

# MAKING LIGHT WORK OF DARKER ENVIRONMENTS



*In recent years, the battle-ground for CCTV cameras has shifted away from resolution to low and harsh light performance. Squeezing more and more detail into images now takes a back-seat to ensuring that all captured video is usable, even if the illumination in a scene is harsh, hostile or virtually non-existent! Digital signal processing methods have been enhanced to create ever better levels of performance, and day/night operation and wide dynamic range are specifications that many installers expect from high end cameras, and an increasing number are seeking noise reduction too! Samsung Techwin has established itself as a manufacturer of cameras that fulfil these needs, and the SHC-730P is no exception!*

Light always has been, and will remain to be, a significant element in CCTV. If you take away light, you effectively take away the image, because the electrical signals that form pictures are created when light falls onto the sensitive CCD chip. A lot of light produces good strong signals, while less light will obviously produce weaker signals, which also have less differentiation. This means that a digital signal processing chip struggles to deliver an appropriate image, and will often amplify everything – including noise – to try and deliver something approximating a 1 volt peak-to-peak signal.

Of course, while strong lighting is good for CCTV images, it's not so good if the lighting in a scene is unbalanced. Very bright areas, coupled with dark areas, usually means one thing – compromise!

You can have images of the bright areas with the dark areas appearing as black, or you can have the dark areas shown with higher detail, but the light ones will appear bleached or totally white.

The challenge for CCTV as an effective tool in the fight against crime is to attempt to do what the human eye does (well, the human eye and brain combination), and that is to see details in low and unbalanced lighting. Samsung Techwin has made major advances in this area, and the latest camera – the SHC-730P – goes one step further!

## Product design

The SHC-730P is a good looking camera, and its quality is underlined by the metal case and sturdy build quality. A brief glance at the specifications

■ *The SHC-730P improves on Samsung Techwin's other low light cameras, and that takes some doing!*



The SHC-730P looks like an ordinary camera, but the real benefits lurk inside the chip-set!

shows that this is a high performance camera, but you don't really get a good idea of how well it will perform until you dive into the simple to use menus.

The camera's basic specifications are right up there in terms of surveillance performance. Resolution is 520 TV lines in colour mode and 570 TV lines in mono; both of these figures are achieved by the camera.

Sensitivity in colour mode is quoted as a very low 0.05 lux, or 0.01 lux in monochrome mode. These figures can be further enhanced by the Sens-Up feature, but you obviously reduce the frame rate as a result.

The camera also features many of the functions being seen in modern high end units, such as digital pan, tilt and zoom, motion detection, privacy zones, etc.. While such functions will appeal to a few installers, they are not going to be the reason why anyone specifies the SHC-730P (in our opinion).

The reason why many professional security installers will specify this camera is because of its performance in harshly lit environments. That much becomes obvious when you start pushing the boundaries and pass the point where typical CCTV cameras would fall over.

### Performance

The first thing you notice when you power up the SHC-730P is that the colour temperature is pretty much spot-on. Often heavily-processed images have a tendency to look a little warm. However, the SHC-730P uses the SVIII digital signal processing chip,

and the overall fidelity is very impressive, even in poor lighting.

Going into the menus, there are the usual suspects such as Camera ID and the other features already mentioned. Backlight allows the wide dynamic range function to be switched on or off, and there are three settings. However, we found that the camera still gave very well balanced images in harsh lighting with WDR switched off, thanks to the SVIII processing.

SSNR has already been tested by PSI (see [www.securityweb.co.uk](http://www.securityweb.co.uk) for the test), and we still maintain it's the best noise reduction system we have yet seen on a camera! Images that would usually be unusable remain clean. The day/night option can be switched manually, automatically or remotely, or the camera can be fixed to colour or monochrome mode.

The level of performance in both low light and harsh illumination is very good. With noise reduction employed, it is possible to still be getting clean images when there is not really enough light to see any useful details, and that speaks volumes for the processing power available, especially when you consider that there are no real artefacts or blur in the images!

The additional functions we mentioned earlier all work well, and are very easy to set up. However, we still believe that most installers will specify the SHC-730P for its performance rather than because it has VMD or a digital zoom function!

### In summary

The SHC-730P takes the previous work that Samsung Techwin had done regarding low light performance, and moves it on by a significant factor. We know that SSNR has always been stunning, and Samsung Techwin seems able to squeeze the last few drops of performance out of WDR functionality, but the icing on the cake has to be the SVIII technology and how that adds benefits to a level of performance that already was head and shoulders above the common herd!

We often comment that you have to see the difference to understand how good it is, and Samsung Techwin has put its money where its mouth is; see page 27 for more details!

### SPECIFICATION

- Supplier:** Samsung Techwin
- Model:** SHC-730P
- Resolution:** 520 TVL (colour); 570 TVL (mono)
- Sensitivity:** 0.05 lux (colour); 0.01 lux (mono)
- WDR:** 52dB
- Day/Night:** Auto, Manual, Forced
- SSNR:** 4 Settings
- Sens Up:** Up to x128
- Digital Zoom:** x8
- Privacy Zones:** x4
- Power:** 12V DC/24V AC

For further information, please circle PSI Enquiry No 130, or alternatively visit [www.securityweb.co.uk](http://www.securityweb.co.uk) and use the on-line response form.

### PSI RATINGS

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

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