ADEPT64
PCI format automatic video tracker/image processor

Features

- Multiple algorithm capability including multiple target detection and multiple object track
- Statistical target enhancement pre-processors for high clutter rejection
- Intelligent "Breaklock" and re-acquisition algorithms
- Platform drive filters
- Onboard serial links
- On board PMC interface
- Composite video input / output
- High speed digital video input
- Symbology overlay
- PCI full length card
- PC control software

The ADEPT64 is a full-featured PCI format automatic video tracker and image processor. it maintains software compatibility with the entire line and has the powerful processing capability of our latest designs.

The card is particularly well suited to evaluation, simulation, training and range instrumentation applications.

The 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. It can also provide real-time electronic video stabilization using the SceneLock algorithm.

The provision of a PMC site allows greater flexibility in the provision of additional input video formats and image processing functionality.

This commercial off-the-shelf (COTS) card fits into any standard PC with a PCI bus.

In common with other products in the ADEPT range, the ADEPT64 incorporates two axis PID platform drive filters and onboard serial links.

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.

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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.

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

Specifications

Electrical Interface

Video Inputs
- Analog Inputs (2)
  - Composite video 1.0Vp-p, 625/525 Line, CCIR, PAL or RS170, NTSC, differential
- Digital Input (1) Requires : additional GE Intelligent Platforms PMC interface module
- Digital Interfaces include:
  - Base CameraLink digital video

Video Outputs
- Analog Output (2)
  - Composite video 1.0 V p-p into 75 ohm single-ended
- Output 1
  - Selectable input video with symbology overlay
- Output 2
  - Selected input video

Control Interfaces
- Serial Interfaces
  - 4 off RS232 and/or RS422, asynchronous, up to 115,200 baud, providing access to all configuration and status data
- PCI Interface
  - 32 bit Slave interface
  - Specification Rev 2.1

Power Requirements
- +5 V, 2 A
  +12 V, 0.1 A
  -12 V, 0.1 A

Board Size
- Full length PCI

Connectors
- Standard PCI connector
- Analog Video 4 x SMA
- Serial comms 1 x 25 Way micro 'D', ITT Cannon MDSM-25PE
- PMC connector for additional inputs and outputs

Environmental

Rugged Convection
- Temperature
  - Operating: 0°C to +50°C (with 300 ft/min airflow)
  - Storage: -55°C to +85°C
- Relative Humidity
  - Up to 95% non-condensing

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