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HT650PT10X

speco technologies

Product outline and Features
Camera installation

1. Product Outline
This camera can be controlled through the use of our RC-650 remote control or from most DVR's.
Tamper resistant and Weatherproof.
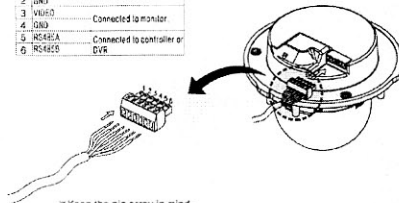10X optical zoom plus 10X digital zoom capabilities.

2. Features
1) Modern & contemporary design
2) Fast speed(Panning Max. 93 degree per second)
3) 64 PRESETS. Dwell time in each position can be selected
4) Remote control available(mode RC-650) or use RS-485
5) Compatible with various DVRs(PELCO-D Compatible)
6) Thermal sensor and cooling fan built-in
7) Impact-resistant material(Aluminum & Poly Carbonate)
8) Up to 100X Zoom(Optical 10X, Digital 10X)
9) ICR Day & Night feature

3. Cable
1. Installation and Connections

Cable connection

Pin array
1	12V	12V DC, 1A input
2	GND	
3	VIDEO	Connected to monitor.
4	GND	
5	RS485A	Connected to controller or
6	RS485B	DVR

※ Keep the pin array in mind.
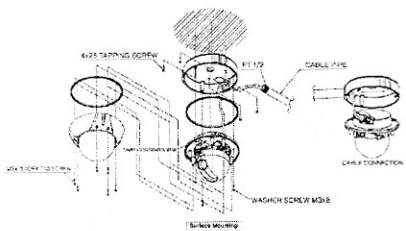And be sure to connect power all installation are completed.

*Please refer to the above picture.
First remove the white plastic shipping protection form the inside of the case allowing the camera to move freely.

FRONT

CAMERA FRONT DIRECTION

REAR
PANNING RANGE
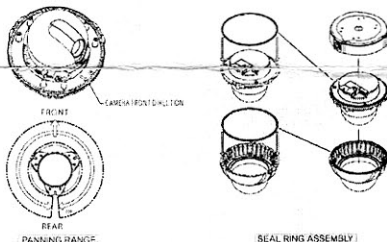
SEAL RING ASSEMBLY

*When you assemble the seal ring, pay attention to the leakage.

CAMERA FRONT DIRECTION
* When you install the camera, you should install it after determining its forward direction.
* Self Tapping screws are included, but if you want to install it on a concrete ceiling, you should use proper hardware.

1) Securely attach the lower part of the base on the wall or ceiling. When installing outdoors attach the supplied rubber pad onto the lower part of the base so that no water may penetrate the screw holes and the cable entry.
2) Connect the camera using the supplied terminal block
   a) Connect the control unit via a twisted, 2-conductor line (maximum length 1200m) to the pin array 5(RS485A) and 6(RS485B). Connect all cameras in parallel to this 2-conductor control line.
   b) Feed the video signal at contact 3 via a shielded cable to the video input of the following unit (e.g. Monitor, camera switcher, video splitter).
   Connect the shield to contact 4. With a cable length of more than 200m a video amplifier should be inserted between the camera and the cable to compensate for the line-level loss.
   C) For power supply, connect a regulated 12V DC power supply unit with a permanent rating of 1A or greater to contact 1(12V DC) and the contact 2(ground).
3) Attach the terminal block to the camera. As soon as the operating voltage is applied, the camera goes to its starting position.

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4) The mid case must be placed on the lower part of the base so that the front arrow approximately points to the center of the surveillance area and the camera is capable of moving to the left and right in a uniform way. Place one of the supplied sealing rings between the mid case and the lower part of the base. Tightly attach the mid case with the three shorter M3 screws to the lower part.
5) Prior to further mounting make the adjustments according to before replacing the cover.
6) Place the three silicon rings onto the six Torx screws.
7) Lay the second seal ring between the mid case and the cover assembly and tightly attach the dome with the six longer M3 screws. A matching Torx wrench is supplied.

2. Termination Switch
1) Termination Switch: Used for RS-485 communication
   ON: Apply to terminal unit when communicating with PC or remote control in 1:1 or in multi-communication.
   OFF: Apply to all the cameras except terminal unit in multi-communication.

[Detail "A"]
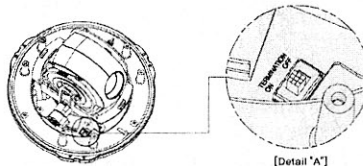
3. ID Setup
1) ID setup
   - Use it when you use many cameras or if you want to use a special camera ID.
   - You can address up to 255 units.
     (Please refer to the table for camera ID setup)
   - Optional remote control (model RC-650) can control up to 99 Cameras.

[Detail "C"]   [Detail "B"]
Protocol and Baud rate setting   ID setup
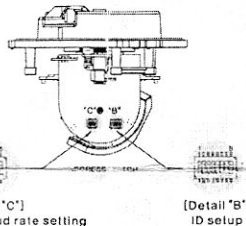
Table for camera ID

Camera ID	Sw1	Sw2	Sw3	Sw4	Sw5	Sw6	Sw7	Sw8
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	OF
·								
255								

Protocol and Baud rate setting

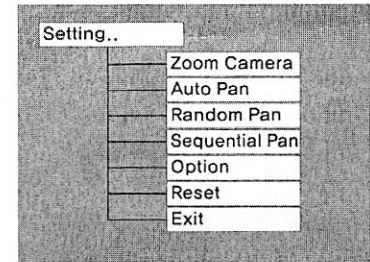| Dip Sw2		Baud rate				Protocol	
		Sw1	Sw2	Sw3	Sw4	Sw5	Sw6
Baud rate	2400bps	OFF	OFF	OFF	OFF		
	4800bps	ON	OFF	OFF	OFF		
	9600bps	OFF	ON	OFF	OFF		
Protocol	SK-P					OFF	OFF
	Pelco D					ON	OFF
	Pelco P					OFF	ON

After setting above combination, turn off and on.

Specification and Dimension
- Power : 12V DC
- Current Consumption : Max. 800mA
- Operation temp : 14° F ~ 122° F
- Dimension : Ø5.9" x 5.28"(H)
- Weight : approx. 2.65 lbs
- Remote control : RS-485
- Data transmission speed : 9600/4800/2400 bps
- Camera ID setup: 1~255
- Moving angle : PAN: 0° ~ 350°   Tilt: 5° ~ 90°
- Moving speed : PAN: 9° /s~90° /s Tilt: 9° /s ~ 66° /s
  Shifting speed between Preset positions
  Max.90° /s
- Max. Position Memory : 64 Points
- Formula for position operating:
  1. Auto Pan. (approx. 20° /s)
  2. Sequential Pan.
  3. Random Pan.
- Option: Small sized remote control(RC-650)
- Dimension

Pelco D 2400 (handwritten)

OSD menu configuration

Setting..
- Zoom Camera
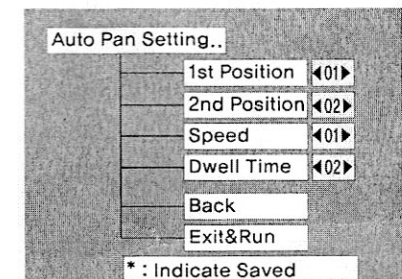- Auto Pan
- Random Pan
- Sequential Pan
- Option
- Reset
- Exit
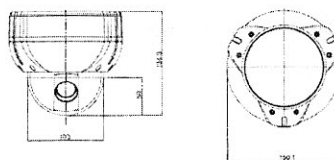
▶ **Calling out main menu**
To enter OSD menu, press the button "Save" + "95" + "ENTER" (PELCO-D) or press "ENTER" key(SK-S),

Preset Setting..
- Preset Point ◀01▶
  - Save
  - Clear
- Clear All
- Exit
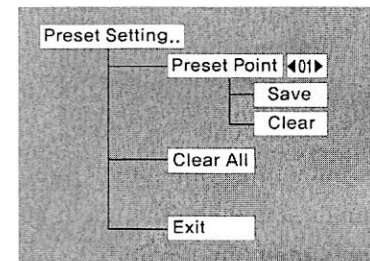
▶ **Preset Save**

Menu	Function
Preset	(1~32) + Preset Save : Pelco-D
	(1~64) + Preset Save : SK-P
Preset point	Select preset number
Save	Save preset
Clear	Delete preset
Clear All	Erase all presets
Exit	Escape this menu

Auto Pan Setting..
- 1st Position ◀01▶
- 2nd Position ◀02▶
- Speed ◀01▶
- Dwell Time ◀02▶
- Back
- Exit&Run

* : Indicate Saved

▶ **Auto Pan**
To make the camera panning automatically at fixed speed

1st Position	Set start preset point(1~64 Point)
2nd Position	Set end preset point(1~64 Point)
Speed	Set moving speed(1~10 Speed)
Dwell Time	Set staying time(2~60 second)
Back	Save the setting & move to above menu
Exit & Run	Escape this menu & execute "Auto Pan"

Random Pan Setting..
- Speed ◀01▶
- Dwell Time ◀02▶
- Back
- Exit&Run

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▶ **Random Pan**

To move he camera to the memorized positions randomly.

Speed	Set moving speed.(1~10 Speed)
Dwell Time	Set staying time(2~60 sec)
Back	Save the setting & move to above menu
Exit & Run	Escape this menu & execute "Random Pan"

```
Sequential Pan Setting..
        Speed         ◄01►
        Dwell Time    ◄02►

        Back
        Exit&Run
```
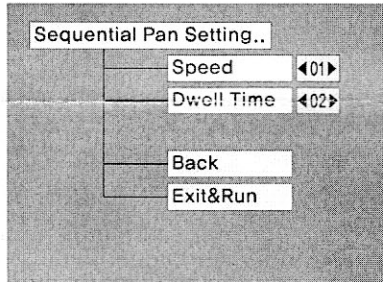
▶ **Sequential Pan**

To move the camera to the memorized positions one by one.

Speed	Set moving speed.(1~10 Speed)
Dwell Time	Set staying time(2~60 sec)
Back	Save the setting & move to above menu
Exit & Run	Escape this menu & execute "Sequential Pan"

```
Option Setting..
        Preset No      Off
        Preset Menu    Off
        Power On Act
        ( NONE                )

        Back
        Exit
```
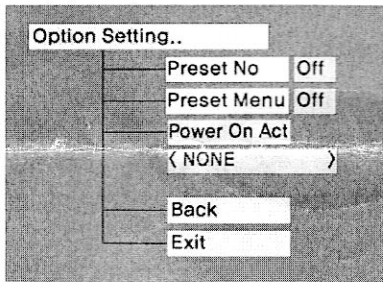
▶ **Option**

Set a miscellaneous

Preset No	Set the display of preset number(On/Off)	
Preset Menu	Set the display of preset setting menu OFF: "01 Saved" / ON : "Calling out menu"	
Power On Act	Set the function to operate when the camera turns on.	
	NONE	Stand by without movement
	SEQ	Operate by SEQUENTIAL PAN
	RANDOM	Operate by RANDOM PAN
	AUTO PAN	Operate by AUTO PAN
	LAST ACTION	Operate the last one among above three action
Back	Save the setting & move to above menu	
Exit	Escape this menu	

```
SPECO TECH
        CAMERA TITLE
        FOCUS
        SHUTTER
        AUTO GAIN
        SLC
        WHITE BAL.
        DAY/NIGHT
        DZOOM
        NEGATIVE
        REVERSE
        BRIGHTNESS
        DETAIL
        OSD
        COMM.
        ALARM
        Z-SPEED
        F-DETAIL
        SYNC
        DEFAULT
        Exit
```
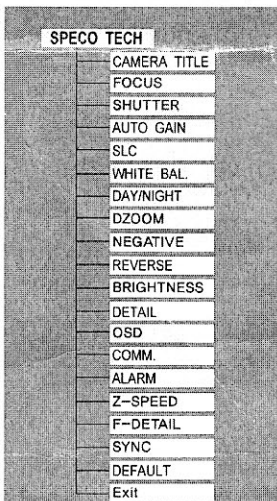
▶ **Zoom Camera setup configuration**

SPECO TECH		
Sub menu	Select	Explanation
CAMERA TITLE	Off	No choice
	On	
FOCUS	Auto	Focus is controlled automatically
	Push	Focus is automatically adjusted just once, after zoom position is changed.
	Manual	Focus is controlled manually
SHUTTER	Auto	Shutter speed is controlled automatically
	Manual	Shutter speed is controlled manually
AUTO GAIN	Low	18dB
	Middle	23dB
	High	27dB
	Off	Automatic Gain Control "Off"
SLC	Off	Speco Light Compensation "Off"
	Low Middle High	Speco Light Compensation "On" and set the level of BLC. 1X : Slightly improves the BLC 3X : Substantially improves the BLC
WHITE BAL.	ATW	Auto Tracking White balance
	Push	Faster white balance than ATW
	AWC	Auto White balance Control
	3,200°K	Fix color temperature as 3,200° K
	5,600°K	Fix color temperature as 5,600° K
	Manual	White balance controlled manually (Values of red and blue are controllable)
DAY/ NIGHT	On	Color mode
	Off	B/W mode
	Auto	The camera automatically detects lighting conditions and selects the mode accordingly.
DZOOM	Off	Digital zoom "Off"
	On	Digital zoom limit selectable (X2, X4, X6, X8, X10)
NEGATIVE	Off	Normal image
	On	image color is reversed negatively
REVERSE	Off	Normal image
	On	Left and right are reversed
BRIGHTNESS		Brightness level adjustable
DETAIL		Sharpness level adjustable
COMM.	SET	
ALARM	Off	No choice
	On	
ZOOM SPEED		Zoom speed selectable (X1 ~ X3)
FOCUS DETAIL		Focus adjustable by detail (X1~X3)
SYNC		INT : Internal Sync.
DEFAULT		Return all values to the factory set
EXIT		Exit menu

▶ **Specification**

Type	High resolution Color Dome camera with Motorized Zoom Lens
Image Sensor	1/4" COLOR SONY SUPER HAD CCD
Effective Pixel	768(H) x 494(V)
TV Type	NTSC
Scanning system	2:1 Interlace
Sync. system	Internal
Scan.Freq.(HOR.)	15.734 KHz
Scan.Freq.(VERT.)	59.94 Hz
Resolution	580 lines resolution(B/W) 560 lines resolution(Color)
Video output	1.0 Vp-p (Sync. Negative) with 75Ω Termination
S/N Ratio	45dB or More(AGC OFF)
Min. Illumination	0.1Lux
Gamma	r=0.45
Shutter Speed	Auto : 1/60 ~ 1/10,000sec Manual : 1/60, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
White Balance	ATW / AWC / Manual[R,B]/ 3,200° K / 5,600° K
OSD	Yes
ZOOM	Optical 10X, Digital 10X
FOCAL Length	f= 3.8(W) ~ 38.0(T)mm / F 1.8(W) ~ F2.8(T)
Angle of view (Diagonal)	51.2° (Wide End), 5.58° (Tele End)
Min. Working Distance	0.35M (Wide End), 0.8M (Tele End)
Moving Speed	Pan: 9°/s ~ 90°/s, Tilt: 9°/s ~66°/s
Moving Angle	Pan: 0° ~ 350°, Tilt: 5° ~90°
Communication	RS-485
Camera ID Setup	1~255 Selectable
Protocol	Pelco-D, Pelco-P, SK-P,
Baud rate	2400bps, 4800bps, 9600bps
Power Supply	Regulated 12V DC
Consumption Current	Max.800mA
Operation Temp	14° F to 122° F
Dimension	Ø 5.9"×53"(H)
Weight	2.65 lbs

※ **The specification is subject to change without any prior notice to improve the quality.**