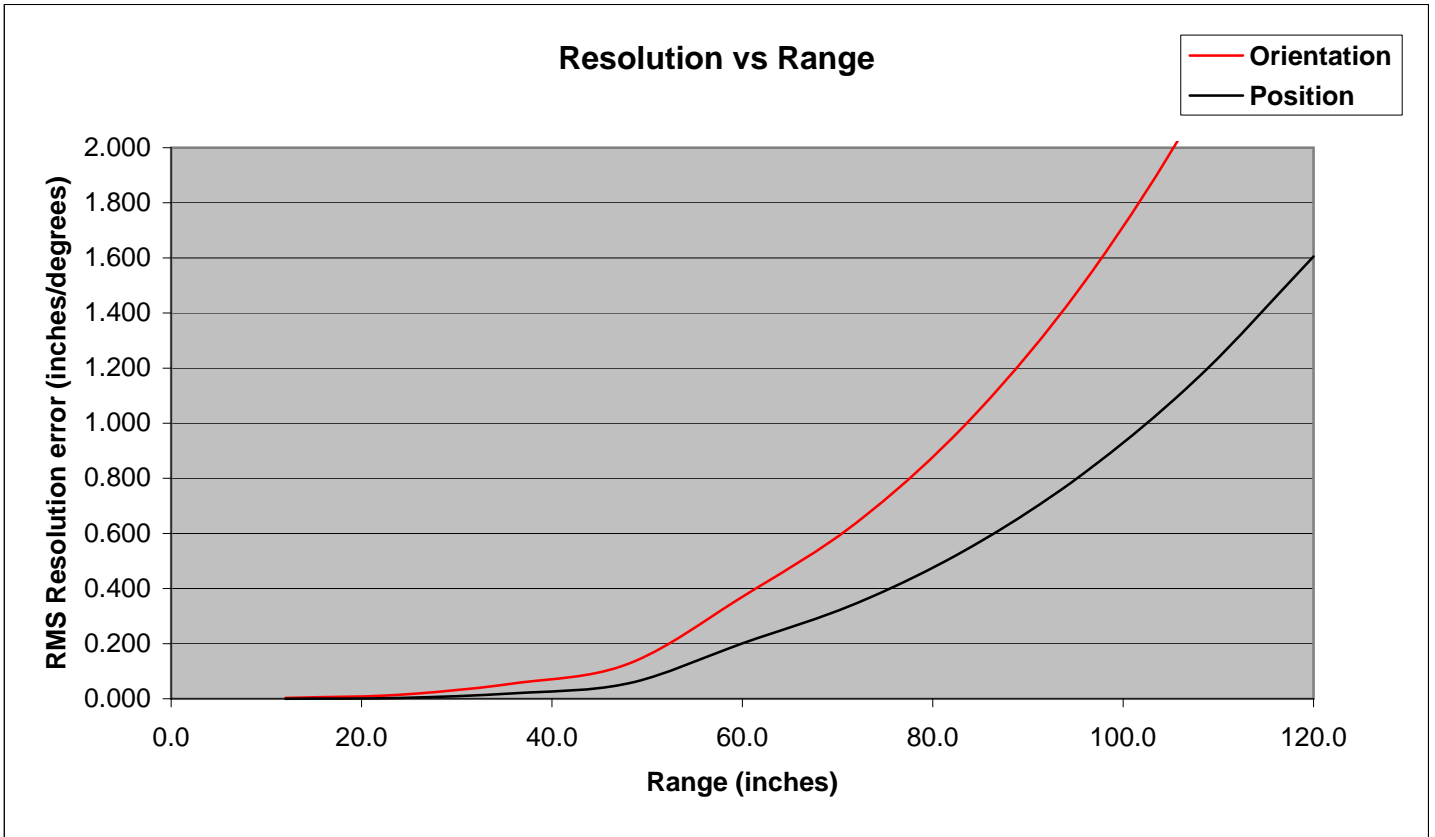


Polhemus Motion Tracking Technical Comparisons - Tracking Performance

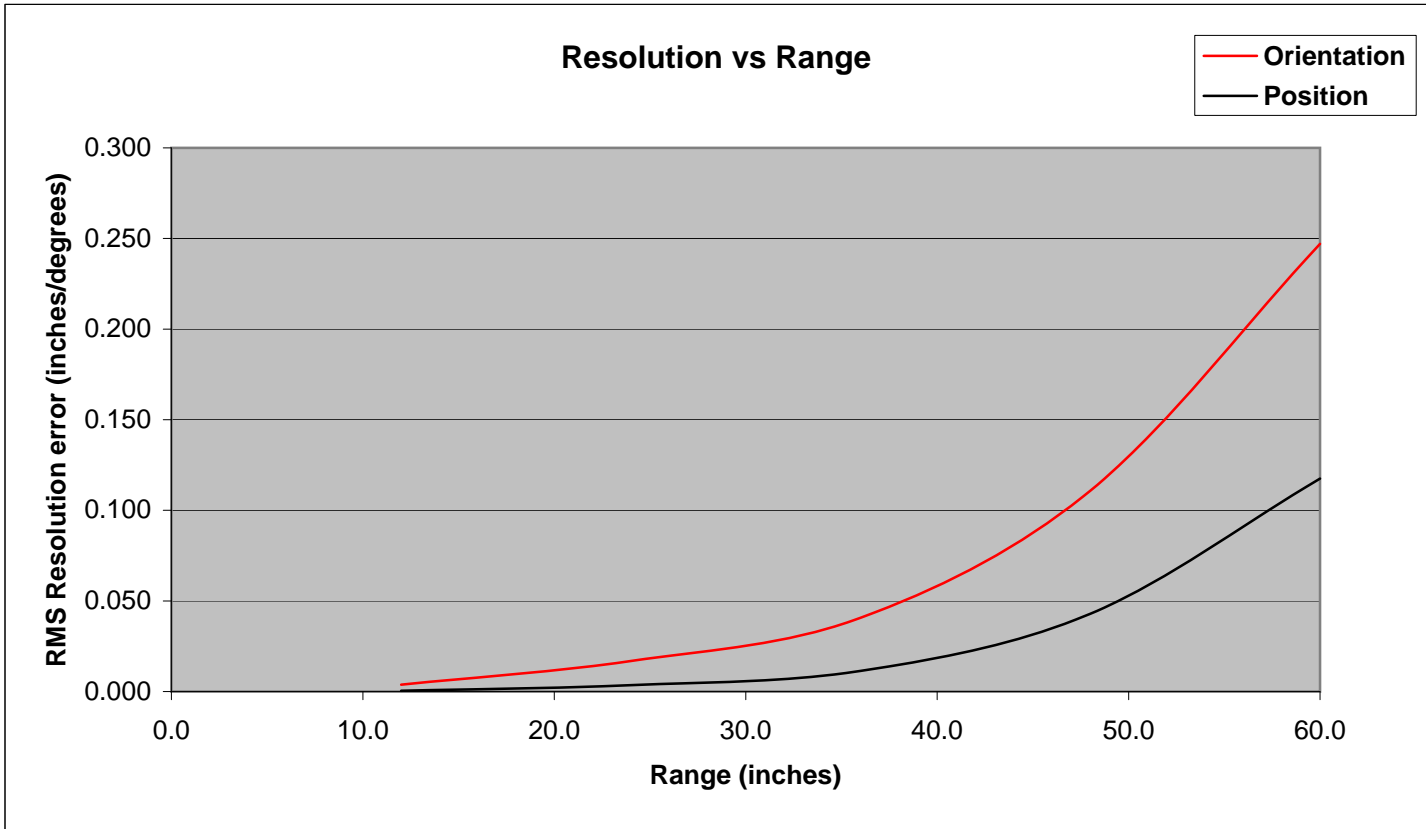
Specifications	FASTRAK	PATRIOT	LIBERTY	LIBERTY LATUS (wireless)	PATRIOT Wireless	MINUTEMAN
Update Rate	120 Hz (divided by number of sensors)	60Hz per sensor	240 Hz per sensor	188Hz (1-8MARKER's) 94 Hz (9-12 MARKER's)	50Hz (1-4MARKER's)	75Hz per sensor
Angular Range	All attitude	All attitude	All attitude	All attitude	All attitude	All attitude
Latency	4ms	17ms	3.5ms	5ms	20ms	2ms
Operating Temperature (minimum)	10°C	10°C	0°C	0°C	10°C	0°C
Operating Temperature (maximum)	40°C	40°C	50°C	50°C	40°C	50°C
Operating Voltage	100-240V 50 - 60Hz	100 - 240V 50-60Hz	100 - 240V 50-60Hz	100 - 240V 50-60Hz	100 - 240V 50-60Hz	Powered by USB
Cable Length (contact us for custom lengths)	10ft. or 20ft. 3.048m or 6.096m	10ft. or 20ft. 3.048m or 6.096m	10ft. or 20ft. 3.048m or 6.096m	Receptor 60ft or 120ft. 18m or 37m	Receptor 20ft. or 60ft. 6.1m or 18.3m	USB cable 17ft. 5.2m
Operating System	GUI/SDK 2000/XP/Vista	GUI/SDK 2000/XP/Vista	GUI/SDK 2000/XP/Vista	GUI/SDK 2000/XP/Vista	GUI/SDK 2000/XP/Vista	GUI/SDK 2000/XP/Vista
Interface	RS-232 or USB 1.1 (both included)	RS-232 or USB 1.1 (both included)	RS-232 or USB 2.0 (both included)	RS-232 or USB 2.0 (both included)	RS-232 or USB 1.1 (both included)	USB 1.1
Degrees-of-Freedom	6DOF	6DOF	6DOF	6DOF	6DOF	3DOF
Number of Sensors	1-4	1-2	1-16	1-12 Wireless MARKER's	1- 4 Wireless MARKER's	1-2
Range from Standard TX2 Source	See Graph A	See Graph B	See Graph C	See Graph D	See Graph E	Transmitter embedded in E-Pod Range 24-48in. (61cm-122cm)
Extended Range Source	See Graph A	n/a	See Graph C	Can concatenate to cover large area	See Graph E	n/a
Static Accuracy Position	.028in RMS .71mm	0.06in RMS 1.5mm	.028in RMS .71mm	0.1in. (0.254cm) 1 MARKER (Typical 1-3 in. (2.54-7.62cm)	0.3 in. (0.762cm)	n/a
Static Accuracy Orientation	0.15° RMS	0.40 ° RMS	0.15° RMS	0.5° 1 MARKER Typical 1-3°	1.0° 1 Marker at 30inches	Better than 2°
Static Resolution Position	See Graph A	See Graph B	See Graph C	See Graph D	See Graph E	n/a
Static Resolution Orientation	See Graph A	See Graph B	See Graph C	See Graph D	See Graph E	n/a

FASTRAK (graph A)



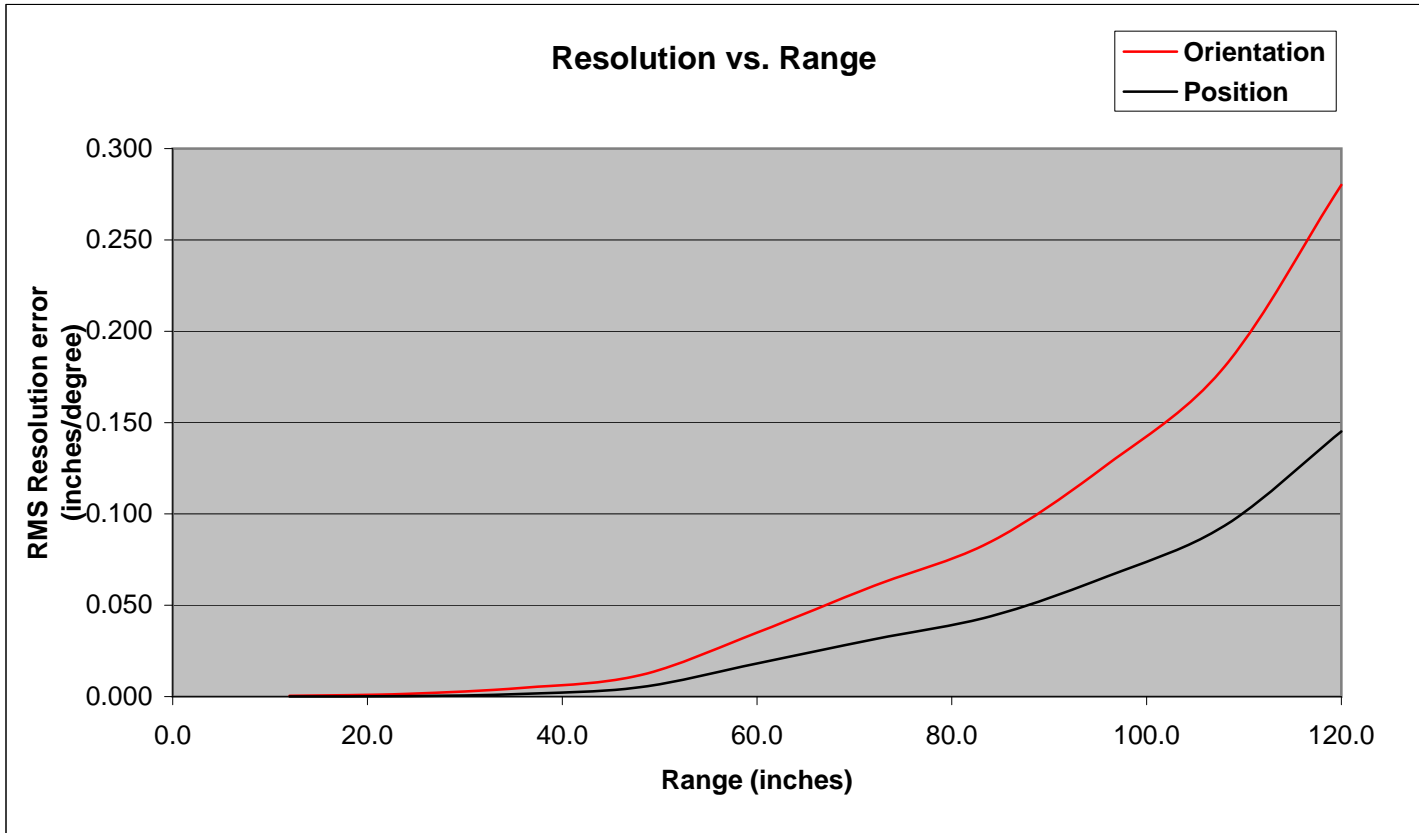
Range (inches)	Orientation Resolution (degrees)	Position Resolution (inches)
12.0	0.00266	0.00023
24.0	0.01475	0.00306
36.0	0.05581	0.01957
48.0	0.12666	0.05581
60.0	0.37009	0.20065
72.0	0.63951	0.34673
84.0	1.01552	0.55059
96.0	1.51588	0.82187
108.0	2.15835	1.17020
120.0	2.96070	1.60521

PATRIOT (graph B)



Range (inches)	Orientation Resolution (degrees)	Position Resolution (inches)
12.0	0.00381	0.00046
24.0	0.01686	0.00352
36.0	0.04070	0.01139
48.0	0.11084	0.04289
60.0	0.24700	0.11754

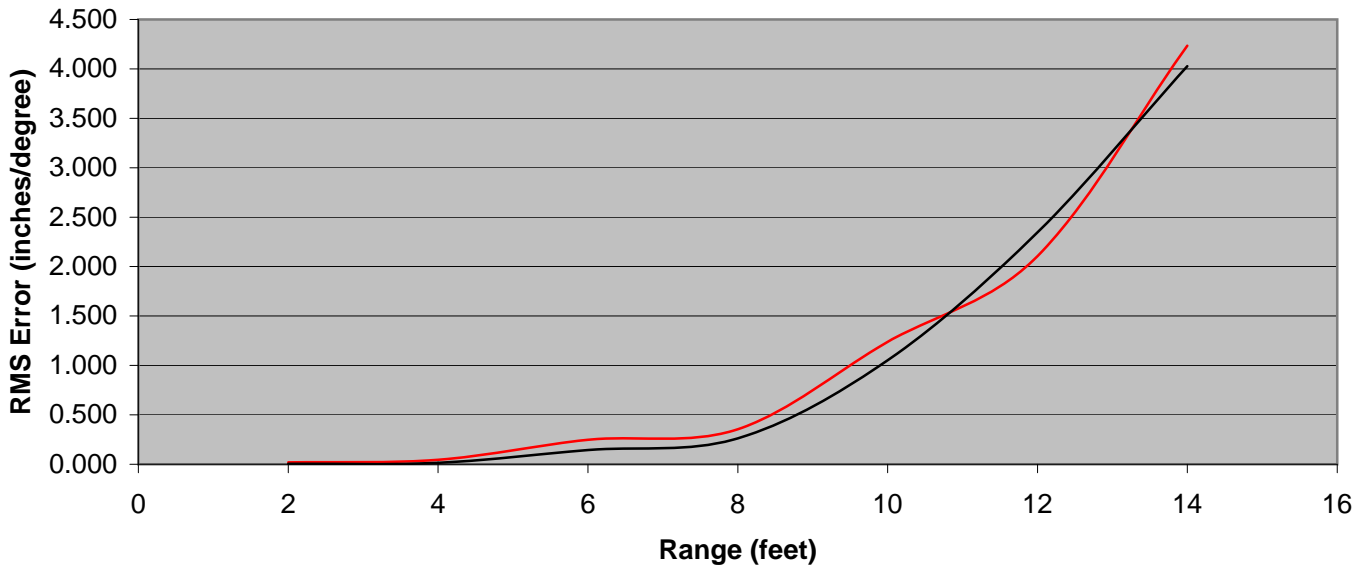
LIBERTY (graph C)



Range (inches)	Orientation Resolution (degrees)	Position Resolution (inches)
12.0	0.000415	0.000056
24.0	0.001450	0.000285
36.0	0.004843	0.001484
48.0	0.011768	0.005141
60.0	0.035014	0.018139
72.0	0.060574	0.031380
84.0	0.084804	0.043932
96.0	0.127206	0.065898
108.0	0.180633	0.093575
120.0	0.280113	0.145109

LIBERTY LATUS (graph D)

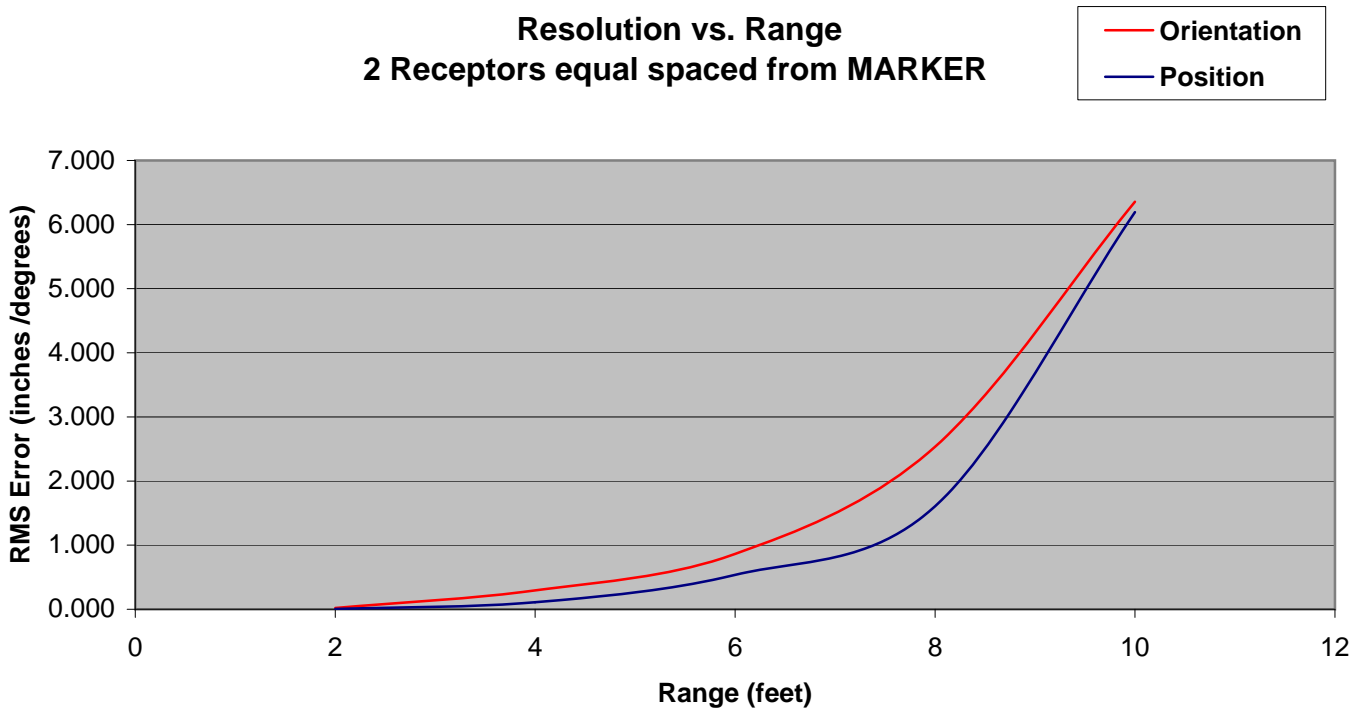
Resolution vs. Range
2 Receptors equal spaced from MARKER



Marker-Receptor Range (feet)	Orientation Resolution (degrees)	Position Resolution (inches)
2	0.020	0.005
4	0.046	0.015
6	0.248	0.144
8	0.355	0.262
10	1.239	1.052
12	2.106	2.347
14	4.235	4.027

PATRIOT Wireless (graph E)

Resolution vs. Range
2 Receptors equal spaced from MARKER



Marker-Receptor Range (feet)	Orientation Resolution (degrees)	Position Resolution (inches)
2	0.021	0.006
4	0.296	0.109
6	0.864	0.537
8	2.534	1.608
10	6.356	6.195