

# *Flock of Birds*®

Real-time  
Motion Tracking



*Ascension's most versatile, and easy-to-use tracker, shown with several available options, instantly tracks the motion of multiple sensors over medium and long ranges.*

## Track motions magnetically!

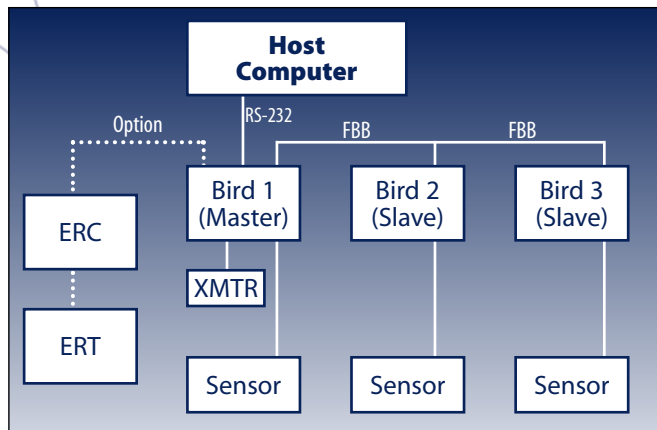
- **Position and orientation tracking without restrictions.** No need for a clear line-of sight between sensors and transmitter; blocking is never an issue.
- **Simultaneous tracking of all sensors without degradation in measurement rates.** Track head and hands at the same time without delay or lag.
- **Pulsed DC magnetic tracking** lets you operate in environments precluding use of earlier AC electromagnetic trackers.
- **Multiple configurations available** to address most tracking requirements.

**Proven. Reliable. Economical.**

 **Ascension**  
Technology Corporation

# Flock of Birds

## Real-time Motion Tracking



**Flock of Birds Block Diagram**  
(Sample 3-sensor Flock configuration)

The Flock can be configured to track from one to four sensors simultaneously with one or more RS-232 interfaces to a host computer. Long range coverage is easily added by "clicking in" our Extended Range Transmitter (ERT/ERC). For high speed operations, add more RS-232 ports and use our fast Bird bus (FBB).

### TECHNICAL

Tracking Range:	±4' (1.2m) ±10' (3.05m) optional in any direction
Angular Range:	±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, or rotation matrix
Interface:	RS-232 with selectable baud rates to 115,200
Format:	Binary
Modes:	Point or Stream

### PHYSICAL

Transmitter:	
Standard:	3.75" (9.6cm) cube with 10' (3.05m) cable; or
Option:	Extended Range Transmitter: 12" (30.5cm) cube with 20' (6.1m) cable
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
Enclosure:	9.5" x 11.5" x 2.6" (24cm x 29cm x 6.6cm)
Power:	User provided or optional external plug-in: US/European version
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.

### Applications

- Head/hand/body tracking
  - Virtual design, analysis, interaction
  - Flight & vehicle simulation
  - Real-time visualization
  - Entertainment
  - Telerobotics/Telepresence
- Instrument tracking
- Biomechanical tracking for research and rehabilitation
- 3D graphics control and manipulation

### Benefits

- Unrestricted tracking without line-of-site restrictions
- Consistently fast measurements even with multiple sensors
- Fast dynamic performance without degradation
- Proven long-range operation
- Real-time interaction with virtual images
- Cost-effective performance
- Free interface software and technical support

### 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

Call: **800-321-6596**

Outside N. America: **802-893-6657**

Visit our web site at: **www.ascension-tech.com**

e-mail: **ascension@ascension-tech.com** Fax: **802-893-6659**

PO Box 527, Burlington, VT 05402 USA