

## Installation Guide



### **SnapShot ANPR Bollard Camera**

Model 6050 Standard Camera

Model 6070 Dual Camera

### About this Guide

This guide is intended for installation and commissioning engineers who are familiar with Videofit and SNAP ANPR processors. It covers the installation and testing of the standard and dual bollard cameras. When these bollard cameras are used in conjunction with a SNAP ANPR processor, it is essential that the engineer has both physical and log-on access to the processor.

### Safety Notices Used In This Manual

**Important!** - Indicates a potential hazard that could seriously damage the equipment or endanger the engineer or subsequent user. Do not proceed beyond these notices until you have fully understood the implications.

### Legal Notice

Camera surveillance is prohibited by law in some countries. Check the laws in your local region before using ANPR cameras and associated equipment.

### Liability

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### Trademark Acknowledgments

SNAP ANPR is a trademark of Videofit Limited.

### Support

Should you require any technical assistance, please contact your Videofit or SNAP ANPR reseller.

### WARNING – EYE SAFETY HAZARD

#### Important!

These cameras do not present any hazard in normal use. Staring directly into the front of these camera models for long periods at very close range should be avoided.

## 1. Description

The Bollard ANPR Camera is intended for use with all Videofit and SNAP ANPR processors although they can also be used with just a DVR if required. These cameras are capable of very high recognition accuracy since their free-standing design allows them to be positioned in the ideal location for perfect plate imaging.

The main features of the cameras are:-

- Vandal-resistant design with 8mm replaceable Lexan window
- Full height lockable door for ease of installation & servicing
- Built-in pulsed infrared illumination for day and night operation
- Simple adjustment of zoom and focus
- Adjustable camera pan & tilt

The camera is also available in a dual version which includes a high resolution colour overview camera designed to capture full colour images of the vehicle. With these models, the overview camera is also provided with simple zoom and focus controls.

## 2. Siting the Camera

The camera is designed to cover a single traffic lane only, typically 3 metres wide at the capture point. Any attempt to cover two traffic lanes with a single camera will result in the ANPR processor missing vehicles and mis-reading plates.

The camera should be positioned adjacent to the target traffic lane - do not attempt to view across one lane to view another. Always try and position the camera close to the head-on position but not exactly perpendicular to the plate, since unwanted reflections from the infrared illuminator can occur in some situations. The ideal angle of view is between 5° and 30° from the normal path of the vehicles.

Vehicles should always be viewed from the front because rear plates offer a lower success rate due to tow bars, cycle racks, winter dirt, etc. Also, avoid locations where the camera views directly into a rising or setting sun.

If the bollard camera is to be used to view gated entrances, the camera is best positioned adjacent to them; siting the camera further into the site often results in viewing obstructions from the barrier arm or gates themselves. Conversely, placing a camera in advance of the barrier is okay, providing the cameras are not intended to open the barriers automatically (using our Barrier Relay Controller). This is because cameras which control vehicle barriers must view the first vehicle in the queue for the system to operate correctly and this can only be achieved when the cameras are adjacent to the barrier itself.

Finally, allow sufficient room behind the bollard for the door to be opened and an engineer to work unobstructed.



**Bollard Installation with Lifting Barriers**

### 3. Fixing the Camera

The bollard camera requires a solid foundation and details of the suggested concrete base are shown on the next page. The camera may also be bolted to an existing concrete slab providing it is flat and of sufficient size.

A clamping ring is provided with the camera in order to secure the cabinet to the base. The design allows the cabinet to be rotated (panning the camera) when the fixing bolts are slackened. For this reason, the top surface of concrete base should be flat and level.

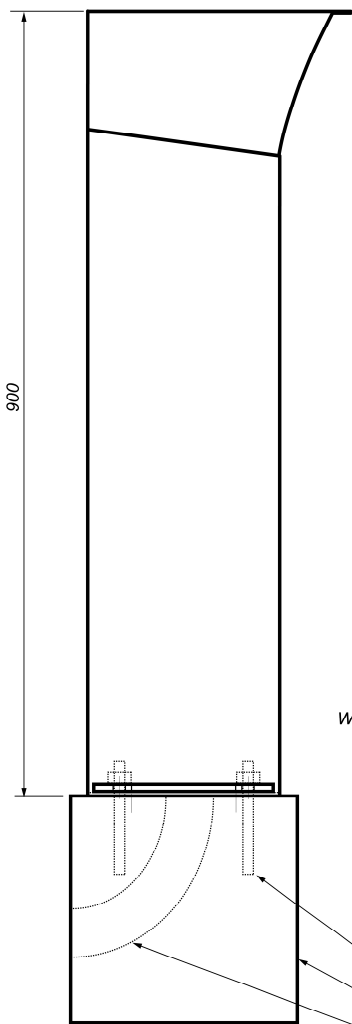
The base clamp ring is normally used as a template when setting rag bolts into the base or when drilling in studs. When the studs are in situ, the bollard cabinet is placed over them; finally, the base ring is passed through the cabinet door, fitted over the studs and bolted down, thereby clamping the cabinet to the concrete base.

Cable entry is usually through a 50mm plastic duct set within the centre of the concrete base. On completion, this open duct should be sealed to prevent any condensation within the cabinet.

If underground cable ducting is not practical then, providing the location permits, steel conduit may be run at ground level to the cabinet. Remember that the final 500mm should be run in flexible steel conduit to allow the cabinet to be rotated. This method of cabling is best suited to locations where the bollard is adjacent to an existing building or other structure to which the conduit can be routed. Two conduit entry holes are provided close to the bottom of the cabinet for this purpose.

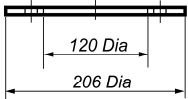
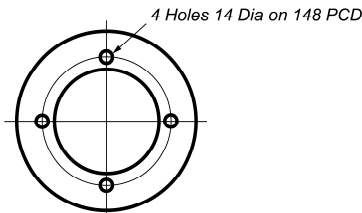
**Base Clamp Ring**



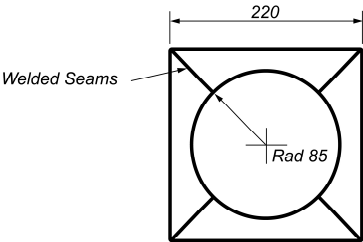


**NOTES**

- 1. Foundation size is dependant on soil conditions and the sizes shown here are only a guide
- 2. Use the base plate as a template when setting ragbolts
- 3. Clamp the bollard to the foundation using the base plate supplied
- 4. Ensure foundation is smooth and level to allow unrestricted rotation of the bollard



Bollard Base Plate



View of Bollard Base

- M12 Ragbolts or Rawl Bolts As Required
- Typical Foundation Size 260 Cube in Undisturbed Soil
- Cable Ducting As Required

**Foundation Details**

## 4. Connections

There are two main electrical connections to the standard bollard, namely video and power. The dual version of the camera also has a second video output.

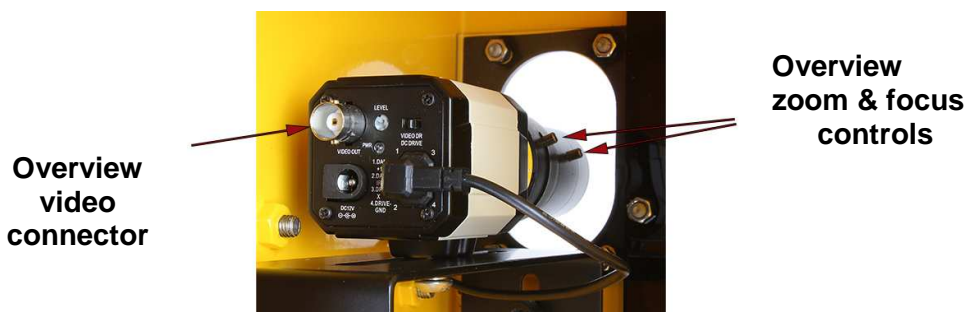
Connect the incoming 24v ac supply to the push terminals marked “24V AC IN”. The supply should be capable of delivering 1 amp maximum.

The video output from the ANPR camera is always taken from the BNC connector within the junction box.

For the Dual version of the bollard, a second video output is provided for the colour overview camera. This is normally taken directly from the rear of the overview camera itself (see below).



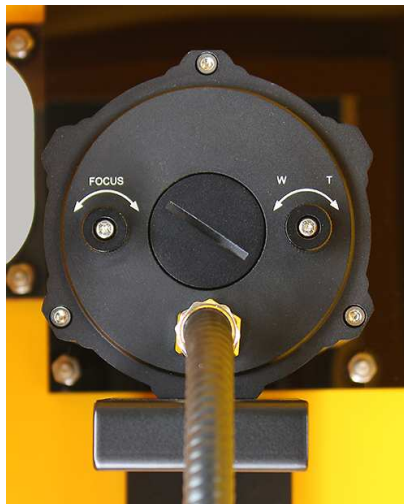
Note that some overview cameras have no BNC connector and a composite cable will be pre-wired to the junction box. For these models the overview video should be made to the BNC connector in the junction box.



## 5. Operation

To set up and test the camera operation, please proceed as follows:-

- Connect the power and video cables and switch on the supply
- Park a vehicle at the desired captured point
- With a local video monitor, check the ANPR (and overview camera, if fitted) are producing a picture
- Using the rotary controls on the rear of the ANPR camera (see image below), adjust the zoom and focus for the best picture
- For Dual cameras, adjust the zoom and focus by adjustment of the lens rings
- If you need to pan the camera, slacken the base mounting bolts and rotate the whole cabinet. The ANPR camera may also be tilted on its mount to provide a small elevation adjustment
- Ensure the cabinet door is closed and locked on completion



**ANPR camera zoom & focus**



## 6. License Plate Size

Below are two examples of vehicle framing with an ANPR camera. The first is zoomed in close such that the vehicle width fills the image and ensures the plate will be large enough to be read (the plate has been pixelated in this image). The second image is wrongly viewing the rear of the vehicle and needs to be zoomed in closer before the plate will be read.



**Perfect Vehicle Framing**



**Poor Vehicle Framing**

Finally, here is an example of a colour overview image taken by the dual version of the camera. Remember that when using these cameras in conjunction with an ANPR processor, the overview image will be recorded a fraction of a second after the plate is read and will therefore need to be zoomed out sufficiently to ensure the vehicle is recorded even when travelling at high speed.



**Dual Camera Overview Image**

## 7. Field Cables

ANPR processors requires a high quality video signal to achieve maximum accuracy and care should be taken to ensure that the signal is not degraded during transmission. Coaxial cable is preferred for transmitting the video signal, although high quality passive baluns used in conjunction with a twisted-pair cable are generally fine for cable distances up to 170 metres.

For longer cable distances, the transmission system should be designed with great care to ensure that the video level at the receiver is close to 1vpp and that the full frequency range of the video signal is maintained. If any form of digital conversion is used, the received analogue signal should be at least 25fps (50fps for high speed traffic), full resolution (D1) and with no visible compression artefacts.

With regard to the 24v ac power supply, please ensure that the conductor size is sufficient for the length of cable run to avoid too much of a volt drop.

## 8. Sun Hood Adjustment

If the camera is subject to a low sun, the sun hood may be extended to reduce glare. Remove the plastic screw caps and slacken the four retaining screws before sliding the sun hood forward.



**Sun Hood Retracted**



**Sun Hood Extended**

## 9. Cleaning

Keeping the window clean will help reduce image degradation. The Lexan window is easily scratched and should not be scrubbed; just wipe once or twice with a very wet cloth and allow to dry.

## 10. Specification

<b>Model</b>	6050 Standard Bollard 3-8 metre Zoom 6070 Dual Bollard 3-8 metre Zoom
<b>Illuminator</b>	Pulsed Infrared
<b>ANPR Camera</b>	Mono 620 line, 1/100,000 <sup>th</sup> sec, 6-50mm zoom Band Pass IR Filter Manual control of zoom and focus
<b>Overview Camera (Dual Models only)</b>	Colour 560 line, 1/50 <sup>th</sup> sec, 9-22mm zoom Manual control of zoom and focus
<b>Cabinet</b>	Powder coated steel, lockable full-height door, Lexan window, rated IP54
<b>Supply</b>	24v ac
<b>Power Consumption</b>	8 watts maximum
<b>Size</b>	900mm x 220mm x 220mm (excluding sunhood)
<b>Weight</b>	22Kg
<b>Operating Temperature</b>	-10 to 50° C



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