

P i x e L I N K

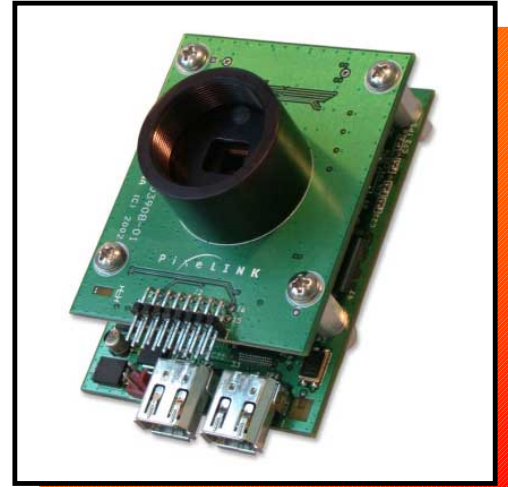
Megapixel FireWire Imaging Modules

PL-A653 – MONOCHROME

PL-A654 – COLOR

Highlights

PixeLINK™ Megapixel FireWire Imaging Modules offer high-resolution megapixel capability with the convenience of FireWire (IEEE 1394) to display and capture digital images. The Developer's Kit includes all of the software and hardware necessary for customized application development. The PL-A653 and PL-A654 Imaging Modules include 16-pin headers for enhanced control and hardware triggering.



Features

- All-in-one megapixel FireWire C-mount Imaging Modules
- Display uncompressed video and capture still images
- FireWire digital interface simplifies installation and eliminates the need for framegrabbers
- Flexible and full-featured CMOS image sensor with high resolution 1.3-megapixel array (1280 × 1024 pixels)
- Up to 12.7 fps at 1280 × 1024 resolution, 60 fps at 640 × 480
- FireWire cable carries video data, control signals and power—no additional cables required.
- Application Programming Interface
- Includes application (*PixeLINK Capture*), providing controls for:
 - Gamma correction, signal gain, exposure time
 - Imager subwindow size and position
 - Image flip and mirror
 - Choice of 8-bit or 10-bit data and data rate
- Supports 3rd party software applications via industry standard interface protocols:
 - DirectShow®
 - TWAIN™

Suggested Applications

- Microscopy
- Document scanning
- Medical and biometric imaging
- Video conferencing systems
- Surveillance and security cameras
- Webcasting systems
- Photo ID systems



General Description

PixeLINK Megapixel FireWire Imaging Modules use the FireWire (IEEE 1394) digital bus protocol to streamline the capture, digitization and processing of megapixel image streams. These Imaging Modules are designed to simplify real-time uncompressed video display and digital still image acquisition while maintaining uncompromising video and digital still-image quality.

One FireWire cable can manage power distribution, PC-based control and real-time video display capabilities of an Imaging Module.

The Developer's Kit offers an extensive Application Program Interface (API). This API is designed to simplify the most common tasks associated with configuring and controlling the Imaging Module. Software developers can easily adapt existing programs or develop new imaging applications quickly.

PixeLINK Imaging Modules are compatible with Windows® 98 SE, Windows® 2000 and Windows® XP.

PixeLINK

Configurations

Developer's Kit (PL-A653-DEV, PL-A654-DEV)

- **PixeLINK Megapixel FireWire Imaging Module (no lens provided)**
- **Developer's Kit software**
 - Windows® 98 SE, 2000 and XP Drivers
 - TWAIN interface
 - Application: *PixeLINK Capture*
 - Extensive API
- **Quick Start installation card**
- **Online User's Manual**
- **Online System Guide and API Reference**
- **Access to technical support**
- **Source code examples of applications (upon request)**
- **Warranty card**
- **FireWire adapter card and cable**
- **¼-20 Mount**

Accessories

A wide variety of accessories are available for these Imaging Modules, including cables, adapter cards, FireWire repeaters, lenses, tripods and mounts. Contact your Authorized Pixelink Reseller for details.

Specifications

Imaging Chip

Type..... 1/2" Kodak KAC-1310 1.3-megapixel CMOS

Resolution..... 1280 × 1024 active pixels

Pixel Size 6.0 µm × 6.0 µm, square

Array Dimensions 7.68 mm × 6.14 mm

Frame Rate, in frames per second (fps), 8-bit pixels

	@ 16 MHz	@ 24 MHz
32 × 32		>2500
320 × 240	176	246
640 × 480	48	60
800 × 600	31	42
1024 × 768	20	23
1280 × 1024	11.4	12.7

Color Mosaic RGB Bayer with standard microlenses (PL-654)

Shutter Continuous and single frame rolling shutter capture

Gamma Software programmable

Optical Fill-Factor..... 40% mono / 64% color

Saturation Signal 40,000 electrons

Quantum Efficiency ..38% peak RGB

Responsivity..... 0.6 V/Lux-sec peak RGB

Total Dark Noise 70 e- rms

Dark Current 6250 e-/pixel/sec

Dark Current Doubling Temperature 9°C

Dynamic Range..... > 54dB

Electrical

Voltage..... 8 V–30 V DC

Power..... 3 W typ. (250 mA at 12 V, supplied by FireWire cable)

Physical

Operating Temp. +5°C to +60°C

Lens mount..... C-mount lens adapter

Weight..... 90 g (without lens)

Interface

Operating System..... Windows® 98 SE, 2000 and XP

Data Format 8-bit or 10-bit, uncompressed

Interface Type 2, 6-pin FireWire ports (400 Mbits/s)

Max. Data Rate 24 Mbytes per second

Sales and support by:

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System Requirements

- **Microprocessor:**
Minimum—450 MHz Pentium® III or equivalent
Recommended—1.5 GHz Pentium® 4 or equivalent
- **128 MB system RAM**
- **25 MB hard drive free space**
- **Video card with 24 or 32 bit True Color graphics**
- **8 MB of video memory**