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VR28 Tracking System

Real-time, directional tracking system

Receivers

The VR28 Tracking System provides researchers with real-time, directional information on acoustic pingers and data telemetry tags. The basic system consists of a four module ultrasonic receiver connected to a four element hydrophone array that provides 360 degrees of monitoring coverage. A bearing estimate and identification information on a transmitter are displayed in real time using a PC. The system can also be used with GPS equipment for determining true world position information.

Typical uses for the VR28 include tracking applications in the open ocean or large bodies of water, tracking very fast moving animals, or tracking animals with "coded" tags (and therefore infrequent code bursts). These infrequent and short (approx. 3 seconds) ping trains from coded tags are difficult to track with single element hydrophone receivers such as the VR100 and VH110 hydrophone. The VR28, however, gives a directional heading for each ping received.

The VR28 Tracking System receives and decodes all Vemco tags, including depth and temperature transmitters. The transponding version of this tracking system, the *VR28T*, can communicate with CHAT Tags.



The VR28 Tracking System includes a four channel receiver, a four element hydrophone & headphones. The VFIN depressor and low noise cable are recommended for towing applications.

How the System Works

The VR28 Tracking System contains four separate VR21 receiver modules [port, starboard, bow and aft]. The VR28 controller module resides in the VR28 case and coordinates communications with the four internal VR21 receiver modules as well as with the PC or laptop.

Specifications:

Frequency range	10 kHz to 100 kHz [100 Hz increments]
Dimensions [Apx].	16 cm high x 51 cm wide x 35 cm deep
Weight	Apx. 12 kilos [VR28 only]
Serial communication	Computer controlled via RS-232C port
Hydrophone types	VH40 [69 kHz]; VH41 [50 kHz]; VH42 [33 kHz]
Gain control	Automatic or manual
Current draw	280 mA typical
Bandwidth	500 Hz
Power required	12 VDC (10 - 14.5V), 1 Amp.

Contact us

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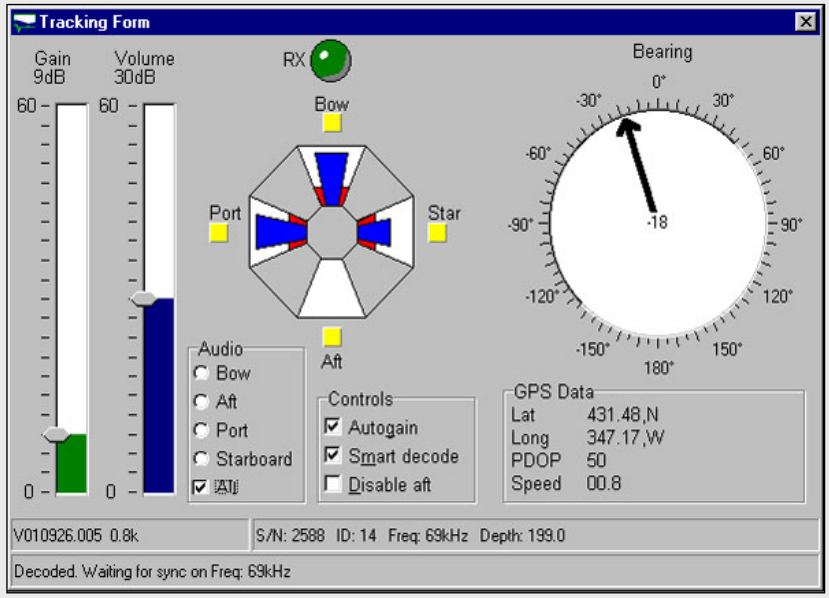
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VR28 Software-TRACK28

The user supplied computer controls all VR28 Tracking System functions, including frequency, receiver gain, headphone volume and selection of which channel goes to audio output. All data received by the VR28 is saved to a disk file by the computer.

TRACK28 software is used to communicate with the VR28. TRACK28 displays tag identification data, an estimate of heading, and GPS (if in use). Three types of GPS data can be logged in TRACK data files: latitude/longitude, speed, and position dilution of precision (PDOP).

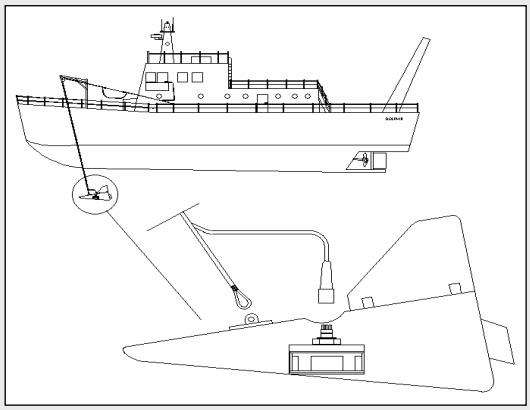
The minimum system configuration is a Pentium II, 500 MHz, 64 megs RAM, and a serial port (two for GPS).



Sample screen using TRACK28 software. Based on the signal strength in dB from each hydrophone element, a position estimate of a tag is calculated in real time. GPS data can also be displayed along with tag identification information.

Depending on the frequency range of the transmitters being tracked, the VR28 can be fitted with one of three hydrophone types:

VH40 Hydrophone	Resonant @ 69 kHz [for use at 50 - 76 kHz]
VH41 Hydrophone	Resonant @ 50 kHz [for use at 34 - 50 kHz]
VH42 Hydrophone	Resonant @ 33 kHz [for use at 28 - 33 kHz]





The VFIN depressor unit and haired fairing cable help to reduce acoustic noise associated with towing a hydrophone alongside a moving vessel. The underside of the VFIN has a mounting bracket for a VH40/VH41/VH42 hydrophone.

For more information on the specific applications of VR28 technology or for technical details, please contact VEMCO.

When What's Beneath the Surface Counts

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