



**The ultimate in data capture
and motion analysis:
only from Photron**

Photron Motion Tools™ has been designed to operate Photron's best-selling high-speed PCI cameras, the FASTCAM PCI and CMOS 1280 PCI, creating a powerful combination that brings unparalleled motion-analysis capabilities to the personal computer.

Designed with power PC users in mind, Photron Motion Tools is the only high-speed PCI camera-operating software to provide users with both manual and automatic tracking capabilities. By simply selecting the point of interest within the recorded image sequence with your mouse, you can sit back and relax, as Motion Tools automatically tracks the points-motion within the sequence. When tracking is completed, all data is transferred to Excel or a similar program by clicking on one icon. Data can be quickly calibrated from information contained within the image sequence.

A powerful suite of optional tools increases the capabilities of Motion Tools well beyond what you have come to expect from basic camera-control software.



F E A T U R E S

- Record using up to four high-speed PCI cameras synchronized together
- Set recording speed, shutter time, trigger point and unique record number
- Simultaneous playback, including zoom window, scroll bar, continuous loop, "block" playback and synchronous play of multiple images
- Multi-format file save and load, including AVI, JPG, TIF, BMP and RAW
- Save portions of a recording
- Compressed file saving
- Simple automatic single-point tracking or manual tracking of up to four points per frame
- Simple calibration is achieved using information contained within the image
- All data, including scaled pixel value of all points tracked, and relevant time and image frame, can be easily exported to a spread sheet for tabular and graphical display
- Ability to export distance and velocity data to tab-delimited text
- Ability to reverse and improve contrast of image
- Windows NT, 2000 and XP compatible
- Ability to insert your customer's or corporate logo into the displayed image

PHOTRON™



Optional Modules Add Incredible Power to Your Laptop or PC-Based High-Speed Video System

Photron Data Acquisition

Provides the ability to capture, digitize and display synchronized analog data from external sensors. Data is displayed as waveforms on the playback screen to show time relationship with recorded image sequences. Hardware includes:

- Breakout box
- Data acquisition card for PCI bus
- Shielded cable

Features include:

- Data sample rate to 200,000 samples per second
- Maximum number of inputs: 8 Differential or 16 Single-Ended
- Data input resolution: 12 bits
- Save format: Export to Excel (not supplied), save tab-delimited text (ASCII) file, unit-based, volts (raw signal)
- Display: live, auto-gain, waveform display all channels, signal level
- Playback: Forward, Reverse, Single Step, Cursor Control, Jump To
- Calibration: scale (units/volt), offset (volts), unit scale

Photron Enhanced Analysis

Uses Microsoft Excel (not supplied) to plot trajectories, velocity and displacement of tracked points.

- 32-point automatic or manual tracking
- User selection: Single Mouse Click, Mouse Click and Select, Left Mouse Click, Right Mouse Click, Draw a Line, Auto-Advance to Next Frame, Track forward, Track all frames, Track to natural stop
- Compatibility: Microsoft Excel '97 or 2000
- Reticle display: x, y position from image edge, x, y in pixels from user-defined origin
- Calibration parameters: Origin, Scale factor, Camera tilt, Acquired frame rate
- Repeatability: < 2 display pixels typical (dependent on operator, number of pixels, and image size). Automatic tracking: ~ 0.2 display pixels (dependent on quality, contrast and size of image template)

Photron Automated Download

Allows automatic download of recorded image sequences, along with external data from sensors (requires Photron Data Acquisition Module), before automatically re-arming to wait for trigger.

- Network compatible through Microsoft Networking (not included)
- AVI and data storage only (requires Photron Data Acquisition module for data recording)
- Can be used with Photron Video Triggers utilizing "live during record" RS170 or SVGA output

Photron IRIG/GPS Timing Module

Provides synchronization to IRIG or GPS millisecond timing signals.

- Displays external time in every image in real time
- Receive formats: IRIG-A, IRIG-B, NASA, 1344IEEE
- Displays time, tracking-pedestal elevation and azimuth, and tracked-object altitude from external data sources
- Includes timing card for PCI bus, BNC cable connector, GPS antenna and cable
- Active phase lock to external source: on "interrupt" uses previously locked source
- External trigger in
- Lock validation

Photron Image Annotation

Provides the ability to add text notes to the recorded video using a mouse "right-click," or similar, within the video frame. Text will be saved and displayed during playback. Annotated frames can be directly accessed for fast review.

Specifications subject to change without notice.

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