VTG - Video Tracker with Real-Time Graphics Overlay System

The Video Tracker accepts video inputs from CCD or FLIR cameras and provide a display output on a TV monitor indicating the position of the desired target. In addition, to the display output, the TVT provides digital information, which include the number of pixels between the target and the cross hairline center of the screen.

The TVT is a self-contained PCI board processor. It operates in conjunction with a local host computer. It also provides analog error signals corresponding (relative) to spatial offset of the desired target on the screen in horizontal and vertical directions with reference to the cross hairline center of the screen.

The error signals (for an example) enable to drive a 2-axis pedestal to maintain targets image at the center of the screen. Thus making the system a servo closed loop video tracking system.

Features:

- A self-contained PCI board processor
- A Software package includes application and diagnostic, loaded from the host PC or contained on board for calibration, testing and tracking of the TVT
- Integration means for allowing a host running software to communicate with the TVT (get TVT result or setting TVT parameters).
- Multiple tracking algorithms.
- Center of screen – visible on monitor as a cross hairline describing the Az/El null points.
- Tracking window – display of variable rectangular window encircling the desired target on the screen
- Manual/Adaptive window sizing.
- High clutter rejection using digital processor.
- Positive or negative contrast tracking option.
- Receive camera FOV information.
- Error output as digital information and as Az and El in analog mode +/- 10V DC max
- B.I.T. running at host request with results report to host PC.
- TVT calibration capability

Processing Methods:

- Field to field averaging and subtraction algorithm
- Manual/Automatic threshold
- Histogram
- Pattern matching
- Centroid calculation
- Edge processing
- Correlation

Technical Specifications:

Video Input Standard	PAL (orCCIR), NTSC (or RS170)
Video Output Standard	Same as Input
TVT pixel resolution	512 x 512 pixels
TVT targets	Airplanes, Missiles and other objects
Accuracy	
- Target position	< 3 TV lines
- Time delay	< 1.5 Fields
Detect window size	From 2% to 90% of FOV
Track algorithms	Centroid, Correlation, Edge
Track window position	Moveable to any FOV position
Track window size	From 2% to 90% of FOV
Symbology	
- Graphics	Boresight cross, aim point marker, target cueing
- Alpha-Numeric	Tracking algorithm used, Size of target, tracking quality
Symbology update rate	50 Hz
Host Communication	PCI bus
Operating Temperature	0 to 55 degrees C

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