About SMaL Camera Technologies, Inc.

SMaL Camera Technologies is an award-winning developer of highly innovative electronic imaging solutions for the digital camera, security & surveillance, consumer electronics and automotive markets. SMaL's solutions are built around its advanced CMOS image sensors, video processing ASICs and Autobrite® wide dynamic range technology for total scene visibility. SMaL's award winning products, such as the first credit-card sized digital camera, are revolutionizing the digital photo and video markets.

Co-founded by leading electronic imaging experts at the Massachusetts Institute of Technology (MIT), SMaL possesses a range of critical capabilities for developing unique imaging solutions and quickly bringing our OEM partners to market:

• Imager design

• Imager fabrication, process & quality control

• Low power circuit design

• Non-linear color processing & ASIC design

• Optics qualification and design

• Board-level & finished camera design

SMaL's technology offers OEMs unique competitive advantages not available elsewhere: wide dynamic range with smart adaptation to lighting conditions, wide field of view, advanced network camera designs and processing capability to implement image recognition and event triggering applications.

Leading CCD Security Camera

SMaL Camera with Autobrite

SMaL Ultra-Wide (1920x480) Format

Industry trends and new requirements

Within the post-9/11 security industry, digital and network cameras are being adopted at ever increasing rates.

Advantages include cost-effectiveness, remote monitoring, digital video management, in-image analysis, and the ability to integrate video, alarm systems and access control. The security industry is undergoing an evolution as disparate groups such as building security, police, fire services, customs, health & safety are being connected together.

As security cameras are being deployed in many more locations, the requirement to install-and-forget, point-and-go, has become important. Critical camera features must now include adaptive wide dynamic range, network connectivity and intelligent management.

Camera OEMs and system integrators looking to launch a new generation of security & surveillance cameras should know about SMaL's products and services.

Products and Services

SMaL has the technology and expertise to help you adapt to this changing world. SMaL offers several analog and digital security camera models, available as boards or finished cameras. SMaL's unique security features include: Autobrite for total scene imaging, innovative color image processing, advanced network connectivity, on-board image recognition capability and Ultra-Wide field of view. In addition to today's products, SMaL offers a roadmap for new models and "smart cameras" to position OEMs for next generation video surveillance.

Our proven track record in the consumer digital still camera market as a supplier of camera designs and components to Fuji, RadioShack and others means SMaL is well-placed to support the most demanding customers.

To support our partners, SMaL provides design and development services to ensure optimal performance and customization to existing product lines.

Autobrite™
by SMaL

Autobrite® is a new, innovative technology that extends the dynamic range of a digital camera, by as much as one million times or 120 dB. Typical security cameras, even high-end ones with CCDs and BLC, suffer from saturation or shadow in scenes that have a mix of bright and dim lighting. The camera can show detail in the bright areas or the shaded areas, but not both. Anyone who has scene video from a security camera pointed at a glass door is familiar with the problem. This is unacceptable in a world where security cameras are installed in more and more locations with variable lighting and are coupled with advanced image recognition applications. Cameras must provide detailed images in bright and dim areas simultaneously, *just like your eye*, and not just rely on backlight compensation.

Practical benefits of Autobrite include:

- Better security, because the total scene is visible— including both bright and dim areas. Now a single camera can cover both inside and outside a facility.
- In-image analysis, event triggering and image recognition are optimized because there is no data loss due to saturation or shadow
- Easier Installation. Dealers can install cameras in the best possible place. No more worrying about window location or bright light sources.
- Substantial savings. Since no auto iris is required a less expensive lens can be used.

Call SMaL today to learn more about our innovative and cost-effective camera solutions for OEMs and large system integrators.

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Applicable settings and applications

Indoors with Natural Light

Convenience stores

Banks

Apartment building lobbies

Office building lobbies

Fast food restaurants

Loading bays

Factories

Warehouses

Office spaces with windows

Storefronts

ATMs

Schools

Outdoors with Shadow

Parking garages

Entrance ways

Construction sites

Walkways

City streets

Airports

Advanced Applications

Face recognition

Face detection

Motion detection

Motion estimation

Object tracking

Event triggering

And wherever there are mixed lighting conditions…..