PATRIOT

TWO-SENSOR, 6DOF TRACKER THAT DELIVERS UNMATCHED VALUE

COST-EFFECTIVE

PATRIOT™ is the cost-effective motion tracking solution for applications that require one to two sensors. The system uses proprietary A/C electromagnetic technology. At 60Hz per sensor, it delivers the high level 6DOF (6 Degrees-Of-Freedom) tracking standard Polhemus is known for, at an entry-level price.

HOW IT WORKS

With a single magnetic source, PATRIOT delivers data for one to two sensors. The source emits an electromagnetic field, and sensors within the field of range are tracked in full 6DOF. Set up is simple and intuitive, and the Patriot system performs all the complex calculations that provide both position and orientation data.
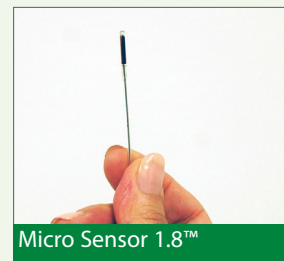
TOP CHOICE FOR HIGH-VOLUME INTEGRATORS

Because the sensors are fully embeddable, PATRIOT offers flexibility for integration into a variety of applications, and is cost-effective for high-volume integrators. This makes it the first choice for many of the world's top simulators.

FEATURES

- ✓ Cost-Effective
- ✓ Real-Time Measurement
- ✓ Embeddable Sensors
- ✓ Simple Set-Up

- ✓ No Line-of-Sight Occlusions
- ✓ Zero Drift
- ✓ Calibration Not Required
- ✓ Reliable, Repeatable Results

OPTIONS

Micro Sensor 1.8™

Micro Sensor 1.8™ Extra Flex™

Standard Sensor

COMPONENTS

The PATRIOT system includes an SEU (Systems Electronics Unit), one standard sensor, and one 2-inch source. You can easily expand the system's tracking capabilities by adding one additional sensor.

SYSTEM ELECTRONICS UNIT

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

DIMENSIONS: 6.75 in (17.1 cm) x 6.25 in (15.9 cm) x 1.75 in (4.4 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 in (10.16 cm)
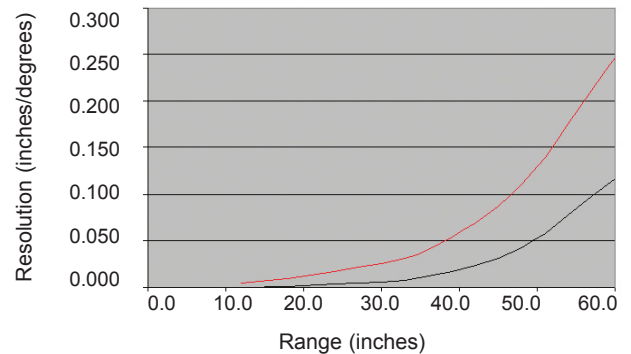
TX1 - WEIGHT: 0.36 oz (10.2 g) DIMENSIONS: .9 in (2.29 cm) x 1.11 in (2.82 cm) x .6 in (1.52 cm)

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

SPECIFICATIONS

UPDATE RATE	60Hz per sensor simultaneous sampling
INTERFACE	RS-232 with selectable baud rates up to 115.2 K USB 2.0 (high speed)
LATENCY	Less than 18.5 milliseconds
STATIC ACCURACY	0.06 in. RMS for X, Y, Z position; 0.40º RMS for sensor orientation. The system will provide the specified performance in a non-distorting environment when standard (RX2) sensors are within 36 inches of the standard (TX2) source; 42 inches with the optional TX4 source (Non-standard, smaller, sensors may reduce the specified range slightly). Operational out to 60 inches with slight degradation in performance.
OPERATING TEMPERATURE	10ºC to 40ºC at a relative humidity of 10% to 95%, noncondensing
POWER REQUIREMENTS	4W, 100-240 VAC, 50-60Hz
SOFTWARE TOOLS	PiMgr GUI for Microsoft Windows® USB driver package for Microsoft Windows® PDI SDK for Microsoft Windows® GUI for Linux®
REGULATORY	FCC Part 15, class B EN61326-1: 2013 Emissions EN61326-1: 2013 Immunity, Basic Environment
REGULATORY (Patriot M)	FCC Class B and CE Certified Tested to IEC 60601-1 Ed. 3.1: 2012 and IEC 60601-1-3rd Ed. 2007

RANGE VS RESOLUTION

Range (inches)	Position Resolution (inches)	Orientation Resolution (degrees)
12.0	0.00046	0.0038
24.0	0.0035	0.0168
36.0	0.0113	0.0407
48.0	0.0428	0.1108
60.0	0.1175	0.2470

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.

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