



English

SwannTM

PRO-SERIES



PRO-780

M780CAM190312E

About the Camera

Congratulations on your purchase of this PRO-780 from *Swann*! You've chosen well: we think this is one of the finest vari-focal CCTV video cameras available. The adjustable lens and on-screen menu system make the PRO-780 ideal for monitoring any kind of space in almost any lighting conditions... even no light at all, as it can see up to 40m/130ft in complete darkness!

Our two cents: you've spent the money on a great camera. It's worth spending a bit of time making sure it's set up right. This manual will take you through what you need to do to get the camera delivering high quality images, and will let you know a little about how you can tweak it further.

The Process: An Overview

1. Choose a spot for your camera. This will be influenced by what you need to monitor, the places nearby which could support a camera, the lighting conditions of the environment and so on.
2. Connect the camera to a monitor. We suggest connecting it directly to a monitor during setup, and to your DVR (or other recording device) afterwards. Having a monitor on hand in the same location as the camera is a real time saver during setup.
3. **Set the zoom.** This will set the viewing angle of the lens, which determines how much the camera can see (page 3).
4. **Set the focus.** This will allow you to choose which parts of what the camera can see is in focus. In actuality, you'll probably go back and forth between steps 3 and 4 until you're happy with the image (page 3).
5. **Connect the camera to your DVR** (or other recording/monitoring device) - see page 4.

Choosing a Location

The PRO-780 is very flexible, and can be installed practically anywhere. Some of the things you'll have to consider when choosing a location are:

- What you want to monitor, and where you'll get the best view of it.
- How you're going to connect the camera to your monitoring system.
- How to keep the camera out of harm's way. Up high in protected corners is a good option.

Rules is Rules

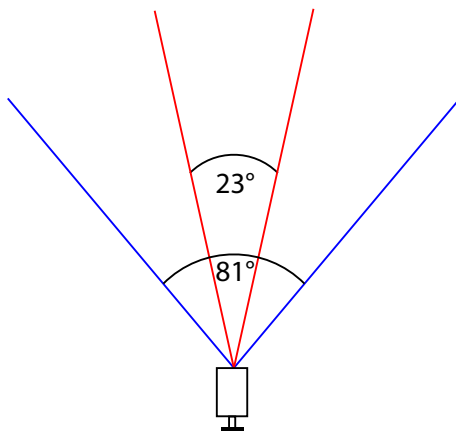
Regardless of all the tweaking of the lens and image processing you do, there are a few immutable things that are true for all cameras, CCTV or otherwise.

- **The closer the camera is to what you want to see, the more detail you're going to get.** You can make some alteration by tweaking the zoom, but there's no substitute for proximity.
- **Areas with varied lighting conditions are hard to view completely, with any camera.** If the bright bits are exposed correctly, then the shadows will "black out". If the shadowy areas are exposed correctly, then the bright bits will overexpose and "white out". Aiming the camera at an evenly lit area will always give the best results.
- **That "image enhancement" stuff that they do on CSI or 24 is all lies.** You can't zoom in indefinitely on a video image. Licence plates are only readable from a few meters (a dozen or so feet) away. If someone's head is represented by three pixels, that's it. Sorry. This is technology, not magic. This is a *great* CCTV camera, but it's still just a video camera - it can't see *that* much better than you can! Still, it does make for good television.

Adjusting Focus and Zoom

- To access the zoom and focus, remove the two protective caps from the rear of the camera by unscrewing counter-clockwise.
- Use a flat-blade screwdriver to turn the exposed control rod. The zoom is located on the top left, and focus on the lower right.
- Be sure to securely replace the protective caps after adjusting the zoom and focus, otherwise the camera will no longer be weather-proof.

Adjusting the Lens



The zoom and focus controls are located on the rear of the camera.

ZOOM: The left hand dial controls the level of zoom. You can vary the viewing angle between 23° and 81° . This is an approximately 3x optical zoom, which operates in a similar manner to the zoom on your digital camera. Basically, zooming in makes everything appear to be larger, at the expense of the viewing area.

Check out the diagram to the left for a visual representation of the zooming process.

The smaller viewing angle (marked 23°) represents the camera's view when "zoomed in", and the larger angle (81°) represents the camera's view when "zoomed out".

You can set the zoom to either of these extremities, or anywhere in between.

When you change the zoom, you'll also have to change the focus. **Why?** Lenses are complicated, and all the bits are joined together. Changing the zoom will also change the focus.

FOCUS: The right hand dial controls the focus.

Adjusting the focus control is kind of like trying on a different pair of glasses - it can make sharp things look blurry and blurry things look sharp. It's not quite magic, but it's pretty close.

Basically, once you've set the zoom, twist the focus knob until what you want to see doesn't look blurry anymore. If you can't turn the knob any more one way, go back the other.

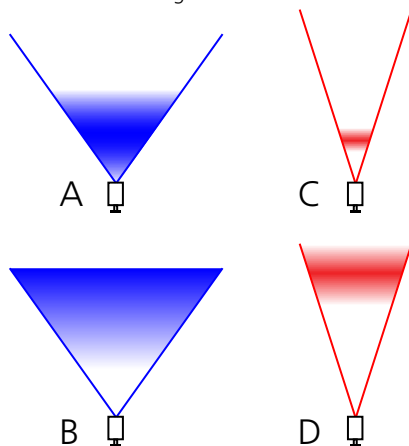
You can only have so much in focus at once - photographers refer to the size of the area in focus as the "depth of field".

The diagram to the right shows a couple of different focusing options. The shaded areas represent the depth of field. As you can see, there is no hard edge, some things are "more" in focus than others.

Note that this is for illustrative purposes only - there are many factors which contribute to depth of field which vary from location to location.

A: The lens is at its widest, and focused on an area relatively close to the camera. The depth of field is quite large.

B: The lens at its widest with focus set to "infinity". Anything in the shaded section will be in focus, and this focus extends to infinity (that is, things in the far distance will also be in focus). However, things in the distance might be too small to see the detail you require.



C: The lens at its tightest, focused on an area close to the camera. As you can see, the more the lens is zoomed, the smaller the depth of field becomes.

D: The lens at its tightest with focus further from the camera. At this distance, the actual depth of field is much larger, but it doesn't extend to infinity like it does when the lens is wide.

Connection Guide



The green plug: what does it do?

Short answer: To connect the OSD controller.

Longer answer: To access a comprehensive guide for the advanced features of this camera, log onto our website at:

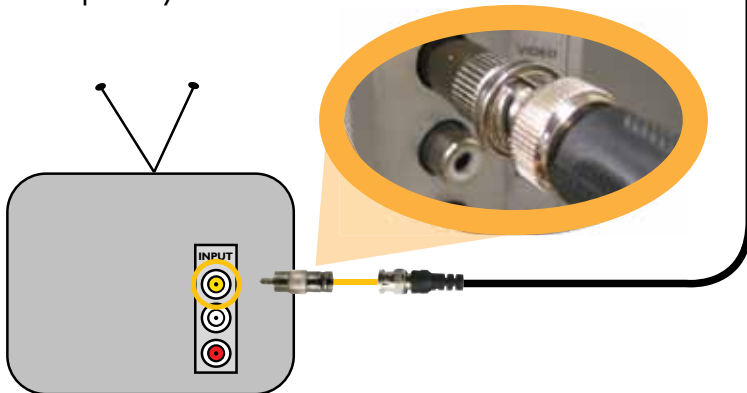
www.swann.com/osdpro

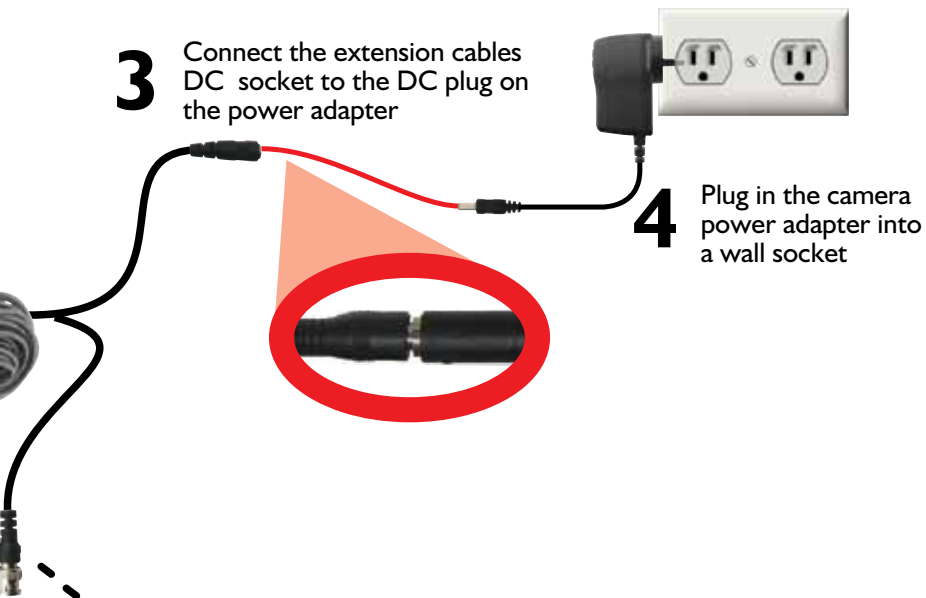
There's also a little more information on page 6.

Connect the camera's DC and BNC socket cable to the extension cable's DC and BNC plugs

2A. Connecting Directly to TV

2 Connect a BNC to RCA adapter and connect to video input on your TV or VCR





2B. Connecting to Your Existing DVR

2 Connect the BNC extension cable to an open channel on the back of the DVR



The OSD & Troubleshooting

The On-Screen Display

We're constantly on the lookout for ways to incorporate more features and more advanced technologies into our products. So here's one we're excited about: the PRO-780 features an *On-Screen Display* (OSD) that you can control with the included control unit.

As this is a new, powerful feature, we couldn't possibly fit the full explanation of everything it can do into this booklet. So, we've created an online guide you can access at:

www.swann.com/osdpro

Of course, you don't have to use this feature at all. The PRO-780 will work perfectly well if you never even connect the controller – it'll adjust all of its settings automatically.

Troubleshooting

Problem: At night, all I see is white.

Solution: The camera is most likely looking through a window. At night, the infrared light the camera uses to see in the dark can 'bounce back' off a reflective surface (such as glass, water, spider webs, some ceramics and so on) and effectively blind the camera. If you want to see outside, mount the camera outside - we made it weatherproof for a reason!

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 maximum range of the night vision is just that, the maximum range. If there's nothing in this range, you won't see anything. Also, some dark objects (like the proverbial black cat) may not reflect enough light to be seen except as a silhouette if the background is brighter. Some objects which can easily be seen in visible light don't reflect much infrared light.

Problem: My image just doesn't seem as "nice" as it should.

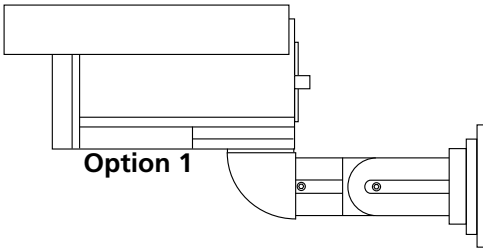
Solution: That's one of the ironic things about so many configurable options on a high-end camera. You'll probably need to tweak a couple of things before you'll get a really "good" image. We'll deal with the most common issues one at a time.

Everything looks blurry/soft.

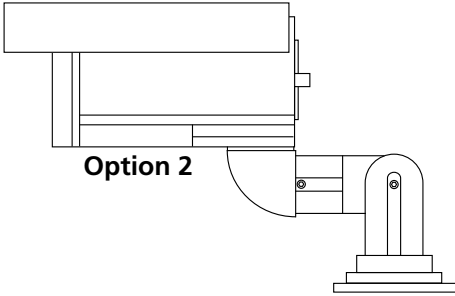
You probably need to adjust the focus (the knob on the right). This is simply a matter of removing the right protective cap on the rear of the camera, and turning the control knob one way until you find the best focus point or it won't turn any more. Then, turn it back the other way. If there is no "sweet spot" then this indicates one of two things.

1. Your lens might be dirty. Clean the front of it with a dedicated lens cleaning cloth (available at any camera store). Avoid using solvents or cleaning chemicals, as these can leave a residue.
2. You might be trying to focus on something outside the "depth of field" - objects need to be at least a certain distance from the camera for you to be able to focus on them. Typically, this will be only a few feet (about 1m) but this distance can increase dramatically if the lens is zoomed in, or in low light conditions.
3. Be sure to replace the protective cap once you've set the focus!

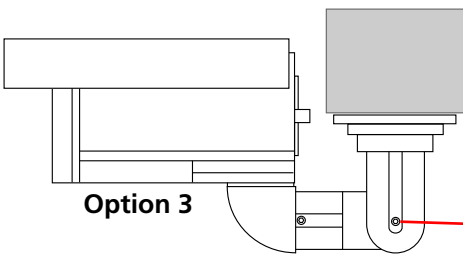
Mounting



Option 1



Option 2



Option 3

There are three ways that you can mount the PRO-780: to a wall (1, recommended) or to a horizontal surface, either above (2) or suspended (3, requires additional hardware).

To mount the camera, use the supplied mounting hardware (screws). If you're mounting onto a wooden surface, you can drive the screws directly into the wood. You may need to drill guide holes first, particularly if mounting the camera onto hardwood. If mounting on masonry or similar surface, use the included wall plugs.

We recommend mounting the camera onto a wall or other vertical surface - this is what the stand has been designed for. See diagram 1.

You can also mount the camera above a flat surface (2). This is useful if, for example, you wanted to mount the camera on a roof overlooking a yard.

If necessary, you can mount the camera onto a ceiling or other horizontal surface (3) by using a mounting block or bracket (represented on the diagram to the left by the grey box). We don't recommend doing this as it's the most difficult mounting option and will require additional hardware and skill to execute. Be sure to use a bracket or block with sufficient strength. Mounting in this way will make it more difficult to access the zoom and focus controls.

You can change the angle of the stand by loosening the screw on the hinge, shown here. Tighten it once the camera is in the desired position.

Diagrams Not to Scale

Technical Specifications

Video

Image Sensor	1/3" Sony 'Effio' CCD
Video Quality	700 TV Lines
Effective Pixels	NTSC: 976 x 494 PAL: 976 x 582
Min. Illumination	0 Lux (IR on)
White Balance	Automatic / Manual / Custom
Electronic Shutter	NTSC: 1/60 ~ 1/100 000 PAL: 1/50 ~ 1/100 000
Gain Control	Automatic
Backlight Comp.	Yes (Adjustable)
Wide Dynamic Range	Yes (Adjustable)
Lens	Vari-focal 2.8mm ~ 12mm
Viewing Angle	Max: 81, Min: 23

Night Vision

Range	Up to 40m (130ft)
IR Cut Filter	No
Number of IR LEDs	36
Infrared Wavelength	850nm
IR LED Life (Average)	10, 000 hours

General

Operating Power	DC 12V @ 400mA
Operating Temp.	-20°C ~ 45°C (-4°F ~ 113°F)
Casing	Aluminium
Dimensions	260mm x 160mm x 83mm (10.25" x 6.3" x 3.25")
Weight	865 / 32oz (approx)

Helpdesk / Technical Support Details

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

USA

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

Australia

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

United Kingdom

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 labor 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 centers. 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.

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.



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