

Nest of Birds™

Real-time
Motion Tracking



*Nest of Birds tracks up to 4 sensors from one compact chassis.
Plug and play feature gets you flying in a flash!*

Track multiple sensors from your desktop via high-speed USB interface!

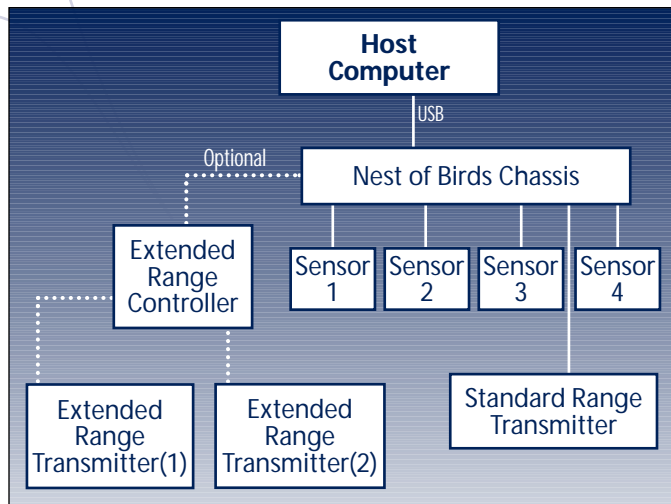
- Pulsed DC magnetic tracking operates in most laboratory and real-world environments.
- Position and orientation tracking without restrictions. No need for a clear line-of-sight between sensors; data is never lost due to blocking or occlusion.
- Simultaneous tracking of up to 4 sensors without degradation in measurement rates. Track head and hands at the same time without lag.
- Multiple configurations available to address most tracking requirements.

Accurate. Fast. Economical.

 **Ascension**
Technology Corporation

Nest of Birds

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Nest of Birds Block Diagram

The Nest of Birds simultaneously tracks the position and orientation of up to 4 sensors, referred to a standard or extended range transmitter emitting pulsed DC magnetic fields. Plugging directly into a USB interface, the Nest's installation CD lets users get up and running fast! The Nest's magnetic DC tracking technology lets you track multiple objects with minimal interference by conductive metals.

TECHNICAL

Degrees of Freedom:	6 (Position and Orientation)
Number of Sensors:	Up to 4
Translation range:	± 91.44cm (± 3m or 6m optional) in any direction
Angular range:	All Attitude: ±180° Azimuth & Roll; ±90° Elevation
Static Accuracy Position*:	1.8mm RMS
Static Accuracy Orientation*:	0.5° RMS
Static Resolution Position:	0.5mm @ 30.5cm
Static Resolution Orientation:	0.1° @ 30.5cm
Update rate:	Up to 105 measurements/ sec regardless of number of sensors tracked
Outputs:	X,Y,Z positional coordinates and orientation angles, rotation matrix or quaternions
Interface:	USB or RS 232
Format:	Binary
Modes:	Point

PHYSICAL

Transmitter Standard:	9.6cm cube with 3.05m cable
Optional:	Extended Range Transmitter, 30.5 cm cube with 6m cable
Sensor:	25mm x 25mm x 20mm cube (or optional 3-button mouse) with 3m cable
Chassis:	166mm x 170mm x 393mm
Power:	110/220 v. 60/50 Hz
Environment:	Conductive and ferrous metal objects and stray magnetic fields in the operation volume will degrade performance.

*Accuracy verified over range from 20.3cm to 76.2cm at constant orientation.

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ATC 6/02

Applications

- Head/hand/body tracking
 - Virtual Reality, Simulation & Training, 3-D Visualization, Entertainment
- CAVE Environments
- Virtual Prototyping
- Biomechanical/Human Factors Analysis
- Rehabilitation Feedback & Assessment
- 3D Graphics Control & Manipulation

FEATURES	BENEFITS
Pulsed DC magnetic tracking	Virtually no line of sight restrictions Less susceptible to metallic distortions than AC magnetic trackers Proven technology used worldwide
Dedicated processor for each sensor	Highest measurement rates regardless of number of sensors tracked
USB Interface	Fast output with minimum latency
Small chassis with built-in power supply	Compact design takes up minimal room on desktop
Installation CD	Fast set up with plug-and-play capability

Notes on Accuracy

Accuracy is defined as the root mean squared (RMS) deviation of a true measurement of the magnetic center of a single sensor with respect to the magnetic center of a single transmitter measured over the translation range. Accuracy varies from one location to another over this translation range and will be degraded if there are interfering electromagnetic noise sources or metal in the operating environment.

Regulatory Certifications

- EMC: EN 61326-1:1998
- Safety: EN 60101-1:1995

Specifications

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