

# ANY-IMAGE-ANYWHERE

Real Time Image Enhancement for Full Motion Video



# EXECUTE ALGORITHMS IN REAL TIME

Processes multiple video streams in real-time

Enhances video images for unprecedented clarity

Routes any video source to any combination of displays

Uses touch screen controls to re-route images

## AIA Real Time Image Enhancement for Full Motion Video

Any-Image-Anywhere (AIA) is a new image processing system from Z Microsystems. AIA combines high performance parallel processing, high speed video switching, and open architecture algorithms to provide enhanced full motion video in real time. It offers unprecedented image clarity, access to multiple views from a single display station, and the ability to route video streams on-demand. AIA can process multiple video input streams and route them to any combination of configured displays or network connections.

### Open Architecture / Algorithm Friendly

At the heart of this system is an open architecture that taps into a wide variety of image processing algorithm that are commercially available.

The AIA System publishes the hardware and software interconnect specifications and assists third party developers in porting their image processing algorithms to AIA.

Advanced image processing algorithms by:

- Enhanced Video Devices (San Diego, CA)
- SET Corporation (Arlington, VA)

### Fog and Haze



### Track Moving Objects



### Sand Storms



### Manage Multiple Live Feeds



## Configurable Systems Architecture

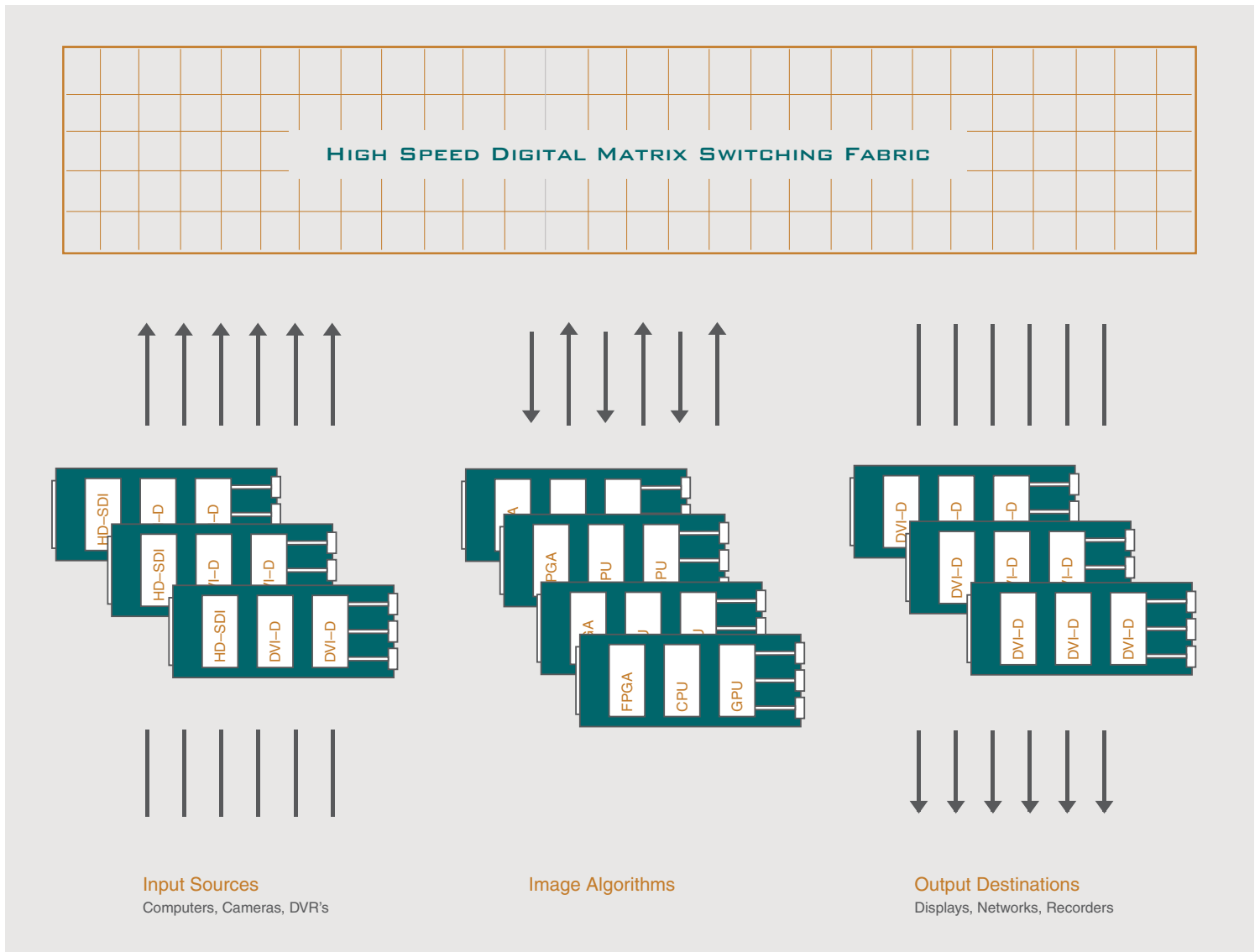
System designers choose from a growing set of functional circuit cards to field solutions tailored to the application.

18 card slots switching up to 54 digital streams through image processing algorithms executing on powerful FPGA's, CPU's, and GPU's.



## AIA Image Processing and Routing System

AIA is a well designed, large scale, video enhancer and router. AIA can route any video source through any number of image processing algorithms, then output the video stream to any monitor, network, recorder, or similar device. AIA can route multiple sources to one monitor, or to virtual screens within a monitor. Operators can turn image functions on or off, or swap the primary and picture-in-picture (PIP) windows using the touch screen. Touch sensitive areas on the display, called virtual buttons allow users to select new video streams on demand.



# AIA System

4U 19" Rack Mount 45lbs

A complete AIA system consists of an 18-slot chassis, redundant power supplies, two switching fabric cards, and up to 18 slide-in PCA function cards. Each of the 18 card slots supports up to three input or output video ports for a total switching capability of 54 ports. The function cards can be mixed (any card, any slot) with minor limitation.

## Configurations

### Power Budget (Configuration Dependent)\*

		Power Estimates
AIA-CHS-0218-02	18 Card Slots for Function Cards, Redundant Fabric Cards	50W Baseline Chassis (two fabric switching cards)
AIA-PSP-AC650	650W AC Power Supply	
AIA-PSP-DC550	550 W DC 28V Power Supply	

### Function Cards

AIA-VIP-DVDVDV	VIP — Video Input Ports: 3xDVI-D (HDMI Connectors)	15W
AIA-VIP-SDDVDV	VIP — Video Input Ports: 1xHD-SDI (BNC), 2xDVI-D (HDMI)	15W
AIA-VOP-DVDVDV	VOP — Video Output Ports: 3xDVI-D (HDMI Connectors)	20W
AIA-ALG-A300	ALG — FPGA Mix, Scale, Blend, Algorithm	Max 50W
AIA-CPU-i72508*	CPU — COM Express Intel Core i7 2.53 GHz 8GB	Max 50W

\* Preliminary data subject to change

\* Q1 2011 Availability

## Specifications

### Environmental

Operating Temp	0° to + 50°C
Non-Op Temp	-40° to + 70°C
Operating Humidity	Up to 95% Non-Condensing, 40°C 48 hours. Optional conformal coating to meet full MIL-STD-810F
Non-Op Altitude	Up to 40,000 ft.
Operating Altitude	Up to 10,000 ft.
Vibration	MIL-STD-167
Shock	30 g's, Saw-tooth, 11ms
Fungus	Non-Nutrients/Contaminants

### Regulatory

EMI	MIL-STD-461E, RE101, RE102 (Fixed- Navy and Air Force levels), RS101, RS103 (up to 60 v/m). CE102, CS101, CS114, CS115, CS116
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### Quality/Workmanship

IPC / ISO 9001:2008 and applicable section of MIL-HDBK-454	
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\* Test Results Pending

\* Preliminary specifications subject to change