

# **/// MegaPlus® II**

**Picture Perfect Imaging Solutions**



# Introducing Redlake New *MegaPlus II*



# **MegaPlus<sup>®</sup> II**



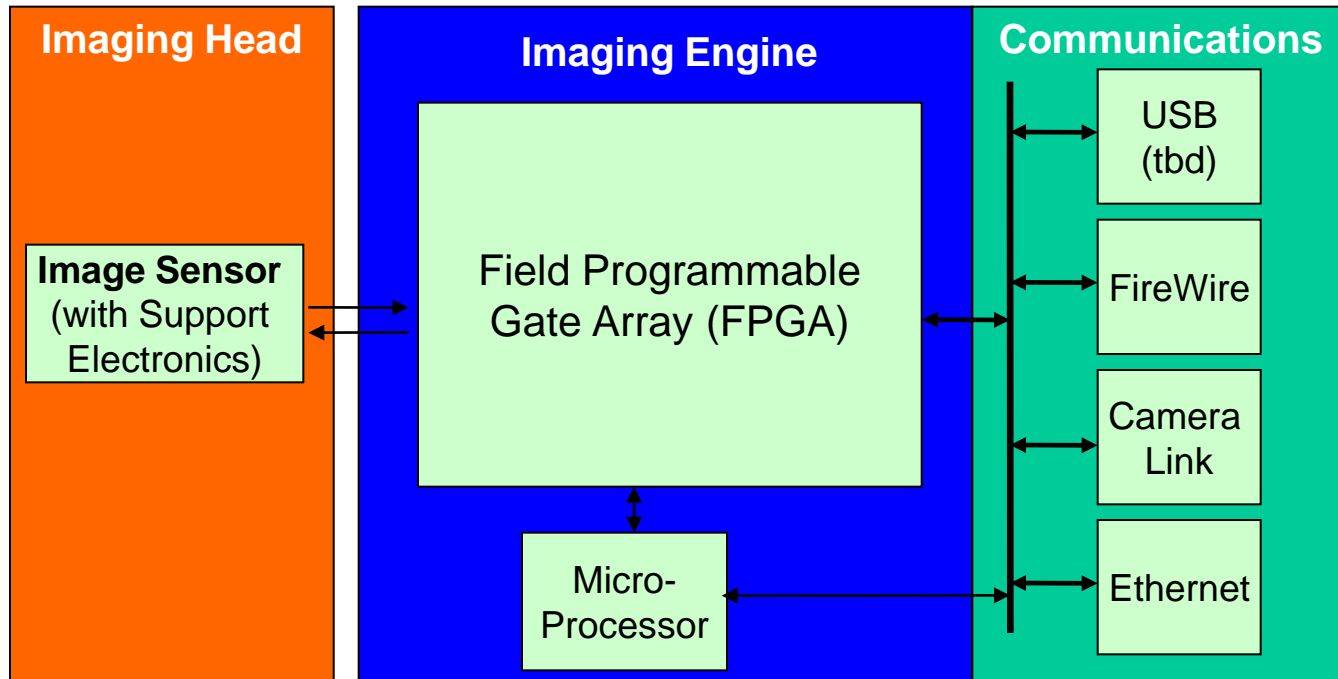
# New *MegaPlus II* Architecture

- **Modular design**
  - **Controller with image processing hardware**
  - **Simple and small imaging heads**
  - **Digital link: imaging head to controller**
  - **Mix-and-match imaging heads on the same controller**
  - **Multiple imaging heads available**



# New MegaPlus *II* Architecture

- **Modular design**



# New *MegaPlus II* Customer Benefits

- ***MegaPlus II* - Customer Benefits**
  - Flexibility
  - Ease of Use
  - Image Quality
  - Value



# New *MegaPlus II* Customer Benefits

- ***MegaPlus II* - Flexibility**
  - Mix-and-match different type imaging heads
  - Upgrade to new imaging heads without rewriting interface
  - Camera Link or Firewire output
  - Imaging heads based on new sensors can be brought to market quickly



# New *MegaPlus II* Customer Benefits

- ***MegaPlus II* - Ease of Use**
  - Embedded Ethernet for software field upgrades
  - Direct video output (via DVI)
  - Extra Serial control via RS-232e
  - Small size camera head with variable cable lengths
  - Easy to use control software
  - Automatic camera head detection
  - Software interface: SDK and DLL



# New *MegaPlus II* Customer Benefits

- ***MegaPlus II* - Image Quality**
  - Low noise (all heat generating electronics are in the controller)
  - 8, 10 or 12 bit dynamic range
  - Flat field normalization
  - Internal Bayer demultiplexing
  - Programmable Gamma
  - Sophisticated image correction software
  - Latest high QE sensors (up to 85%)





# New *MegaPlus II* Customer Benefits

- ***MegaPlus II* - Value**
  - State-of-the-art DSP and FPGA hardware
  - Protects your investment (new sensors can be quickly integrated)
  - Only pay for image processing hardware once
  - Firewire allows low-cost interfacing to computer



# **MegaPlus *II* Imaging System Features**

- **Flat field normalization**
- **Advanced color management**
- **Automatic gain control (auto-exposure)**
- **Anti-blooming control**
- **Customer LUT download options**
- **Double trigger exposure**
- **Binning (1x1, 2x2 and 4x4)**
- **Manual and semi-auto white balance**
- **Various trigger options (BNC)**
- **Strobe output (BNC)**



# New *MegaPlus II* Camera Sensors

- **Interline Sensors:**
  - ES 11000
  - ES 4020
  - ES 2093
  - ES 2001
- **Full Frame Sensors:**
  - ES 1602
  - ES 3200
- **Other camera sensors available early next year**



# *MegaPlus II* Imaging System



***MegaPlus II* ES 11000**



# MegaPlus II ES 11000

- Resolution: 4008 x 2672 pixels (11 Megapixel)
- Interline, progressive scan
- Pixel size: 9.0  $\mu\text{m}$
- Bit depth: 8, 10 or 12 bits per color
- Spectral range: color or monochrome
- Frame rate:
  - CameraLink: 5 fps dual tap, 2.5 fps single tap
  - Firewire:
    - 2.5 fps (8-bit monochrome)
    - 1.25 fps (10- or 12-bit monochrome)
    - 1 fps (8-bit RGB)



# MegaPlus II Imaging System



**MegaPlus II ES 4020**



# MegaPlus II ES 4020

- Resolution: 2048 x 2048 pixels (4 Megapixel)
- Very low noise specifications
- Interline, progressive scan
- Pixel size: 7.4  $\mu\text{m}$
- Bit depth: 8, 10 or 12 bits per color
- Spectral range: color or monochrome
- Frame rate:
  - CameraLink: 16 fps
  - Firewire:
    - 12 fps (8-bit monochrome)
    - 6 fps (10- or 12-bit monochrome)



# MegaPlus II Imaging System



**MegaPlus II ES 2093**





# MegaPlus II ES 2093

- Resolution: 1920 x 1080 pixels (2 Megapixel)
- Interline, progressive scan
- Pixel size: 7.4  $\mu\text{m}$
- Bit depth: 8, 10 or 12 bits per color
- Spectral range: color or monochrome
- Frame rate:
  - CameraLink: 30 fps
  - Firewire:
    - 24 fps (8-bit monochrome)
    - 12 fps (10- or 12-bit monochrome)



# MegaPlus II Imaging System



**MegaPlus II ES 2001**



# MegaPlus II ES 2001

- Resolution: 1600 x 1200 pixels (2.0 Megapixel)
- Interline, progressive scan
- Pixel size: 7.4  $\mu\text{m}$
- Bit depth: 8, 10 or 12 bits per color
- Spectral range: color or monochrome
- Frame rate:
  - CameraLink: 30 fps
  - Firewire:
    - 24 fps (8-bit monochrome)
    - 12 fps (10- or 12-bit monochrome)



# MegaPlus II Imaging System



**MegaPlus II ES 1602**



# MegaPlus II ES 1602

- Resolution: 1536 x 1024 pixels (1.6 Megapixel)
- Extremely high-peak quantum efficiency (85%)
- Full Frame CCD
- Pixel size: 9  $\mu\text{m}$
- Bit depth: 8, 10 or 12 bits
- Spectral range: monochrome
- Interfaces:
  - CameraLink: 6.2 fps
  - Firewire: 6.2 fps



# MegaPlus II Imaging System



**MegaPlus II ES 3200**



# MegaPlus II ES 3200

- Resolution: 2184 x 1472 pixels (3.2 Megapixel)
- Extremely high-peak quantum efficiency (85%)
- Full Frame CCD
- Pixel size: 6.8  $\mu\text{m}$
- Bit depth: 8, 10 or 12 bits
- Spectral range: monochrome
- Frame rate:
  - CameraLink: 2.5 fps
  - Firewire: 2.5 fps (8-, 10- or 12-bit)



# MegaPlus *II* Imaging System



## MegaPlus *II* Controller

