

# A REAL NETWORKED ALTERNATIVE?

*The dome camera has changed with regard to how its perceived in the CCTV industry. Once it was a specialised tool, aimed at the project sector only. Cameras carried high prices, complex installation procedures, and tags such as 'military specification' to scare off the average installation engineer. Of course, things have changed. Costs have fallen, installation has been simplified, and the dome camera is a must-have item for many manufacturers. This is also true of the network-based slice of the market, and Axis claims that the 233D is a genuine security tool. PSI put a unit through its paces to find out the truth about its capabilities!*

It seems an age ago that PSI first looked at a networked fully functional camera, and back then it was heralded as the new dawn in CCTV solutions. However, the hype didn't translate into the product's real-world performance, and at that time even those launching the product were more than a little embarrassed at the gulf between the specification and the actual performance of the IP camera. More worrying for them was that the unit simply could not be considered an equal alongside a composite alternative. There were two main issues; the first was image quality and the second was the lengthy and irregular delays between trying to control the camera head, and it actually doing something! Needless to say, the manufacturer of that particular unit moved on to pastures new; a decision that a few other suppliers of IP-enabled products also made in the early days.

Now we find ourselves nearly a decade further into IP camera development, and once more we are looking at an IP-enabled fully functioned camera. There are a lot of differences. For starters, it's from a different manufacturer. Axis Communications will be a familiar name to installers, even those who have yet to move into networked CCTV. That fact alone shows that Axis has made a commitment to the security industry, and has worked tirelessly to provide security-centric solutions, such as the 233D being tested here.

The role of network-enabled devices in the CCTV sector has also changed with regard to performance, features and functionality. Companies like Axis, who have stayed in the industry, have learned much about what the security sector needs; that much is evident from the range of Axis products that are currently on offer. Performance has improved immeasurably in recent years, with both image quality and mechanical camera performance coming on in leaps and bounds.

However, that old bugbear bandwidth is still there to stick the occasional spanner in the works. This cannot be cited as a complaint against the product, but it has to be considered when specifying a camera such as the 233D. If the network that is supporting the camera isn't

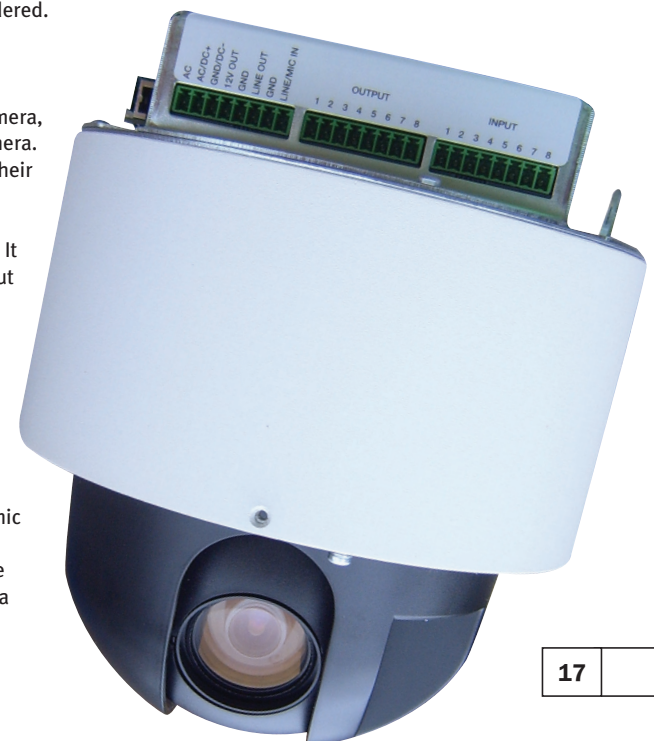
up to the job, or if the IT manager wants to be churlish about the amount of video he's prepared to allow to stream on the network, or if the stability of the network is questionable, then there will be an impact on performance. However, if common sense prevails and the installer manages his own infrastructure, then the problems can be put onto the back burner. This comment isn't specific to the 233D, as it applies to any networked product. However, it has to be considered.

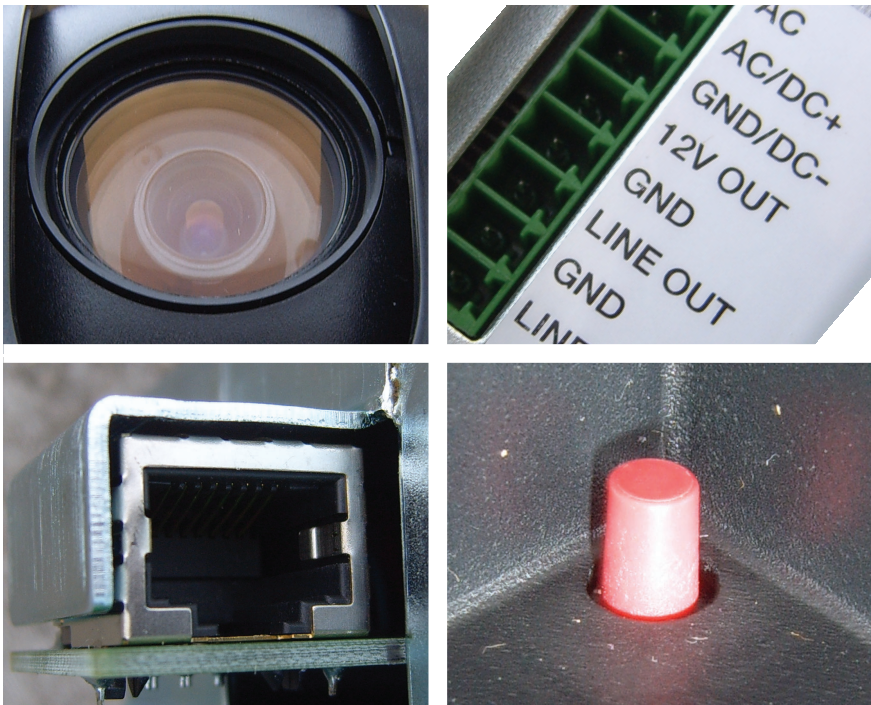
## Product design

The Axis 233D is a security dome camera, and it looks like a security dome camera. Some network manufacturers want their products to look different, but Axis appreciates that domes are the way they are for the sake of functionality. It not only looks like a CCTV camera, but it feels like a CCTV camera.

The camera utilises a 1/4 inch Exview progressive scan CCD, and delivers a maximum resolution of 704 x 576 pixels (4CIF). Sensitivity is quoted as 0.5 lux (30 IRE) colour and 0.008 lux (30 IRE) monochrome. The camera features day/night functionality as well as a wide dynamic range for uneven lighting.

Users have a choice as to how the video is compressed, with the camera





capable of delivering simultaneous MPEG-4 and M-JPEG streams (the former is preferred for network transmission, whilst the latter is the choice for stored evidential images). As with other Axis cameras, the unit contains an integral web-server and is accessed, viewed and controlled via a standard web browser such as Internet Explorer.

*Configuration is quick and easy, and any installer will be able to manage the process; Axis seem to have realised that ease of installation is a very important feature.*

The mechanical specifications also seem to be right on the money. Pan is 360° continuous, with speeds ranging from 0.5° to 450° per second. Tilt range is 180°, with the same speeds. Optical zoom is 35x, and this is backed up by a digital zoom of 12x. The camera supports up to 100 presets.

Other features include video motion detection, privacy zones, electronic image stabilisation, electronic image flip to allow differing mounting configurations, optional two way audio plus audio detection, and file transfer via email, FTP to a web server on alarm.

Installation is pretty much as per a normal dome, and there are a wide range of fitting options available for the 233D. Power input and alarm inputs and outputs are handled via a clearly marked easy-to-access connector block. Network connectivity is via a simple modular RJ45 connection.

Axis has always made its equipment simple to configure, although it did usually include installers having to use command codes. A utility was included, but with certain machines and systems it could be a

little flaky. However, the 233D is shipped with an upgraded utility, and it worked with every PC we tried it on! Configuration is quick and easy, and any installer will be able to manage the process; Axis seem to have realised that ease of installation is a very important feature. When it comes to set-up, Axis has one of the simpler interfaces – now if they'd just provide all manuals in paper format instead of CD they'd be onto a winner – surely the installers have paid enough for that?

### Performance

The Axis 233D is a surprising camera; you almost expect the image quality to be slightly off, but it's actually very good. Colours are strong and clean, and definition is accurate. Colour and greyscale fidelity is also high. The image quality remains throughout the range of the zoom ratio, and the 35x capability is very good. The image stabilisation is required at that range, and it works very well, with only serious movement on the mounting showing up in the image. Digital zoom is as digital zoom will be; to be used sparingly.

In the past, one area that many IP cameras have struggled with is low light performance. The 233D isn't that bad; the figures quoted are for 30 IRE and therefore are around three times lower than those for a full video image. However, image wise, the quality is on a par with many standard composite camera modules, and the camera's day/night functionality and removable IR filter allows users to exploit the camera's performance potential after dark.

Finally, a real issue with IP-connected functioned cameras in the past has been one of control. There have been units that are hard to control because of the lag between the PC interface and the camera itself. Mouse clicks can be repeated as there has been no movement, and this then causes the camera to overshoot! The 233D can be used with an optional joystick, but our unit was not supplied with one, so we can't comment on it. However, manual control is good and accurate; we only had one mad moment in a considerable time spent pushing the unit to its limits. With presets, all the functionality is spot on.

### In summary

The Axis 233D will change the way that some people look at networked CCTV. The image quality is there, and to a large degree so is the mechanical functionality. Admittedly you still get slightly (make that very slightly) better performance out of a high quality traditional dome camera, but the 233D has other benefits that a composite unit can't compete with.

It used to be that networked domes were so far behind composite domes that the additional benefits of IP connectivity weren't worth considering – the video compromise was too big. Now the performance gap has closed; the Axis dome can well and truly stand its own ground. Indeed, the 233D could be the product to tip a few installers into the networked age!

### SPECIFICATION

**Supplier:** Axis Communications  
**Model:** Axis 233D  
**Type:** Network Dome Camera  
**Chipset:** 1/4 inch Exview progressive scan CCD  
**Resolution:** 4CIF  
**Sensitivity:** 0.5 lux (colour 30 IRE), 0.008 lux (mono 30 IRE)  
**Compression:** MPEG-4/M-JPEG  
**Zoom:** 35x optical, 12x digital  
**Low Light:** WDR, day/night  
**Privacy:** 8 masks  
**Pan:** 360° continuous  
**Tilt:** 180°  
**P/T Speeds:** 0.5-450°/sec  
**Presets:** 100  
**VMD:** 10 zones  
**Power:** 12V DC

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### PSI RATINGS

Product Design	■■■■■■■■■□□	Instructions	■■■■■□□□□□
Build Quality	■■■■■■■■■□□	Installer Friendliness	■■■■■■■■■□□
Ruggedness	■■■■■■■■■□□	Features/Functions	■■■■■■■■■□□
Ease of Installation	■■■■■■■■■□□	Video Performance	■■■■■■■■■□□
Ease of Set-up	■■■■■■■■■□□	Overall Performance	■■■■■■■■■□□