

# Easytrak Nexus 2 USBL, Model 2692



## Key features

- Bi-directional Sigma 2 spread spectrum acoustics
- Optimised beacon refresh rate
- 16 target tracking
- Geographical navigation overlays
- EasyCal 2 embedded calibration tool with AutoCal Wizard
- With 1100, MiQ data telemetry, Multi-Fire common interrogate
- Sound velocity profile upload facility

## Easytrak Nexus 2 Overview

The Nexus 2 is the second generation of Easytrak digital USBL systems designed as a highly advanced positioning and tracking system that is quick to deploy and straightforward to operate. Featuring AAE Sigma 2 acoustic protocols, the NEXUS 2's digital spread spectrum transmissions provide a secure acoustic link with very low susceptibility to interference, enabling precise and reliable positioning over an extended operational range.

Able to determine the positions of up to 16 dynamic subsea targets simultaneously, Nexus 2 is ideal for many deep or shallow water applications where multiple assets are to be tracked. These operations can include UXO surveys utilising

several magnetometers or sidescan sonars, diving operations, and for use at offshore worksites where several vehicles may be in use concurrently. The long range capability and exceptional accuracy specifications make Nexus 2 particularly effective for long layback towed applications.

When coupled with 1100 Series positioning beacons, Nexus 2 provides Multi-Fire and MiQ Data telemetry functionality.

## Nexus 2 Technical Specification

NEXUS 2 CONSOLE, MODEL EZT-2692

Provides DC power, high speed digital communications to the transceiver with an embedded graphical navigation interface. Supplied with monitor, keyboard and mouse.

<b>Dimensions</b>	19" Rack mount. 2U, 482 x 88 x 345mm
<b>Weight</b>	5.4kg
<b>Power requirements</b>	90 to 250 Vac at 250 VA maximum
<b>Connection to transceiver</b>	Rear panel connector
<b>Built-in PC</b>	Industrial i3 board running embedded Win 7, 32GB HD
<b>Temperature</b>	Operating: -10° to +40°C Storage: -20° to +50°C
<b>Front panel indicators</b>	LED indicators for power and serial status.
<b>Serial communications</b>	4 x RS-232 External Input Port. 3 x Data Out Ports
<b>Data Output</b>	AAE format V1 and V2, TP-II2EC, TP-EC W/PR, Simrad 300P, Simrad 309, Simrad \$PSIMSSB, Pseudo \$GPRMC, NMEA \$GPGGA, NMEA \$GPVTG, NMEA \$GPTLL, Pseudo \$GPGGA, KLEIN 3000 (Quick set) Multiple outputs available
<b>Compass Input</b>	SGB-HTDS, SGB-HTDt, NMEA HDT,HDM, HDG
<b>VRU Input</b>	TCM-2.X, \$HCXDR , TSSI
<b>GPS / DGPS Input</b>	NMEA; GLL, GGA, RMC Geo Referenced Graphical Overlay. GeoTiff, DXF
<b>Target Heading Input</b>	NMEA HDM, HDT, HDG, PNI TCM2
<b>Target Depth Input</b>	NMEA DBT, DBK, DBS, DPT, AAE
<b>Time in</b>	GPS Time synch
<b>Responder Output</b>	Positive 12V pulse 5ms long
<b>USB</b>	6 ports available, 2 on front panel
<b>Ethernet</b>	2 x 1Gbps standard RJ45 jack. Ethernet UDP Data Port
<b>Audio</b>	Audible activity indicator

## Nexus 2 Technical Specification

Factory calibrated multi-element transceiver head complete with integral AHRS, depth sensor and temperature sensor.

### TRANSCEIVER, TYPE EZT-2686 and EZT-2780 SPECIFICATIONS

<b>Material</b>	Stainless steel
<b>Weight in air/water</b>	2686: 16kg/11kg 2780: 21kg/15kg
<b>Dimensions</b>	2686: 152mm Ø x 432mm 2780: 200mm Ø x 432mm
<b>Temperature</b>	Operating: -10° to +40°C Storage: -20° to +50°C
<b>Depth rating</b>	30m
<b>Electrical supply</b>	48Vdc (from console)
<b>Depth sensor (Pressure Sensor)</b>	5 bar, accuracy 0.25% between -10° to +40° C
<b>Temperature sensor</b>	1° resolution between -10° and +40° C
<b>Frequency band (MF)</b>	18 - 32 kHz
<b>Tracking beam pattern</b>	2686: 180° 2780: 150°
<b>Transmitter</b>	Variable, typical max 192dB re 1µPa at 1m
<b>Compatible transponders</b>	AAE Sigma 1, Sigma 2 Digital Spread Spectrum and AAE Tone channels. AAE V-NAV channels. HPR 400 channels. 1100, 1000, 1200A, 1300A Series Beacons, Digital Depth Transponders, AAE Release and Telemetry Beacons.
<b>Interrogation rate</b>	>2Hz refresh rate. Internally set or external key
<b>System</b>	Externally assessed for immunity and emissions; conforms to 89/336/EEC. RoHS compliant
<b>Cable length</b>	Max 150m

## Transceiver Performance

Accuracy is based on the correct speed of sound being entered, no ray bending and an acceptable S/N ratio

Position repeatability, calibrated and measured with SNR > 20dB rel.1µPa in a controlled test environment

Tranceiver	Console	Beam Pattern	Acoustic precision degrees	Acoustic % slant range	Internal AHRS precision	Acoustic + internal AHRS %	Acoustic + external AHRS %	Max range	Range resolution	UK Export control
EZT-2686-N	EZT-2692	180°	0.25° DRMS	0.45%	0.5°	1.49%	0.45%	995m	0.01m	No
EZT-2686-C	EZT-2692	180°	0.25° DRMS	0.45%	0.5°	1.49%	0.45%	2000m	0.01m	Yes
EZT-2780-N	EZT-2692	150°	0.07° DRMS	0.12%	0.5°	1.17%	0.12%	995m	0.01m	No
EZT-2780-C	EZT-2692	150°	0.07° DRMS	0.12%	0.5°	1.17%	0.12%	3000m	0.01m	Yes

## Options

Tilted head, 30° (EZT-2780-T)