

# Crash Test Analysis Software

The crash test analysis software enables the PC to analyze in accordance with crash test standards in Japan, US and Europe, the data acquired with DIS series systems. For crash tests with a practical vehicle, sensors are applied to such regions of a dummy as the head, thorax and abdomen to measure acceleration, displacement, force, etc. Measured results are filtered and processed in due way to calculate injury ratings. Major test methods include frontal and side impact tests and there are various dummies such as Hybrid III, side impact and child dummies. The crash test analysis software can be applied to all these tests and dummies. The software operates on Windows 9X/ NT 4.0/2000 and can be compiled to meet the demand of an individual user. Software packages dedicated to dummy qualification test, pedestrian protection test and child seat test are also available.

## Specifications

### Software

**Setting Test Conditions:** Impact configuration, impact purpose, number of mounted dummies, type of dummy, dummy mounting position, vehicle data, etc.

**Assigning Measuring Regions:** Data of each measuring channel is assigned to the proper region of dummy.

**Unit Conversion:** Conversion to values in engineering unit based on amplifier range, calibration and the calibration coefficient of sensor

**Filtering:** Data of each assigned region is filtered with the proper digital filter which conforms to SAE J211.

Types of filters: CFC60, 180, 600, 100, FIR100

**Calculating Injury Ratings:** Injury ratings are calculated based on standardized criteria for each test method and the test results, regular graph and various waveforms are output.

**Processing Data:** By selecting a proper menu option, arithmetic operation between waveforms, cutting the secondary peak, offsetting waveform or differentiation/integration is made.

### Major Injury Ratings

#### Frontal Impact Test

Head	Acceleration	HIC (head injury criterion)
Thorax	Acceleration	Cumulative 3 ms G
Femur	Peak force	

#### Side Impact Test, US (DOT SID)

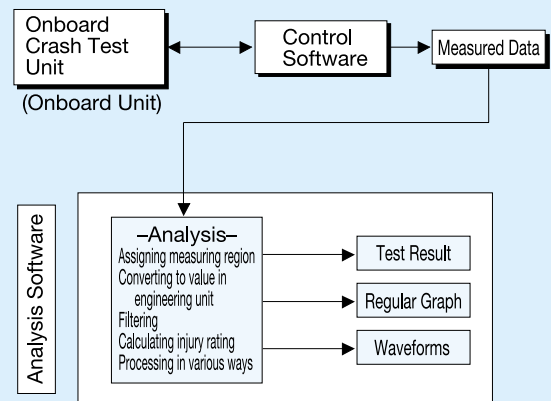
Thorax	Acceleration	TTI (thoracic trauma index)
Pelvis	Acceleration	Pelvis G

#### Side Impact Test, Europe (EUROSID-1)

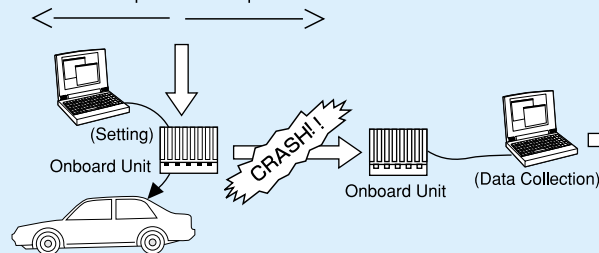
Head	Acceleration	HPC (head performance criterion)
Thorax	Displacement	RDC (rib deflection criterion)
Thorax	Displacement	VC (viscous criterion)
Abdomen	Force	APF (abdominal peak force)
Abdomen	Force	PSPF (pubic symphysis peak force)

Major Crash Test Methods	
Frontal Impact	
Oblique Impact (left/right)	
Offset Impact	
Pole Impact	
Side Impact (right angle/oblique) (left/right)	
Rear Impact	
Rollover	

### Crash Test Measuring System (DIS Series)



#### Crash Test Preparation & Implementation



#### Analysis Processing

