

PTZ10INTC

INTERNAL PAN, TILT AND ZOOM
DOME CAMERA



USER MANUAL



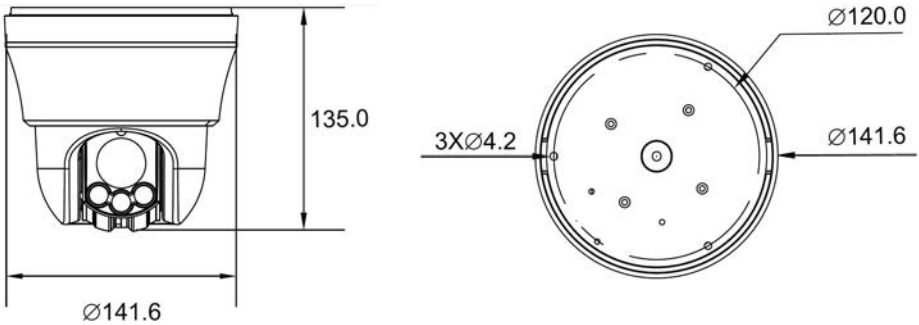
www.espuuk.com

Product Overview

FEATURES

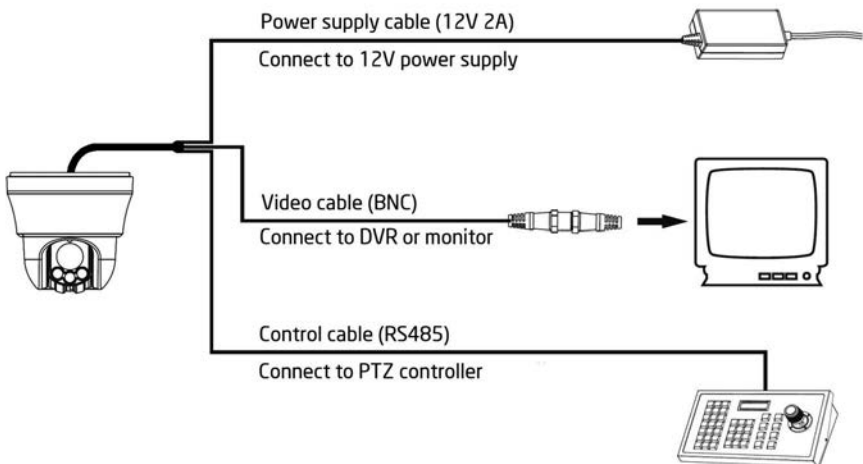
- 10x optical zoom
- IR Night vision up to 50m
- 360 degree endless pan rotation
- Auto flip function to aid tracking of subjects beneath camera
- Control protocol auto-detect
- Supports Pelco D/P, Hik and Dahua control protocols
- Supports baud rates of 2400, 4800, 9600
- 220 location presets with scan/tour facilities
- Auto patrol function can be engaged when idle

DIMENSIONS



CONNECTION OVERVIEW

(See page 6 for further wiring information)



Pre-Installation Guidance

SITING YOUR PTZ CAMERA

Do not install your PTZ camera in any of the following locations:

- In areas where humidity reaches >90%
- Near a boiler flue or air conditioning outlet.
- In environments high in smoke or dust.

Avoid directing the camera towards very strong light sources such as the sun. You should also avoid high output light sources such as floodlighting. Prolonged exposure to strong light sources damage the camera's image sensor resulting in "bleached" colours.

ILLUMINATION

Multiple light sources from different directions will always produce better results than relying only on the IR night vision, especially when trying to read vehicle number plates in dark conditions.

If IR light is sourced from the same direction as the camera, it is reflected directly back at the camera causing the number plate to appear as if illuminated/overexposed. Adequate ambient light sourced from different directions will eliminate this. This applies to all cameras with built-in IR.

POWER SUPPLY AND CABLING

Recommended cable types based on a standard installation (200M max cable run)

Control cable - Shielded control cable, 0.5mm (24AWG).

Video cable - RG59 < 120M, CT100 or higher recommended for > 120M

Power cable - Twin core minimum 0.2mm or higher

Please ensure all cabling is kept at least 300mm from main/high voltage cabling to avoid interference.

Multiple PTZ cameras operated from the same controller must be wired in parallel in a "daisy-chain" layout. For more information see page 6.

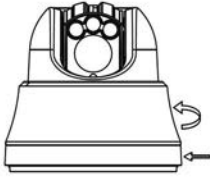
MAINTENANCE

Be aware that as PTZ cameras contain moving parts, they are subject to more wear and tear than traditional fixed cameras.

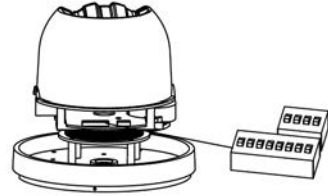
Ensure that the lens is periodically cleaned as dust and dirt can cause the auto focus to function incorrectly.

Use a damp cloth to clean the lens, do not use liquids or chemicals of any sort.

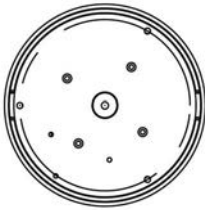
Installation



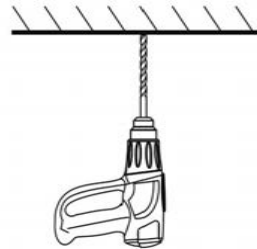
1. Remove indicated screw, then while holding the base, unscrew the cover



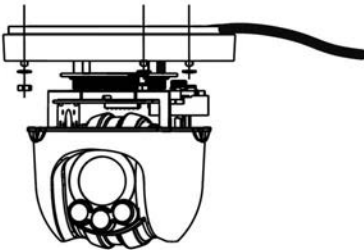
2. Configure address/baud rate/resistor DIP switches (see page 5)



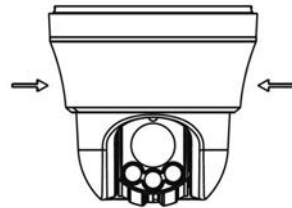
3. Using the template mark out the fixing screw holes on the ceiling



4. Drill holes and fit rawl plugs



5. Thread cables through into ceiling cavity and secure base to ceiling using screws



6. Replace cover and insert locking screw



7. Connect cables (see page 6)

Configuration DIP Switches

CAMERA ID/ ADDRESS SETUP (SWITCH SW1)

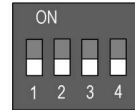
PTZ cameras must be addressed with a unique number. This number can be from 0-255 and is set in binary, use the table below to manually set the address.

Visit <http://www.binaryhexconverter.com> for more help to convert decimal to binary. Once the camera is installed and the ID has been set up, it can be changed without having to access the DIP switches. It can be done from the camera menu system, see page 6 for further details.

SWITCH SW1



SWITCH SW2



Address	Switch SW1 Setup							
	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8
1	On	Off	Off	Off	Off	Off	Off	Off
2	Off	On	Off	Off	Off	Off	Off	Off
3	On	On	Off	Off	Off	Off	Off	Off
4	Off	Off	On	Off	Off	Off	Off	Off
5	On	Off	On	Off	Off	Off	Off	Off
6	Off	On	On	Off	Off	Off	Off	Off
7	On	On	On	Off	Off	Off	Off	Off
8	Off	Off	Off	On	Off	Off	Off	Off
9	On	Off	Off	On	Off	Off	Off	Off
10	Off	On	Off	On	Off	Off	Off	Off

BAUD RATE (SWITCH SW2)

All cameras operated from the same controller must all be configured to the same baud rate. Lower baud rates will see fewer data errors and can be transmitted over longer distances than high baud rates. Higher baud rates will be more responsive to user input.

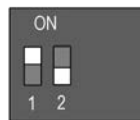
Set your PTZ camera to the same baud rate as your controller, or use the Auto Detect function which will configure this automatically. Set using switches SW2-1 and SW2-2.

Baud rate	Max transmission distance (5mm cable)
2400	1800M
4800	1200M
9600	800M

2400



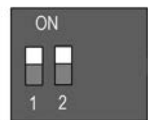
4800



9600



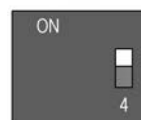
Auto Detect



EOL RESISTOR (SWITCH SW2)

When connecting PTZ cameras, the built in 120Ω resistor should be connected on the last PTZ camera in the chain. See page 6 for further details. The resistor is connected via DIP switch SW2-4.

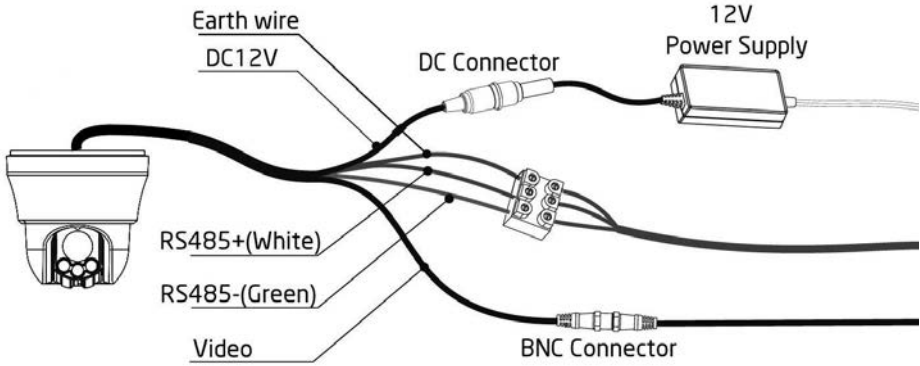
Resistor On



Resistor Off



Connections

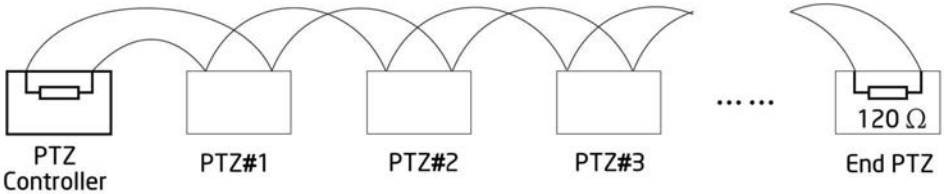


Using a screened control cable is recommended for maximum protection against interference.

- 12V/DC Connect to power supply, connect 230V mains supply to power supply
- RS485A(+) Connect to PTZ controller (or DVR) RS485A+
- RS485B(-) Connect to PTZ Controller (or DVR) RS485B-
- Earth wire Connect to control cable screen. Ensure screen is earthed correctly
- Video/BNC Connect to DVR or monitor input

CONNECTING MULTIPLE PTZ CAMERAS

Multiple PTZ cameras must have the RS485 control cable wired in parallel. The last PTZ on the chain must have the 120Ω resistor connected (see page 5).



POWER ON SELF-TEST

When first powered up, the PTZ camera will perform the self-test, testing all motor functions. This test takes approximately 12 seconds. Once complete, the PTZ camera is ready for use.

Basic Operation

SET/RECALL PRESET POSITIONS

1. Set PTZ controller to the correct PTZ camera (input PTZ ID, press **CAM**)
2. Use joystick to position/zoom camera to chosen position
3. Input (position number), + **PRESET**

To recall a preset position, input (position number) +**SHOT**

PRESET FUNCTION ACCESS

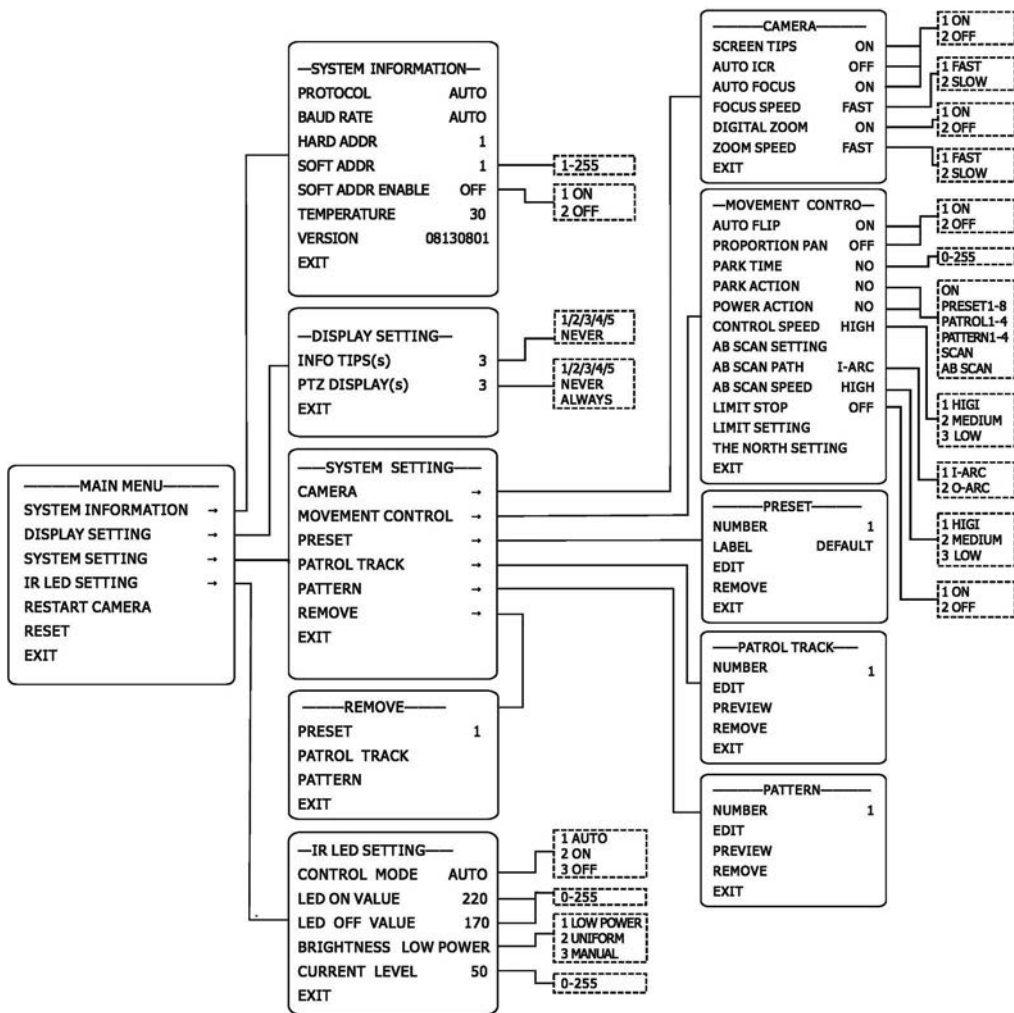
Some of the commonly used functions on the PTZ camera can be accessed by entering certain preset numbers. Press (preset number) then **SHOT** to access these functions.

Preset number	Description of feature
95	Access main menu
98	High speed auto-scan
99	Low speed auto-scan
221	Set position A of A-B line scan
222	Set position B of A-B line scan
223	High speed A-B scan
224	Medium speed A-B scan
225	Low speed A-B scan
231-238	Run patrol 1-8
241-244	Run mode scan 1-4
251	Set manual control to high speed
252	Set manual control to medium speed
253	Set manual control to low speed
254	Run motor calibration

OSD MENU - ACCESS AND NAVIGATION

Menu function	Method
Enter OSD Menu	Press 95+ SHOT
Move up/down/left/right	Move controller joystick
Select/Confirm	Press OPEN
Escape/Back	Press CLOSE

OSD Menu Overview



OSD Menu Features

MAIN MENU

System Information	Display system information
Display Setting	Configuration of on-screen information
System Setting	Configuration of system parameters
IR LED Setting	Configuration of IR illumination parameters
Restart Camera	Restart the zoom module
Reset	Revert to factory default settings

SYSTEM INFORMATION

Protocol	Set control protocol to Pelco/Hik/Auto
Baud Rate	Set control baud rate to 2400/4800/9600/Auto
Hard Addr	Display current address/ID set by DIP switches (0-255)
Soft Addr	Configure a new address/ID to override Hard Address (0-255)
Enable Soft Addr	Enable the Soft Addr function
Temperature	Display current internal temperature of camera
Version	Display current firmware version

DISPLAY SETTING

Info Tip(s)	Configure on-screen information such as Preset and Pattern functions. Can be set to never time-out or 1-5s time-out.
PTZ Display(s)	Configure on-screen PTZ directional info. Can be set to never time-out or 1-5s time-out.

RESTART CAMERA

Select to restart the zoom module.

RECOVER FACTORY SETTING

Select to load all factory default settings, power the camera down to take effect.

System Setting Menu

Camera	Options for OSD screen tips, focus and zoom functions
Movement Control limits	Options for movement speed, orientation, scanning and movement
Preset	Configure preset positions
Patrol Track	Configure patrol tracks
Pattern	Configure patrol patterns
Remove	Remove presets, patrols or patterns
Exit	Leave OSD menu

CAMERA

Screen Tips	Enable or disable screen tips and on-screen information
Auto ICR	Enable high light level compensation - helps reduce glare from bright light sources e.g. car headlight and floodlight
Auto Focus	Enable or disable the AF feature. Focus will be entirely manually controlled, only recommended for troubleshooting
Focus Speed	Configuration of AF speed - high/med/low
Digital Zoom	Enable digital zoom feature (not available)
Zoom Speed	Zoom speed setting - fast/slow

MOVEMENT CONTROL

Auto Flip	Enable/disable auto flip (camera turns 180° when following a subject passing underneath the camera, to aid tracking)
Proportion Pan	Enable/disable proportion pan (camera control speed is lowered when zoomed in to aid tracking)
Park Time	Set park time (idle time) in seconds (0-255)
Park Action	Set park action when camera is idle (Preset/Pattern/Patrol/Scan)
Power Action	Set power action when camera is powered up (Preset/Pattern/Patrol/Scan)
Control Speed	Set camera control speed (High/Medium/Low)
AB Scan Setting	Setup points A and B for AB Scan
AB Scan Path	Set AB scan path (I-Arc/O-Arc) I-Arc= front facing, O-Arc= rear facing
AB Scan Speed	Set AB scan speed (High/Medium/Low)
Limit Stop	Enable/disable limit stop option. Overrides the auto flip function when enabled.
Limit Setting	Set limit setting parameters - defines the area that the camera may cover
The North Setting	Set orientation north position (for correct OSD directional information)

PRESET (Preset camera positions)

Number	Select preset to be edited (0-220)
Label	Set name of preset (not available)
Edit	Position camera/zoom to set preset position
Remove	Delete current preset

PATROL TRACK (A group of sequenced preset positions)

Number	Select patrol track to be edited
Edit	Create or edit a patrol track, Preset = preset no, Speed = panning speed, Time = dwell time
Preview	Run preview of current patrol track
Remove	Delete current patrol track

PATTERN (Records user input to mimic a sequence of movement)

Number	Select pattern to edit/create
Edit	Create or edit pattern
Preview	Run preview of current pattern
Remove	Delete current pattern

REMOVE

Preset	Delete all preset data
Patrol Track	Delete all patrol track data
Pattern	Delete all pattern data

IR LED SETTING MENU

Control Mode	Control mode of IR (Auto/On/Off)
LED ON Value	Set LED on threshold
LED Off Value	Set LED off threshold
Brightness low power	Set brightness mode (Brightness/Quality/Uniform) Brightness= Setting for highest illumination level Quality= Setting for image clarity Uniform= Setting for uniform brightness
Current level	Show current ambient light level (0-255)

Technical Specifications

Rated Voltage	12V DC
Max current	1.25A
IR effective distance	40M
Pan rotation	360° Endless rotation
Speed	Pan 0.6-200°/s Tilt 3.5-30°/s
Working conditions	-10°C - +50°C

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