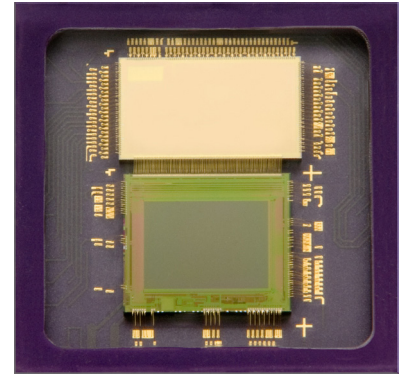


# D8800C Seawolf Digital Imaging System

## For Advanced CCTV and IP Cameras

Pixim's Seawolf digital imaging system enables rapid development of next generation, high-performance, cost-optimized CCTV and IP cameras.

- Pixim's Digital Pixel System<sup>®</sup> technology delivers high-resolution, crystal clear images that accurately capture every aspect of any scene.
- Ultra-wide dynamic range imaging accurately captures all of the critical details in a scene including highlights, shadows, and everything in between without compromising image quality or color accuracy.
- Enhanced low-light performance makes Seawolf the natural choice for both indoor and outdoor cameras for all lighting conditions.
- A low cost, highly-integrated, single-chip solution enables camera developers to leverage a common hardware and software platform across their entire range of cameras from basic, price-sensitive models to high-end, feature-rich cameras including NTSC, PAL, and IP cameras.
- Single-board cameras reduce manufacturing costs and cycle times, increase camera reliability, and simplify inventory management.
- Mechanical and optical compatibility with Pixim's popular Orca and Orca-E sensors saves camera developers time and money by allowing the reuse of existing lens mounts, filters, lenses, and camera housing designs.



**D8800C Seawolf  
Digital Imaging System**

### New and Improved Specifications

Specification	Seawolf	Orca/Orca-E
Resolution	690 HTVL Effective*	540 HTVL
Minimum Illumination	0.1 lux	0.8 lux / 0.5 lux
ESS Modes	1x - 32x	1x - 16x
Noise Reduction	3D Motion Adaptive	3D
Color De-Mosaic Kernel	7 x 7	5 x 5
Digital Zoom	8x	4x
Number of Chips	1	2
Form Factor	Single-Board Camera	Dual-Board Camera

### Development and Manufacturing Support

Manufacturable Reference Design	Manufacturable reference design for a 38mm x 38mm single-board camera including schematics, PCB layout and manufacturing files, BOM, plus test and debug procedures
Camera Development Kit (CDK)	Everything needed for modifying sample PCL (Pixim Control Language) to create customized menus and control algorithms
Property Access Tool (PAT)	Allows easy extraction and insertion of camera setup parameters for rapid menu development and performance tuning
Camera Setup Manual	Documentation for menus in MS Word (.doc) format
PixCuTility™	Pixim's camera configuration utility allowing uniform field customization of camera settings based on integrator and end user preferences
RoHS Certification	All Pixim chips are RoHS compliant
Applications Support	24/7/365 access to all documentation plus help desk support via Pixim's support web site

## D8800C Specifications

Imaging	Horizontal Resolution	690 HTVL Effective*	User / System Interfaces	Serial Control	UART serial/multidrop, UTC	
	Vertical Resolution	460 VTVL		Identifiers	Camera ID/Camera Number	
	IP Camera Resolution	Full D1 720 X 480		Manual	DIP switches, push buttons, joystick	
	SNR	Up to 50dB max (Y signal, AGC off)		Visual	On-Screen Display	
	Dynamic Range	120 dB max		Fonts	Scalable, outlined, multi-language including Asian characters and unicode fonts	
	Sensitivity	0.1 lux min illumination (f/1.2, 50 IRE, 30 fps, CMY)		Privacy Zones	16 programmable zones	
	Extended Slow Shutter	2x / 4x / 8x / 16x / 32x		Activity Zones	4 programmable zones	
	Noise Reduction	3D Motion Adaptive		Alarm Types	OSD, serial port, GPO, auto pan-tilt-zoom	
	AGC	Programmable up to 50dB		Sensor	Type	Digital Pixel System®
	Auto Iris	DC, Video (on-chip PWM DAC), Manual			Capture	Global Electronic Shutter
	Back Light Compensation	BLC On / Off	Electronic Shutter Speed		1/25 - 1/30,720 second (f/1.2)	
	Day/Night	True Day/Night, Soft Day/Night (B/W)	Optical Format		1/3 inch (6.3 mm image diagonal)	
	White Balance	ATW, AWB	Total Pixels	768 x 548		
	WB Range	2000 – 11,000K	Active Pixels	720 x 540		
Metering Zones	4, User Definable	Pixel Size	7 um x 7 um			
Video	Video Standards	NTSC / PAL (using single sensor)	Power Supply	Voltage	1.8 V and 1.0 V core, 3.3 V I/O	
	Aspect Ratio	4:3 / 16:9 scaled		Power	1.0 W typical 1.35 W max	
	Analog Outputs	CVBS x 2 (75 ohm), UTP	Environmental	Temperature	-10 to 60 degrees C (Operating)	
	Display Support	CRT, LCD		Mechanical	Package	17 mm x 17 mm 225 ball ceramic BGA, 1 mm ball pitch
	Digital Video Outputs	8/10-bit ITU656	Optical Center		Same as Orca and Orca-E	
	Synchronization	Internal / Line Lock (phase adjust)				
	Flicker Reduction	Yes (Pixim EFR**)				
	Image Flip	Horizontal and Vertical				
	Image Freeze	Yes				
Digital PTZ	Pan, Tilt, Zoom (1x – 8x)					

\* Seawolf HTVL Effective = Max Useable HTVL (Seawolf actual VTVL / CCD maximum VTVL) = 540 HTVL x (460 VTVL / 360 VTVL) = 690 HTVL Effective  
See Pixim whitepapers: *HTVL Effective Specification* and *Camera Resolution Is Limited to 540 HTVL Maximum in CCTV Systems*

\*\* Enhanced Flicker Reduction

## Pixim Digital Pixel System Technology

Pixim's Digital Pixel System technology represents a fundamental breakthrough in imaging technology. This image capture and processing system provides high-quality pictures with enhanced dynamic range that significantly improves image quality in scenes consisting of both bright and dark areas.

The core invention is the inclusion of an analog-to-digital converter (ADC) within each pixel of the image sensor. The ADC translates the light signal into a digital value immediately at the point of capture. This eliminates signal degradation and crosstalk in the sensor array. A variety of digital signal processing techniques are then used for optimal image reproduction.

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