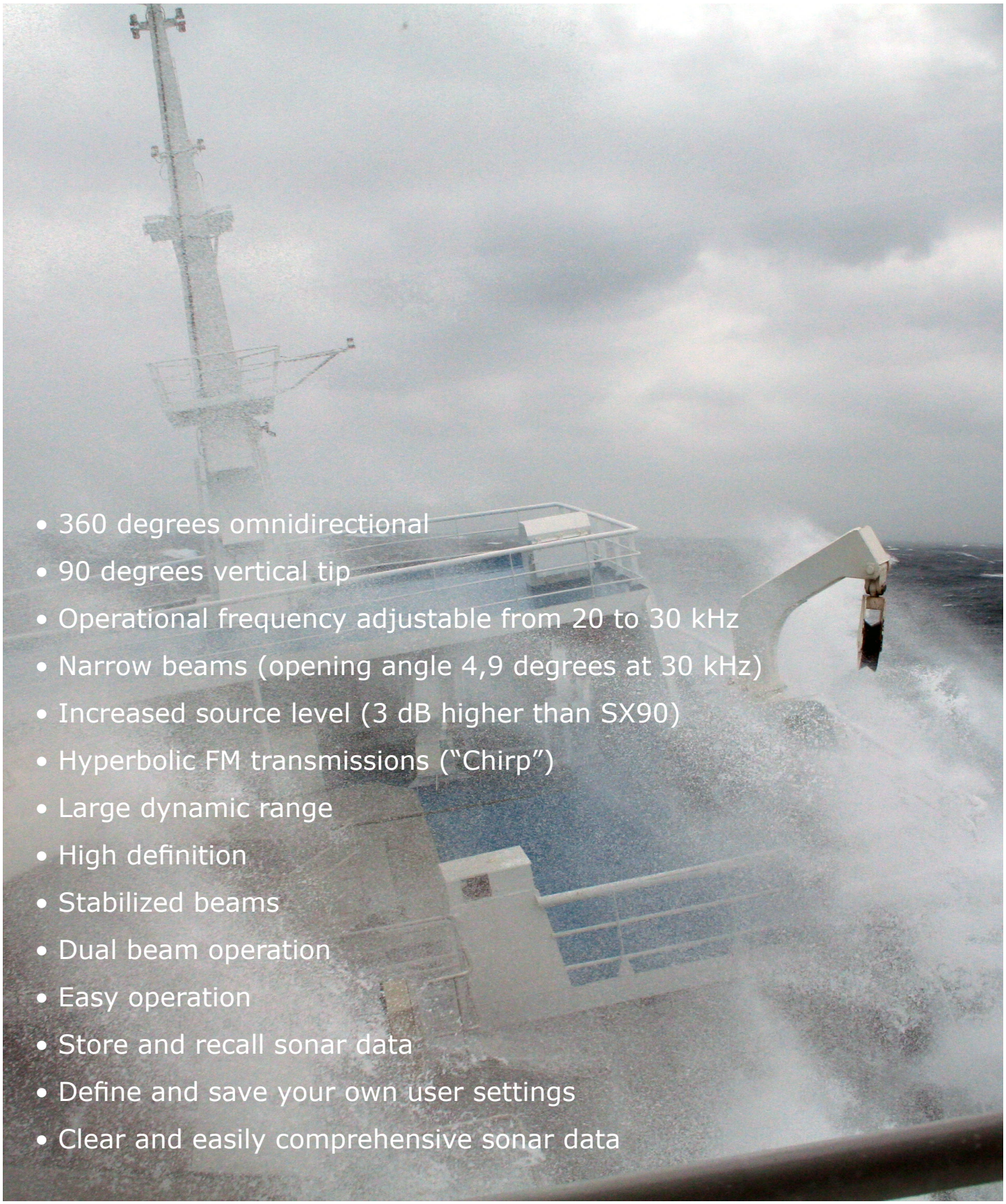
Simrad SU90
Fish finding sonar



- 360 degrees omnidirectional
- 90 degrees vertical tip
- Operational frequency adjustable from 20 to 30 kHz
- Narrow beams (opening angle 4,9 degrees at 30 kHz)
- Increased source level (3 dB higher than SX90)
- Hyperbolic FM transmissions ("Chirp")
- Large dynamic range
- High definition
- Stabilized beams
- Dual beam operation
- Easy operation
- Store and recall sonar data
- Define and save your own user settings
- Clear and easily comprehensive sonar data

The Simrad SU90 is a long range omnidirectional low frequency sonar. It is designed for medium and large sized fishing vessels, preferably for purse seiners, but it is also well suitable for trawlers.

If high performance is your only criteria when choosing a sonar; such as long range, high resolution, narrow beams and high source levels - the Simrad SU90 is the sonar for you. We made no compromises during the design of this sonar, or goal was to make the ultimate performance sonar.

The SU90 allows you to choose an operational frequency between 20 to 30 kHz (in 1 kHz steps). The cylindrical multi-element transducer allows the omnidirectional sonar beams to be tilted electronically from +10 to –60 degrees. This allows you to automatically track schools of fish, and to observe the whole water volume around the vessel. A stabilizing system is included for electronic pitch and roll compensation.

Compared to the Simrad SX90, the number of channels is increased by 50% giving the sonar an even better performance in selectivity and range.

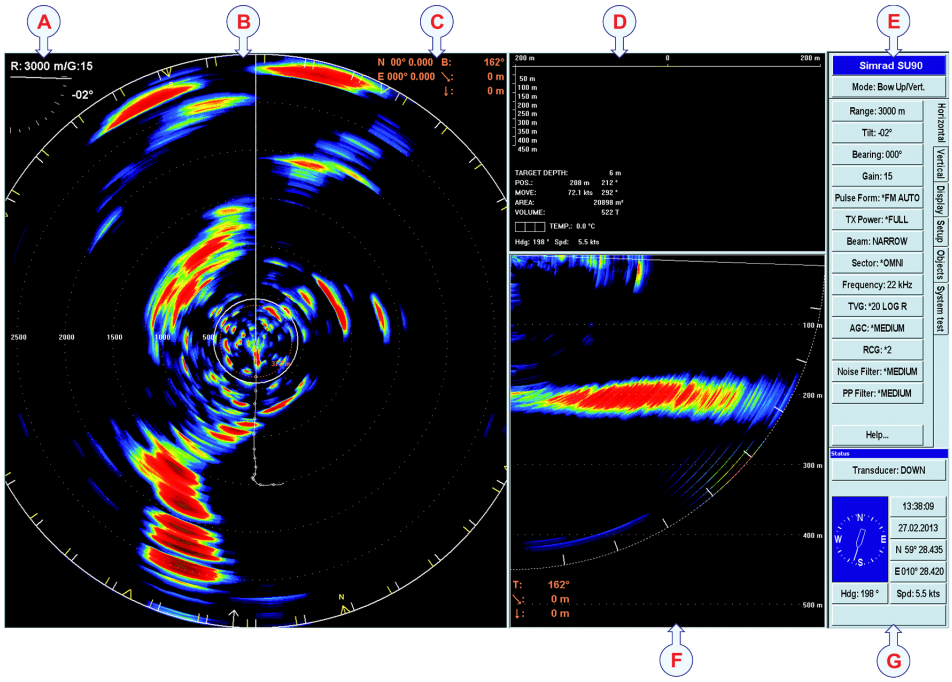
The narrow opening angle (4,9 degrees at 30 kHz) and the increased source level (3 dB) makes the SU90 a very powerful and high resolution low frequency sonar. The narrow beam makes the SU90 even more ideal for searching fish close to the bottom or close to the surface at long ranges. It also provides a far better vertical view with less “bottom climbing” that is seen on sonars with a wider beam.

Great emphasis has been placed on giving the best possible sonar presentations on a high resolution colour display.

The SU90 is equipped with Simrad’s celebrated signal processing software. It includes Hyperbolic FM transmissions (also know as “Chirp”) to ensure a clutter free picture with very high resolution in range.

The signal processing and beamforming is performed in a fast digital signal processing system using the full dynamic range of the signals. In addition to the traditional single frequency transceiver system, the SU90 contains an advanced frequency modulated filter system (FM).

The SU90 Processor Unit is controlled by the Microsoft® Windows® operating system, which result in a flexible choice of presentation modes for a large range of user applications.



This SU90 screen capture shows you a typical catch situation. The presentation provides you with a lot of information.

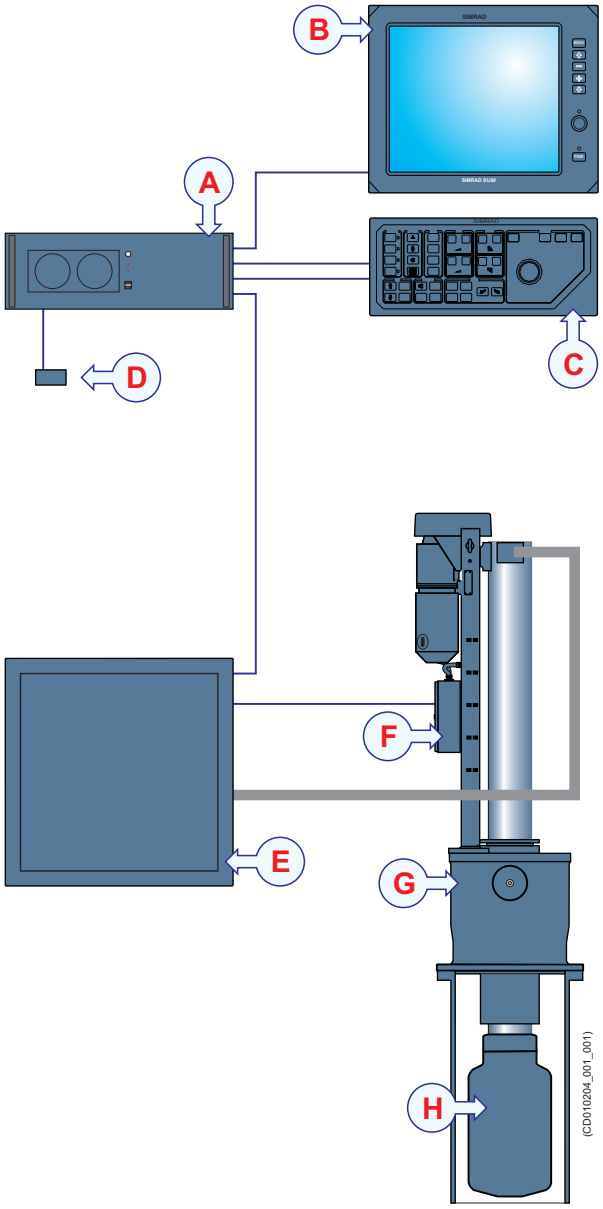
A Current range, transducer tilt and gain
B Sonar presentation
C Cursor’s position, bearing (relative to the vessel), range and depth
D Purse seine and target information (depth and estimated school size), including information from catch monitoring depth sensors
E Menu system
F Vertical view
G Navigation information and hull unit position

Performance specifications

The performance specifications summarize the main functional and operational characteristics of the Simrad SU90.

A Processor Unit (computer)
B Display
C Operating Panel
D Operating Panel Power Supply
E Transceiver Unit
F Motor Control Unit
G Hull Unit
H Transducer

Note that the display is not a standard part of the SU90 delivery. This is a commercial item that can be purchased locally.



Operational frequency

- Selectable: 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30 kHz in steps of 1 kHz

Operational range

- Range steps, standard: 150 to 4500 meters
- Range steps, optional: 150 to 8000 meters

Tilt and tip functionality

- Tilt: +10 to -60 degrees in 1 degree steps
- Tip: +10 to -90 degrees

Transmission

- Number of transmitter channels: 384
- Transmission modes:
  360 degrees omnidirectional
  180 degrees vertical
- Pulse modes:
  CW (Continuous Wave)
  Hyperbolic FM (Frequency Modulation) (“Chirp”)

Reception

- Number of receiver channels: 384
- Gain functions:
  TVG (Time Varied Gain)
  AGC (Automatic Gain Control)
  RCG (Receiver Controlled Gain)
- Digital filters:
  Ping-to-Ping Filter
  Noise filter
  FM Correlation filter
  Bottom filter

Echo presentations

- Number of colours: 16 or 64
- Display resolution: Minimum 1280 x 1024 pixels
- Colours: Weak, Normal or Strong
- Palettes: Choice of colour palettes to fit ambient light conditions

Beams

- Horizontal transmission: 360 degrees
- Horizontal reception: 8,5 to 13 degrees
- Vertical transmission: 4.9 to 7.0 degrees
- Vertical reception: 5.3 to 7.4 degrees

Beam widths

- User selected: Narrow, Normal or Wide

Stabilisation

- Roll stabilisation: Automatic, ±20 degrees
- Pitch stabilisation: Automatic, ±20 degrees
- Interface to optional peripheral motion reference unit supported

Interfaces

- Serial lines: Five serial lines (RS-232/RS-422/RS-485)
- Transceiver Unit: Ethernet
- Optional interfaces:
  Scientific output (Ethernet)
  RAW data output for scientific research (Ethernet)

Hull Unit and transducer

- Stroke length:
  With SU92 hull unit: 1.2 meters
  With SU93 hull unit: 1.6 meters
- Maximum vessel speed:
  With SU92 hull unit: 21 knots
  With SU93 hull unit: 18 knots
- Maximum lowering and retrieval speed: Same as maximum vessel speed
- Transducer:
  Shape: Cylindrical
  Number of individual elements: 384

Weights and outline dimensions

The weights and outline dimension characteristics summarize the physical properties of the Simrad SU90 system.

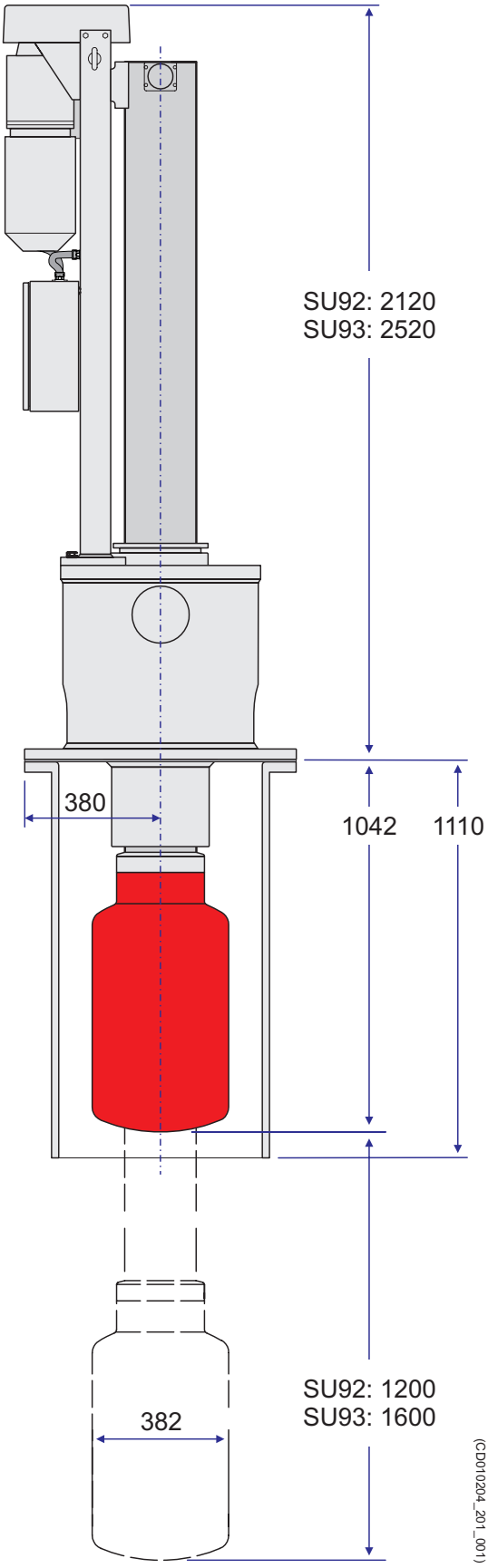
Relevant drawings can be found in the SU90 Installation manual, or downloaded from our website. See:
• http://www.simrad.com/su90

Transceiver Unit

- Depth: 665 mm (with shock absorbers)
- Width: 563 mm (without transducer plug)
- Height: 750 mm (with shock absorbers)
- Weight: 75 kg

Hull Unit

- Flange diameter: 760 mm
- Trunk diameter: 610 mm
- Height:
  SU92 total: 3228 mm
  SU92 above trunk: 2118 mm
  SU93 total: 3628 mm
  SU93 above trunk: 2518 mm
  Trunk: 1110 mm
- Weight:
  SU92: approximately 850 kg
  SU93: approximately 900 kg



396081-EN / Rev.A / August 2014

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