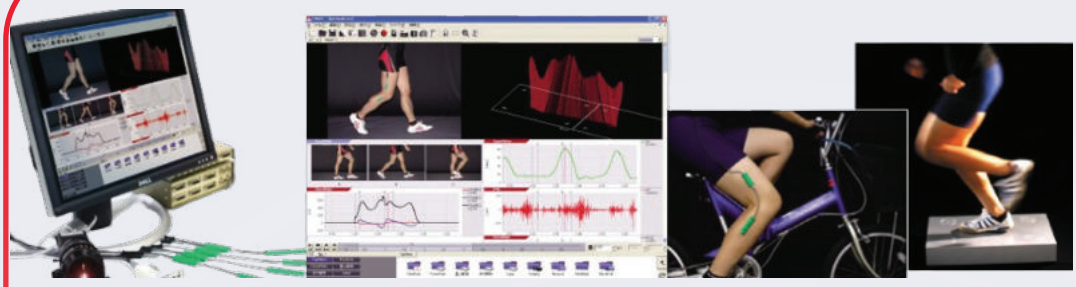


TRIAS

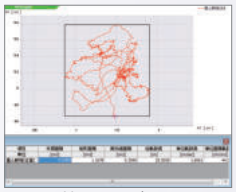
Visual AD conversion system consists of multi sensors and cameras

TRIAS System is a general term for our company's Analog to Digital (AD) conversion of mulitple sensor inputs and video comprehensive measurement system. By capturing images in synchronization with AD conversion and presenting them simultaneously, new teaching methods and discoveries can be made. This is complex measurement software that incorporates the image capture unit into the AD conversion system. By integrating specialized and general-purpose softwares for various sensors and adopting a new concept of operation and file management methods, we have completed an easy-to-operate AD conversion and video measurement system.

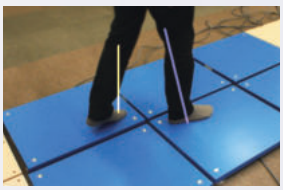
Features of TRIAS

Simplified ground rebound measurement and various analysis functions

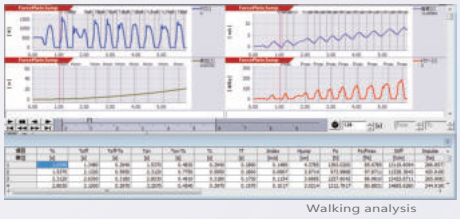
- Easy to measure Kistler Group force plates. Sensitivity, plate arrangement, etc. can be registered in TRIAS.
- You can measure 10 plates (up to 16 plates) using a laptop. Combinations of multiple plates and other analog equipment are also possible.
- The USB connected charge amplifier controller allows you to control the amplifier from TRIAS.
- Compatible with AMTI Japan Ltd plates.
- Equipped with the following analysis functions.
  - Vector Diagram/ 6 components of force/ point of action track display.
  - Sum up multiple plate combinations as one plate.
  - Vector Overlay.
  - Stabilometry.
  - Walking Analysis.
  - Jump Analysis.



Vector overlay



Stabilometry



Walking analysis

EMG/goniometer/electrocardiogram, heartbeat analysis

■ EMG

- Baseline Noise Removal
- MVC Conversion
- iEMG, mEMG, RMS
- FFT(Frequency characteristics/ average power frequency/ center power frequency)
- Full wave rectification
- Smoothing
- Interval Average

■ Goniometer

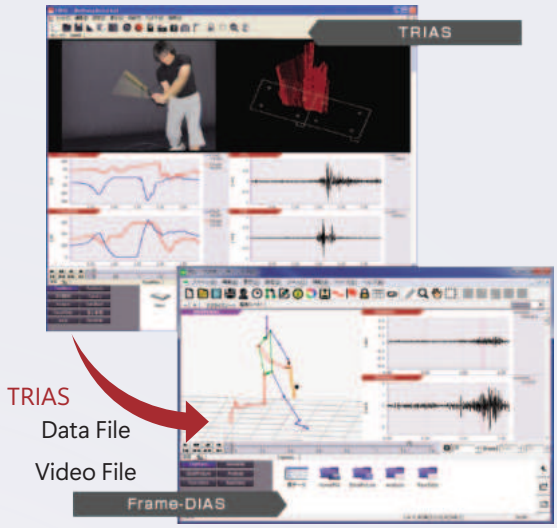
- Low pass filter
- Angular Velocity
- Angular Distribution
- Unit Conversion (deg<-> rad)
- Angular Acceleration
- XY graph (plotting 2-axis data and displaying the trajectory)

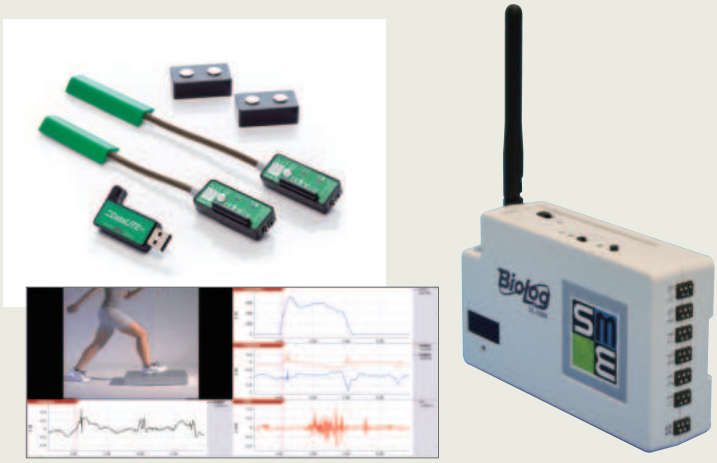
■ Electrocardiogram, heart rate monitor

- RR Tachogram
- RR Interval waveform
- Power Spectral Density
- Calculation items (maximum/ minimum/ average RR interval, SDRR, CVRR, RR50, Total power.

Cooperation with Frame-DIAS

Files measured with Trias can be imported directly into the video motion analysis system Frame-DIAS. If you use Trias to record video in synchronization with AD conversion, you can use that video and signal data with Frame-DIAS. On Frame-DIAS, you can simultaneously view and analyze motion data calculated from image marker coordinates and signal data from various sensors.





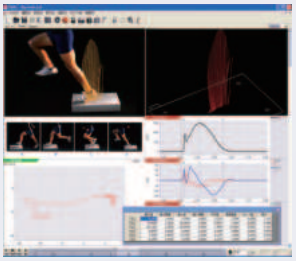
Synchronous measurement of wireless devices and wired devices

You can perform real-time reception and monitoring of wireless device on TRIAS. By using a trigger and an LED light emitting device, data and image from wired sensor such as force plates can be captured at the same time as the start of measurement. Even if data is missing during reception due to subject movement, the data will be supplemented on TRIAS after measurement using the logger function of the wireless device. The data can be processed using TRIAS analysis function (Feature 2) and saved as a file, just like conventional AD conversion data.

Video synchronization

High speed camera video recording and AD conversion are fully synchronized. It performs AD conversion in full synchronization with a high speed GigE camera of up to 300fps, and can display images and waveforms immediately after shooting.

Synchronization with web camera video.
Video captured with a web camera and waveforms can be displayed in sync.



Synchronized display of video and waveform offline
When using a consumer camera, if you use an LED synchronizer to project light at the trigger start, you can display the image and waveform in sync with an accuracy of within 1/60 seconds after measurement.

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