LIBERTY

THE HIGH-SPEED INDUSTRY LEADER FOR ACCURATE MOTION TRACKING

INDUSTRY STANDARD

When only the best will do, LIBERTY is the top choice motion tracking system for professionals and top researchers that require high-fidelity performance.

HOW IT WORKS

LIBERTY™ utilizes a source that emits an electromagnetic field. Sensors within the field of range are tracked in full 6DOF (6 Degrees-Of-Freedom) at an impressive 240Hz per sensor. Set-up is simple and intuitive and the system is easily portable. Due to the nature of the technology, there is no need for a line-of-sight for continuous tracking. LIBERTY delivers an uninterrupted stream of data for high-fidelity tracking.

HIGH PERFORMANCE AND SCALABLE

Two models are available and both are upgradeable. Simply add additional sensors to the existing system, or increase capability further by upgrading with additional hardware for the maximum number of sensors—up to 16 sensors available per system!

LIBERTY 240/8 offers 4 sensor channels; upgradeable to 8.
LIBERTY 240/16 offers 4 sensor channels; upgradeable to 8, 12, or 16.
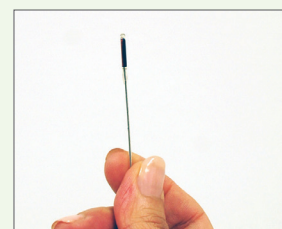
FEATURES

- ✓ Update rate, 240Hz Per Sensor
- ✓ Virtually No Latency
- ✓ Upgradeable to 16 Sensors
- ✓ Distortion Sensing
- ✓ No Line-Of-Sight Occlusions
- ✓ Fully Embeddable Sensors
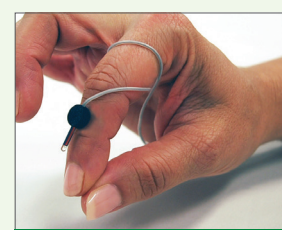- ✓ Zero Drift
- ✓ Reliable, Proven Technology

OPTIONS

Additional Sensor Channels

Micro Sensor 1.8™

Micro Sensor 1.8™ Extra Flex™

COMPONENTS

The LIBERTY system includes an SEU (Systems Electronics Unit), one standard sensor, and one source. You can easily expand the system's capabilities by adding additional sensors or hardware; up to 16 sensor channels available. Ask about sensor options and available upgrades!

SYSTEM ELECTRONICS UNIT

Contains the hardware and software necessary to generate and sense the magnetic fields, compute position and orientation, and interface with the host computer via RS-232 or USB.

240/8:
12.2 in. (31 cm) x 7 in. (17.8 cm) x 8.5 in. (21.6 cm)

240/16:
12.2 in. (31 cm) x 7 in. (17.8 cm) x11 in. (27.94 cm)

STANDARD SENSOR

A small lightweight cube (RX2). The sensor's position and orientation is precisely measured as it is moved.

WEIGHT: 0.32 oz (9.1 g)
DIMENSIONS: .9 in (2.29 cm) x 1.11 in (2.82 cm) x .6 in (1.52 cm)

SOURCE

The source generates the magnetic field in which the sensor is tracked.

TX2 - WEIGHT: 8.8 oz (250 g) DIMENSIONS: 2.3 in (5.84 cm) x 2.2 in (5.08 cm) x 2.3 in (5.84 cm)

TX4 - WEIGHT: 1.60 lbs (726 g) DIMENSIONS: 4.07 in (10.33 cm) x 4.07 in (10.33 cm) x 4.04 (10.16 cm)

TX1 - WEIGHT: 0.36 oz (10.2 g) DIMENSIONS: .9 in (2.29 cm) x 1.11 in (2.82 cm) x .6 in (1.52 cm)

Dimensions and weight are approximate. Dimensional drawings available upon request.

SPECIFICATIONS

UPDATE RATE	240Hz per sensor, simultaneous samples
INTERFACE	USB; RS-232 to 115,200 Baud rate, both standard
LATENCY	3.5 milliseconds
STATIC ACCURACY	0.03 in. RMS for X, Y, Z position; 0.15° RMS for sensor (RX2) orientation. (Non-standard, smaller sensors may reduce the specified range slightly)
SYNC INPUT	Event marker capability
OPERATING TEMPERATURE	0ºC to 40ºC at a relative humidity of 10% to 95%, noncondensing
POWER REQUIREMENTS	100-240 VAC, 50 – 60Hz, single phase, 50W
SOFTWARE TOOLS	GUI and SDK included USB drivers for Microsoft Windows® Linux®- open-source application available
REGULATORY	FCC Part 15, class A CE: EN61326-1: 2013 Emission EN61326-1: 2013 Immunity, Basic Environment

Range vs. Resolution
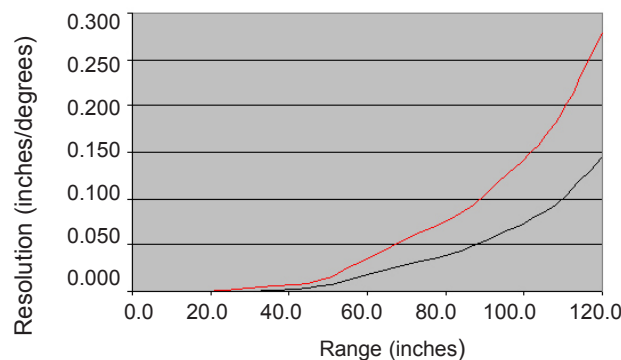
Range (inches)	Position Resolution (inches)	Orientation Resolution (degrees)
12.0	0.00005	0.0004
24.0	0.0002	0.0014
36.0	0.001	0.0048
48.0	0.005	0.0117
72.0	0.031	0.060
120.0	0.145	0.280

GET IN TOUCH

Our technology powers applications in a wide variety of markets, catering to healthcare, military, and in countless research areas. Talk with our Motion Tracking Experts today.

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*Large metallic objects, such as desks or cabinets, located near the source or sensor, may adversely affect the performance of the system.