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Easytrak Nexus 2, Advanced USBL

| Section | 100 Display Data Mode Incom | Sect

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
- Data telemetry options
- Common interrogate frequency
- 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.



Nexus 2, Technical Specification

NEXUS 2 CONSOLE, MODEL 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 i3 board running embedded Win 7, 32GB HD

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



Nexus 2 Technical Specification continued...

TRANSCEIVER, TYPE 2686 and 2780 SPECIFICATIONS

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

Material Stainless steel
Weight in air/water 2686 16kg/11kg
2780 21kg/15kg

Dimensions 2686 152mm Ø x 432mm 2780 200mm Ø x 432mm

Temperature Operating: -10° to +40°C Storage: -20° to +50°C

Depth rating 30m Electrical supply 48Vdc

Depth sensor (Pressure Sensor) 5 bar, accuracy 0.25% between -10° to +40° C Temperature sensor 1° resolution between -10° and +40° C

Frequency band (MF) 18 - 32 kHz Tracking beam pattern 180°

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

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





