APPLIED ACOUSTICS
Underwater Technology



Easytrak Lite

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Easytrak Lite USBL System

: Accurate and stable

: Easy to operate

: Tracks on the horizontal

: Approved for military use

Easytrak Lite is an Ultra Short Baseline (USBL) underwater positioning and tracking system that has developed a solid reputation for reliable, positional accuracy and versatility.

The system consists of a transducer and cable, a 2U rack mounted console and operating software. The Easytrak Lite system is completed by one of Applied Acoustics' beacons attached to the target object, though up to 4 individually identified subsea targets can be positioned simultaneously.

Both the system itself and the accompanying software interface have been developed and refined for uncomplicated user-friendly operation, so that even a relatively inexperienced user can proceed very efficiently and with confidence.

The ETM902C transducer was designed specifically to be small and relatively heavy, allowing it to be suspended by the cable supplied with the system. Alternatively, a range of fittings are available for a variety of deployment methods, from a simple scaffold arrangement to a complex through hull gate valve based system.

Arranged inside the rugged transducer assembly is a multi element receive array and a single powerful omni-directional transmitter. A pitch, roll and magnetic heading sensor is also included in the assembly, and factory calibrated to the transducer array. The factory corrections reside in the transducer electronics, and when connected to the Easytrak system, the corrections will automatically transfer to the software.

Easytrak Lite software is simple to use with an intuitive drop down menu and provides many facilities found in more costly systems. When in use with a GPS or similar system, the software will automatically calculate the UTM zone. As standard, the software can accept external pitch, roll & heading sensors.

Designed for 'dry ops' installation in a vessel's Operations Room, the 2U high 19" rack mount console unit supplied with the system connects directly to the transducer assembly using a single connection, and to a PC running Easytrak Lite software. This topside unit also contains DSP receive electronics and some of the transmit electronics. External sensors can be added via clearly marked connectors.

The flexibility of the Easytrak design allows it to detect a variety of underwater beacon types, including some of the Applied Acoustics' release beacons, and positioning beacons produced by other manufacturers.



Technical Specification

EASYTRAK LITE CONSOLE, MODEL 2661

Size	19" Rackmount. 2U. 482 x 88 x 345mm
Serial communications	RS-232. USB to RS-232 adaptors available
Power requirements	90-250Vac at 50VA
PC requirements (min)	1.2GHz running Windows XP, Windows 7. USB or up to 3 x RS-232 port. Colour display, 1024 x 768. CD Rom drive
Data Output	AAE format, TP-2EC TP-EC W/PR, Simrad 300P, Simrad 309 (binary) $PSIMSSB, $PSIMSNS (One string after the other for each fix) $GPRMC (Suitable for Coda Octopus 460P and others) KLEIN 3000, $GPGGA and $GPVTG. Internal data logging
Compass Input	TCM-2.X , SGB-HTDS , SGB-HTDt, $HEHDT, $HDHDM, $HDHDT, $HDHDG
VRU Input	TCM-2.X, $HCXDR , TSS1
GPS / DGPS Input	NMEA; GLL, GGA, RMC
Sync. Input	TTL type 5 Volt pulse. Triggers on rising edge.
Responder Output	Positive 12V pulse 5ms long

TRANSDUCER, TYPE ETM902C

Aluminium-Bronze transducer. May be tilted by 20° for towfish tracking

Dimensions	375mm long x 100mm diameter
Weight	Transducer: 9.5kg in air, 7kg in water
Depth Rating	50 metres

TRANSDUCER CABLE

Diameter	12.8mm nominal
Colour	Yellow
Length (xx)	20 – 60m standard lengths available
Connectors	Supplied
SWL	20kg (Allows transducer to be deployed from cable)

ACCURACY/PERFORMANCE

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

Slant Range accuracy	10cm
Position accuracy, standard	1.40° drms. 2.5% of slant range. Acoustic accuracy excludes heading errors
Position accuracy, high	0.60° drms. 1.0% of slant range. Acoustic accuracy excludes heading errors
Bearing Resolution	0.1° displayed. Internally calculated to 0.01°
Heading sensor accuracy	0.8° rms standard; +/- 0.1° resolution/repeatability
Pitch/Roll sensor accuracy	+/- 0.2° rms; +/- 0.1° resolution/repeatability
Channels	4 channels displayed from 134 stored
Frequency Band (MF)	Reception 22 - 32kHz Transmission 17 - 26kHz
Tracking Beam Pattern	> Hemispherical
Beacon Types	Transponders, Responders and Pingers
Interrogation Rate	0.5 - 30 seconds or external key
Transmit Power	178/185/190dB software controlled
CE Marking	Externally assessed for immunity and emissions. Conforms to 89/336/EEC

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