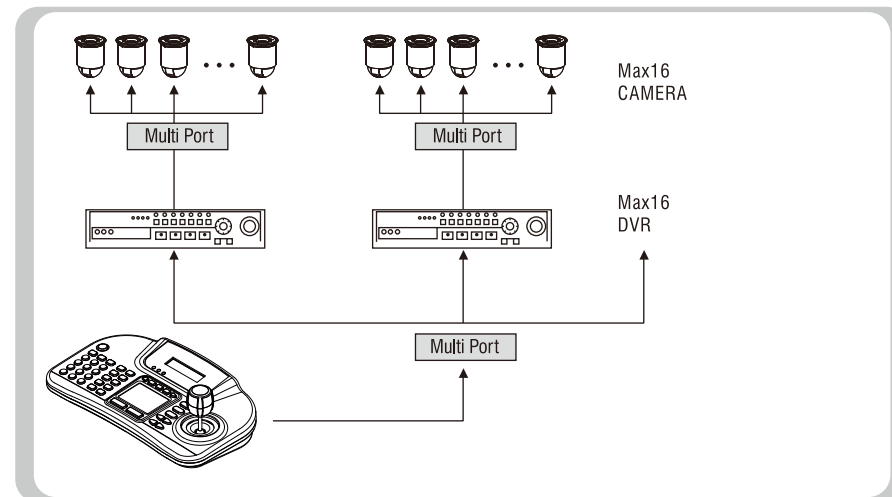


CONNECTION

Single system configuration (Camera 1, kyeboard 1, DVR 1)



Multi system configuration



PTZ CONTROL

1. Power ON/ OFF

- ① Connect DC12V power to power ON.
- ② Disconnect the DC12V power to power OFF.

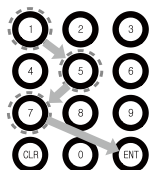
2. Start page displayed

WCY PEL-D 2.4K
ID : 001

- ① WCY PEL-D : Shows the currently selected protocol.
- ② 2.4k : Shows the baud-rate of the currently selected camera.
- ③ ID:001 : Shows the ID of the currently selected camera.

3. Camera ID Set up

- 1) Input wanted number button in the number pad.
 - 2) Press enter button then Camera ID will be set up as your selected number.
- * * 1-255 numbers are selectable.



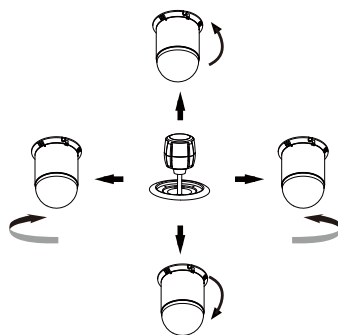
ex) ID 157 selected



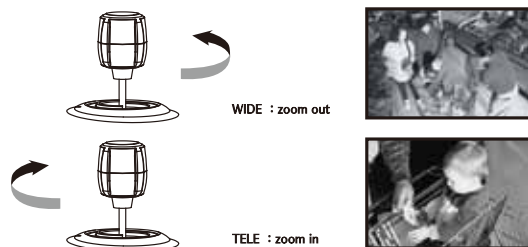
WCY PEL-D 2.4K
ID : 157

4. Control joystick

Joystick pan/tilt speed controlling is possible.
As the joystick far from the center, the camera moves faster.



Camera Zoom function is controllable by Joystick.



PTZ CONTROL

5. Touch mouse pad

Touch mouse function can be set by USB cable with PC & DVR.

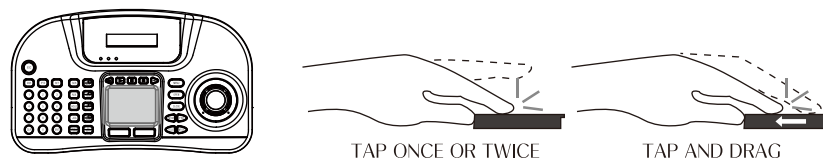


Using USB mouse

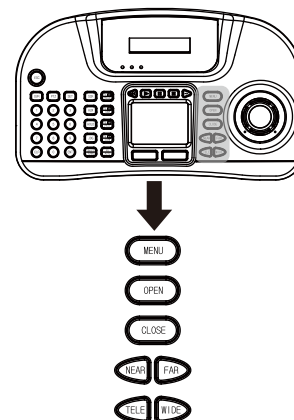
Recognition

- ① Turn on the computer.
- ② Connect the USB port of keyboard and computer using the cable.
- ③ USB Driver is automatic recognition system.
- ④ When the Computer recognize the USB mouse, touch pad is ready to work.

Tap and drag to use touch pad.
Touch pad is not work with gloves on.



6. Iris / Focus / Zoom



① Iris control

Control camera iris by using OPEN / CLOSE buttons

- OPEN : Iris Open
- CLOSE : Iris Close

② Focus control

Control camera focus by using NEAR / FAR buttons

- NEAR
- FAR

③ Zoom control

Control camera zoom function by using WIDE / TELE buttons

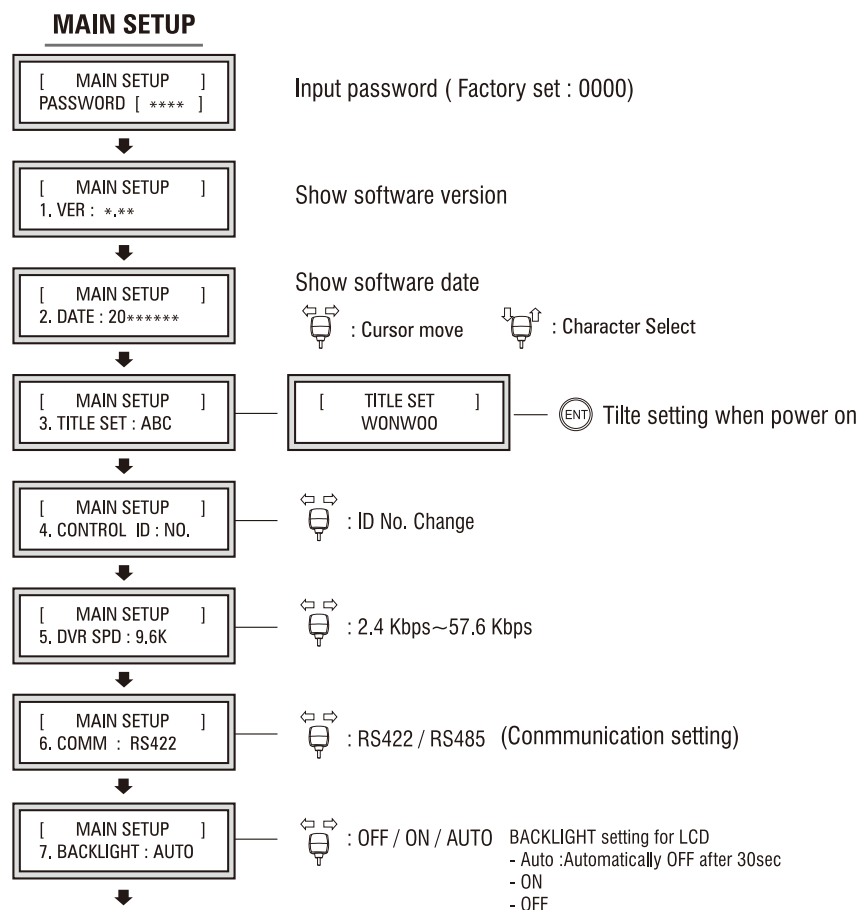
- WIDE : Zoom out, Wide
- TELE : Zoom in, Tele

CONTROLLER CONTROL/SETUP

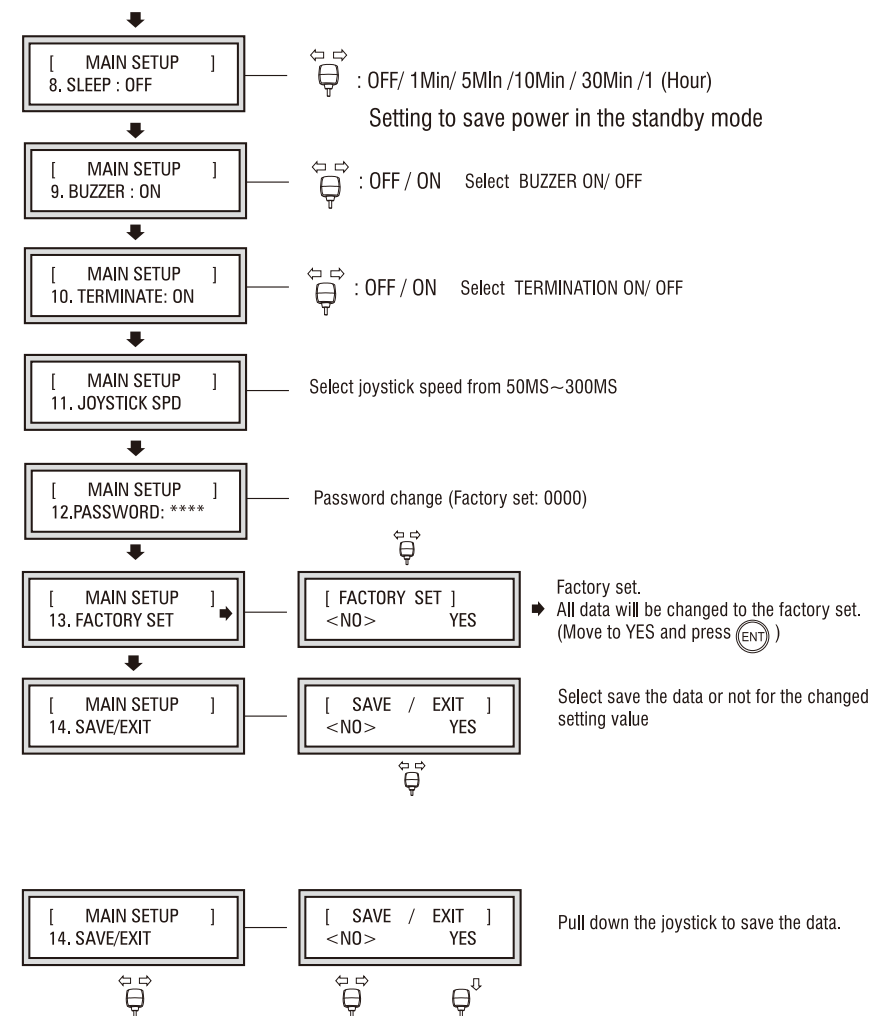
Instructions and Setting up the MAIN SETUP

Main MENU Set up

If you press button 2 +  for 2 seconds, you can enter into the MAIN SETUP.



CONTROLLER CONTROL/SETUP



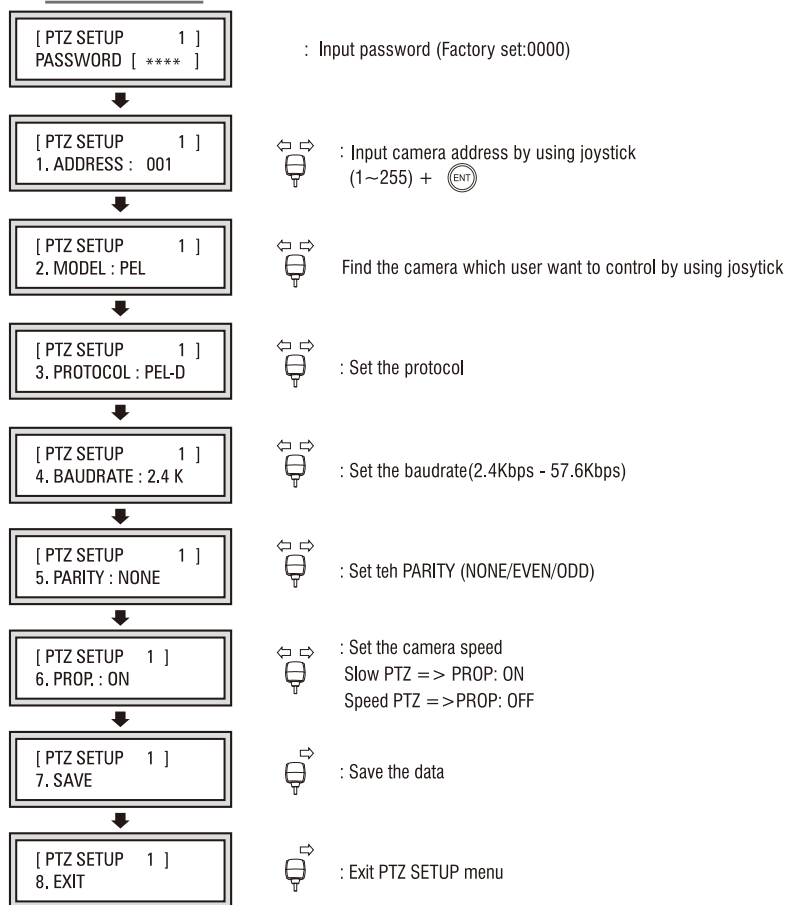
After factory set, the Tx LED on the LCD screen flashing is not a malfunction.
After factory set, the joystick must reset the settings in the Joystick Calibration mode.

PTZ SETUP

PTZ SETUP


If you press button 1 +  for 2 seconds, you can enter into the PTZ SETUP menu.

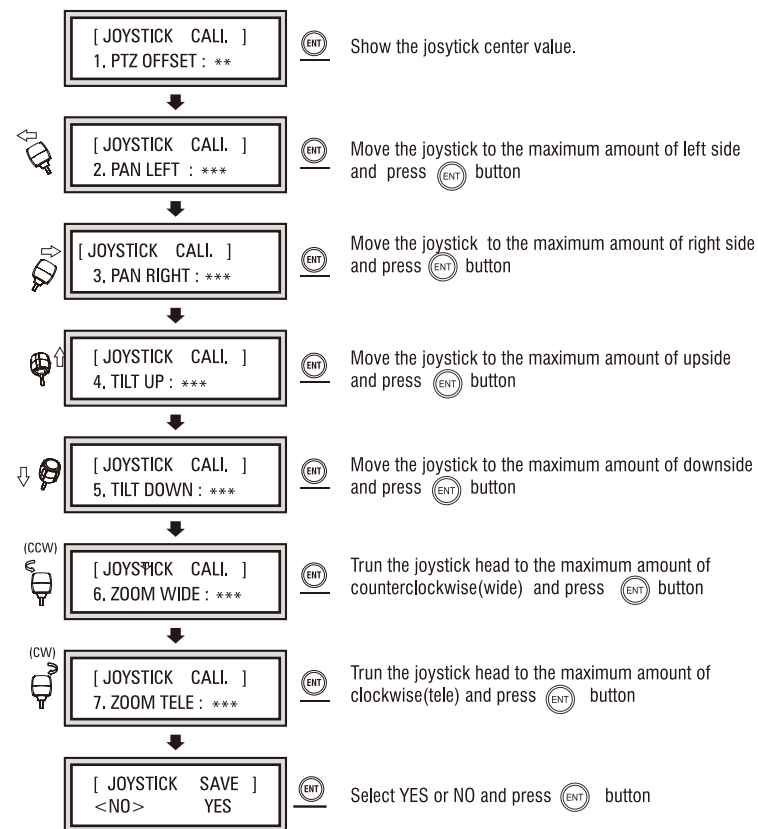
PTZ SETUP



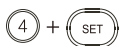
JOYSTICK CALIBRATION

It is for the keyboard to set the Max.movement of joystick

If you press button 3 +  for 2 seconds, you can enter into the JOYSTICK CALIBRATION menu.



PTZ ADC TEST

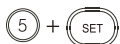


- ① Press number 4.
- ② Press SET button for 2 seconds to go into the PTZ ADC TEST mode.
- ③ Press ESC button to go back to the initial mode.

- Move the joystick to up, down, right and left direction to test each position value.
- Turn the joystick to right and left to test the zoom value.

[PTZ ADC TEST]
PS306TS285ZS297

KEY TEST



- ① Press number 5.
- ② Press SET button for 2 seconds to go into the KEY TEST mode.
- ③ Press ESC button to go back to the initial mode.

- The LCD window shows the currently selected key.

* SHIFT/TURBO buttons are not subject to this function

[KEY TEST]
CON<< ZOOM WIDE

[Pressed Zoom Wide Key]

[KEY TEST]
NUM<< 1

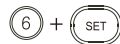
[Pressed '1'key]

[KEY TEST]
CON<< DVR MODE

[Pressed DVR MODE KEY]

DISPLAY TEST

LCD window display test



- ① Press number 6.
- ② Press SET button for 2 seconds to go into the Display test mode.
- ③ Press ESC button to go back to the initial mode.

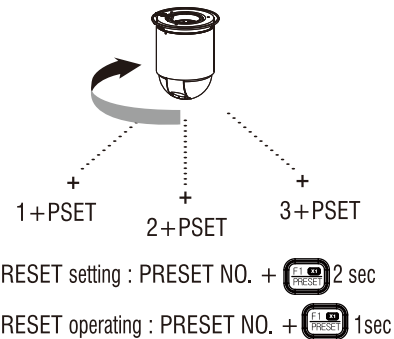
- The number, test and special character is shown up repeatedly.

[DISPLAY TEST]
UVWXYZ{ } ÷ ÷

⚙️ BASIC FUNCTION SETTING AND CONTROL

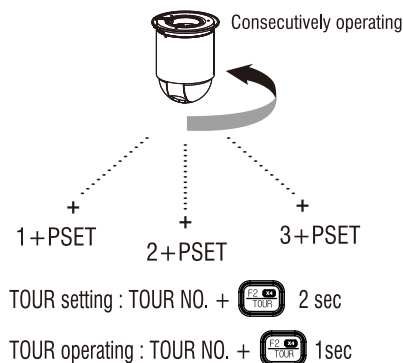
1. PRESET

User can set the camera position where user want to see. (Pan/ Tilt, Zoom



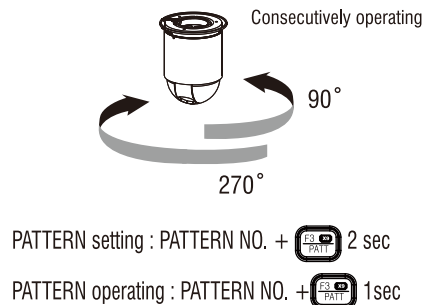
2. TOUR

When Tour function runs, camera moves from the preset assigned as the 1st point to the preset assigned as the last point in sequence. The camera will stay to the each point for the time set to the dwell time in Tour Edit and move to the next point.



3. PATTERN

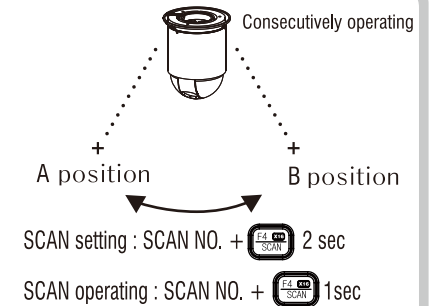
Camera memorizes the path (mostly curve path) by joystick of controller for assigned time and revives the path exactly as it memorized.



■ BASIC FUNCTION SETTING AND CONTROL

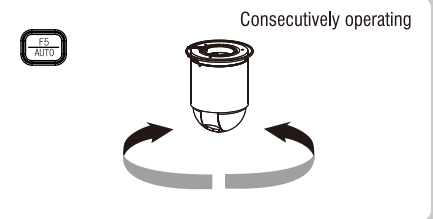
4. SCAN

Camera moves between 2 positions if there is no PTZ command after passing the assigned Dwell time.



5. AUTO PAN

Camera moves two preset pan positions repeatedly.

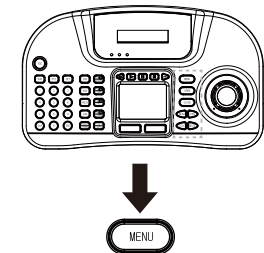


6. Control OSD setting

Press Menu button to display camer OSD in the monitor.

- ① Press Menu button for 2 seconds.
- ② ENT : Select function in the OSD menu (Enter)
- ③ CLR : Clear function in the OSD menu (Esc)

Menu cursor is controllable to up,down,rigth and left direction by using joystick.



7. Control AUX setting

- ① Aux ON : Press AUX button for 1 second to AUX ON.
- ② Aux OFF : Press AUX button for 2 seconds to AUX OFF.

PROTOCOL

- Serial Communication Format

Data Communication : RS485 / RS-422

Data bit : 8bit

Stop bit : 1bit

Parity bit : None

Transmission speed : 2400, 4800, 9600, 19200, 38400, 57600 bps

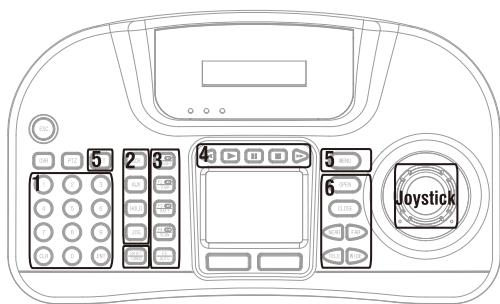
- DATA Format(binary 5bytes)

STX : 0xA0

ETX : 0xAF

ADDR : 0x01 ~ 0xFF(Address Change : addr value + ENT + long)

byte 1	byte 2	byte 3	byte 4	byte 5
STX	ADDR	CMD	DATA	ETX



Joystick

CMD		DATA			
Action	Value	Action	Value	Action	Value
↑	Wide	↑	Left	↑	Up
	0x87		0x7n		0xn7
	0x86		0x6n		0xn6
	0x85		0x5n		0xn5
	0x84		0x4n		0xn4
	0x83		0x3n		0xn3
	0x82		0x2n		0xn2
	0x81		0x1n		0xn1
↓	Stop	↓	Stop	↓	Stop
	0x80		0x0n		0xn0
	0x89		0x9n		0xn9
	0x8A		0xAn		0xnA
	0x8B		0xBn		0xnB
	0x8C		0xCn		0xnC
	0x8D		0xDn		0xnD
	0x8E		0xEn		0xnE
	Tele		Right		Down
	0x8F		0xFn		0xnF

**n = don't care

PROTOCOL

	1	CMD	DATA
1	short	0x01	0x01
	shift + short		0x03
2	short	0x02	0x01
	shift + short		0x03
3	short	0x03	0x01
	shift + short		0x03
4	short	0x04	0x01
	shift + short		0x03
5	short	0x05	0x01
	shift + short		0x03
6	short	0x06	0x01
	shift + short		0x03
7	short	0x07	0x01
	shift + short		0x03
8	short	0x08	0x01
	shift + short		0x03
9	short	0x09	0x01
	shift + short		0x03
0	short	0x0A	0x01
	shift + short		0x03
CLR	short	0x20	0x01
	long		0x02
	shift + short		0x03
ENT	short	0x21	0x01
	long		0x02
	shift + short		0x03

	4	CMD	DATA
BACKWARD	short	0x30	0x01
	long		0x02
	shift + short		0x03
PLAY	short	0x31	0x01
	long		0x02
	shift + short		0x03
PAUSE	short	0x32	0x01
	long		0x02
	shift + short		0x03
STOP	short	0x33	0x01
	long		0x02
	shift + short		0x03
FORWARD	short	0x34	0x01
	long		0x02
	shift + short		0x03

	5	CMD	DATA
MENU	short	0x43	0x01
	long		0x02
	shift + short		0x03
SET	short	0x29	0x01
	long		0x02
	shift + short		0x03

	2	CMD	DATA
SCR	short	0x40	0x01
	long		0x02
AUX	short	0x22	0x01
	long		0x02
	shift + short		0x03
HOLD	short	0x41	0x01
	long		0x02
	shift + short		0x03
JOG	short	0x42	0x01
	long		0x02
	shift + short		0x03

	3	CMD	DATA
F1	short	0x11	0x01
	long		0x02
	shift + short		0x03
F2	short	0x12	0x01
	long		0x02
	shift + short		0x03
F3	short	0x13	0x01
	long		0x02
	shift + short		0x03
F4	short	0x14	0x01
	long		0x02
	shift + short		0x03
F5	short	0x15	0x01
	long		0x02
	shift + short		0x03

	6	CMD	DATA
OPEN	short	0x23	0x01
	long		0x02
	shift + short		0x03
CLOSE	short	0x24	0x01
	long		0x02
	shift + short		0x03
NEAR	short	0x25	0x01
	long		0x02
	shift + short		0x03
FAR	short	0x26	0x01
	long		0x02
	shift + short		0x03
TELE	short	0x27	0x01
	long		0x02
	shift + short		0x03
WIDE	short	0x28	0x01
	long		0x02
	shift + short		0x03

ESC	short	0x2A	0x01
-----	-------	------	------

== SPECIFICATION

MODEL	KEYBOARD CONTROLLER
Keyboard Communication	Pan/Tilt/Zoom interface : RS-485/422
	DVR interface : RS-485
	2400~57600 bps (selectable)
	Pan/Tilt control distance: 4000 ft (1.2km) on 24 AWG wire
	Protocol: Multiple (Including Pelco-D, total 9 protocol support)
COMM. Connector Type	Terminal Block(8p) , TX 3Port, TRX 1Port
Key Button	Rubber button
	Number (10), Function (23), DVR control (5)
Joystick	3Axis Pan/Tilt /Zoom control, movement speed control
Touch Pad Mouse	USB mouse driver , 65.00 x 49.00 mm (standard size)
	Mechanical Buttons : 2 on module
Power range	9.5 ~15V DC
Power consumption	DC12V /150mA
Display	Character Type 16 character x 2 lines LCD
Operation Temperature	0℃ to 45℃
Humidity	10% -70% non-condensing
Dimension	310 x 185 x 100 mm

** The design and specification are subject to improvement changes without prior notice.

== DRAWING

