POLHEMUS
INNOVATION IN MOTION™

FASTRAK

3D DIGITIZER & QUAD SENSOR MOTION TRACKER

FASTRAK® is the workhorse of the industry and set the standard for all other trackers. Using A/C electromagnetic technology, FASTRAK delivers accurate position and orientation data, with virtually no latency.

HOW IT WORKS

With a single magnetic source, FASTRAK delivers data for up to four sensors. The source emits an electromagnetic field, sensors within the field of range are tracked in full 6DOF (6 Degrees-Of-Freedom). Set-up is simple and intuitive, with no user calibration required. Due to the nature of the technology, there is no need for a line-of-sight for continuous tracking.

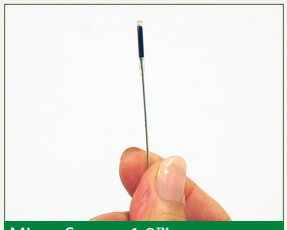
TWO SOLUTIONS IN ONE

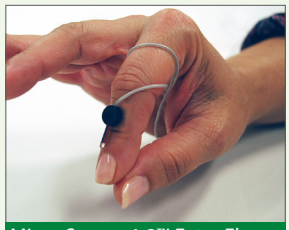
FASTRAK is a 3D Digitizer and a quad sensor motion tracking solution. Simply add an optional digitizing stylus for one of the most highly accurate and easy-to-use digitizers on the market. FASTRAK is trusted around the world for its reliability and repeatable results; it sports an ultra-low latency, at 4 milliseconds.

FEATURES

- Real-Time Data
- Up to Four Sensors
- Virtually No Latency
- No Line-Of-Sight Occlusions
- Fully Embeddable Sensors
- Zero Drift
- Simple Set-Up
- Reliable, Proven Technology

OPTIONS


Micro Sensor 1.8™


Micro Sensor 1.8™ Extra Flex


3D Digitizer

COMPONENTS

The FASTRAK® system includes an SEU (Systems Electronics Unit), standard sensor, and a 2-inch source. You can easily expand the system's tracking capabilities by adding up to three sensors. Expand the tracking range by upgrading to a larger source.

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 USB, RS-232 or optional RS-422.

DIMENSIONS: 10.2 in (25.9 cm) x 11.5 in (29.2 cm) x 2.3 in (5.8 cm)

STANDARD SENSOR

Small lightweight cube, 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 in (10.16 cm)

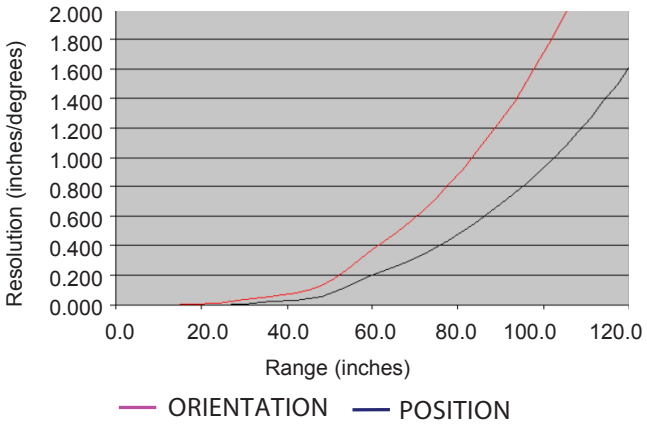
TX1 - WEIGHT: 0.36 oz (10.2 g) DIMENSIONS: .9 in (2.29 cm) x 1.11 in (2.82 cm) x .6 in (1.52 cm)

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

SPECIFICATIONS

UPDATE RATE	120 updates/second divided by the number of sensors
INTERFACE	USB; RS-232 with selectable baud rates up to 115.2 K (optional RS-422)
LATENCY	4 milliseconds
STATIC ACCURACY	0.03 inches RMS for the X, Y, or Z position; 0.15° RMS for sensor orientation. The system will provide the specified performance when the sensors are within 30 inches of the source. Operation over a range of up to 10 feet is possible with slightly reduced performance.
OPERATING TEMPERATURE	10°C to 40°C at a relative humidity of 10% to 95%, noncondensing
POWER REQUIREMENTS	15 W, 100-240 VAC, 47-63Hz
SOFTWARE TOOLS	GUI included USB drivers for Microsoft Windows® Linux® - contact Polhemus
REGULATORY	FCC Part 15, class A EN61326-1: 2013 Emission EN61326-1: 2013 Immunity, Basic Environment

RANGE VS RESOLUTION



Range (inches)	Position Resolution (inches)	Orientation Resolution (degrees)
12.0	0.00023	0.0026
24.0	0.0030	0.0147
36.0	0.019	0.0558
48.0	0.055	0.1266
72.0	0.346	0.369
120.0	1.605	2.960

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.

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

Polhemus is a Good Manufacturing Practices (GMP) Contract Manufacturer under U.S. FDA Regulations. We are not a manufacturer of Medical Devices. Polhemus systems are not certified for medical or bio-medical use. Any references to medical or bio-medical use are examples of what medical companies have done with the products after they have obtained all necessary or appropriate medical certifications. The end user/OEM/VAR must comply with all pertinent FDA/CE regulations pertaining to the development and sale of medical devices and all other regulatory requirements.