

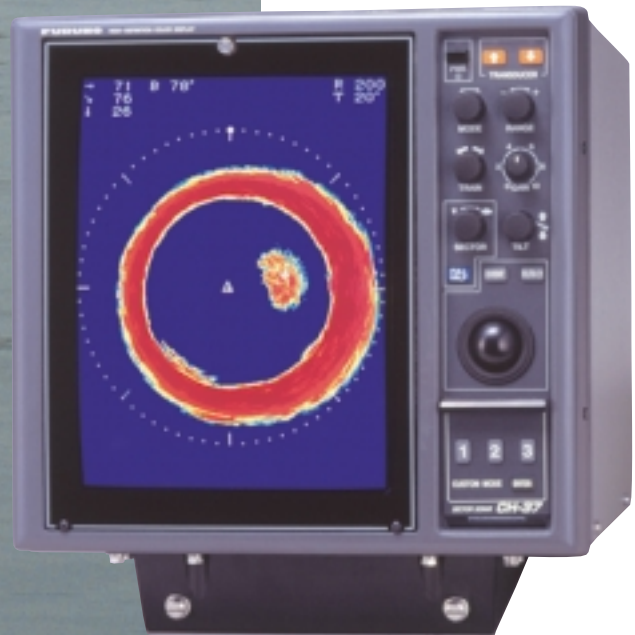
FURUNO®

COLOR SECTOR SCANNING SONAR

Model CH-37

*Full-circle and
vertical-fan scanning
with 3D bottom imaging on
15" daylight-viewing
high-definition CRT*

Available in 60, 113 or 162 kHz



The future today with FURUNO's electronics technology.

FURUNO ELECTRIC CO., LTD.

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Catalogue No. E-377e

TRADE MARK REGISTERED
MARCA REGISTRADA

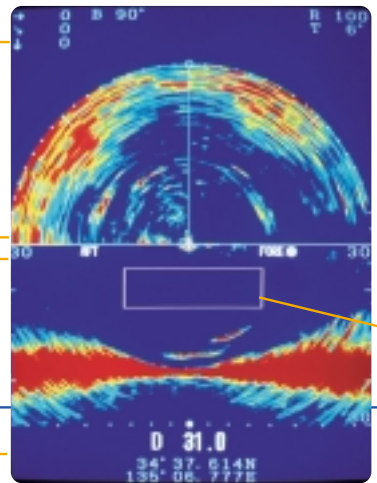
High-speed multi-sector scanning and variety of presentation mode



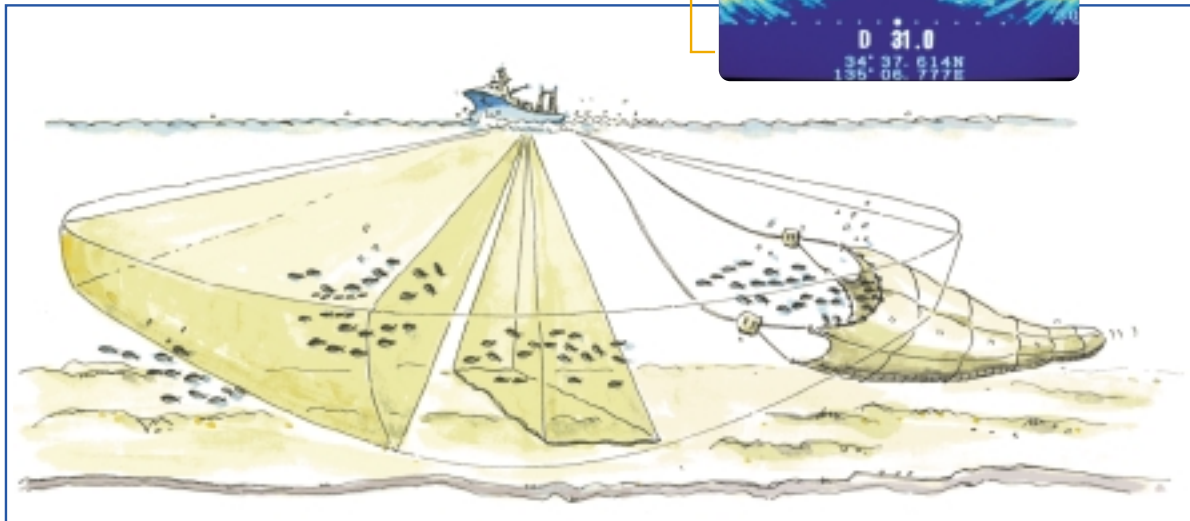
- TRANSDUCER (RAISE/LOWER)
- POWER (ON/OFF)
- RANGE
- MODE: Selects display mode;
Normal(+E/S)/Expand/Vertical Fan(+E/S)
3D (Fore-aft perspective)/3D (Oblique perspective)
- GAIN
- TRAIN
- TILT
- SECTOR/FULL CIRCLE/HALF CIRCLE
- EVENT MARK
- RANGE/BEARING MARKER
- TRACKBALL
- CUSTOM MODE: Provides optimized user-defined sonar settings by a simple key operation

Dual mode useful for trawlers

- Semi-circle scanning window
- Vertical-fan scanning window

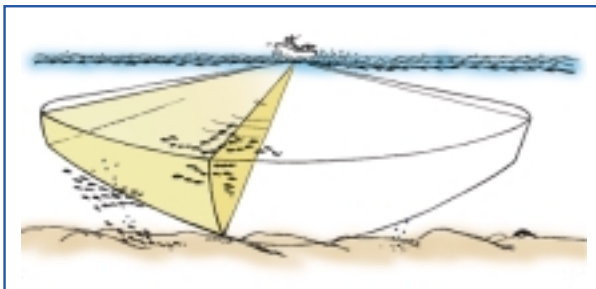
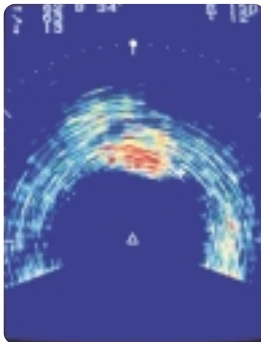


TNM
(Trawl Net Mark)



- 15-inch clear-cut daylight viewing color display
- Full-circle, sector or vertical-fan scanning display modes
- Historical seabed image using unique 3D graphics processor
- Choice of 60, 113 or 162 kHz
- Normal or fast scanning
- 8- or 16-color presentation
- Displays ship's position, heading, intended course line, and water currents when interfaced with appropriate sensors
- One-touch selection of optimum sonar settings with user-programmable "custom" function keys
- The optional MS-100 motion sensor electronically stabilizes the sounding beam for up to 20° roll/pitch for a steady picture presentation.
- Video output for external monitor with optional interface board.
- The dual mode for easy evaluation of distribution of fish school at vertical/horizontal planes

Horizontal scan (1.5x Zoom)



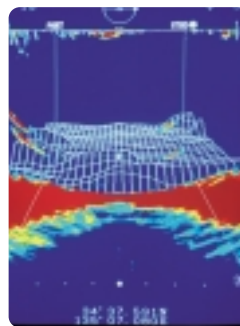
The Model CH-37 is a new high-performance color sonar suited for bottom trawlers, tuna seiners and other fishing vessels. Based on FURUNO's exclusive multi-sector beam-forming technology, it provides the combined advantages of searchlight and omni-directional sonars at a reduced cost.

The CH-37 shows vivid and clear underwater images in five display modes—Full-circle, Vertical-fan, Semi-circle and Vertical-fan, 1.5X Zoom and 3D graphics—on a new 15-inch color screen.

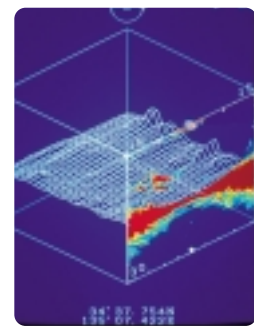
Full-circle scanning (with the capability of scanning a user-specified sector area in a reduced time) presents a picture like a scanning sonar with adjustable tilt for rapid location and tracking of fish targets. The **Zoom mode** shows close-up target echoes.

Vertical-fan scanning uses a fan-shaped sounding beam directed downward with up to 180° vertical sector coverage presenting an echosounder-like cross section of the underwater situation. The Vertical-fan mode greatly supports your fish-finding

Vertical-fan scan with 3D graphics overlay useful for trawlers

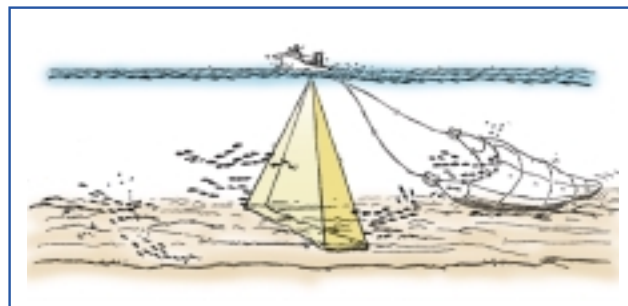


Fore-aft perspective



Oblique perspective

(Sounding beam directed from starboard to port.)



operation. It is also useful for monitoring the net shape and for bottom fish detection.

The **Dual mode** shows the vertical and horizontal presentation on the same screen. It is useful to evaluate the distribution of fish school in horizontal and vertical planes.

A TNM (Trawl Net Mark) can be displayed at vertical plane on the vertical-fan scanning and dual modes. By inputting net height and width dimensions, the operator can overlay the net mouth opening.

The **3D graphics mode** shows a frontal or oblique perspective of the seabed, viewed aft from the vessel. The vertical fan beam fixed in the athwartship direction is used to provide the 3D bottom image. The 3D image is overlaid with real-time fish and bottom echoes. This mode is particularly useful for bottom trawlers.

SPECIFICATIONS OF CH-37

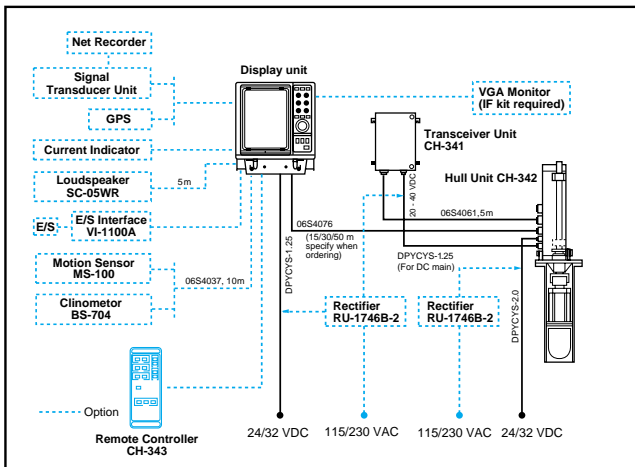
- 1. Display Presentation** 15" color CRT,
640(V) x 480(H) pixels (VGA)
- 2. Display Colors** 8 or 16 colors
- 3. Display Modes** Full-circle, Vertical-fan, 1.5x Zoom,
3D graphics, Dual
- 4. Range Scales**
Full-circle mode
 12 ranges from 30 to 1600 m (100 to 6000 ft, 20 to 1000 fa)
Vertical-fan mode
 12 ranges from 10 to 1000 m (30 to 3000 ft, 10 to 500 fa)
- 5. Frequency** 60, 113 or 162 kHz
(Specify when ordering.)
- 6. Output Power (Nominal)**
 60 kHz: 0.8 kW 113 kHz: 1.3 kW
 162 kHz: 1.5 kW
- 7. Pulse length**
0.2 to 10.6 ms interlocked with range in use
- 8. Transducer Control**
Full-circle mode
 Training: 45° or 6° steps through 360°
 (Scanning sector 45°, 90°, 135°, 180° or
 225°. Sector center can be set in any
 direction in 15° steps.)
 Tilt angle: +5° to -90° in 1° steps manually
Vertical-fan mode
 Vertical scan: 6° or 3° steps (Scanning sector selectable
 from 36°, 60°, 96°, 120°, 156° and 180°.
 Sector center can be set between 0° and 180°
 in 6° steps.)
 Training: 6° steps manually or 15° steps automatically

- 9. Ship Speed for Hull Unit**
15 knots max.

- 10. Ambient Temperature (IEC60945 test method)**
-15°C to +55°C (Display unit)

11. Input/Output Data

- Input: NMEA0183 \$--GLL, \$--DBT, \$--RMB, \$--RMC
 Output: RGB video in VGA format (optional interface required)



- 12. Power Supply**
 24 VDC: 13.0 A
 32 VDC: 10.5 A
 (340 W when lowering or raising transducer)
 115/230 VAC, 50-60 Hz with 2 x Rectifier RU-1746B-2

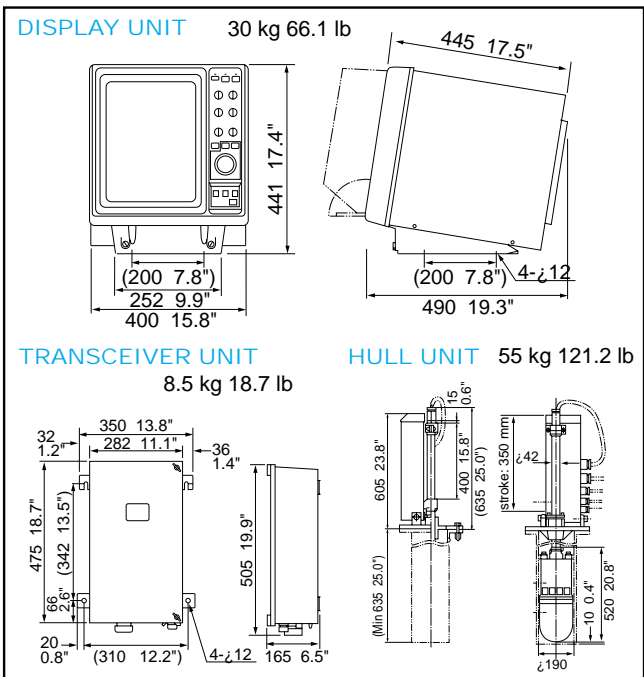
EQUIPMENT LIST

Standard

1. Display unit CH-370 1 unit
2. Transceiver unit CH-341 (Specify 60, 113 or 162 kHz.) 1 unit
3. Hull unit CH-342 (Specify shaft length: 1.17, 2.2 or 3.8 m.) 1 unit
4. Interconnection cable (display-hull unit) (Specify 15, 30 or 50 m)
5. Installation materials and standard spare parts 1 set

Option

1. Motion sensor MS-100
2. Clinometer BS-704
3. Remote controller CH-343
4. Rectifier RU-1746B-2 for 115/230 VAC mains (2 units required)
5. E/S interface VI-1100A
6. E/S buffer board (built-in type) OP06-13
7. Remote display interface OP06-14
8. Handgrips for display unit OP03-70
9. Loudspeaker SC-05WR
10. Steel or FRP transducer tank (Specify 1, 1.8 or 3.5 m)
11. Interface kit for connection of VGA monitor



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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