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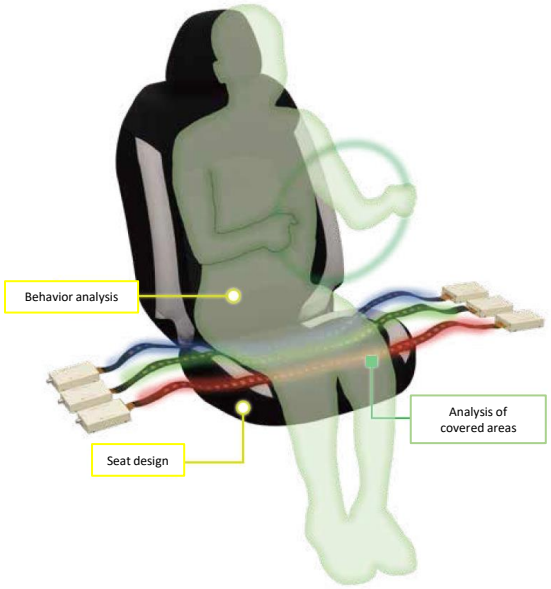


SEAT TRACER

Geometry Sensing System

GEOMETRY SENSING SYSTEM

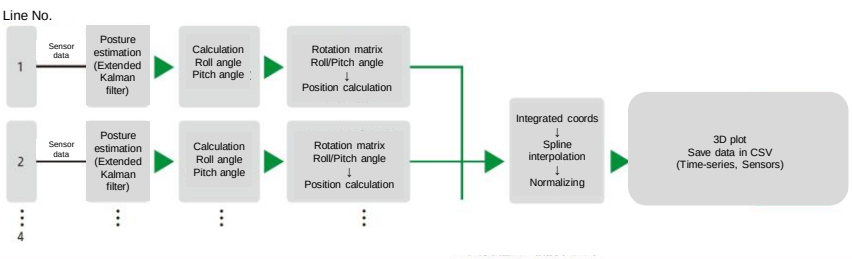
3D Measurement of Boundary Surfaces

Features

- ◇ 3D analysis of deformation in blind spots.
- ◇ Flexible printed circuit boards ensure the flexibility of the device.
- ◇ IMU chips placed by 20mm detects acceleration and angular velocity to compute the geometry.
- ◇ Up to 8 lines (seating/backrest) can be arranged for simultaneous measurement.

Analysis

The inertial (acceleration, angle) sensors estimate posture and calculate roll and pitch angles to obtain the coordinates.

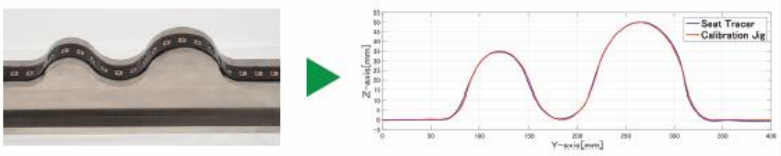


ST-2040A-1

Amplifiers on both sides for cross direction measurement against a seat

ST-2040B-1

Amplifiers on one side for longitudinal direction measurement against a seat



MSE ≤0.5mm

*Accuracy in a static state on a specified jig in outgoing inspection.
*MSE: Mean Square Error

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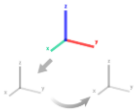
Option

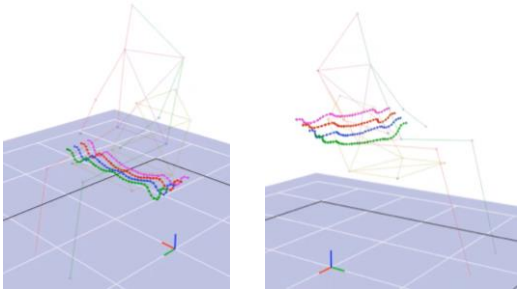
Application for Data Correction

Measured coordinates are integrated to simultaneously measured optical motion capture coordinates. This allows data management in global coordinates. Measuring and correcting the two positions at both ends reduces errors and improves dynamic tracking performance. A fixed-point correction version is also available.

Manages ST measured coords in the global coordinates



Free re-setting of the origin coordinates



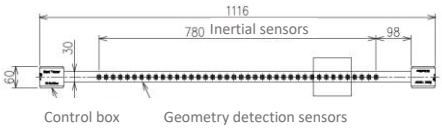
*Contact us for compatible motion capture systems

Specifications

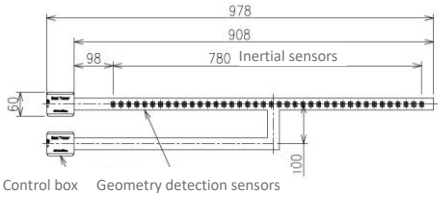
System		
Product name		Seat Tracer
Sampling frequency		1KHz (100Hz recommended)
Measuring method		Manual (software), External trigger (contact IN/Out)
Package A		ST2040A-1 for Seating (3), ST2040B-1 for Backrest (1), Slider (8), Slider base (2), USB cable (8), USB Hub, Software(Measurement & Analysis), Storage case
Package B		ST2040A-1 for Seating (4), Slider (8), Slider base (2), USB cable (8), USB Hub, Software(Measurement & Analysis), Storage case
Sensing		
Model		ST2040A-1: Seating (two controllers) ST2040B-1: Backrest (one controller)
Flexible circuit board	External dimensions	ST2040A-1：976mm ST2040B-1：908mm
	Measuring distance	780mm
	Integrated sensors	Inertial sensors (3-axis acceleration, 3-axis angular velocity)
	Measuring range	Acceleration sensor: 2,4,8,16G Angular velocity sensor: ±2000deg/s
	Resolution	16-bit
	Number of sensors	40
	Sensor pitch	20mm
Controller (Control box)	External dimensions	60(W)×70(L)×19(H) mm
	Power supply	USB
	Current consumption	≤250mA
	Operating temperature	0 to 50℃, ≤85RH (No condensing)

Dimensions

ST-2040A-1



ST-2040B-1



＜Note＞
- This product has flexible structure using a flexible circuit board.
- The sensors may cause failure as consumed as a result of trade-off between durability and flexibility.
- Calibration certificate cannot be issued since 3D shapes are calculated from measured data. Only an inspection report is issued using a specific shaped sample.

***The design and specifications are subject to change without prior notice.**

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