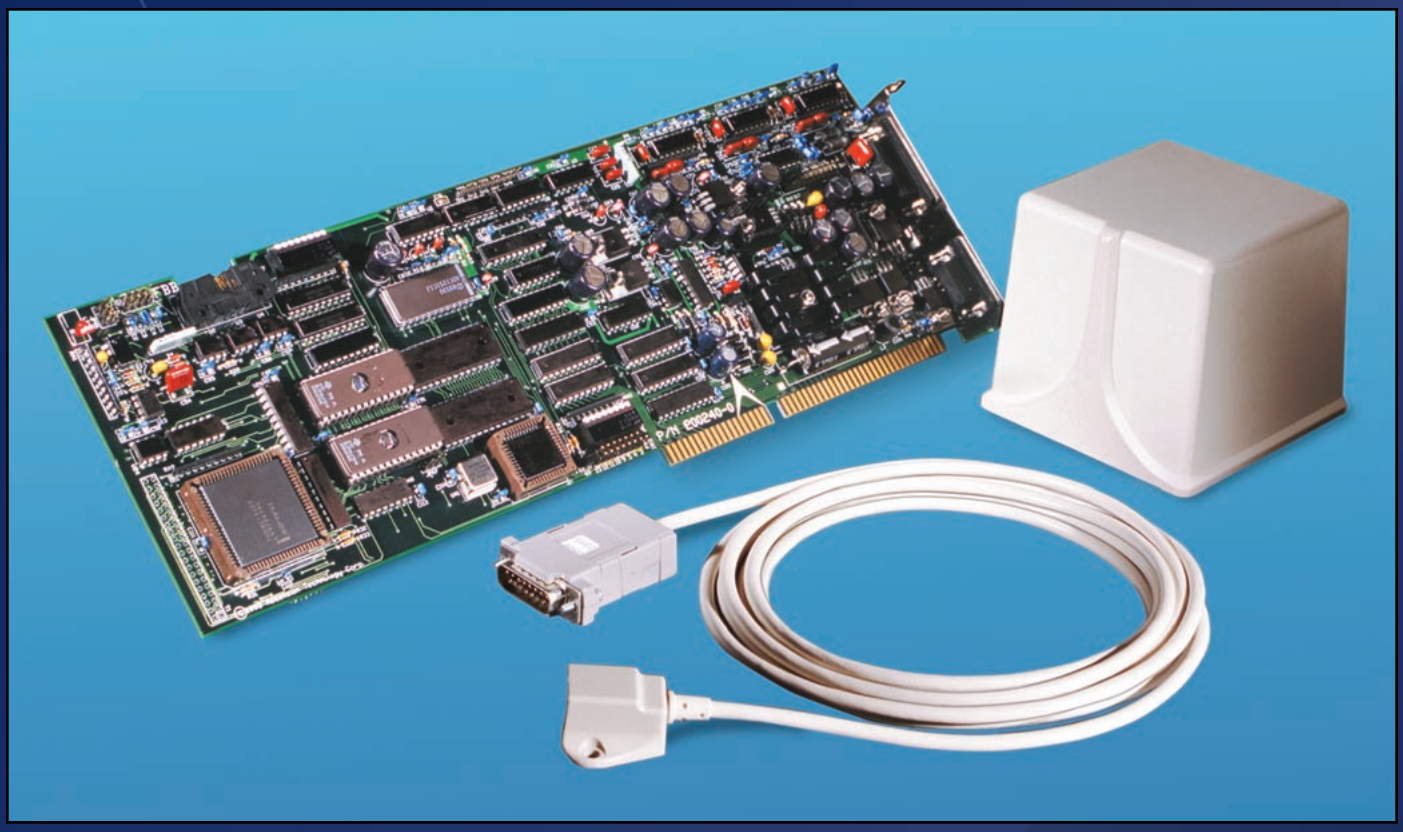
pcBIRD®

Real-time Motion Tracking



pcBIRD uses an ISA card, insertable in your PC, to control its transmitter and sensor.

Track motion magnetically with your PC!

- **Position and orientation tracking without restrictions.** No need for a clear line-of-sight between sensors and transmitter; blocking is never an issue.
- **Pulsed magnetic technology** lets you operate in environments precluding use of earlier AC electromagnetic trackers.
- **Designed specifically for PC users.** Data is instantly available over the ISA bus for use by your applications software.
- **Highest accuracy and best dynamic performance of all PC-based trackers.**

Fast. Accurate. Affordable!

Ascension Technology Corporation

pcBIRD

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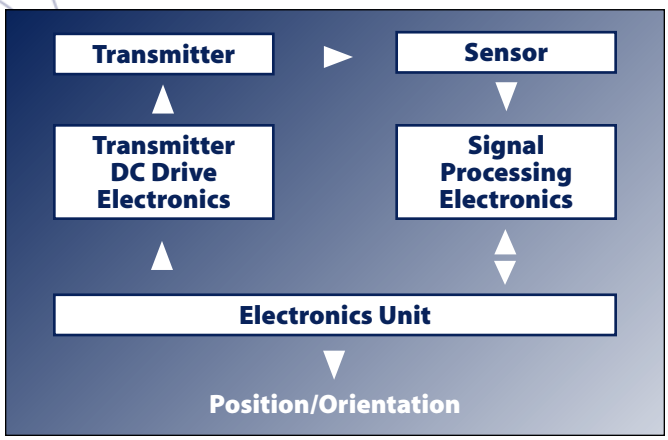

pcBird Block Diagram

Applications

- Head/hand/body tracking
  - Virtual design, analysis, interaction
  - Real-time visualization
  - Simulation and training
  - Entertainment
  - Telerobotics/Telepresence
- Biomechanical tracking for research, analysis and rehabilitation
- Placement/tracking of biomedical instruments, probes and scopes
- 3D graphics control and manipulation
- Test and analysis

Benefits

- Unrestricted tracking without line-of-site restrictions
- Consistently fast measurements even with multiple sensors
- Fast dynamic performance without degradation
- Easy expandability
- Real-time interaction with virtual images
- Free interface software and technical support
- Outputs available on ISA bus without I/O delays
- CRT sync to neutralize CRT noise
- No calibration or adjustments required

Specifications

TECHNICAL	
Degrees of Freedom:	6 (Position and Orientation)
Translation Range:	±4' (1.2m) (±10' (3.05m) optional) in any direction
Angular Range:	All attitude: (±180° Azimuth & Roll, ± 90° Elevation)
Static Accuracy*:	Position: 0.07" (1.8mm) RMS Orientation: 0.5° RMS
Static Resolution:	Position: 0.02" (0.5mm) @ 12" (30.5cm) Orientation: 0.1° @ 12" (30.5cm)
Update Rate:	Up to 144 measurements/second
Outputs:	X, Y, Z positional coordinates and orientation angles, rotation matrix or quaternions
Interface:	ISA-Bus
Data Format:	Binary
Modes:	Point or Stream
PHYSICAL	
Transmitter:	3.75" (9.6cm) cube with 10' (3.05m) cable or extended range transmitter: 12" (30.5cm) cube with 20' cable (6.1 m)
Sensor:	1.0" x 1.0" x 0.8" (25.4mm x 25.4mm x 20.3mm) cube (or optional 3-button mouse) with 10' (3.05m) or 35' (10.7m) cable
ISA Card:	Standard full-length board (one per sensor to be tracked)
Power:	Uses PC's power supply
Operating Temperature:	10°C to 40°C (50°F to 104°F)
Operating Humidity:	10% to 90% non-condensing

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

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

- FCC Part 15, Class A
- CE: EN 50081-1, Class A
  EN 50082-1, Class 2
  EN 61010-1

CERTIFIED ISO 9001

Ascension Technology Corporation

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