

- Flexible design supports legacy cameras as well as the latest quad-speed, color, and large format analog cameras
- Allows fast and reliable image transfer
- Provides tight integration with Cognex software libraries, for highest performance

The Cognex® MVS-8510™ Series of machine vision frame grabbers supports the latest high-speed analog camera technology. With a system cost close to that of direct connect cameras, and the bandwidth, reliability, and integrated I/O of a full-featured frame grabber, the MVS-8510 Series is in a price-to-performance class all its own. In addition, these half-slot frame grabbers are backward compatible with legacy analog cameras, while supporting new buses and operating systems. This backwards compatibility makes the MVS-8510 the perfect choice for bringing existing applications forward to the future.



*The MVS-8510e models support up to four independent high-speed analog cameras, in a variety of formats.*

### Fast Image Transfer in Parallel with Acquisition

Unlike direct connect camera technologies, MVS-8510 frame grabbers provide high-speed image transfer directly to system memory, with minimal CPU impact. This frees the PC host processor for image analysis, motion control and application management. MVS-8510 frame grabbers maximize acquisition speed and efficiency with pipelined processing and on-board image buffering, which allows new images to be acquired while the previous image is being transferred.

### No Need for External I/O

By incorporating on-board triggers, strobes and general-purpose TTL I/O, the MVS-8510 Series eliminates the need for additional I/O hardware in the PC. All input lines generate interrupts based on programmable rising or falling edges and variable pulse widths, providing compatibility with a wide variety of third-party sensors. These features provide users with a closed-loop system that ensures complete reliability and control from trigger to image transfer.

### Software Development Environments

As with all Cognex frame grabbers, the MVS-8510 Series supports Cognex high-performance machine vision software to meet the speed, accuracy and reliability requirements of the most demanding applications.

**VisionPro®** machine vision software is a suite of Cognex software tools for the Microsoft® Visual Studio®.NET programming environment. VisionPro combines the power and flexibility of advanced programming with the ease of development of a graphical prototyping environment. This enables OEMs, system integrators and automation engineers to quickly develop and deploy custom machine vision applications.

**CVL™** is a C++ library that enables users to develop powerful, fully customized solutions. Users can freely modify the sequence of vision processing operations, define custom tools, link vision tools and perform a variety of specialized vision functions such as pixel-level processing and complex image buffering.

## Camera Support

Extensible architecture allows the MVS-8510 to maintain support for existing cameras while easily adding new ones. From legacy cameras to the latest high-speed, color, and large-format analog technology, the MVS-8510 Series meets all application requirements.

**MVS-8514e.** With four completely independent A/D converters and support for quad-speed cameras, the MVS-8514e PCI Express frame grabber is built for maximum speed. It manages asynchronous or simultaneous acquisitions from up to four quad-speed cameras. The MVS-8514e features 16 configurable I/O points and supports any mix of high-speed, high-resolution, progressive-scan, and rapid-reset cameras.

**MVS-8511e.** The MS-8511e features four acquisition channels multiplexed to a single A/D converter. With 16 configurable I/O points and support for quad-speed cameras, this PCI Express frame grabber is ideal for price-sensitive yet demanding applications.

**MVS-8514.** The MVS-8514 features four completely independent acquisition channels, 16 configurable I/O points, and PCI bus architecture. This frame grabber can manage asynchronous or simultaneous acquisitions from up to four quad-speed analog cameras.

**MVS-8511.** The MVS-8511 incorporates four channels multiplexed to one A/D converter. This PCI bus frame grabber features 16 configurable I/O points and supports up to four quad-speed cameras.



|                             | MVS-8514e                                               | MVS-8511e     | MVS-8514                                        | MVS-8511             |
|-----------------------------|---------------------------------------------------------|---------------|-------------------------------------------------|----------------------|
| Acquisition                 |                                                         |               |                                                 |                      |
| Video input                 | 4 independent                                           | 4 multiplexed | 4 independent                                   | 4 multiplexed        |
| DMA channels                | 4                                                       | 1             | 4                                               | 1                    |
| Camera support              | Progressive and interlaced, single-speed to quad-speed  |               |                                                 |                      |
| Memory                      |                                                         |               |                                                 |                      |
| FIFO acquisition buffer     | 16MB                                                    | 8MB           | 16MB                                            | 8MB                  |
| I/O                         |                                                         |               |                                                 |                      |
| Parallel I/O                | 16 bi-directional TTL                                   |               |                                                 |                      |
| Configurable trigger inputs | 4                                                       | 1             | 4                                               | 1                    |
| Configurable strobe outputs | 4                                                       | 1             | 4                                               | 1                    |
| Opto-isolation              | Opto-isolation available via break-out box              |               |                                                 |                      |
| Architecture                |                                                         |               |                                                 |                      |
| Bus                         | PCI Express x1                                          |               | PCI (32-bit, 33/66 MHz)                         | PCI (32-bit, 33 MHz) |
| PC requirements             | One available PCI Express expansion slot                |               | One available PCI or PCI-X expansion slot       |                      |
| Mechanical                  |                                                         |               |                                                 |                      |
| Form factor                 | PCI Express short card<br>107mm (4.2in) x 168mm (6.6in) |               | PCI short card<br>107mm (4.2in) x 168mm (6.6in) |                      |
| Power                       |                                                         |               |                                                 |                      |
| Board power consumption     | +3.3VDC @ 2A max; +5VDC @ 0.2A max; +12VDC @ 0.3A max   |               | +3.3VDC @ 0.5A max; +5VDC @ 1.3A max            |                      |
| Camera power                | Pass-through +12VDC from PC power supply                |               |                                                 |                      |
| Environmental               |                                                         |               |                                                 |                      |
| Operating temperature       | 0°C to 50°C (32°F to 122°F)                             |               |                                                 |                      |
| Operating humidity          | 10% to 90% non-condensing                               |               |                                                 |                      |
| Certifications              |                                                         |               |                                                 |                      |
| Approvals                   | FCC (Class A), CE (Class A), KCC, RoHS-compliant        |               |                                                 |                      |

# COGNEX

Companies around the world rely on Cognex vision and ID to optimize quality, drive down costs and control traceability.

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