IMAGO Flight Analysis System

IMAGO Flight Analysis System (FAS) records video in real-time at sensor full resolution. It is equipped with a powerful post-processing toolkit for detailed video analysis.

The FAS can be co-located with an IMAGO video tracker. It will digitally record the full resolution image, the alignment matrixes, the calibration matrixes and all telemetry data from the IMAGO tracker.

The data processing toolkit integrated with the FAS permits the operator to play back the video without overlay, play back the video with full overlay and telemetry data, complete the reverse correction to obtain raw data, and re-track the target to obtain subpixel accuracy from the measurements.

History of the FAS

IMAGO identified the requirement to record progressive scan, NTSC/PAL video cameras, and telemetry data without the need to significantly compress the data. At that time, nothing existed that could record quality data. Solutions that did exist involved significant image compression. For video target tracking & target measurement applications video compression equals loss of data.

As a result, IMAGO developed a digital FAS tool that would:

- record video data from multiple video sources, including Progressive Scan, megapixel, PAL and RS-170 simultaneously,
- record tracking data (Az, El, Range etc.), IRIG time from a GPS source and GPS cuing data.

Features of the IMAGO FAS

- Zero Compression (or loss less compression (2x)) for targets with a low signal to noise ratio.
- No blocking effects for fine resolution of camouflaged targets, codes, serial numbers and patterns.
- IRIG time stamp permits millisecond resolution.
- Serial and ethernet communication to external triggers
- such as video tracker or event trigger permits bi-directional communication while recording. For example, event flags can be written to the FAS file or the FAS can detect an event and send message through a communication port.
- Swappable hard drives to easily move data to and from FAS.
- Ethernet connection for access over network or world wide web.
- Previously recorded images can be saved in various formats for presentation purposes.
- Data from multiple sources can be time synchronized to allow one to view multiple events at the same point in time.
- Frame-by-frame analysis and continuous playback.
- Accepts log file from IMAGO trackers and be used to
- improve performance.

Applications

- Recording of missiles to detail the flight and impact
- Tracking of experimental aircraft to evaluate structural motion
- Replay of entire sequences (missile tests, ballistics)
- Automatic search functions (time, event search, log file)
- Video editing
- Post processing of video data

The FAS ensures that all the ‘data’ is correctly stored and indexed to each video frame so that a trial can be played back. Continuously or frame-by-frame, the FAS has the capability displaying the video image along with all of the pertinent trial information.

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Types of Video Input

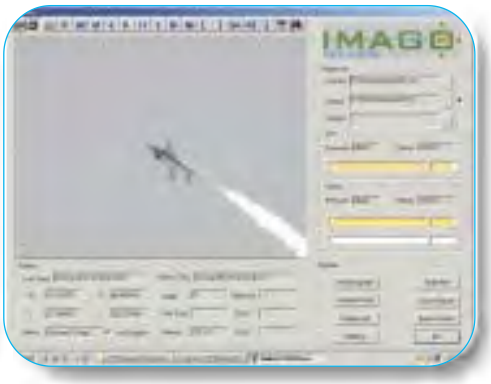
- NTSC/RS 170
- PAL/CCIR
- Progressive Scan
- Non Standard Video
- Digital camera
- Megapixel cameras
- IEEE-1394 firewire
- IR cameras: standard and non-standard video formats

Recording Rates

Non compressed recording rates are:

- 60 Hz, 640x480 progressive scan
- 120 Hz interlaced video
- Loss less compression can provide recording at even higher video rates
- Recording time 3 to 10 hours or longer

Record



Reprocess

Load a test

IMAGO offers the option of saving raw images in real time without compression or operator selectable loss less compression.

ABOUT IMAGO

IMAGO has been building low-cost, high-performance video target tracking systems since 1987. IMAGO's video trackers are software based, can be easily updated, and are designed to use commercial-off-the-shelf hardware.

IMAGO's earlier sales were for standalone video trackers but as our technology advanced, IMAGO has been able to offer higher levels of sophistication. The addition of laser-rangefinders, multiple tracker triangulation systems and automatic cueing from other sensors has increased the level of accuracy and automation.

Our tracking systems are used both by private and defence groups around the world.

IMAGO TRACKERS

MILANO SYSTEMS
ADVANCED TECHNOLOGICAL SYSTEMS

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