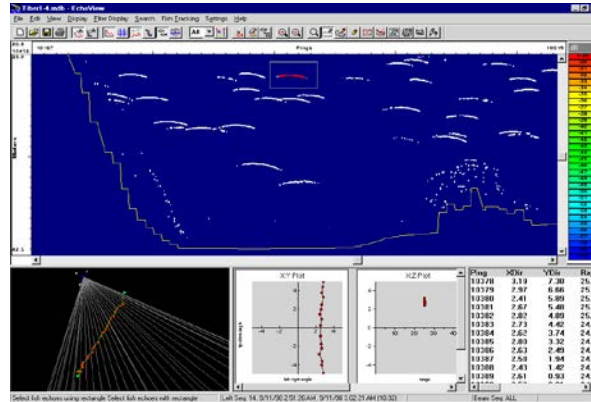


EchoScope is a versatile, interactive post-processing program that writes hydroacoustic data to a database, performs data analysis, and displays results. *EchoScope* offers a straightforward means of selecting individual fish traces or fish aggregations from data files output by HTI *Model 240-series Split-Beam Systems*. Fish traces can be instantly retracked and displayed multiple times. This feature is useful for quickly refining tracking parameters (e.g., pulse shape, minimum threshold, etc.) and immediately observing the results. *EchoScope* allows multiple fish summary files (*.FSH) to be concatenated into daily files. By setting criteria for any or all fields in the input files, the data fields included in the concatenated file can be selected to include only those of interest. Data is output as *MS® Access* database files with multiple tables for easy sorting and selecting of tracked fish, echoes, and echo integration summaries

A Brief Overview:

- Selection and de-selection of individual echoes for a specific fish track.
- Selection and de-selection of individual fish aggregations for echo integration.
- *Windows2000*-based program, using a mouse for selection of echoes and schools.
- For fast multiplexed data, *EchoScope* displays all echoes, or a single channel at a time.
- Provides instant, automatic tracking of acoustic fish data on screen, with unlimited retracking of fish traces.

ECHOSCAPE



- Target Tracking:** Permits selection and de-selection of individual echoes for a specific fish track.
- Echo Integration:** Permits selection and de-selection of individual echoes for a specific fish track.
- Data Displays:** Three-dimensional and two-dimensional displays of fish tracks are available.
 - Echogram display (i.e., range vs. time).
 - Three-dimensional fish tracks (X, Y, and range).
 - Display of data for individual selected echoes: time, position, pulse width, target strength.
- Data Files Accepted:** The following data output files from HTI's *Model 241 Portable Split-Beam System*, *Model 243 Digital Split-Beam System*, and *Model 244 Multi-Frequency System* are accepted by *EchoScape*:
 - Raw Echo File (*.RAW):** Contains a record every raw echo that meets user-supplied minimum threshold and pulse width selection criteria. Includes echo amplitude, pulse width, and three-dimension location for each raw echo.
 - Tracked Echo File (*.ECH):** Contains a record for each raw echo that meets the user-specified fish tracking criteria, including three-dimensional location, pulse width, peak voltage, overall beam pattern factor, and target strength.
 - Tracked Fish File (*.FSH):** Summarizes all echoes within each fish tracked through the acoustic beam. Data include mean target strength, fish speed, start X, Y, and Z coordinates, distance travelled in each direction, and transducer number.
 - Echo Integration File (*.INT):** Summarizes mean squared voltage values, by range strata.
- Operating System:** *Microsoft Windows2000*®, using a mouse for selection and de-selection of individual echoes and fish schools.
- Database:** *Microsoft Office Access*®.
- Computer Requirements:** Minimum Pentium PC 200 MHz with *MS*® *Windows95* or *Windows98* and *Microsoft Windows Access*®, 32 MB RAM. Contact HTI for further specifications.
- Note:** An HTI *DemoCD* is available for *EchoScape* and other HTI software packages. All specifications subject to change without notice.

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