

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 its 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.



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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.



Swann

PRO-SERIES



PRO-646

Congratulations on your purchase of this Swann Security Kit, containing the PRO-646 Pan & Tilt camera. The PRO-646 gives you control of your security system by incorporating an electronically controlled pan and tilt system, allowing you to aim the camera where the action is, whenever you need to.

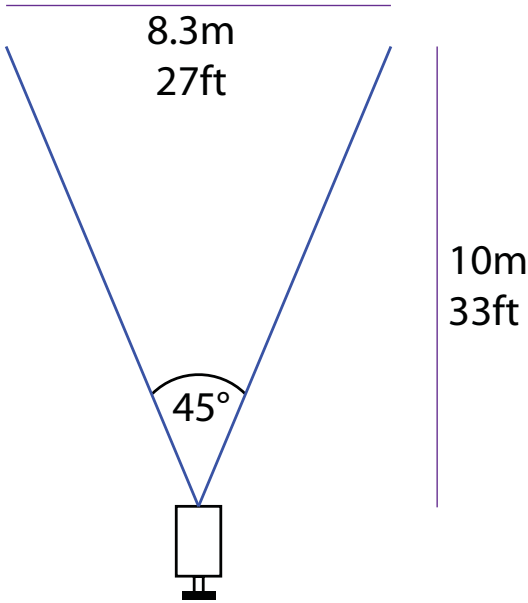
Setting up and connecting the PRO-646 is a little more involved than other cameras: there are a couple of extra wires to connect, and you'll need to configure the DVR to be able to send commands to the camera.

The PRO-646 has a **6mm lens**, giving it a viewing angle of **45 degrees**. What does that mean for you when placing it?

The camera has a slightly narrow field of view, so it'll see a little less area than your eye would see from the same spot. It will be able to see details up to a reasonable distance. If you're trying to recognise faces or read licence plates on vehicles, you should mount the PRO-646 within 10ft/3m of your intended target.

Because the camera has pan and tilt capabilities, the direction it faces is less important than how far it is from the target(s). As a general rule, the camera is best mounted above the target, looking down at it.

There are some more tips and tricks for installation, placement and operation later in this manual.



PRO-646

Video

Image Sensor	1/3" Sony CCD
Video Quality	600 TV Lines
Number of Effective Pixels	NTSC: 768 x 494 PAL: 752 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	6mm
Viewing Angle	45 degrees

PTZ Features

Dome Type	4" Pan & Tilt Dome
Baud Rate	9600bps (default)
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

Problem: I see only a blank screen where my image should be.

Solution: Check the wiring to the camera, and ensure the camera is being supplied power from the included power adapter. Try using a different video lead, or connecting the camera to a different television or monitor. Be sure there are no devices interrupting your signal, such as a DVR or VCR that isn't outputting the signal correctly.

Problem: I can't see anything at night.

Solution: The PRO-646 has good low-light vision, but does not have active infrared night vision. If you want to use the camera in a dark (or near-dark) environment, consider adding a spot- or floodlight, possibly one activated by a passive infrared sensor (such as security lights). These are available from most good hardware stores.

Problem: I can't make the camera move.

Solution: There are a few possible reasons why the camera(s) may not be working properly.

- Ensure you've got the cameras plugged into the right channels - CH1 for standalone cameras and those marked ID1, and CH2 for cameras marked ID2.
- Check the integrity of the RS485 connections - a loose wire will stop the system working.
- Check the polarity - the red wire should always be connected to a terminal marked "+" and the black wire to a terminal marked "-".
- Finally, check the settings in the DVR's PTZ Configuration menu, and ensure they match the list on page 8.

Package Contents

PRO-646 Pan & Tilt Camera

Roof Mounting Arm/Bracket

Wall Mount Arm

Mounting Screws

Operating Instructions

Power Adapter (DC 12V)

60ft (18m) Extension Cable

Spare Camera Cable & Plug Board



If any of these items are missing, contact Swann for assistance. Our contact details are listed on the rear cover of this booklet.

Mounting the Camera

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

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!



To mount the camera:

After connecting the camera as described above, 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.

Joining Cables

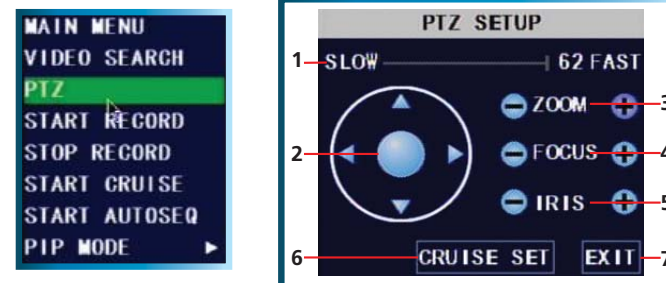
We strongly advise against the modification (i.e. cutting and/or joining) of video cables. Each cut/join will noticeably reduce video quality, and increase the chances of the system failing over time. We also advise against using cable joiners/adaptors to plug multiple cables together. Rather, we suggest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

Exposure to Weather

The Pro-646 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.

Controlling the Camera



The PTZ Interface of the DVR4-1300.

Your PTZ interface may look slightly different to this, but will operate in much the same way. For more information about your DVR's PTZ interface, see your DVR manual.

You can bring up the PTZ Setup window by pressing the PTZ button on the remote control, or by right-clicking the mouse in the live view mode, and choosing PTZ.

Note: the DVR has the ability to control features which the PRO-646 does not support.

1. SPEED ADJUSTMENT

By selecting this with the mouse or the arrow buttons, you are able to change the speed at which your camera will pan. The higher the number, the faster the camera will move.

2. ARROW BUTTONS

Used to manually move the camera. The arrow buttons will move the camera in the selected direction, and the centre button returns the camera to the HOME position.

3. ZOOM

Won't affect the PRO-646, which uses a fixed 6mm lens.

4. FOCUS

Won't affect the PRO-646, which uses a fixed 6mm lens.

5. IRIS

Won't affect the PRO-646. Exposure is controlled automatically by the electronic shutter - you won't need to configure anything.

6. CRUISE SET

Open the CRUISE SETUP window, see below.

7.EXIT

Leaves the PTZ SETUP menu.

Cruise Mode

To setup CRUISE MODE, you'll need to define "POINTS" for each channel with a PTZ camera you want to "cruise". A POINT is one place that the camera needs to move to on its loop.

- Move the camera to the desired position using the arrows.
- Hit the SET button.
- The point will be saved. Its name will be one digit higher than the previous point.
- For easy cruise setup, define your points in the same order as you want the camera to move through them.

The GOTO button will take the camera back to a predefined point. The CLEAN button will remove all your defined points.

When you've set your points, select SAVE, then EXIT.

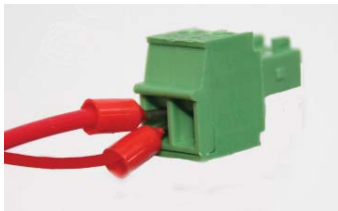
- To start cruise mode, select START CRUISE from the pop-up menu.
- To stop cruise mode, select STOP CRUISE from the same menu.



If you're reading this page, we're assuming you've got your hands on the DVR-1300 with two PRO-646 cameras. This kit is flexible, powerful and not as hard to configure as you might think. We'll just take it one step at a time...

Connecting two RS485 cables

So, you've got two RS485 cables to connect, and only one RS485 port. How does this work?



- Insert *both* purple/red connectors into the left socket.
- Tighten the locking screw to secure in place. Don't do it up too tight - just tight enough to ensure a good connection, and so the connectors don't fall out of the socket.
- Insert the two grey/black connectors into the right socket, and tighten the right screw.

Connecting Cameras to the "Right" Inputs

You may have already noticed that one of the cameras is marked **ID1** and the other marked **ID2**.

We've pre-configured the DVR so that, if you plug the camera marked **ID1** into channel 1 and the one marked **ID2** into channel 2 it should just work (assuming you've connected the RS485 cables correctly, as outlined above!).

Configuring Your DVR4-1300

Note: These instructions assume you're using a Swann DVR 1200, 1300, 2000, 2500, 2550 or 2600. If you're using a DVR not listed above, then these instructions may not be accurate - but they'll point you in the right direction!

Once you've got the PRO-646 properly connected to your DVR as shown in 'Connecting the camera,' and have followed the basic configuration procedures as described in the DVR manual:

- Navigate to the PTZ menu.

Main Menu --> Device --> PTZ Setup

- If you've connected the PRO-646s to channels 1 and 2 as indicated by their ID tags, you shouldn't need to change anything.
- Ensure that the settings in this menu all match the following:

Channel:	1	2
Protocol:	Pelco-D	Pelco-D
Baud Rate:	9600	9600
Data Bit:	8	8
Stop Bit:	1	1
Parity:	None	None
Cruise:	Off	Off
Address:	001	002

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 camera 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 ten feet (about 3m) 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 an 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-646 can pan a full 360°. This means that (for example) installing the PRO-646 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.

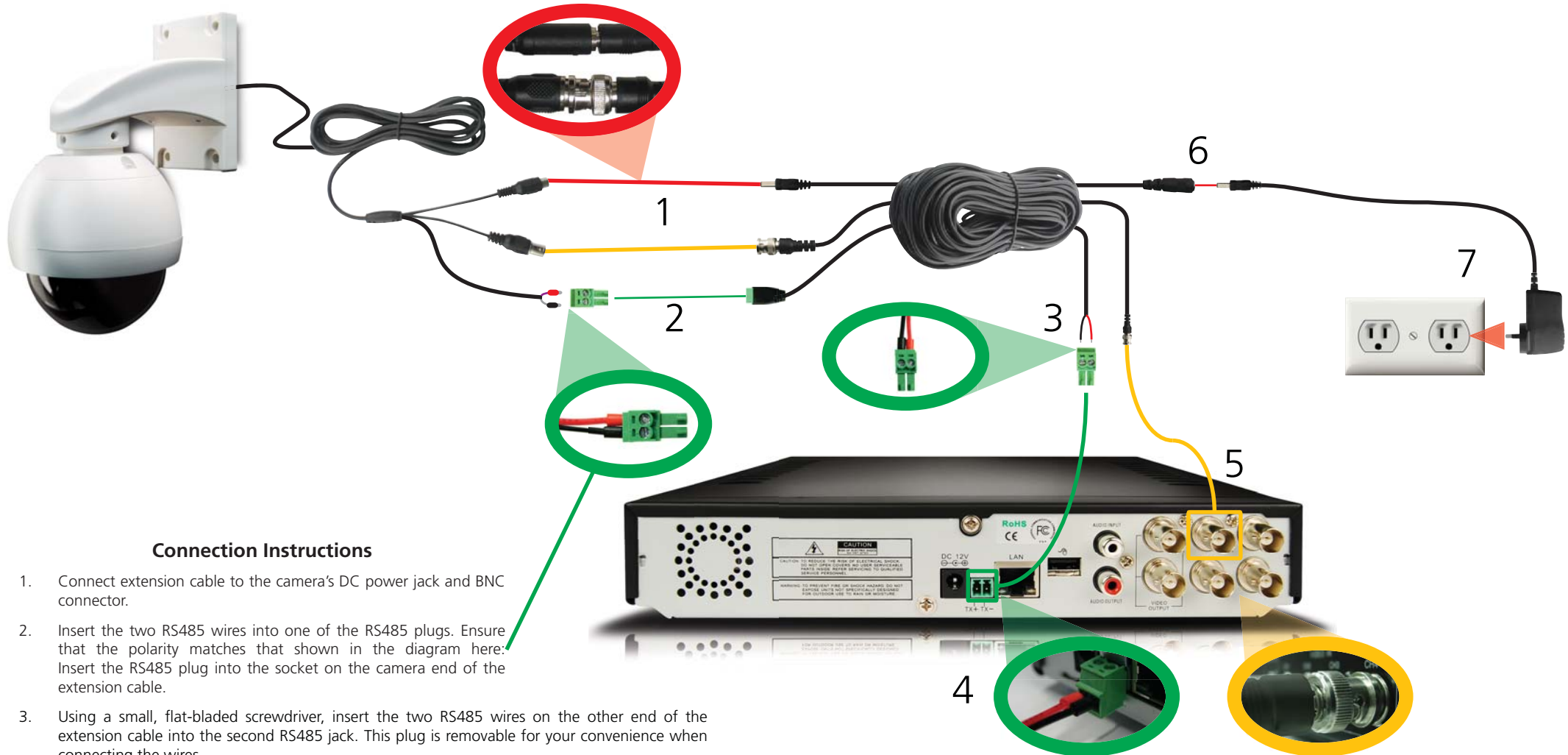
Height

For best results, the PRO-646 pan & tilt 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!

General

- Try to aim the camera at an area which is evenly lit. Objects or people in shadows near brightly lit objects are very hard to see.
- It's better to have the camera in the shade looking into the light than vice-versa.
- When running your cable, try to avoid bending it at sharp angles. This can interrupt the signal flow and degrade the quality of your images. If the cable must be bent, try to make the bend as gradual as possible.
- Don't put your cable near live electrical wiring. AC electricity generates radio "noise" which can interfere with the signal from your camera.

Connection Diagram



Connection Instructions

1. Connect extension cable to the camera's DC power jack and BNC connector.
2. Insert the two RS485 wires into one of the RS485 plugs. Ensure that the polarity matches that shown in the diagram here: Insert the RS485 plug into the socket on the camera end of the extension cable.
3. Using a small, flat-bladed screwdriver, insert the two RS485 wires on the other end of the extension cable into the second RS485 jack. This plug is removable for your convenience when connecting the wires.
4. Plug the RS485 plug into the port on the rear of the DVR. Double check that the polarity markings on the rear of the DVR match the wire arrangement. The red wire must be on the "+" side of the plug, and the black wire on the "-" side. For help in connecting more than one RS485 camera to the RS485 port, please refer to 'Connecting multiple RS485 cameras to a DVR.'
5. Connect the extension cable's BNC plug to a VIDEO INPUT on the rear of the DVR. The default is channel 1 for single cameras, and channels 1 and 2 for two packs (the cameras are marked ID1 and ID2, respectively).
6. Connect the DC INPUT plug on the extension cable to the DC OUT jack on the AC power adapter.
7. Connect the power adapter into a wall socket.

RS485: What is this?

The purple/red and grey/black wires coming from the camera connect to the RS485 port on the rear of the DVR.

These wires carry the control signal from the DVR to the camera. If these are not connected properly, the pan and tilt features of the camera won't function properly or at all.

When connecting these wires, be sure to get the **polarity** (which color goes where) right.

The purple/red wires connect to the positive "+" side of the connector, and the grey/black wires connect to the negative "-" terminal. Use a precision screwdriver to secure the wires in their respective terminals. Be careful not to overtighten the screws, as this can damage the connectors.