ECHOSOUNDER
Simrad ES60 Series

SIMRAD

Advanced multipurpose Echosounder with single, dual or split beam

ALWAYS AT THE FOREFRONT OF TECHNOLOGY

SIMRAD
A KONGSBERG Company

Simrad ES60 Echosounder – with Single, Dual or Split Beam

New features are introduced into the high performance Simrad ES60 range of professional fish finders. The Simrad ES60 is designed for the fishermen, using the latest technology available. High performance at any depth, easy operation and remote control are key elements in our design.

Configure your own Fish Finder system.

By choosing various modules, with different transceiver frequencies, transmitting powers and transducers you can build a fish finding system to suit your needs.

A Simrad ES60 system can have a choice of up to four high power transceivers. For highest performance these are installed close to the transducer and linked to the bridge with a single data cable. Frequencies are available from 12kHz to 200 kHz, with up to 4 kW transmitting power.

The flexible installation in the wheelhouse, with a variety of display sizes, can fit any sized bridge. With the handheld roller ball, the processor unit can be stowed away, thereby taking up less space. A variety of highly efficient ceramic transducers will suit any type of fishery in shallow or deep waters.

Configure your own screen presentation.

With the roller ball you can design your own display picture to suit your special needs by sizing the different windows on the screen for Echogram, Bottom expansion, A-Scope and Digital depth. On a split beam version also the Size distribution/Fish plot area.

Simplified operation

Gain and Range settings are controlled directly from the roller ball without going into a menu. All functions are easily controlled with just a click on the screen. A detailed operator manual in your own language is accessed from the help menu.

System software

The Simrad ES60 is delivered with the system software installed, ready to use. Future software upgrades are easily installed from a CD-ROM on the built in CD-ROM reader.

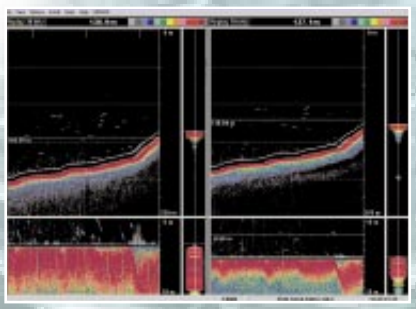
Unique features

- Up to four frequencies shown on the same display
- Each frequency can be operated independently
- Memory of favourite settings
- Unlimited range selections
- Separate gain-settings for fish, schools and bottom
- Dual high performance receivers with 140dB dynamic range
- Recording memory
- Split Beam feature with true fish size and volume
- Bottom discrimination data output to Simrad CM60 Chart Mapping system

Dual frequency

Triple frequency

Quad frequency with two monitors



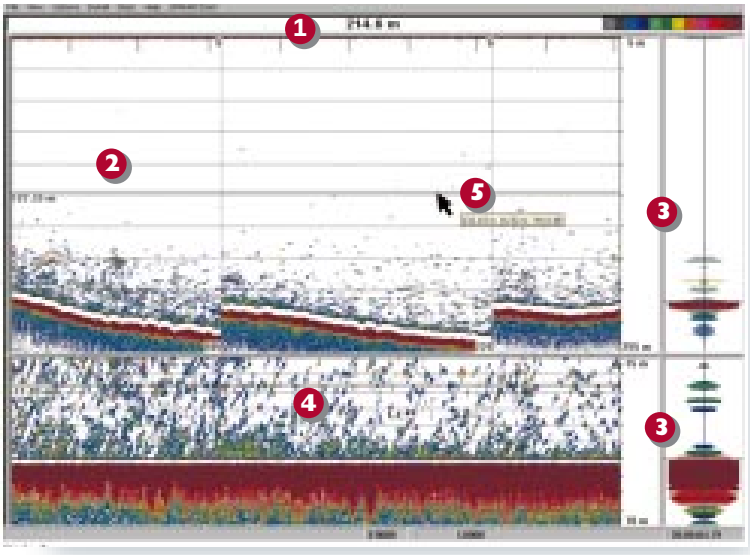
Night display with split screen

Using the split screen mode, both transducer frequencies are shown simultaneously. Dual frequency presentation improves the ability to separate and identify echoes from various fish species.

Flexible solutions

The Simrad ES60 can have multiple external transceivers with one or two frequencies, single or split beam. With the addition of one more processor unit and monitor, any combination of frequencies can be shown on either display.

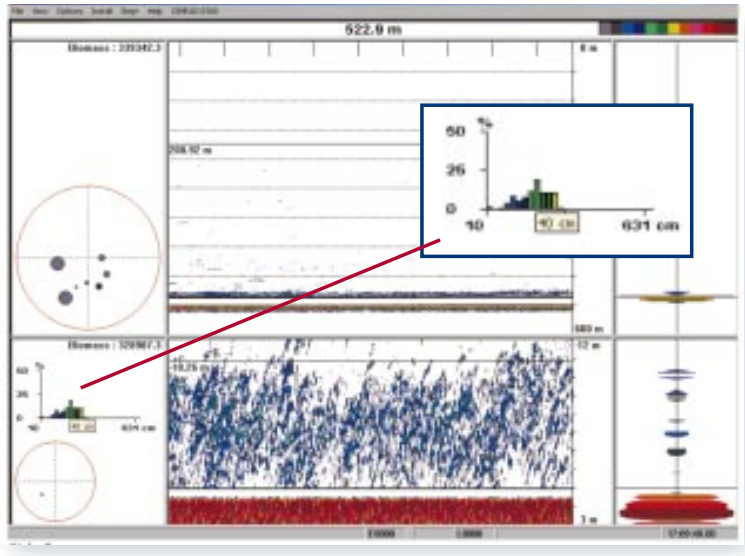
Simrad ES60 - The ultimate fish finder...



1. *Bottom Depth*, **2.** *Echogram*, **3.** *A-Scope/Fish loupe*, **4.** *Bottom expansion*, **5.** *Depth, transducer coverage area and Gain*

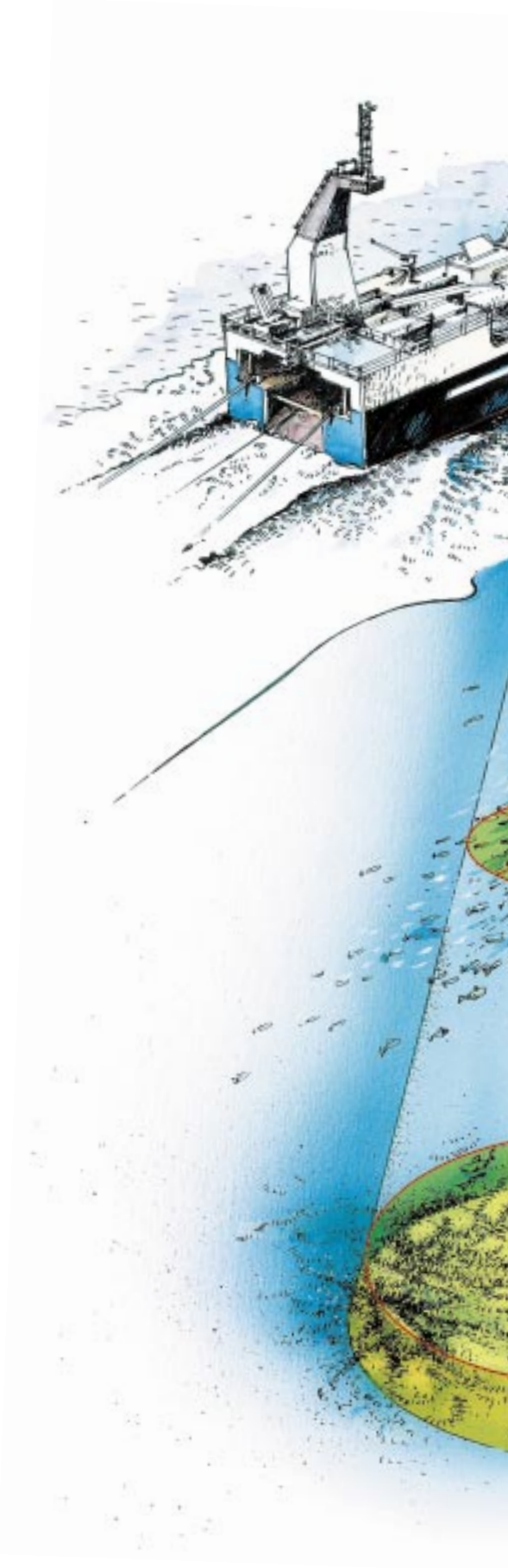
Large echogram memory

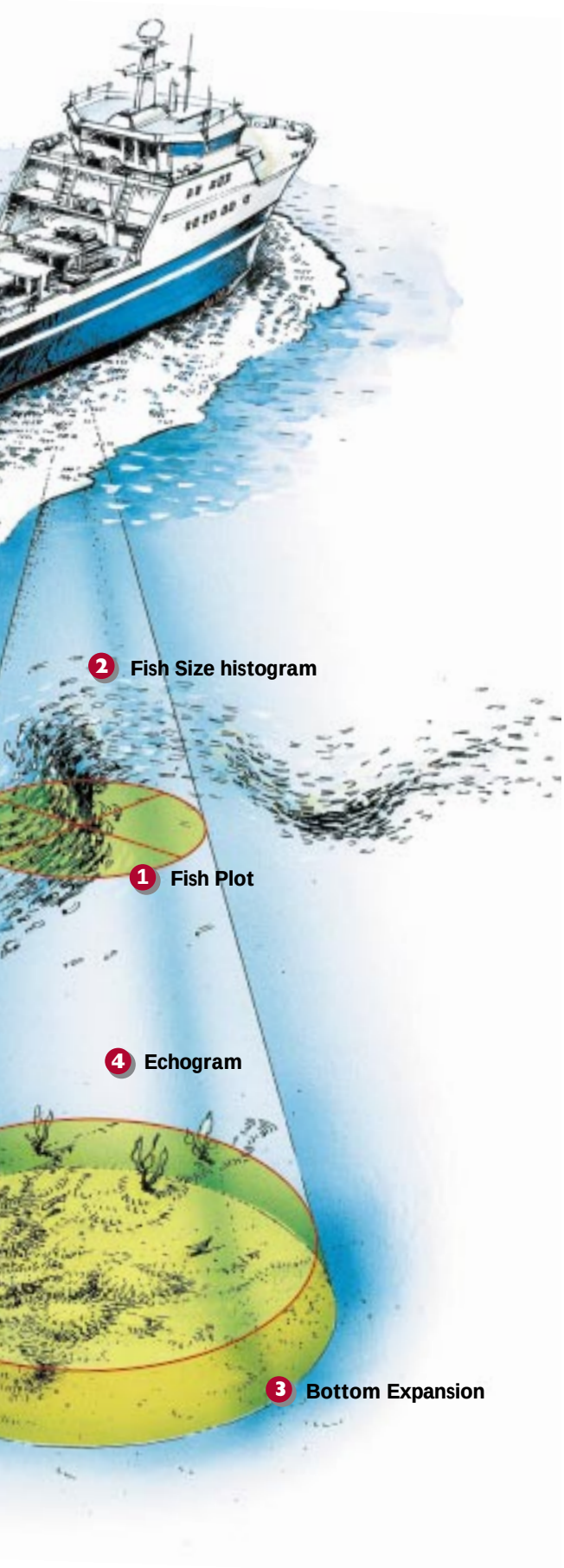
The large memory capacity in the Simrad ES60 allows many hours of echograms to be stored. The recorded data can be replayed at high speed and presented in a few minutes. The replay can be done with different Gain, TVG and Range settings.



Split Beam Technology

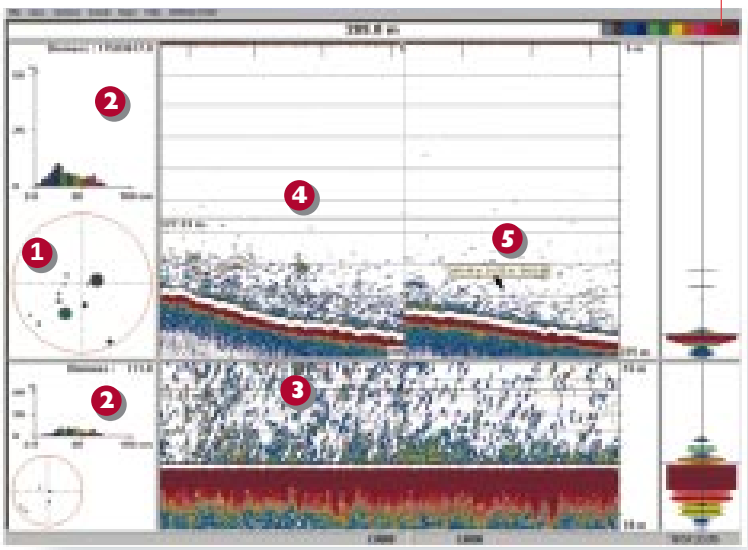
Fishery scientists use this unique Simrad feature world-wide. The 38kHz recording show 40 cm Argentines at more than 400 meter depth. The fish size analyzer (see detail image), depicts true fish size by echo color, and size distribution on a bargraph.





True fish size with split beam technology

The Simrad ES60 Split Beam is a calibrated sounder that shows echo colors in true fish sizes. The fish plot shows single fish targets for distinguishing fish from bait.



1. Fish Plot
The fish plot presentation is a single fish position tracking display and indicates where the fish is in the echosounder beam.

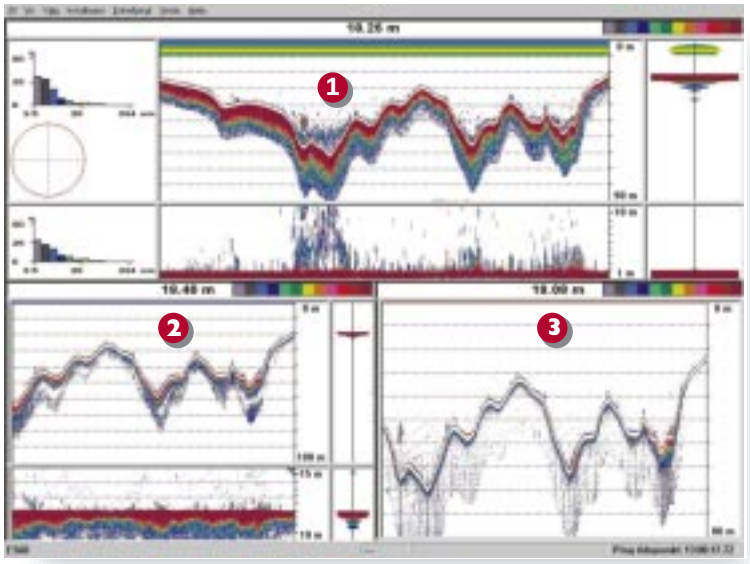
2. Fish Size Histogram.
A fish size analyzer, depicting true fish size by echo color, and size distribution on a bargraph.

3. Bottom Expansion
Bottom locked scale expansion.Gives more detailed information of fish close to the bottom.

4. Echogram
A high performance, multi-frequency deep water fish finder with a large dynamic range. Single fish detection below 1000 meter.

5. Indication of depth in meters
- the diameter of transducer coverage area and the Gain setting, can be selected at any point in the echogram.

Multi-frequency presentation



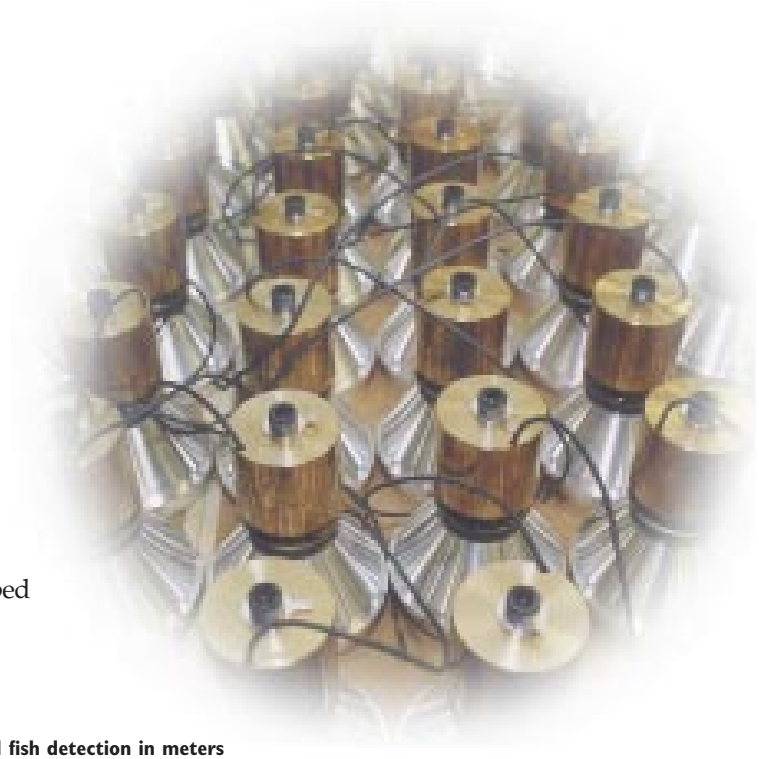
Improved catchability with multi frequency presentation.
1. *18 kHz* **2.** *38 kHz* **3.** *200 kHz.*

Simrad Combi Transducers - more effective and highly sensitive at any depth

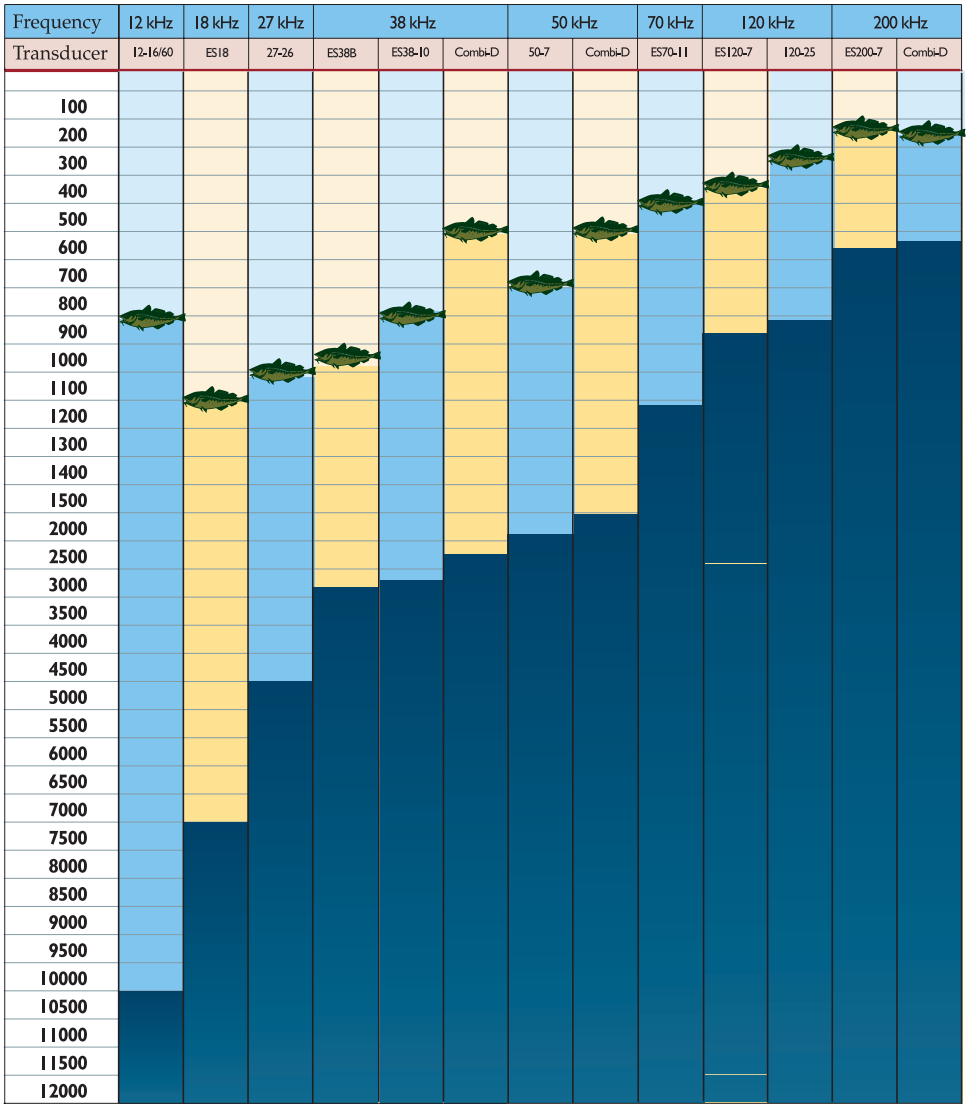
New transducers have been designed for the fishing industry using the very latest Simrad technology. Connected to a Simrad Echosounder, these instruments are highly sensitive at any depth and capable of detecting single fish below 1000 meters.

Through new developments in design Simrad transducers are more efficient therefore requiring less power than the competitor's transducers to perform equally or better. A Simrad 1kW transducer compares often to transducers needing up to 3kW to perform equally.

The importance is how much energy is transmitted into the water from the transducer and not how much energy is pumped into the transducer for there to be converted mostly to heat.



Detection depths. **Bottom and fish detection in meters**



Modern manufacturing of high technology transducers demands the utmost of accuracy, cleanliness, patience and hours of testing.

ES 200-7 / 120-7

Combi-D

ES 38-10 / 38-9/ 50-7

The diagram shows calculated detection depth to the bottom and a single 60 cm cod for different frequencies and transducers.

Main menu

Operation dialog box

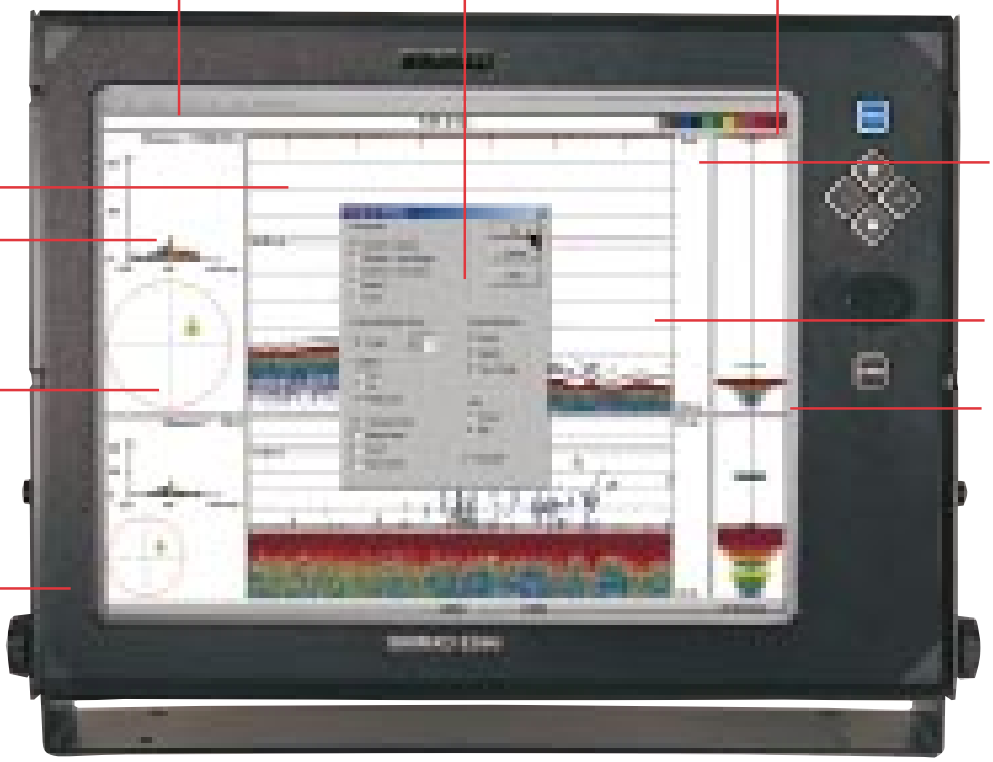
Gain dialog/color threshold

15″ high resolution, non-flickering color LCD monitor

Split beam gives color bars with true fish size

Echo trace diagram

Rugged housing designed for the marine environment

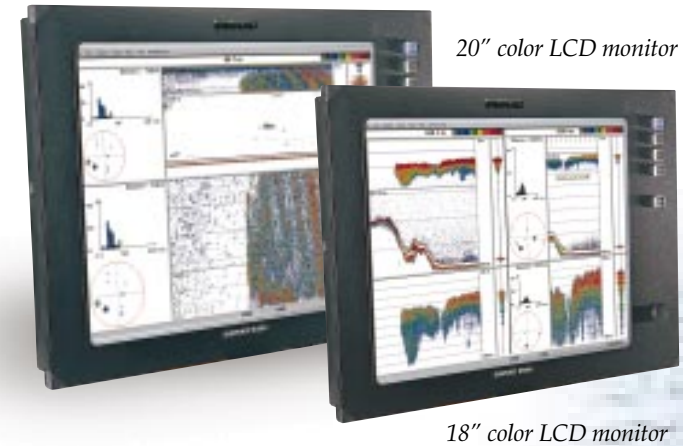


Range dialog

Echogram dialog

Fish loupe/A-Scope

The LCD display can be bulkhead mounted or flush mounted to suit your requirements

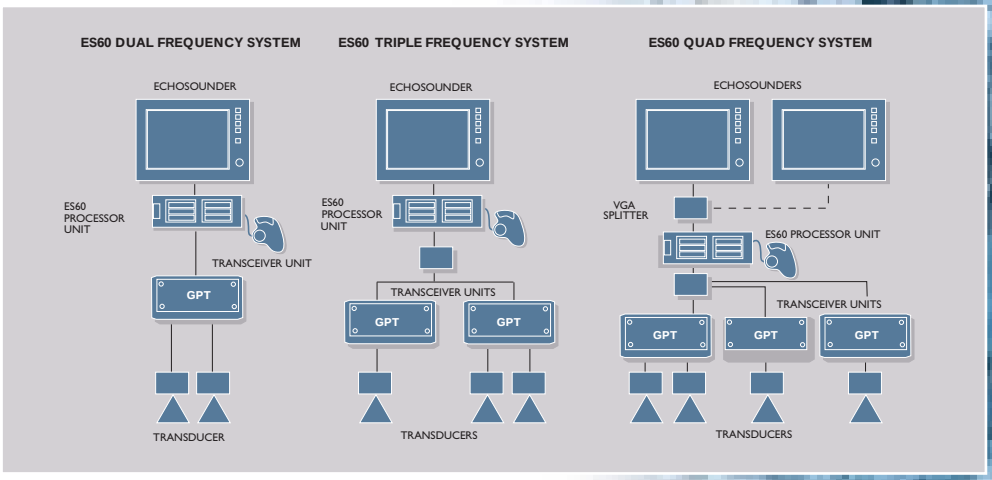


20″ color LCD monitor

18″ color LCD monitor

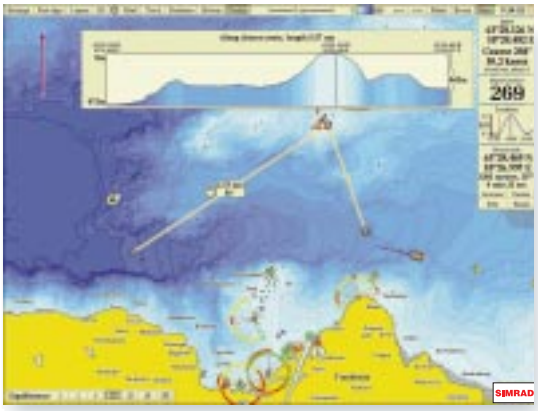
New compact Processor Unit

- for easy and space saving installations

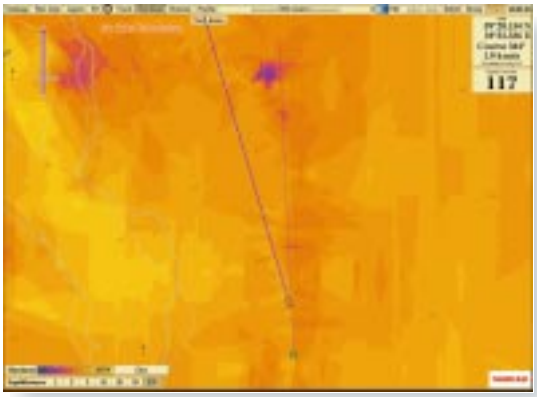


Simrad CM60 - New Automatic seabed mapping system with chart plotting function and bottom discrimination

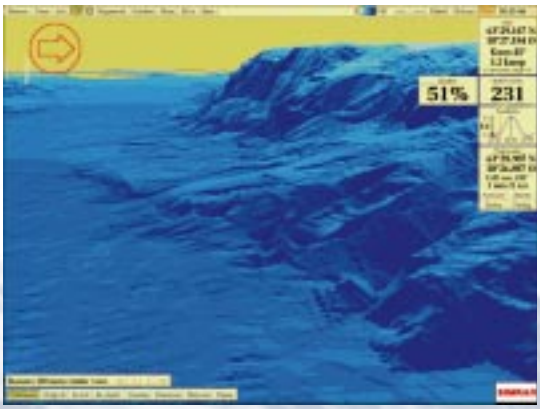
The Simrad CM60 is a 2 and 3 dimensional chart mapping system. Connected to the ES60 you can make detailed seabed maps with bottom data. It will give you a full overview that provides more accurate, effective, profitable and responsible fishing.



Easy route planning with bottom profile along the whole route.



Trawling with Simrad ITI Trawl Instrumentation gives tracking of both vessel and trawl. Note the difference in heading for the vessel and trawl.



3D full view presentation of surveyed area.

Make your own 3D maps

The Simrad CM60 is a high-speed dedicated fishery plotter that uses the echosounder depth data and the GPS lat/long data to generate topographic seabed maps in real time. The results are combined with the latest vectorised surface maps to form a powerful and complete three dimensional navigation system.

Surface navigation uses today's official S57 electronic charts or the CM-93 world coverage vector charts from C-Map. The new seafloor map generated by the Simrad CM60 is integrated with the vectorised charts, and the combination appears as one seamless chart thereby improving the details on the original seabed chart.

Detection and mapping of bottom hardness

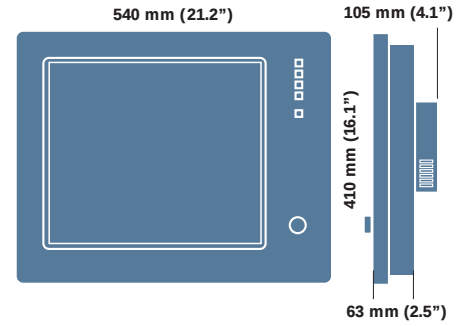
The raw data from the Simrad EQ/ES60 echosounder is used to deduce the seabed hardness.The hardness is coded in colors from dark purple for soft bottom to yellow indicating hard bottom. The echogram from the Simrad sounder is displayed in a window in the plotter giving a one screen presentation.

CM60 features

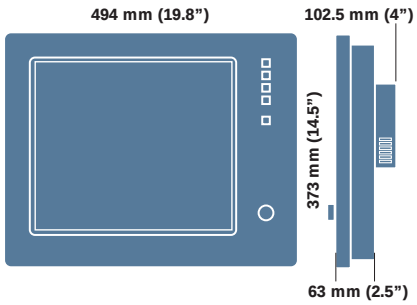
- *Generates high resolution bottom maps. (5 m resolution with regular GPS)*
- *A complete navigation plotter with intelligent handling of vectorised charts*
- *Combines own generated bottom mapping with the official vector charts*
- *Gives you the opportunity to inspect the data and correct for measuring errors*
- *Has a number of tools analysing the bottom topography, bottom profile, bottom zoom, 3D and relief*
- *Has no limitations as to number of depth measurements*
- *Can handle charts from the whole world at the same time*
- *Processes huge amount of data virtually in true time*
- *Continually improves its own generated bottom maps with new data*

- See separate Simrad CM60 broshure for more details

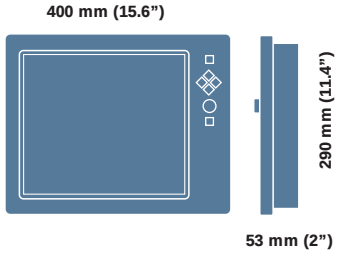
Technical Specifications



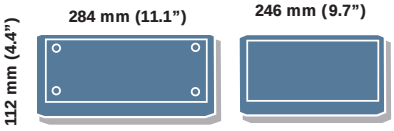
20" Color LCD Monitor



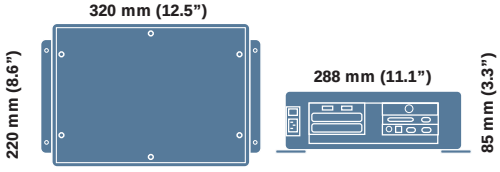
18" Color LCD Monitor



15" Color LCD Monitor



General Purpose Transceiver



Processor Unit

Display size:
15, 18 or 20 inch LCD Monitor

Resolution: 1024 x 768 pixels

Operation:
Windows operation with roller ball

Languages:
English, Spanish, French, Icelandic, German, Dutch, Norwegian

Range:
Min. 5 meter. Max 5,000 meters
Manual, auto start, auto range

Phasing: Manual or auto.

Bottom expansion:
Min. 5 meter. Max 5,000 meter

A-scope:
Screen, layer or expanded area

Internal memory:
Recordings on harddisk and 400 pages of echogram

Color Printer: Option

Variable Sound Velocity
1400 to 1700 meter/sec.

Data output (NMEA 0183)
Bottom output to sonar, trawl system, chartplotter etc.

Data output LAN (Ethernet)
Bottom discrimination data to Simrad CM60 chartplotter

Data input (NMEA 0183)
Trawl depth from ITI or FS depth sensor
Trawl height from ITI sensors
Lat./Long. from GPS
Net depth from PI30 Purse Seine System

Supply voltage: 95 - 265 V AC

General Purpose Transceiver, GPT

Operating frequencies: 1 or 2

Split Beam frequencies:
18, 38 , 70, 120 and 200kHz

Single Beam frequencies
12, 18, 27, 38, 50, 70, 120 or 200 kHz

Power output:
12kHz: Variable up to 2kW
18kHz: Variable up to 2kW
27kHz: Variable up to 3kW
38kHz: Variable up to 4kW
50kHz: Variable up to 2kW
70, 120 and 200kHz: Variable up to 1kW

Dynamic range in receiver: 140dB

Supply voltage:
95 - 265 V AC, 12V DC, 50-100W

Note: Specifications are subject to change without notice.

Supplier:

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