



ADEPT105

3U CompactPCI automatic video tracker/image processor

Features

- Multiple algorithm capability including multiple target detection and multiple object tracking
- Statistical target enhancement pre-processors for high clutter rejection
- Intelligent "Breaklock" and re-acquisition algorithms
- Platform drive filters
- Onboard serial links
- Composite video input/output
- Symbology overlay
- Image processing functions such as real-time electronic scene-based image stabilization
- CompactPCI form factor
- PC control software

The ADEPT105 is a full-featured CompactPCI form factor automatic video tracker and image processor. It maintains software compatibility with the entire line and has the powerful processing capability of our latest designs.

This card is capable of multiple operating modes. Pre-processors using advanced image processing algorithms are followed by tracking algorithms which include centroid, edge, multiple target track, phase correlation, combined and SceneLock. The ADEPT105 can also provide real-time electronic video stabilization using the SceneLock algorithm. This commercial off-the-shelf (COTS) card can be mounted in any standard CompactPCI chassis.

In common with other products in the ADEPT range, the ADEPT105 incorporates two axis PID platform drive filters and onboard serial links. This card's intuitive menu-driven PC software allows easy set-up and development.

The ADEPT tracker family has been developed to provide the highest performance solutions in the smallest, fully environmentally proven hardware packages. Field-proven on military and civilian platforms on land, sea and air, GE Intelligent Platforms' image processing products incorporate the benefits of unrivalled application experience with proven performance.



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Specifications

Video Inputs

- Analog Inputs (2 front and 2 rear)
 - Composite video 1.0Vp-p, 625/525 Line, CCIR, PAL or RS170, NTSC, differential
- Any one of the four video inputs may be selected for tracking

Video Outputs

- Analog Output with symbology (1 front and 1 rear)
 - Selectable input video
- Analog Output without symbology (1 front and 1 rear)
 - Selected input video

Control Interfaces

- Serial Interfaces
 - 2 off RS232 and 2 off RS422, asynchronous, up to 115,200 baud, providing access to all configuration and status data

Power Requirements

- < 10 watts

Board Size

- 160x100 mm

Connectors

- Front Panel
 - Analog video 4 x SMA coaxial socket
 - Serial: 25 way Micro 'D' Plug
- ITT Cannon MDSM-25PE-Z10-VR17
- Rear Panel
 - Standard CompactPCI connector

Rugged Convection

- Temperature
 - Operating: -40°C to +70°C
 - Storage: -55°C to +85°C
- Relative Humidity:
 - Up to 95% non-condensing
- Vibration
 - Sine: 10g peak from 15 to 2000 Hz
 - Random: 0.04g2/Hz from 15 to 2000 Hz
- Shock
 - 30g 11 msec. Sawtooth

Functionality/Modes

Detection

- Multiple and Single target detection modes available
- Detection Window
 - Position movable to any FoV position
 - Size variable from 4% to 90% of the FoV with manual or adaptive modes (dependent upon selected algorithm)
 - Number of Targets: 5 with selectable discriminants and priority options.

Target Tracking

- Track algorithm selectable from:
 - Centroid
 - Edge (top, bottom, left, right)
 - Multiple Target Track
 - Phase Correlation
 - Combined
 - SceneLock
- Track Window
 - Position automatically controlled to follow target to any FoV position
 - Size variable from 4% to 90% of the FoV with manual or adaptive modes (dependent upon selected algorithm)
 - Selectable track pre-processor providing statistical target enhancement with automatic, bipolar, positive and negative threshold options.

Stabilization

- Real-time, high performance video stabilization using SceneLock algorithm.

Platform Filters

- Configurable 2-axis PID filters with rate demand or position demand output

Boresight

- Reference for the determination of the track errors. Movable for offset tracking.

Breaklock/Coast

- Automatic track-loss detection and re-acquisition

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About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions. For more information, visit www.ge-ip.com.

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