

VIPER™

CUSTOMIZABLE, REAL-TIME TRACKING. REDEFINED.

VIPER™ is the fastest and most customizable electromagnetic tracker available. With a sleek, small SEU size, update rates up to 960Hz, and latency as low as one millisecond, VIPER offers scaled-up capability in a scaled-down package. With added FTT® (Fly True Technology), VIPER delivers what you need, when you need it.



HOW IT WORKS

The VIPER tracking system uses a source that emits an electromagnetic field. Finely tuned sensors within the field of range are tracked in full 6DOF, measuring both position and orientation at sub-millimeter accuracy. VIPER is a portable system that's easy to set up. Due to the nature of the technology, there is no need for a line-of-sight for continuous tracking. VIPER tracks people and objects through clothes, gloves, and walls, and does not require any special lighting conditions.

CUSTOMIZABLE AND SCALABLE

VIPER is not one size fits all; it's a fully customizable tracking system. It's easy to "build" a system tailored to your specific needs. And the user-friendly SDK allows you to start tracking right away.

1. Select your SEU Size
2. Select a Sensor or Multiple Sensors
3. Select a Source or Multiple Sources

FEATURES

- ✓ Up to 960Hz Update Rate
- ✓ 1 Millisecond Latency (960Hz model)
- ✓ Up to 16 Sensors / 4 Sources
- ✓ VIPER FT Sensors
- ✓ Real-Time Distortion Mitigation
- ✓ No Line-of-Sight Occlusions
- ✓ Fully Embeddable Sensors
- ✓ Zero Drift

OPTIONS



COMPONENTS

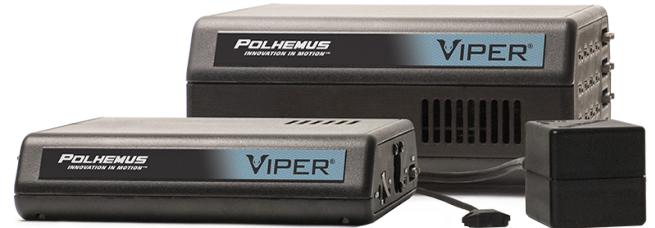
The VIPER™ system allows you to select from three different Systems Electronics Units. Then choose one or more sensors (up to 16), and one or more sources (up to 4 per SEU) to complete your system. There are multiple sensor options, with varying size, shape, and capabilities. Select one type, or mix and match sensors, based on your needs. Choose from three different sources.

<p>SYSTEM ELECTRONICS UNIT</p> <p>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-422 or USB.</p> 	<p>SENSOR</p> <p>The sensor's position and orientation is precisely measured as it is moved. Up to 16 sensors can be tracked simultaneously. All sensors connect to the SEU.</p> 	<p>SOURCE</p> <p>The source generates the magnetic field in which the sensor is tracked. Up to 4 sources can be connected, increasing tracking range or providing multiple points of origin. All sources connect to the SEU.</p> 
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SPECIFICATIONS

UPDATE RATE	240Hz per sensor max (VIPER 4) 960Hz per sensor max (VIPER 8/16)
INTERFACE	USB; RS-422, both standard; dual output available.
LATENCY	1 ms at 960Hz/ 2ms at 480Hz/ 3ms at 240Hz
STATIC ACCURACY	0.015 in. (0.38mm) RMS for X, Y, Z position; 0.10° RMS for sensor (FT-Standard) orientation* (Non-standard, smaller sensors may reduce the specified range slightly)
RESOLUTION	0.00004 in. (0.0010 mm) at 12 in. (30 cm) range; 0.0003° orientation
RANGE	Useful operation up to 72 in (182 cm) and beyond** Specified accuracy within 30 in (76 cm) radius from Source, at above static accuracy specifications
SYNC INPUT/ OUTPUT	Sync signal can be used as input or output to sync to or from another device
OPERATING TEMPERATURE	10° to 40°C
POWER REQUIREMENTS	5 Volts DC @ 5.5 Amps direct or 24 Volts DC @ 1.3A via external DC-DC converter 32 Watts
PREDICTION	User adjustable position & orientation prediction built-in
SOFTWARE TOOLS	GUI and SDK included Microsoft Windows® 10 Ready Unity: Sample open source code included Linux: Sample open source code included
REGULATORY	EMC/EMI: IEC 60601-1-2 Medical Electrical Equipment, Edition 4.0 Electrical Safety Approvals: IEC 60601-1 Medical Electrical Equipment, Edition 3.1

VIPER 4/8 and VIPER 16 System Electronics Units. Small, TX2 Source and high-performing VIPER FT Standard Sensor, offering special FTT capabilities.



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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*Some metallic objects, such as desks or cabinets, located near the source or sensor, may adversely affect the performance of the system. Accuracy specified in a magnetically clean environment with FTT® off. FTT real-time magnetic distortion mitigation may help restore performance to your satisfaction.

**Tracking Range up to 72 inches and beyond using one Source; multiple Sources increase tracking range capability.

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POLHEMUS
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