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.

Dimensions	19" Rack mount. 2U, 482 x 88 x 345mm
Weight	5.4kg
Power requirements	90 to 250 Vac at 250 VA maximum
Connection to transceiver	Rear panel connector
Built-in PC	Industrial i7 running embedded W10, 64GB SSD
Temperature	Operating: -10° to +40°C Storage: -20° to +50°C
Front panel indicators	LED indicators for power and serial status.
Serial communications	4 x RS-232 External Input Port. 3 x Data Out Ports
Data Output	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
Compass Input	SGB-HTDS, SGB-HTDt, NMEA HDT,HDM, HDG
VRU Input	TCM-2.X, $HCXDR , TSS1
GPS / DGPS Input	NMEA; GLL, GGA, RMC Geo Referenced Graphical Overlay. GeoTiff, DXF
Target Heading Input	NMEA HDM, HDT, HDG, PNI TCM2
Target Depth Input	NMEA DBT, DBK, DBS, DPT, AAE
Time in	GPS Time synch
Responder Output	Positive 12V pulse 5ms long
USB	6 ports available, 2 on front panel
Ethernet	2 x 1Gbps standard RJ45 jack. Ethernet UDP Data Port
Audio	Audible activity indicator

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Nexus 2 Technical Specification

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

TRANSCEIVER, TYPE EZT-2782 and EZT-2780 SPECIFICATIONS

Material	Stainless steel
Weight in air/water	2782: 16kg/11kg 2780: 21kg/15kg
Dimensions	2782: 200mm Ø x 432mm 2780: 200mm Ø x 432mm
Temperature	Operating: -10º to +40ºC Storage: -20º to +50ºC
Depth rating	30m
Electrical supply	48Vdc (from console)
Depth sensor (Pressure Sensor)	5 bar, accuracy 0.25% between -10º to +40º C
Temperature sensor	1º resolution between -10º and +40º C
Frequency band (MF)	18 - 32 kHz
Tracking beam pattern	2782: 180º 2780: 170º calibrated acoustic coverage, optimum performance within 150º
Transmitter	Variable, typical max 192dB re 1µPa at 1m
Compatible transponders	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
Interrogation rate	>2Hz refresh rate. Internally set or external key
System	Externally assessed for immunity and emissions; conforms to 89/336/EEC. RoHS compliant
Cable length	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	170°	0.07° DRMS	0.12%	0.5°	1.17%	0.45%	995m	0.01m	No
EZT-2780-C	EZT-2692	170°	0.07° DRMS	0.12%	0.5°	1.17%	0.45%	4000m	0.01m	Yes

Options

Tilted head, 30° (EZT-2780-T)

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