

Effio™

Over 650TV-Line Camera DSP Series



CXD4141GG, CXD4151GG System ICs for Security Cameras



System ICs for High Resolution and High Sensitivity Cameras Support 960H CCD Image Sensors

Sony has developed system ICs for analog security cameras, the Effio-V (CXD4141GG) and Effio-A (CXD4151GG) with drastically improved functions and performance as the third generation of the Effio™ series. The Effio-V and Effio-A can be combined with 960H CCD image sensors to realize the highest horizontal resolution over 700 TV lines in the Effio series. Also the ICs improved overall functions such as noise reduction (3D-NR), exposure optimization of infrared LED, wide dynamic range (WDR), or defog. And visibilities in different conditions with low light, infrared light, or high (low) contrast were greatly improved.

Furthermore, the ICs have the industry's first^{*1} automatic scene detection function and scene selection function, and they require only one action to secure the ideal picture quality in various installation environments of security cameras.

- CXD4141GG (wide dynamic range model)
- CXD4151GG (high picture quality model)
- Horizontal resolution over 700 TV lines
- 3D-NR and exposure optimization of infrared LED improved low light picture quality
- Automatic scene detection function and scene selection function make installation easier

Effio

The Effio is a signal processor chip from Sony employing processing modes that deliver high resolution, High SN ratio and excellent color reproduction.

Horizontal Resolution Over 700 TV lines

The Effio-V and Effio-A revised high resolution signal processing and realized horizontal resolution over 700 TV lines, exceeding 650 TV lines of the existing Effio series.

3D-NR and Exposure Optimization of Infrared LED Improved Low Light Picture Quality

Better 3D-NR function ensures less blurry moving subjects, vivid and high SN ratio images even under low light environments.

Also, to effectively prevent situations when excessive reflection with infrared light hides the details of subjects (saturation phenomenon) or when around the outer edges of image view angle get darker (shading), the conventional exposure optimization of infrared LED was expanded to enable luminous intensity control of infrared light and shading suppression.

Therefore, these functions greatly improved the visibility in low light environments.

Automatic Scene Detection Function and Scene Selection Function Make Installation Easier

The existing products required proper operation on each function to adjust images depending on where security cameras are installed.

Some installations needed long adjusting time or several cameras with different picture quality characteristics.

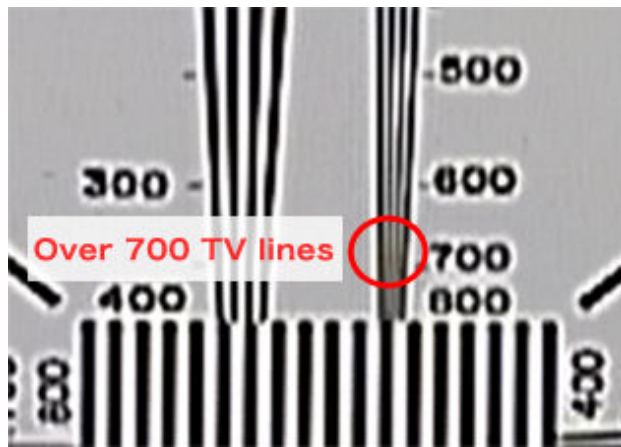
The Effio-V and Effio-A have the automatic scene detection function and require only one action to automatically detect 40 patterns of imaging scenes for the ideal images such as dynamic range, color temperature, flicker, or backlight.

The scene selection function presets common scenes for security cameras at indoor, outdoor, traffic surveillance, or backlight, and automatically adjusts based on the setting conditions for the ideal picture quality.

These automatic adjustment functions of picture quality simplify the installation.

Horizontal Resolution of Effio-V and Effio-A

Over 700 TV lines Horizontal Resolution



**Sample Images of Digital Noise Reduction Function
Effio-V / Effio-A**



Main Specifications of Effio-V (CXD4141GG) and Effio-A (CXD4151GG)

Item		Effio-V	Effio-A
Supported CCDs		760 H, 960 H WDR/normal CCD	760 H, 960 H normal CCD
Functions	Resolution	Horizontal over 700 TV lines	←
	WDR	✓	—
	ATR-EX2	✓	←
	Noise reduction	2D-NR, 3D-NR	←
	Day & Night	✓	←
	Polygon privacy mask	Up to 20 masks	←
	E-zoom	✓	←
	Slow shutter	✓	←
	Digital image stabilizer	✓	←
	BLC/HLC	✓	←
	Automatic scene detection function	✓	←
	Scene selection function	✓	←
	AF detector	✓	←
	Motion detection	✓	←
	White pixel detection compensation	Static and dynamic	←
	OSD	Flexible 8 languages	←
	Lens shading compensation	✓	←
	Defog	✓	←
	Automatic mechanical iris adjustment	✓	←
	External synchronization	LL, VSL	←
RS-485	✓	←	
Coaxial communication	✓ (Coaxitron by Pelco)	←	
Outputs	Analog outputs	Y/C separate, composite	←
	Digital outputs	ITU-R BT.656 compliant (27 MHz / 36 MHz)	←
Package		97-pin LFBGA	←