English

Swann™

PRO-SERIES

PRO-750 Dome

M750CAM190312E

◘ **FCC Verification:**
NOTE: This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
· Reorient or relocate the receiving antenna
· Increase the separation between the equipment and the receiver
· Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
· Consult the dealer or an experienced radio/TV technician for help

◘ **IMPORTANT NOTE: Prohibition against eavesdropping**
Except for the operations of law enforcement officers conducted under lawful authority, no person shall use, either directly or indirectly, a device operated pursuant to the provisions of this Part for the purpose of overhearing or recording the private conversations of others unless such use is authorized by all of the parties engaging in the conversation.

◘ **WARNING:** Modifications not approved by the party responsible for compliance could void user's authority to operate the equipment.

◘ **IMPORTANT SAFETY INSTRUCTIONS:**
· Make sure product is fixed correctly and stable if fastened in place
· Do not operate if wires and terminals are exposed

◘ **FOR BEST RESULTS:**
This is a semi-professional 360º PTZ dome camera, conforming to PELCO P/D standards. To obtain the best image quality, please use a high quality cable, particularly if the cables required length exceeds 100ft/35m. For the highest video quality, use a cable with a solid copper inner conductor and shielded with copper braid.

Contents

Quick Reference

PRO-750 4" Pan, Tilt, Zoom Dome

Default PTZ Configuration
Default Command Address: 1
Protocol: Pelco-D
Baud Rate: 2400bps

RS485 Polarity:
+A   Purple Wire
- B   White Wire

Overview

Congratulations on your purchase of this 360º PTZ Camera Dome! This system is an ideal solution for monitoring a large area – a combination of a high quality CCD image sensor mounted in a contained dome with the option to pan fully 360º. Nothing will be out of sight for long!

Whether you wish to do this using the full complement of manual controls, or program a detailed surveillance program for the camera to run, the PRO-750 gives you all the options you need to simply and effectively monitor a large range of locations without the hassle of multiple cameras.

The PRO-750 features an included fully functional PTZ controller, great low-light performance and a 3x optical zoom – great for getting up close to what you want to see. All this comes mounted in a simple but elegant 4" dome.

Package Contents

- PRO-750 pan & tilt 4" Dome Camera
- Ceiling Mounting Arm/Bracket
- Wall Mount Arm
- Dome Controller
- Remote Control
- Mounting Screws

- Operating Instructions
- 18m (60ft) Hybrid Video/RS485 Cable
- Spare Camera Cable & Plug Board
- Power Adapter for Camera
- Power Adapter for Controller

If any of these components are missing, contact *Swann* Technical Support. Contact details are on the back cover of this booklet.
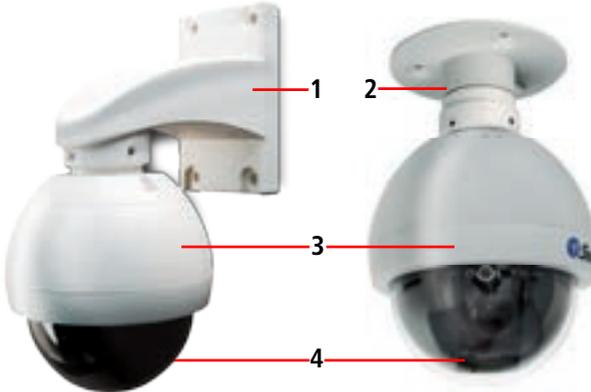
1. Wall-Mount Arm
For mounting the PRO-750 Dome to a wall, post or similar vertical surface.
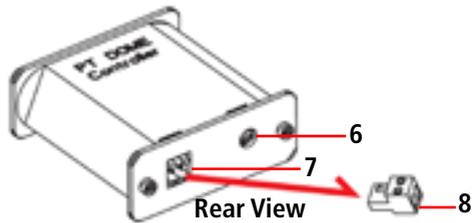
2. Ceiling-mount Bracket
For mounting the PRO-750 Dome to the underside of a ceiling or overhang.

3. Camera Housing
Contains the camera, PTZ unit and associated circuitry and electronic components.

4. Dome Cover
Protects the camera.

Front View   **Rear View**

5. LED Display
Displays the current status of the PTZ controller.

6. DC 12V
Connect the supplied power adaptor to this socket.

7. RS485 Port
Insert the RS485 plug into this socket.

8. RS485 Plug
Connect the end of the purple and white control wires into this plug, using the attached screws to secure wires in position. The PURPLE wire is "+", the WHITE wire is "-".

DISP (Display)
Toggles the display on the front of the PTZ Controller, showing the Command Address, Protocol and Baud Rate.

PRESET (HOLD to define)
Changes or accesses preset points.

PATTERN (press and HOLD)
Allows for the programming of lists of preset points for the camera to view in sequence.

DELETE (press and HOLD)
Will remove a Preset Point or Pattern.

RUN
Commands the system to begin executing the programmed pattern.

HOME
Master Preset Point. Whilst not in Cruise Mode (see page 15) the camera will automatically return to this position whilst idle.

A & B
Master Preset Points. They are defined in the same way as other Preset Points (see page 14). They operate as shortcut buttons thereafter.

0 – 9
The number buttons. Used to enter a numerical value into the PTZ controller.

C
Clear. Removes the last digit entered into the controller, somewhat like the 'backspace' key on your computer.

-/--
Allows for the entry of more than one digit at a time. "-" represents a single digit, whilst "--" indicates space to enter two digits.
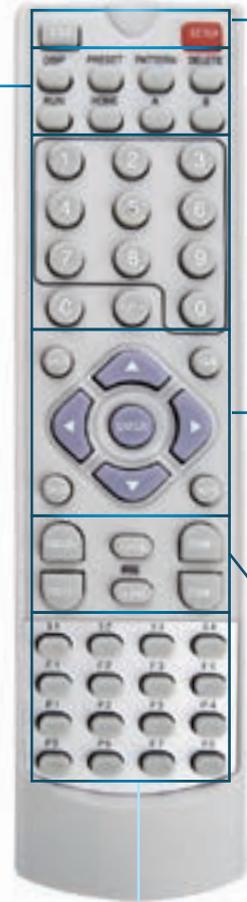
S1 ~ S4
Shortcut to the SPEED setting for the camera. 1 is the slowest shortcut speed, 4 is the highest.

P1 ~ P8
Shortcuts to PRESET POSITIONS. Pressing the button will send the camera directly to the corresponding PRESET POSITION.

ESC (Escape)
Stops the current action and returns to the default interface. Aborts half completed sequences, such as programming a cruise pattern.

SETUP
Readies the PTZ Controller to accept new values for Baud Rate and Protocol. The "p" and "d" are protocols (Pelco-P and Pelco-D respectively) and the numerical value is the abbreviated Baud Rate.

ARROWS
Used to move the camera.

SHOT
Readies the controller to accept a numerical value for a Preset Position, noted on the display by the letter "P".

CAM
Readies the controller to accept a new Command Address (use numerical buttons to enter a new value).

ENTER
Confirms a selection. Whilst the camera is moving, ENTER will hold it still.

SPEED
Adjusts the speed at which the camera moves. Higher numbers represent faster speeds.

AUTO
Toggles Auto-scan Mode on and off. Whilst in Auto-scan Mode, the camera will continually move as it attempts to sweep the entire field of view as efficiently as it can.

ZOOM + / -: Increases and decreases the level of magnification, respectively. The PRO-750 features a 3x optical zoom.

FOCUS + / - and
IRIS OPEN / CLOSE
The PRO-750 PTZ Dome features automatic focus and exposure adjustment. As a result, you will not need to use these buttons whilst operating the PRO-750. They've been included on the remote so that the controller can be used for multiple PTZ systems (including ones without automatic focus and exposure adjustment) if you choose.
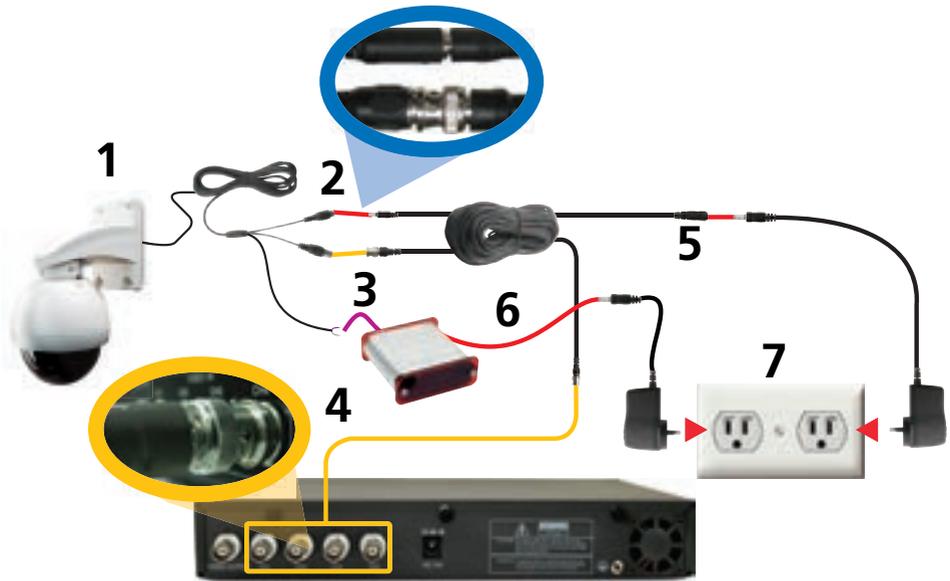
1. After running the camera cable through the mounting arm/bracket, attach to the main plug on the camera circuit board (see opposite).

2. Connect the BNC connector and power connectors to an extension cable (optional).

3. Connect the purple and white wires to the RS485 plug, and insert the RS485 plug into the RS485 port on the rear of the controller (see opposite).

4. Connect the BNC plug on the end of the extension cable to a BNC input on your TV, VCR or DVR (as applicable). If your monitor/recorder does not have a BNC connection, then use a BNC to RCA adaptor.

5. Connect the power connector on the end of the extension cable to the DC plug of the camera's power adapter (the larger of the two).

6. Connect the power connector on the rear of the PTZ controller to the DC plug of the controller's power adapter.

7. Plug the DC 12V power supply into mains power.

1. Connecting the Camera Cable

Before mounting the camera, it is important to connect it correctly.

1. Run the cable through the mounting arm or bracket you would like to use.
2. Make sure you run the cable through starting with the camera end (not the end with the BNC connectors - they're too big to fit).
3. Once the cable has been pulled through, plug it into the top of the camera.
4. If you're planning to mount the dome outside, cover the screw threads with a silicon sealant before screwing the unit together. Failing to do so will compromise the waterproofing of the dome.
5. Then, screw the mounting arm/bracket onto the dome.

Be careful not to damage the connectors on the end of the cable or to the camera, particularly when unplugging the camera, as the connectors are fragile!

2. Connecting the RS485 Cables

1. Remove the RS485 plug from the back of the PTZ controller.
2. Insert the WHITE wire into the -B side of the RS485 plug, and screw into place.
3. Insert the PURPLE wire into the +A side of the RS485 plug, and screw into place.
4. Plug the RS485 plug into the RS485 port on the back of the PTZ controller.

Note: If you need a longer cable to reach the location you'd like to put the PTZ controller, the RS485 cable can be extended. If you are unfamiliar with cable construction and maintenance, we suggest getting a professional to do this.

NOTE: Before you begin, be sure that there are no live electrical cables in the area you wish to mount the camera.

To mount the camera:

After connecting the camera as described on page 8 and installing the cables as shown on page 9, place it in the desired location. Then, using an appropriate screw for the surface you're fixing the dome to, screw the arm/bracket into place.

Ensure you have enough cable coming through the mounting arm/bracket to connect it to your system. If you want to run the cables through a wall/ceiling, be sure to drill a hole for the cable as well.

Placement Tips

For best results, carefully consider where you want to mount the dome. Whilst the optimal placement solution will vary from application to application depending on intent of installation, the environment of use and the lighting conditions encountered there, there are a few points which are almost universal.

What you want to monitor:

The most obvious factor to consider when planning where to install your camera is the question of what you wish to monitor, and how a movable PTZ system can be incorporated into your specific environment.

- Ensure that the camera is located close enough to what you want to monitor to capture the required details. For example, if you wish to capture the details of a face, the camera should be located within a dozen feet (about 4m) of the subject. This is also true if trying to read printed information - such as a vehicle's registration plate.
- Try to place the camera in a position that a potential security threat will find it difficult to avoid.
- A strategy which is often effective is to monitor entrances and exits - after all, a security threat has to get in somewhere.

Field of view

The PRO-750 can pan a full 360°. This means that (for example) installing the PRO-750 in a tight corner is probably not an ideal utilization of its potential! A wall is a better option, as it allows 180° of view for the camera. A freestanding pole of sufficient height and integrity to reliably hold the camera securely is an ideal choice, as is the centre of the ceiling in a larger room or a warehouse.

Height

For best results, the PRO-750 PTZ Dome should be mounted as high up as practicable. This is because the camera has complete freedom of tilt movement in the 90° below the horizontal plane. Stated more simply, it can see things below it, but not above!

Joining Cables

We strongly advise against the modification (i.e. cutting and/or joining) of video cables. Each cut/join will noticeably reduce video quality, and increase the chances of the system failing over time. We also advise against using cable joiners/adaptors to plug multiple cables together. Rather, we suggest using a single unmodified video cable, chosen in accordance with the guidelines below.

Recommended Cable Length and Type

Being a semi-professional PTZ dome system, the PRO-750 benefits greatly from being installed using high quality cables to minimise video signal loss. This becomes particularly important if using a cable longer than approximately 100ft/35m. The longer the cable used to carry the video signal, the more noticeable the reduction in video quality will become.

To maximise the quality of the video signal, consider using a high quality video cable or installing your monitor/recording device closer to the PTZ dome. Of course, in many circumstances, moving the monitor/recording device is not a viable option; in these cases, a high quality cable is the best solution.

For optimal results, use a single, unbroken coaxial cable with a solid copper core and copper braid shielding.

Exposure to Weather

The Pro-750 PTZ Dome is weather and water resistant (rated IP66). However, be aware that long term exposure to adverse weather conditions (extreme temperature fluctuation, excessive moisture or direct sunlight) may eventually interfere with the correct operation of the unit.

IMPORTANT: If mounting the camera outside, be sure to properly seal all joints in the mounting arm/bracket using a silicon sealant. If this is not fully sealed, water can enter the dome causing malfunction or failure.

Setting the Command Address

The included PTZ controller is capable of controlling multiple PTZ cameras. Thus, each camera needs its own unique identification (a "Command Address").

To define a camera's Command Address, connect the camera (and only that camera) to the PTZ controller. Then:
• Press the CAM key. The PTZ controller display will now show Axxx (where "xxx" is the current Command Address assigned to the controller).
• Enter the Command Address that you'd like to assign to the camera. For numbers higher than 10, press the -/-- key first.
• Press and hold the PRESET button. The display will change to SET-
• To confirm changes to the Command Address setting, press the SETUP button. The display will show –OH–.
• The camera's Command Address has now been changed to your desired value.

Please note that if you press the CAM button then enter a number, you are changing the Command Address in the PTZ controller, but not in any cameras. Holding PRESET then pressing SETUP applies that address to the connected cameras.

When we define a command address, that address is applied to all cameras connected to the controller at once. Thus, if you have two cameras connected to the PTZ controller at once, enter a command address of "005" into the PTZ controller and press PRESET then SETUP, both cameras will now respond to the controller on Command Address 005, and cannot be operated individually until one camera's Command Address is changed so that both are unique.

Configuring the PTZ Controller

To ensure that the Controller knows how to command the PRO-750, we need to make sure it is using the correct Protocol and Baud Rate. If these are not set correctly, the PRO-750 will not operate properly (or at all).

> **Default Settings:**
>
> **Protocol = Pelco-D**
> **Baud Rate = 2400bps**

To change the Protocol and Baud Rate:

• Press and hold the SETUP button.
• The display on the Controller will change to a letter (either "d" or "p") and a number (12, 24, 48 or 96).
• The letter represents the current protocol, either Pelco-P or Pelco-D.
• The number is the abbreviated Baud Rate.
  (i.e. "12" represents 1200bps, "24" represents 2400bps and so on)
• Use the UP and DOWN arrows to change the Protocol.
• Use LEFT and RIGHT to change the Baud Rate.
• When set correctly, the letter should be "d" and the number "24"
• Press ENTER to save your changes.

Connecting Multiple PTZ Systems

Connecting multiple PTZ systems to the included controller is a convenient way to be able to access and control a complex, multi-camera system from one central location. This is, however, an advanced feature of PTZ systems, and should only be attempted by those experienced with security system and/or networking technologies. In a nutshell: multiple systems can be connected to the RS485 cable in a bus or line configuration. The exact details of the wiring solution will vary by environment - the following is presented only as a guide.

Please Note: If you already have, or are planning on getting, a PTZ capable *Swann* DVR, then using the supplied PTZ controller is optional. The PTZ system can be controlled by the RS485 connection built into the DVR.

Diagram showing a potential wiring solution for integrating multiple PTZ systems to the one controller.

In the above example, three PTZ domes have been connected to the one central controller. To achieve this wiring arrangement:

• Connect the PTZ systems one at a time, and follow the instructions opposite to assign each camera a separate command address.

• Multiple cameras sharing a command address can cause problems when implementing a system. In the best case scenario, two or more PTZ systems sharing a command address will move synchronously, without the option to move each camera separately. Often, a shared command address will prevent the system from operating normally.

• Once each camera has a command address defined, they can be connected simultaneously.

• Take the purple (+) wires, and connect all three to the +A side of the RS485 plug.

• Repeat for white (-) wires, and connect all three to the -B side of the RS 485 plug.

• Connect the RS485 plug to the PTZ controller.

The information in this section assumes that you have the PRO-750 attached to the supplied IR receiver/PTZ Controller module and have followed the instructions on page 12 for configuring the Command Address, Protocol and Baud Rate settings.

Alternately, if you have the RS485 connections to the PRO-750 attached to a PTZ capable DVR, then use the PTZ controls through your DVR (consult your DVR manual for more details).

Moving the Camera
The easiest way to move the camera is to use the directional buttons. In the standard live control mode, the camera will move in the direction of the button which you press.
- To make the camera pan left or right, press and hold the LEFT or RIGHT directional button, respectively. You can hold down either button continuously, the camera will continue to pan left or right (around a circle) indefinitely.
- To tilt the camera up and down, use the up and down buttons. Note that whilst the camera can pan infinitely, the tilt has only a 90° freedom of movement. It can see everything that happens below the dome, but not above it.
- To make objects in the view appear bigger or smaller use the ZOOM controls.

Setting a Preset Point
Setting Preset Points allows you to program movements for your camera system to repeat over time, or to remember a specific viewpoint for easy access later. The PRO-750 can store up to 32 user-defined Preset Positions.
- Using the directional arrow buttons, move the camera into the position that you'd like it to store as a Preset Position.
- Press the PRESET button on the remote, and hold for two seconds.
- The display will now read "SET-"
- Press a number key to assign a Preset number to the position. To define a Preset Position with a value higher than 10, press the -/-- button first.

Accessing a Preset Point
The easiest way to access the preset points, use the shortcut buttons, marked P1 through P8. Of course, this only works for the first eight Presets. To access Preset 9 and above:
- Press the SHOT button.
- If you're accessing a point above 10, press the -/-- button.
- Enter the number of the Preset you'd like to access.
- Press ENTER to confirm.
- As a shortcut, if you are already in Preset mode (the controller will display Pxxx), you can just enter the Preset number without having to press SHOT first.

Removing a Preset Point

Removing Preset Points is performed in much the same manner as defining them. Once a Preset Point has been removed, selecting it as detailed opposite will no longer have any effect, until a new point is set.

• Press the DELETE button on the remote, and hold for two seconds.
• The display will now read "Clr-"
• Press a number key to select a Preset Point number. To choose a Preset Point with a value higher than 10, press the -/-- button first.
• Press ENTER to confirm.
• The selected Preset Point will now no longer be set.

Cruise Mode

Whilst the PRO-750 is in Cruise Mode, the camera will move continuously and automatically, only pausing when it arrives at Preset Points for a short interval. There are two ways to enter Cruise mode.

Auto-scan (Cruise) Mode

When in Auto-scan Mode, the PRO-750 will continuously move automatically, attempting to observe as much of the field of view as practicable in the shortest time it can.

• To enter Auto-scan Mode, press AUTO.
• For an alternate Auto-scan mode, go to Preset Point 99.

Manual Cruise Mode

You can program lists of Preset Points for the PRO-750 to view in order.

• First, create all the Preset Points you wish to see, as detailed on page 8.
• Press and hold PATTERN for two seconds.
• The display will now read "PStA".
• Press the NUMBER button for the first Preset Point you want in the programmed loop, using the -/-- button to access points higher than 10 if necessary.
• Press ENTER once the camera has moved to that Preset Point to confirm.
• Repeat for the other Preset Points you want on the loop, in the order that you want them to be accessed. Remember to press ENTER each time to confirm your selection.
• Press and hold PATTERN for two seconds. The display will now show "PSt0" confirming that the pattern programming has ended and the pattern has been saved.
• Press RUN to initiate the programmed pattern, and press RUN again to stop the pattern.

The numerical command functions shown in this section are recommended only for advanced users. Improper use of these commands may interfere with the functionality of the PTZ system.

The PRO-750 PTZ dome can accept many additional commands to those already listed. As there are not enough buttons on the remote control to assign one to each function or setting applicable to the dome, they are presented and used as a series of numerical commands.

To execute an advanced numerical command function:
- Press the PRESET, CLEAR (C) or GOTO button (as applicable) on the remote control.
- As all numerical commands are more than a single digit, press the -/-- button.
- Enter the applicable numerical code for the function you wish to execute.
- Press ENTER to confirm and execute the function.

PRESET	Function
62	Set Left limited point
63	Set Right limited point
76	Set Home Point
77	Set Home Point Wait Time to 64 seconds
78	Set Home Point Wait Time to 128 seconds
79	Set Home Point Wait Time to 192 seconds
80	Set Home Point Wait Time to 255 seconds
81	Enable Auto-Home function
82	Disable Auto-Home function
224	Input number 0
225	Input number 1
226	Input number 2
227	Input number 3
228	Input number 4
229	Input number 5
230	Input number 6
231	Input number 7
232	Input number 8
233	Input number 9
234	Input number 10
235	Input number 11
236	Input number 12
237	Input number 13
238	Input number 14
239	Input number 15
240	Init EEPROM to Default
241	Init System
242	Begin PATTERN setup
243	End PATTERN setup
244	Set PATTERN speed
245	Set PATTERN stay time
246	Set PATTERN point number
247	Start run PATTERN, Enable Auto Start PATTERN cruise
248	Stop run PATTERN, Disable Auto Come Back Home Point
249	Set Pan Limited to 0x38
255	Set Pan/Tilt speed to fast mode

CLEAR	Function
1 -- 32	Clear Preset Point
62	Clear Left Limited Point
63	Clear Right Limited Point
76	Clear Home Point
81	Disable Auto Come Back Home Point
92	Clear Left Limited Point
93	Clear Right Limited Point;
240	Init Pan Tilt to Default
249	Set Pan Limited to 0x3F

GOTO	Function
1 -- 32	Goto Preset Point
34	Goto Pan Zero point
62	Goto Left Limited Point
63	Goto Right Limited Point
76	Goto Home Point
92	Goto Left Limited Point
93	Goto Right Limited Point
96	Stop Auto Scan
99	Start Auto Scan

Auto-Home Function

The PRO-750 can be configured to automatically return to it's master Preset Point, the "Home Point". This is particularly useful for monitoring a door, hallway, car space or similar, where the default position of the camera should be viewing this location.

To turn Auto-Home ON and OFF use the numerical command shown opposite. The numerical commands are "81" to enable the Auto-Home function, and "82" to disable it. You can also change the wait time (the amount of time the camera will spend stationary before defaulting to the home point) by using numerical shortcuts 77 - 80.

The Home Point is stored as PRESET 76. Defining this Preset Point will redefine the Home Point. To remove the Home Point, follow the instructions for deleting a Preset Point, and DELETE Preset Point 76.

F1 - F4 Shortcut Buttons

These are user-defined buttons, which can be used as master shortcut buttons. Defining the behaviour of shortcut buttons is complex, and not recommended for novice or intermediate users. Proper usage of the shortcut interface requires detailed knowledge of PELCO-P/D protocols. In this example, we'll set F1 to be a shortcut key to access Preset Point 8. The PELCO command for this operation is: `0x00 0x07 0x00 0x08`.

- Press the SHOT button, followed by -/--. Key in "240" and press ENTER.
- The LED display will now show "0---"
- Input X, where X is the F button you wish to assign the shortcut to. In this example, as we want to define F1, enter "1" and press ENTER.
- The display will now show "1---". In this example, we wish to enter "0" (abbreviation of 0x00 in hexadecimal), and then press ENTER.
- The display will now show "2---". Continuing the above example, enter "7" and press ENTER.
- The display will now show "3---". Enter "0", press ENTER.
- The display will now show "4---". Enter "8", press ENTER.

Once this has been defined, pressing F1 will instantly take the camera to Preset Point 8. To create other customised shortcut programs you'll need a list of commands for PTZ protocols. These are easily obtained via the Internet - just enter the protocol you'd like into a good search engine and you'll find several lists compiled by different authorities. The specific protocol you'll use depends on your needs and limitations of your specific setup. If in doubt, we suggest hiring an experience installer/technician.

Troubleshooting Guide

Problem: My DVR is in Motion Detection mode, and continually records whilst the camera is moving.
Solution: This is not a malfunction. When a DVR looks for "motion", what it is really doing is looking for a change between one image it captures and the next. Therefore, it doesn't matter whether it's something the camera sees or the camera itself that is moving, the DVR will interpret the change as movement. Turn off Motion Detection on your DVR if you are using the PRO-750 in Cruise Mode.

Problem: I cannot control the PTZ features of the camera.
Solution: Check the integrity of your connections, particularly the RS485 connection and the power supply. Be sure the (+A) and (-B) terminals are connected the right way around. If this does not help, then the PTZ settings in your controller may be set incorrectly. Check the *Command Address*, *Protocol* (Default: *Pelco-D*) and *Baud Rate (*Default: *2400 bps)* settings in your PTZ controller, and correct them where necessary. If you have only one camera attached to the PTZ controller, then follow the instructions on page 12 to set the camera's settings to match the controller.

Problem: I don't know my Command Address!
Solution: You can either go through them one at a time to see which one works, or follow the instructions on page 12 to reset the Command Address.

Problem: The camera won't turn on.
Solution: Check your power adaptor is the right one for the PRO-750 (DC 12V). Make sure both the camera and the PTZ controller are supplied power.

Problem: I can't see anything at night.
Solution: Whilst the PRO-750 has great low-light vision (needing only 0.01 Lux) it does need some light. If used in a pitch-black environment, it will not be able to see anything. Consider illuminating your subject - perhaps simply leaving a light on will make all the difference. If you really need to see in absolute darkness, consider upgrading to a camera with infrared night-vision built in.

Problem: After running the dome for an extended period, it seems to lose precision.
Solution: The PTZ system needs to be re-initialized - this is the same procedure the dome undertakes when turned ON. To do this, either disconnect and reconnect power to the dome, or press PRESET followed by "-/--", input "241" and press ENTER. The camera will re-calibrate itself, and accuracy of the pan/tilt system will improve.

Problem: The camera returns to the HOME position too quickly/slowly.
Solution: Change the HOME point wait time. To do this, press PRESET followed by "-/--". Then, enter a number from 77 - 80 based on the table below, and press ENTER to confirm.

77 = 64 Seconds	79 = 192 Seconds
78 = 128 Seconds	80 = 255 Seconds

Problem: How do I enable / disable the AUTO HOME point function?
Solution: In the same way as changing the HOME point wait time. Press PRESET then "-/--". Then, enter "81" and press ENTER to toggle AUTO HOME ON or "82" to turn it OFF.

Technical Specifications

Video

Image Sensor	1/3" CCD
Video Quality	700 TV Lines
Number of Effective Pixels	NTSC: 976 x 494
	PAL: 976 x 582
Minimum Illumination	0.01 Lux
White Balance	Automatic
Signal / Noise Ratio	> 50dB
Electronic Shutter	NTSC: 1/60 – 1/100, 000
	PAL: 1/50 – 1/100, 000
Gain Control	Automatic
Backlight Compensation	Yes
Lens	Vari-focal 4-9mm
Viewing Angle	30 – 60 degrees
Zoom	3x Optical

PTZ Features

Dome Type	4" PTZ Dome
Baud Rate	1200/2400/4800/9600 bps
Pan Rotation	Continuous 360°
Tilt Rotation	0° ~ 90°
Preset Points	Up to 32
Preset Panning Speed	35°/sec
Preset Panning Accuracy	+ / - 3°
Programmable Pattern	Up to 16 preset points

PTZ Controller

Interface Type	RS485
Protocol	Full Function Pelco P/D
Address	0 – 255
Display Type	4 LED
Remote Control	Included
Battery Type	2 x AAA

General

Operating Power	DC 12V
Operating Temperature	23ºF ~ 140ºF / -5ºC ~ 60ºC
Body Construction	ABS Plastic
Dimensions – Camera	5.9" x 3.1" x 4.9" (150mm x 125mm x 125mm)
Dimensions – Stand	4.5" x 3.1" x 5.3" (80mm x 72mm x 28mm)
Weight – Camera	500g / 1.1lbs
Weight – Camera & Stand	700g / 1.5lbs
Weight – Controller	85g / 3oz

Helpdesk / Technical Support Details

Swann Technical Support
All Countries E-mail: tech@swannsecurity.com
Telephone Helpdesk

USA toll free
1-800-627-2799
(Su, 2pm-10pm US PT)
(M-Th, 6am-10pm US PT)
(F 6am-2pm US PT)
USA Exchange & Repairs
1-800-627-2799 (Option 1)
(M-F, 9am-5pm US PT)

AUSTRALIA toll free
1300 138 324
(M 9am-5pm AUS ET)
(Tu-F 1am-5pm AUS ET)
(Sa 1am-9am AUS ET)
NEW ZEALAND toll free
0800 479 266
UK
0203 027 0979

See http://www.worldtimeserver.com for information on time zones and the current time in Melbourne, Australia compared to your local time.

Warranty Information

Swann Communications USA Inc.
12636 Clark Street
Santa Fe Springs CA 90670
USA

Swann Communications
Unit 13, 331 Ingles Street,
Port Melbourne Vic 3207

Swann Communications LTD.
Stag Gates House
63/64 The Avenue
SO171XS
United Kingdom

Swann Communications warrants this product against defects in workmanship and material for a period of one (1) year from it's original purchase date. You must present your receipt as proof of date of purchase for warranty validation. Any unit which proves defective during the stated period will be repaired without charge for parts or labour or replaced at the sole discretion of Swann. The end user is responsible for all freight charges incurred to send the product to Swann's repair centres. The end user is responsible for all shipping costs incurred when shipping from and to any country other than the country of origin.

The warranty does not cover any incidental, accidental or consequential damages arising from the use of or the inability to use this product. Any costs associated with the fitting or removal of this product by a tradesman or other person or any other costs associated with its use are the responsibility of the end user. This warranty applies to the original purchaser of the product only and is not transferable to any third party. Unauthorized end user or third party modifications to any component or evidence of misuse or abuse of the device will render all warranties void.

By law some countries do not allow limitations on certain exclusions in this warranty. Where applicable by local laws, regulations and legal rights will take precedence.

For Australia: Our goods come with guarantees which cannot be excluded under Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to major failure.

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FCC Verification

This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

* Reorient or relocate the receiving antenna
* Increase the separation between the equipment and the receiver
* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
* Consult the dealer or an experienced radio/TV technician for help

WARNING: Modifications not approved by the party responsible for compliance could void user's authority to operate the equipment.