

A World without Darkness

SHC-750, A cutting-edge night
surveillance camera for High Security Applications



imagine a Full-Frame Color Image in Extreme Darkness

An ultra low light camera, the SHC-750 comes with a built-in 1/2" super-sensitive EM-CCD that provides full-color, full-frame video images even at night. The SHC-750 is a camera that incorporates a revolutionary low light system which makes it suitable for Perimeter and extremely sensitive installations such as: Border controls, Military bases, Ports, Airports, Petrochemical sites, Utilities and Telecommunications.

SAMSUNG TECHWIN

SAMSUNG

The camera of choice for ultimate night surveillance

Ultra Low Light EM-CCD Color Camera, **SHC-750**

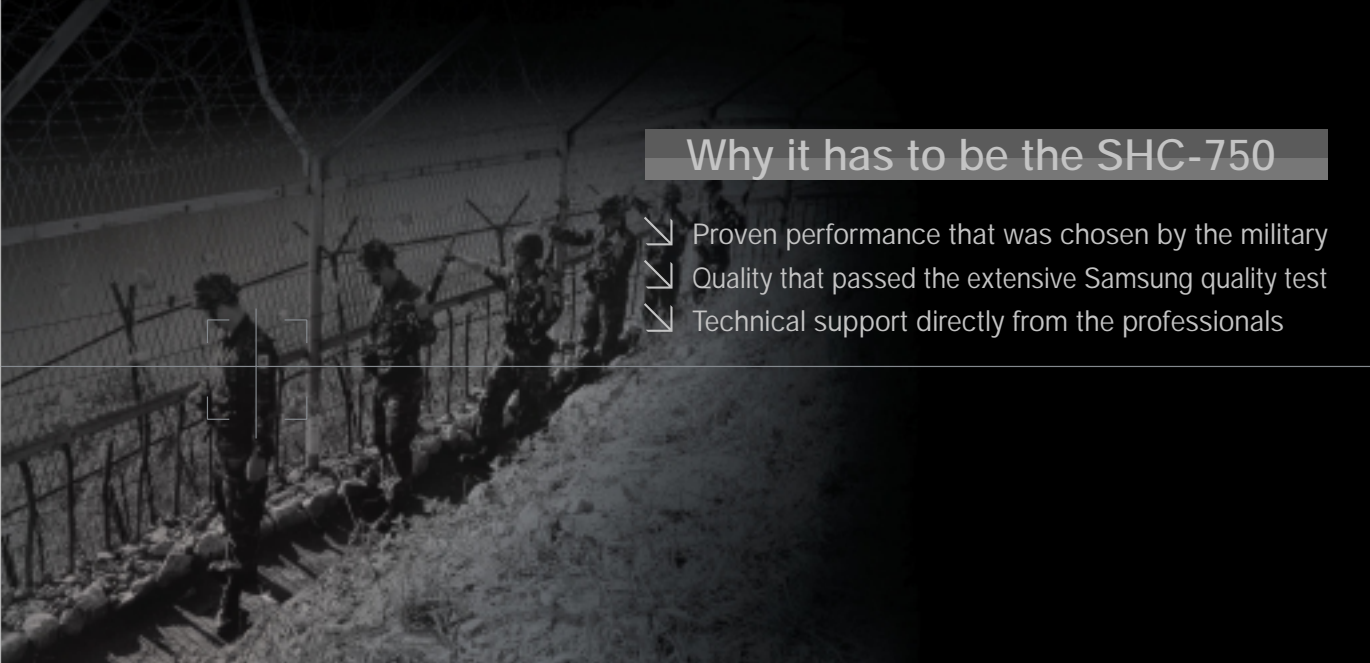
Selected as a cutting edge camera for unmanned military surveillance systems

With its built-in Electron Multiplying CCD (EM-CCD), the Samsung Techwin SHC-750 has a light sensitivity that is more than 100 times better than average. The fact that this camera has been selected as the solution for the unmanned surveillance needs of military front lines proves its capability. The SHC-750 can detect and distinguish a moving subject from over 400m (approx. 440yds) away in a pitch-dark environment, and send the image to a military command center for immediate response.

The extensive knowledge and technical know-how of Samsung Techwin in the defense industry are packed into this one single camera, giving it the capability to capture a subject hiding in total darkness and shielded from human sight, at a speed of 30fps in full-frame color ; no noise, no ghost ; only crystal clear video surveillance images unaffected by the light conditions. For the first time in EM-CCD cameras, the SHC-750 also comes with an ICR Day & Night feature for even stronger night time surveillance performance. Other extra features include motion detection and RS-485 control, and the camera quality has been carefully tested for all outdoor environment conditions. The SHC-750 is an exceptional high tech security camera that provides excellent images for all sensitive installations including : Military, Airports, Ports, Border control, Petrochemical sites, Utilities and Telecommunication infrastructures.

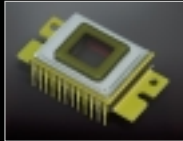
Why it has to be the SHC-750

- ↘ Proven performance that was chosen by the military
- ↘ Quality that passed the extensive Samsung quality test
- ↘ Technical support directly from the professionals



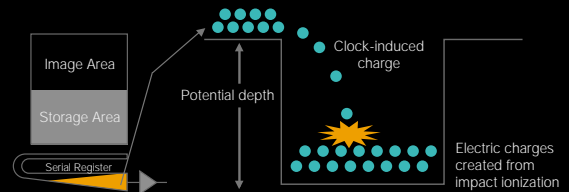
EM-CCD

EM-CCD (Electron Multiplying Charge Coupled Device)



The difference between an electron multiplying structure and the conventional CCD is in the gain register ; the EM structure is positioned between the end of the shift register and the output amplifier. The gain register has two independent electrodes and each has its own electric potential. The large electric field generated between the two electrodes is strong enough to cause "impact ionization" and this generates new electrons that glow much brighter than the conventional CCD, making it possible to achieve 30fps full color video images without noise, even in the dark.

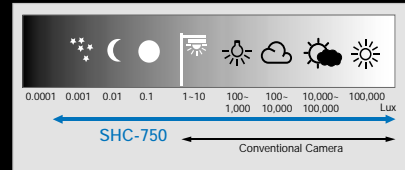
By transferring a naturally generated clock-induced charge into deep potential, impact ionization (electrons impacting Si and creating an electron-hole pair) can be created to generate a second charge. By repeating this impact ionization inside a chip, electron multiplying is made possible without overlapping read-out noise.



Conventional Low Light Camera



SHC-750



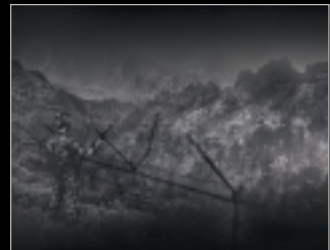


The perfect combination of EM-CCD and Samsung Techwin exclusive DSP

The SHC-750 uses a 1/2" EM-CCD chip that delivers light sensitivity 100 times better than average, and its Samsung Techwin exclusive DSP chip can achieve an amazing light sensitivity of 0.008Lux@F1.2 in color or 0.000003Lux@F1.2 in Sens-up mode.



Conventional Camera



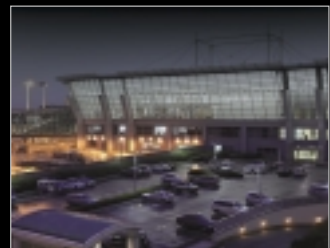
SHC-750

Full-Frame Color Video by Night is Here

The ultra low light capability of the SHC-750 shines especially bright on a pitch-dark night with no moon. While an average low light camera produces noisy blurred images in B/W, the SHC-750 can deliver 30fps full-frame video images of the same subject - in color. Identifying the subject is a whole lot easier with the SHC-750.



Conventional Camera



SHC-750





Extreme Low Light

ICR Day & Night for Impeccable 24-hour Security

Using the ICR Day & Night feature means you can use one camera as two - one for color and the other for B/W. This feature analyses image signals internally and automatically turns them into either color (day) or B/W (night) for optimum image quality 24-hours a day.



Day

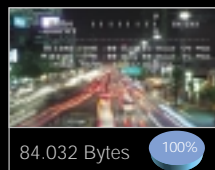


Night

Noiseless, Vivid Image Quality with Less DVR Capacity

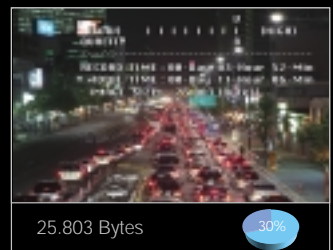


The breakthrough noise reduction technology SSNR is built into the camera to eliminate any noise associated with low light environments. Ghost and blooming effects are reduced dramatically, leaving the image clean and vivid. An added benefit is that the HDD required capacity for DVR recording is substantially reduced by up to 70%, due to the SSNR noise reduction technology.



84.032 Bytes

SSNR Off



25.803 Bytes

SSNR On





Multi Functions

Resolution of 450TV Lines, S/N Ratio of 50dB

The horizontal resolution of the SHC-750 is up to 450TV lines, which translates into solid image quality with vividly reproduced colors. The S/N ratio of over 50dB upgrades the image quality even more.



Conventional Camera



SHC-750



Wide Range White Balance

The wide range white balance feature automatically covers a color temperature range from 1,800°K ~10,500°K for optimum colors. Sodium lamps, used in applications such as: highway lighting, car parks or tunnels will not tint your images red or blue thanks to this feature.



Conventional Camera



SHC-750



Privacy Area Masking

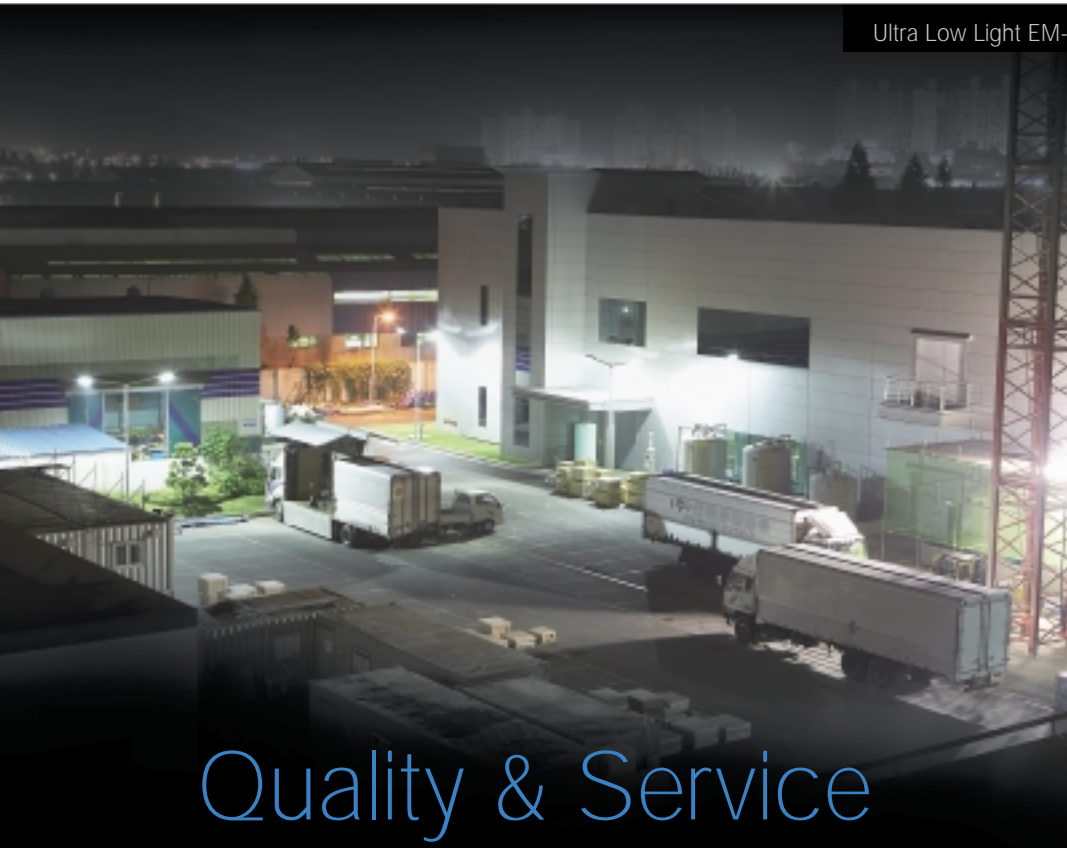
Privacy masking can be applied to certain areas within the larger surveillance area ; up to 4 different areas per screen.



Motion Detection

Any one of 48 zones on the same screen can be checked immediately for any sign of trouble or incidents. Both general surveillance of multiple areas and intensified surveillance of a single zone are possible.





Quality & Service

RS-485 Remote Control Support

The SHC-750 supports RS-485 communication for remote control, which means the camera can be controlled (including changing the settings) remotely.

RS-485



Extensive Quality Testing for Outdoor Use

Samsung Techwin tests its products for electrical quality (e.g. static electricity, impulse noise, and current fluctuation) and mobility (e.g. operating temperature assurance, impact and shake limit assurance, and Day & Night durability) to ensure optimum performance of its products under any environmental conditions. The SHC-750 has undergone an especially extensive quality testing process where each and every test category limit was maximized to make sure the product was capable of surviving all possible outdoor conditions. The SHC-750 can be trusted to deliver optimum performance under challenging conditions.



Electrical reliability test



impulse noise test



Temperature range guarantee test



Vibration test



Transporting products test



Day & Night durability test



Aging Test

1/2" Ultra Low Light EM-CCD Color Camera

SHC-750

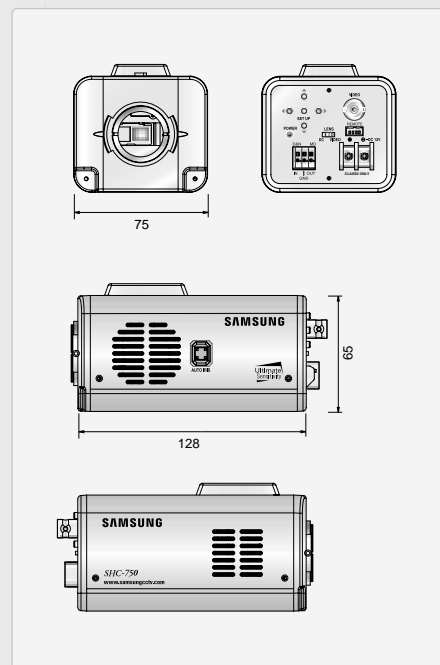


Specifications

Mode	SHC-750N	SHC-750P
Power Source	12V DC (±10%)	
Power Consumption	Max. 1.2A	
Image Pick-up Device	1/2" EM-CCD (Electron Multiplying CCD)	
Total Pixels	680(H) x 500(V)	
Effective Pixels	658(H) x 496(V)	
Scanning System	2 : 1 Interlace	2 : 1 Interlace
	525 Lines / 60 Fields / 30 Frames	625 Lines / 50 Fields / 25 Frames
Synchronization	Internal / Line lock selectable	
Scanning Frequency	Horizontal : 15,734KHz / Vertical : 59.94Hz	Horizontal : 15,625KHz / Vertical : 50Hz
Resolution	Color : 450TV lines (Min.) / B/W : 470TV lines (Min.)	
Video Output	1.0Vp-p / 75Ω (Video 0.714Vp-p, Sync 0.286Vp-p)	
S / N Ratio (Y signal)	50dB (AGC off, Weight on)	
Min. Illumination	0.008Lux @ F1.2 (Normal color mode)	
	0.0005Lux @ F1.2 (B/W mode)	
	0.00006Lux @ F1.2 (Sens-up mode)	
Back Light Compensation	Low / Middle / High / Off selectable	
Day & Night	Color / B/W / Auto selectable (ICR filter change) / EXT (External Day & Night mode control capability via terminal at the back panel)	
Gain Control	Low / High / Off selectable	
White Balance	ATW / AWC / Manual selectable (1800°K ~ 10,500°K)	
Electronic Shutter Speed	A.FLK / Manual (1/60, 1/120, 1/250,	A.FLK / Manual (1/50, 1/100, 1/250,
	1/500, 1/1,000, 1/1,600, 1/2,000sec)	1/500, 1/1,000, 1/1,600, 1/2,000sec)
Sens-up	On / Off (Selectable limit ~ 128X)	
OSD	Built-in	
Motion Detection	On / Off selectable (Built-in alarm output connector)	
SSNR	Low / Middle / High / Off selectable	
Privacy Function	On / Off selectable (4 Programmable zone)	
Communication	RS-485	
Iris Control	DC / Video	
Lens Mount	CS-mount (Easy focus type)	
	(C-mount is mountable by using adaptor)	
Operating Temperature	-10°C ~ +50°C	
Operating Humidity	20 ~ 90% RH	
Dimension	75(W) x 65(H) x 128(D)mm	
Weight	600g	

Dimensions

Unit : mm



Real Panel



The Eco mark represents Samsung Techwin's will to create environment-friendly products, and indicates that the product satisfies the EU RoHS Directive.

Design and specifications are subject to change without notice.



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