



# Polaris Vega<sup>®</sup> VT

Envision new possibilities in OEM surgical tool tracking and navigation with the industry's first optical tracker to combine HD video and infrared (IR) tracking: the Polaris Vega<sup>®</sup> VT.

This specialized optical tracker delivers best-in-class optical measurement and live video streaming to help medical device OEMs bring augmented reality (AR) and machine vision to surgical navigation. Video data is aligned with IR tracking data to a common coordinate system, with tool transformations pre-calibrated to a shared frame of reference.



## Exceptional Measurement Accuracy

The Polaris Vega VT delivers volumetric accuracy to 0.12 mm RMS at 60 Hz, with minimal noise while streaming video. Track with confidence; hardware characterization and factory calibration optimize accuracy for measurements that are highly repeatable and reliable.

<b>Volumetric Accuracy<sup>1,2</sup> RMS</b>	Pyramid Volume: 0.12 mm Extended Pyramid: 0.15 mm
<b>95% Confidence Interval<sup>1,2</sup></b>	Pyramid Volume: 0.20 mm Extended Pyramid: 0.30 mm

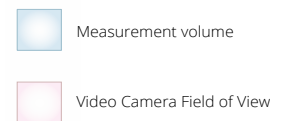
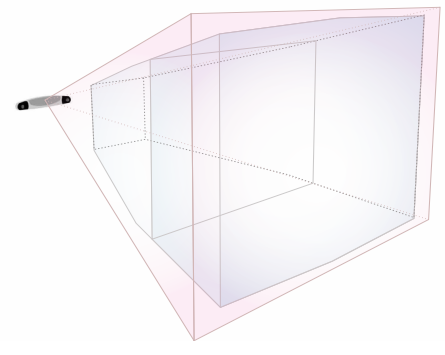
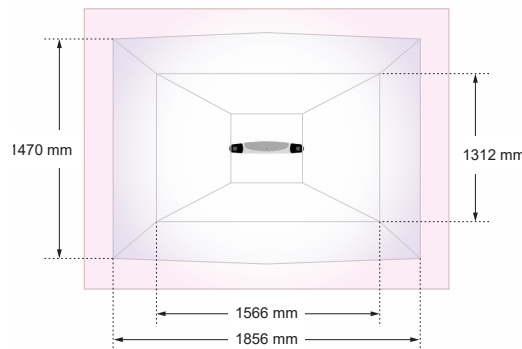
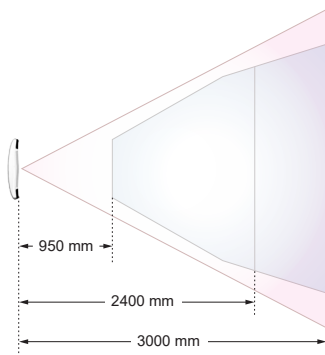
<sup>1</sup> Based on a single marker stepped through more than 900 positions throughout the measurement volume using the mean of 30 samples at each position at 20°C

<sup>2</sup> Accuracy stated based on overall volume

## Augmented Reality Overlay

The Polaris Vega VT software enables a live augmented reality overview of tools within the video stream, which is aligned to the IR data coordinate system. Create virtual tools and new video-enhanced applications with built-in source code and available software and API.

<b>Tool Types</b>	Passive, Active Wireless
<b>Maximum Number of Tools</b>	Load up to 25 tools (maximum of 6 active wireless)
<b>Maximum Number of Markers per Tool</b>	6 single-face/20 multi-face



## Integrated HD Video Camera

The Polaris Vega VT video camera provides a live view of the measurement volume via third-party streaming clients. Capture sharp, high-contrast images in most operative environments; camera resolution, frame rate, and other features can be quickly configured in-field.

Resolution	Frames per Second	Horizontal Field of View	Vertical Field of View
<b>2048 x 1536</b>	20 max.	54.8°	42.5°
<b>1920 x 1088</b>	30 max.	51.8°	30.6°
<b>1024 x 768</b>	47 max.	54.8°	42.5°

## Seamless Data Synchronization

The Polaris Vega VT streams tracking data to the OEM host application via Gigabit Ethernet, as powered by POE (Power over Ethernet). Ethernet connectivity allows for greater flexibility, interoperability, and scalability of equipment setup and use within the operative space.

<b>Measurement Rates</b>	20, 30, 60 Hz
<b>Average Latency</b>	17 ms (typical) at 60 Hz
<b>Data Communication</b>	Gigabit Ethernet
<b>Video Streaming Protocol</b>	Real-Time Streaming Protocol



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