

## Mission Specialist Defender Navigation Package

The Mission Specialist Navigation Package enhances autonomous control. It integrates a Doppler Velocity Log (DVL) for tracking the ROV's position along the sea bottom and estimating distance traveled using "dead reckoning" navigation. A GPS antenna corrects the position at the surface. The software upgrade seamlessly integrates these sensors, offering station keeping, mission planning, dynamic positioning, and data export. A USBL system can be added for missions beyond the DVL's range.

### DVL SPECIFICATIONS

<b>Depth Rating</b>	300m
<b>Frequency of Operation</b>	500kHz
<b>Beam Width</b>	2.9 degrees
<b>Configuration</b>	4-beam Janus array convex transducer, 25 degree beam angle
<b>Minimum Altitude</b>	0.2m
<b>Maximum Altitude</b>	100m

### GPS SPECIFICATIONS

<b>Depth Rating</b>	300m
<b>Horizontal Position Accuracy</b>	2.5m
<b>Time-to-first-fix</b>	29s
<b>Sensitivity</b>	-166 dBm

### GREENSEA FEATURES

- Station Keeping
- Reacquisition
- Mission Planning
- Dynamic Positioning

