

Easytrak Nexus 2 Max USBL, Model 2698



Key features

- Bi-directional Sigma 2 Spread Spectrum acoustics
- Optimised beacon refresh rate
- UDP inputs/ Outputs
- 16 target tracking
- Geographical navigation overlays
- Serial protocol allowing RS-485/ RS-422/ RS-232
- NTP Time Sync
- Diver charts and reporting
- EasyCal 2 embedded calibration tool with AutoCal Wizard
- When used with 1100 series beacons MiQ data telemetry and Multi-Fire common interrogate functionality

Easytrak Nexus 2 Max Overview

The Nexus 2 Max is the next 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 Max 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 Max 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 Max particularly effective for long layback towed applications.

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

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

Nexus 2 Max Technical Specification

NEXUS 2 MAX CONSOLE, MODEL EZT-2698

Dimensions	19" Rack mount. 2U, 482 x 88 x 345 mm
Weight	6.15 kg
Power requirements	90 to 250 V AC at 250 VA maximum
Connections to transceiver	Rear panel connector
Built-in PC	Windows 10 running embedded W10, 64GB SSD
Temperature	Operating: -10 °C to +40 °C Storage: -20 °C to +50 °C
Front panel indicators	LED indicators for power, serial and ethernet status
Serial communications	4 x RS-232/ RS-485 External Input Port. 2 x Positional Data Out RS- 232 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	\$PRDID, \$HCXDR , TSS1
GPS / DGPS Input	NMEA; GLL, GGA, RMC Geo Referenced Graphical Overlay. GeoTiff, DXF
Target Heading Input	NMEA HDM, HDT, HDG
Target Depth Input	NMEA DBT, DBK, DBS, DPT, AAE
Time in	GNSS (GPS) Time sync. NTP sync
Responder Output	4x Responder Output BNC. 12 V pulse 4.4 ms long
USB	6 ports available, 2 on front panel
Ethernet	1 x 1 Gbps standard RJ45 jack. UDP Data In/ Data Out/ Network connection

Nexus 2 Max Technical Specification

EASYTRAK TRANSCIVER, TYPE EZT-2782 & EZT-2780

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

Material	316 Stainless Steel
Weight in air/water	2782: 16 kg/ 11 kg 2780: 20 kg/ 15 kg
Dimensions	2782: 200 mm Ø x 432 mm 2780: 200 mm Ø x 432 mm
Temperature	Operating: -10 °C to +40 °C Storage: -20 °C to +50 °C
Depth rating	30 m
Electrical supply	48 V DC (from console)
Depth sensor (Pressure Sensor)	5 bar, accuracy 0.25% between -10 °C to +40 °C
Temperature sensor	1° resolution between -10 °C and + 40 °C
Frequency band (MF)	18 – 32 kHz
Tracking beam pattern	2782: 180° 2780: 170° calibrated acoustic coverage, optimum performance within 150°
Transmitter	2782: Variable, typical max 192 dB re 1 µ Pa at 1m (RMS) 2780: Variable, typical max 195 dB re 1 µ Pa at 1m (RMS)
Compatible transponders	aae Sigma 3, Sigma 2, Sigma 1 Digital spread spectrum and aae Tone channels 1100, 1000, 1200A, 1300A Series beacons, Digital Depth Transponders aae Release and Telemetry beacons aae V-NAV channels. HPR 400 channels
Interrogation rate	0.5s refresh rate. Internally set or external key
System	Externally assessed for immunity and emissions; conforms to 89/336/EEC. RoHS compliant
Cable length	50 m as standard (150 m max)

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 > 20 dB rel.1 μPa 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
2782-N	EZT-2698	180°	0.14° DRMS	0.25%	0.4°	1.30%	0.25%	995 m	0.01 m	No
2782-C	EZT-2698	180°	0.14° DRMS	0.25%	0.4°	1.30%	0.25%	2000 m	0.01 m	Yes
EZT-2780-N	EZT-2698	170°	0.07° DRMS	0.12%	0.4°	1.17%	0.12%	995 m	0.01 m	No
EZT-2780-C	EZT-2698	170°	0.07° DRMS	0.12%	0.4°	1.17%	0.12%	4000 m	0.01 m	Yes

Options

Compatible with EZT- 2686 Nexus 2 transceiver

