

The CAM510 Mirrored Dome NiteDevil 540 TVL Colour Camera produces excellent quality images. It provides fantastic colour representation and a very clear image. This 12v DC camera offers low light sensitivity down to 0.0014 Lux @ F1.2 using the Sense-Up feature.



### Mounting the Camera

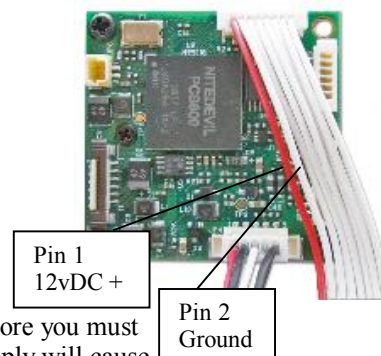
These dome cameras come with fixing holes in the base. The camera has two connection leads, one fitted for 12v DC power and video (JP4) which is fitted, and a spare cable (JP1) for selecting various camera options.



### Powering the Camera

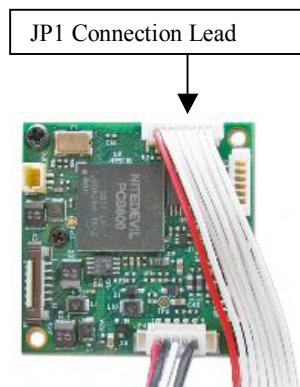
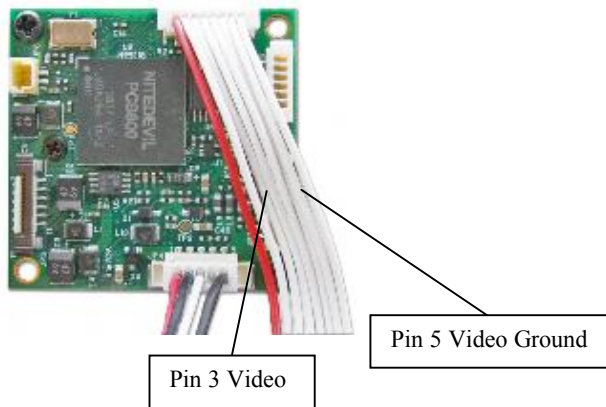
This dome camera requires a 12V DC regulated power supply. The camera is provided with a 2.1 jack plug connected to JP4. The centre pin of the jack plug is 12vDC + and this connects to pin 1 on JP4. The black power ground (0v outer connection on jack plug) connects to pin 2 on JP4.

It is recommended to use a power supply that is rated higher than the current consumption of the camera i.e. POW100 would be adequate for powering one or two cameras, but when powering more you must look at the bigger power supplies. Using an underrated power supply will cause it to run hot and will greatly reduce its life. If you are using the Easy Connection Kits that comprise of the (CCT801/802/808/809) to power and connect your camera (12V models only) please proceed as per the instructions supplied with The Easy Connection Kit. You will need to cut off the DC Plug ONLY and use the bare wires to connect through a terminal block. The 12V positive is the RED wire, the 0V is the BLACK wire. Always use a 12vDC regulated power supply. This dome camera draws 120mA so the power supply must be rated at 150mA minimum.



## Video Connection

The same fly lead connected to JP4 is used for the video connection. The board camera is provided with a BNC connection for video. The inner connection of the BNC is the video connection and this connects to the white core connected to pin 3 on JP4. The BNC outer is the video ground and this connects to the black core connected to pin 5 on JP4. Remember that the Video out from the camera is like any other electrical circuit and requires two wires to complete the circuit. When using a coax type cable such as RG59 or similar for video, the outer braid of the coax provides the ground connection and the inner the video connection.



## Camera Options

This NiteDevil board camera provides additional camera options to be selected. These options are selected using the JP1 8 way connection lead included with the camera.

These options include AES or ALC, AGC on or off, ATW or AWC, BLC on or off, Horizontal Mirror off or on, Vertical Mirror off or on and Sense Up on or off.

These options are selected by grounding the relevant cable/s connected to the JP1 connector with the red cable connected to pin 8. This can be accomplished using a terminal block.

## Camera Options Available

**AES (Default) Auto Electronic Shutter.** For fixed iris lens when shutter speed responds to amount of light to keep output signal at optimum level.

**ALC Automatic Light Control.** Option for auto iris lens to balance light levels. **NOTE: This camera uses a fixed iris lens.**

**AGC (Default On) Automatic Gain Control.** Provides clearer images in low light conditions.

**ATW (Default) Auto Tracking White Balance.** Suitable for viewing objects with changing colour temperature.

**AWB Auto White Balance.** This uses stored settings for white balance and is most suitable where there is little change in light source.

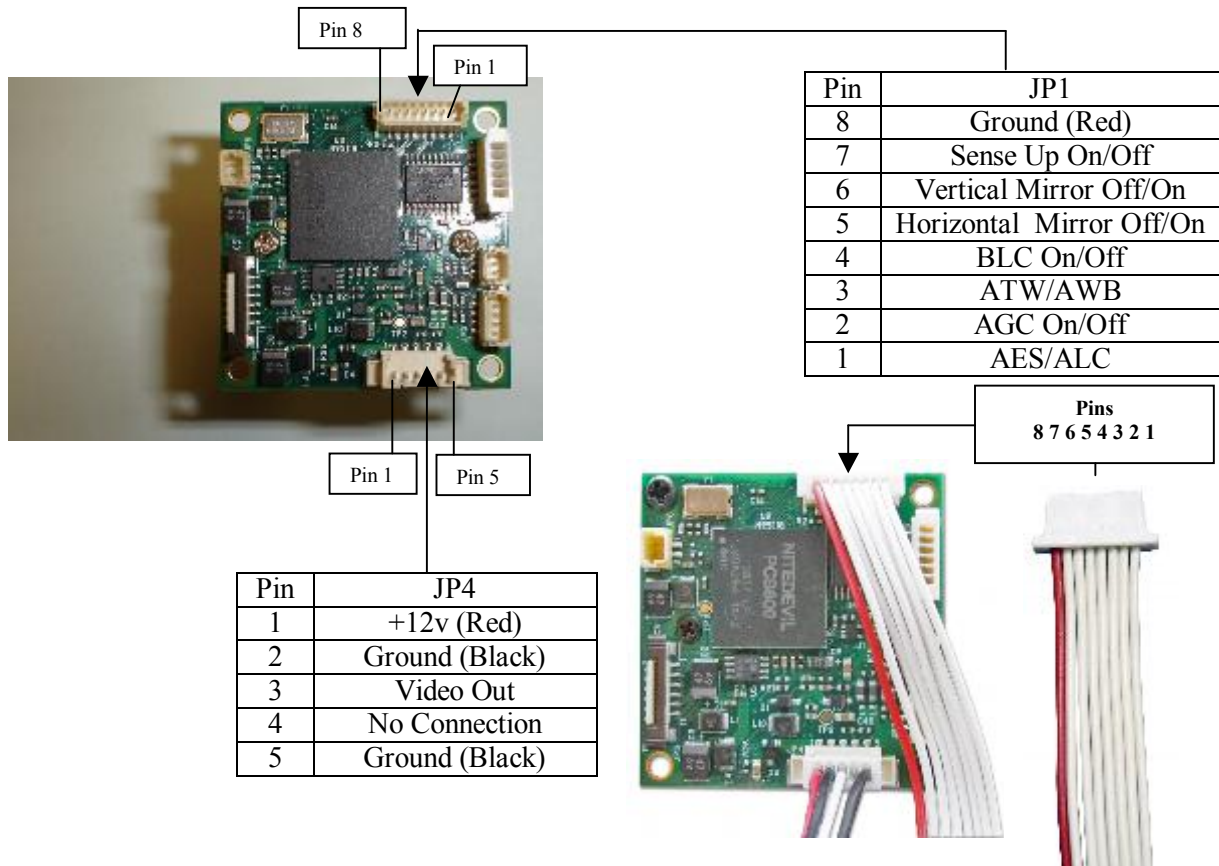
**BLC (Default On) Backlight Compensation.** Ability to compensate when background light and subject light are at different levels.

**Horizontal Mirror (Default Off)** Horizontal picture reverse.

**Vertical Mirror (Default set to Off)** Vertical picture reverse.

**Sense Up (Default set to On)** This helps to maintain a bright clear image by detecting changes of light in low light conditions by automatically adjusting the shutter speed.

Note that the option detailed first in the JP1 Specifications list relates to the camera settings without the ground connection i.e Sense Up is on by default but grounding the cable from Pin 7 will switch Sense Up to off.



### Troubleshooting

The camera is built to the highest standards and every unit is fully tested prior to packing so if you experience an installation problem you need to investigate your cabling, connections, power supply and monitor. If you do fail to get a picture on a monitor you need to check the following:

### No picture

The camera cannot function without the correct working power supply. The power supply must be regulated and be capable of supplying 120mA per camera constantly. For the 12vD.C camera range check that the power supply is functioning correctly using a multimeter set on DC volts (above 12v) and connect the probes to the power supply's output. The meter should read between between 12 – 13v. If the meter shows a negative voltage the PSU could be wired incorrectly or you may have the meter leads reversed. To ensure the meter is working correctly, connect it to a known voltage and polarity such as a battery. If you find that the supply is giving out more than 13v you may be using a non-regulated power supply and must stop using it with the camera immediately or it may cause permanent damage to it. Ensure that the BNC-BNC lead that you connect between the camera and monitor has no shorts or open circuits. If you are making your own BNC-BNC lead, don't forget the lead must have two wires connected to complete the circuit, Video and Ground. If in doubt swap your lead for a pre-wired commercial one, as faulty leads are the main cause of problems.

**Interference on the camera picture**

This is usually caused by poor or inadequate cabling, not observing the correct wiring techniques and for 12v DC cameras the use of unregulated or poorly regulated power supply. If you want a good picture quality and require the camera to work to its full potential, do not use an intruder alarm psu with 12v DC cameras. If you suspect you have a psu problem with a 12v DC camera, the best way to check this is to power your system using a fully charged 12v lead acid battery to give 12v totally regulated supply. If this solves the problem then you need to change the psu for a better quality one.

**Picture is out of focus**

Remove the top of the camera, loosen the locking screw and vary the focal adjustment until the picture is in focus. Then retighten the locking screw.

**Technical Specifications**

Model	CAM510 Silver Base
Mode	PAL
Image Sensor	1/3" CCD interline transfer type
CCD Total Pixels	~ 470K
Sync System	Internal
Minimum Illumination	0.012 Lux @ F1.2 / 40 IRE AGC on B/W 0.0014 Lux @ F1.2 / 40 IRE SENS-UP (32x) B/W
Lens & View angle	3.6mm F2.0
Resolution	540 TVL
White Balance	Mode ATW / AWC Range 3200 ~ 10000°K
S/N Ratio Typical (max)	52dB (min) / 60dB (TYP) (AGC OFF)
Sense-Up	AUTO (256x) / OFF
Horizontal Mirror Function	OFF (Normal Image) / ON (Horizontal Image Inversion)
Vertical Mirror Function	OFF (Normal Image) / ON (Vertical Image Inversion)
BLC Function	ON / OFF
Digital Noise Reduction	Built In
Gamma Correction	0.45
Gain Control	AGC ON / OFF
Video Output	1.0v p~p composite video @ 75ohms
Operation Temperature	-20°C ~ +50°C
Operation Humidity	Within 85% Relative Humidity
Power Consumption	12vDC 120mA (Use minimum 150mA power supply unit.)

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