

# FURUNO®

## 10.4" COLOR LCD DISPLAY SEARCHLIGHT SONAR Model CH-250

- High definition active matrix color LCD
- Choice of frequency: 60, 88 or 150 kHz
- Blackbox system configuration allows use of optional CRT or LCD monitors
- Target lock on a fish school or L/L position for a designated fishing area
- Pulse length automatically switched with range to optimize performance on all ranges
- A specific color can be shown in white to enhance the echo level display
- Instant selection of eight different operational modes
- Audible target detection freeing the operator from a continuous display watch
- Customized fishing menu



The future today with FURUNO's electronics technology.

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TRADE MARK REGISTERED  
MARCA REGISTRADA

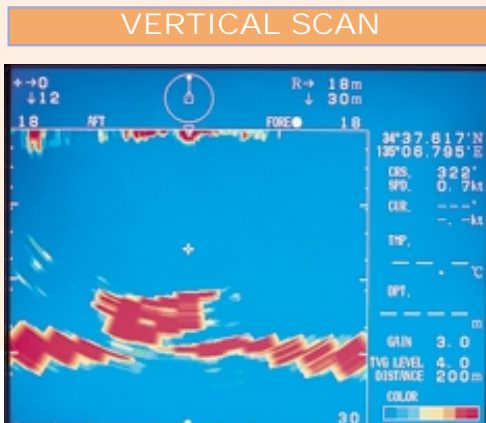
# Power search in eight modes for fishing and other sonar applications

The CH-250 is a revolutionary new, high-performance searchlight sonar designed for a wide range of commercial fishing vessels. Fish and underwater objects are displayed on a compact active matrix color LCD screen. Target echoes are presented in 8 or 16 colors depending on the received echo strengths. The highest echo level is painted in red and next strongest echo in orange, and other colors follow with reducing echo levels. One of the echo strengths can be displayed in white to enhance that specific echo level. The background color may be customized for optimum viewing at day or night. An operating frequency can be selected from 60, 88 or 150 kHz.

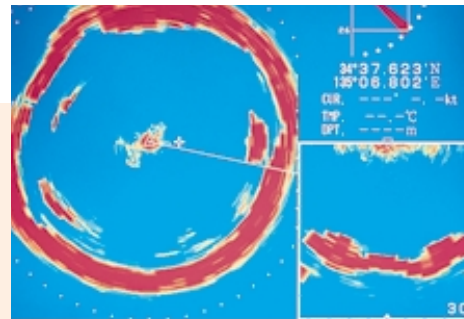
The CH-250 is provided with eight operational modes including Sector or Full circle scan, Vertical scan, Combination display of Full circle and Vertical scan, Historical or VideoPlotter. The combination of Full-circle and Vertical scan mode helps evaluate the distribution of fish school in horizontal and vertical planes simultaneously.

The CH-250 provides three modes to track a targeted echo: manual mode, target lock mode and L/L mode. The target lock mode permits automatic tracking of a target fish school within a predetermined search zone after it has been acquired in manual operation. In the L/L mode, the beam is locked to the position (such as a fish shelter or reef) specified by the target marker. This mode can be enhanced with DGPS position input.

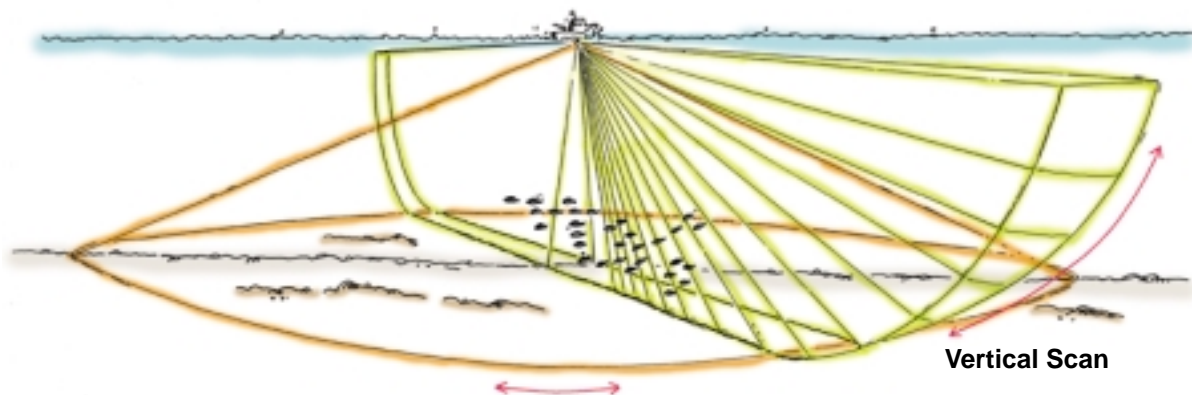
The compact display design allows a flexible and space-saving installation at your navigation station. With an optional interface unit, a conventional CRT or LCD monitor can be connected as a substitute, backup or remote display of the standard display unit. The low-profile hull unit requires only a limited space for installation. There is a choice of hull units, either 250 mm or 400 mm travel.



## FULL CIRCLE / VERTICAL SCAN



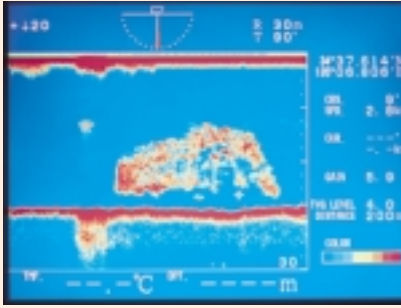
The vertical scan paints the bottom profile within a user-specified vertical plane. The cursor indicator reads slant range and soundome tilt.



Sector/Full circle Scan

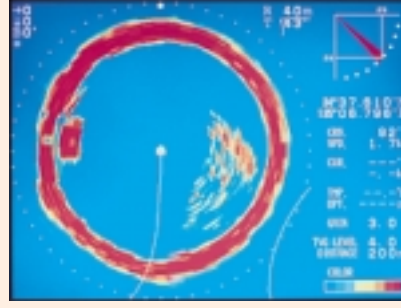
Vertical Scan

## VERTICAL SOUNDER



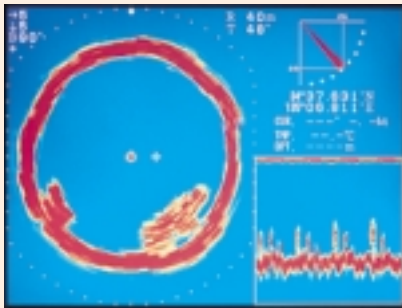
The vertical sounder displays how the depth and bottom hardness are changing ahead of own ship. When the soundome tilt is set to 90 degrees, the picture is the same as a vertical sounder. It displays fish schools and seabed conditions directly under the vessel.

## FULL-CIRCLE

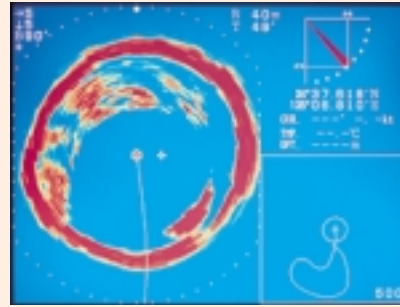


The Full-circle search helps detection of fish schools all around vessels.

## FULL CIRCLE SEARCH AND HISTORY

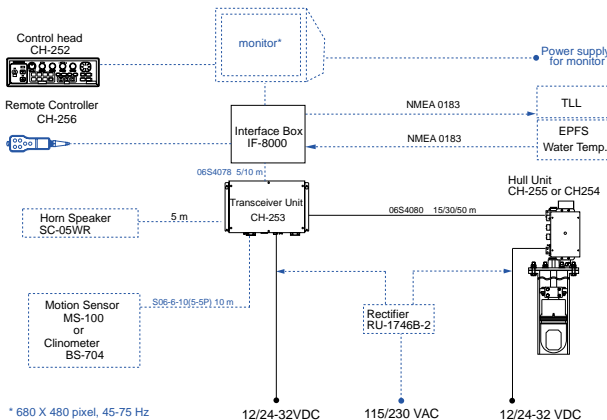


## FULL CIRCLE WITH VideoPlotter

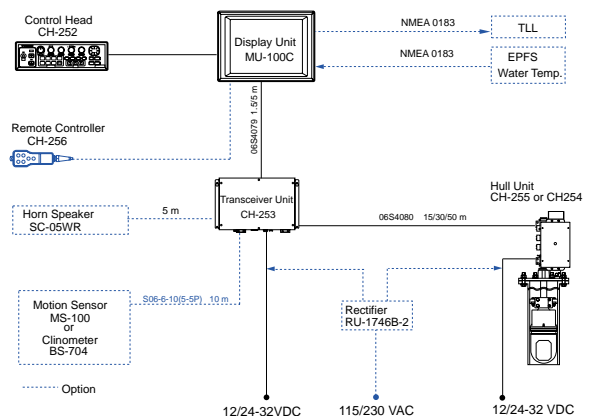


Own ship track is monitored with respect to the sonar sounding area. Unrivaled feature for purse seining.

## Interconnection Diagram



Blackbox configuration (with custom monitor)



Standard configuration (with standard LCD monitor)

# SPECIFICATIONS OF CH-250

## 1. Range scales and Pulselength

(60 kHz)

Range	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Meters	10	20	40	80	120	160	200	250	300	400	500	600	800	1200	1600
Feet	40	80	120	200	300	400	500	600	800	1000	1500	2000	3000	4000	5000
Fathoms	10	20	40	60	80	120	160	200	250	300	350	400	500	600	800
P/B	10	20	40	60	80	120	160	200	250	300	400	500	600	800	1000
Pulselength (ms)	0.2	0.3	0.5	1.0	1.6	2.1	2.6	3.3	3.9	5.2	6.5	7.8	10.4	15.6	20.8
Time to train full circle (s)	7	7	9	13	17	21	25	33	54	70	102	134	70	102	134

Max scale 1600 m (60 kHz), 1200 m (88 kHz), 1000 m (150 kHz). Intermediate range scales 4 - 14 slightly different with system frequency.

**2. Display Unit** 10.4" TFT color LCD (VGA: 640 x 480 pixels)

**3. Color** 8 or 16 colors

**4. Display Mode**

- (1) Full circle searchlight
- (2) 1.5 x Zoom
- (3) Vertical-fan scanning
- (4) Vertical sounding
- (5) Full circle search and Vertical scan
- (6) Full circle search and History
- (7) Semi circle search and Strata
- (8) Full circle search and VideoPlotter

**5. Audio monitor** 1000 Hz

**6. TX Output Power** 1.2 kW

**7. Beamwidth (at -3 dB)**

- 60 kHz 15° (H) X 12° (V)
- 88 kHz 11.5° (H) X 9.5° (V)
- 150 kHz 6.5° (H) X 6.5° (V)

**8. Transducer Control**

- Tilt 0° to -180° at 3° or 6° steps (in vertical scan)
- +5° to -90° at 1° steps (in sector scan)

**Training sector**

Manual or automatic training at 6° or 12° steps in search sector 6°-360°

**Target Lock** By L/L or Echo position

**9. Ambient Temperature** -15°C to +55°C

**10. Interface** NMEA 0183 Ver 1.5, 2.0 (IEC 61162-1) -- any talker

Input: DBS, DBT, DPT, GGA, GLL, HDG, HDM, MDA, MTW, RMA, RMC, VDR, VHW, VTG

Output: SSTLL

**11. Power Supply**

Transceiver unit 12-24/32 VDC, 50 W

Hull unit 12/24-32 VDC, 40 W

(150 W while raising/lowering transducer)

**ENVIRONMENTAL CONDITIONS** (IEC 60945 testing)

Display unit: -15°C to +55°C

Water resistance IEC IPX5, USCG CFR 46 (Display unit)

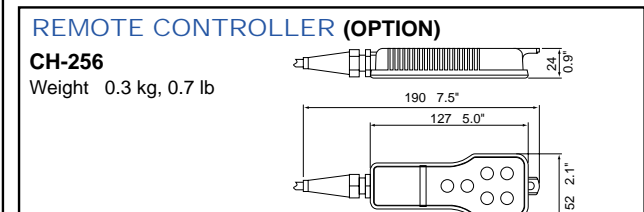
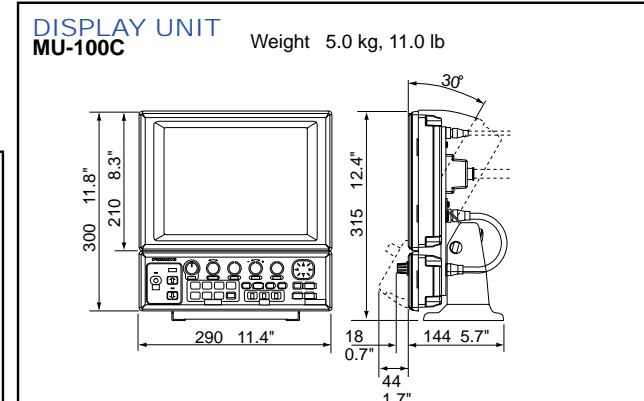
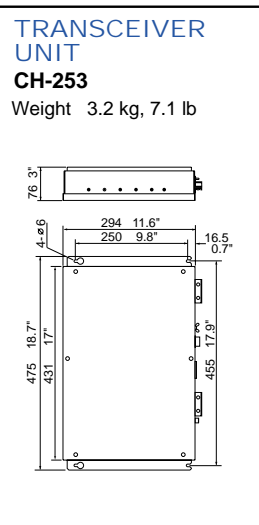
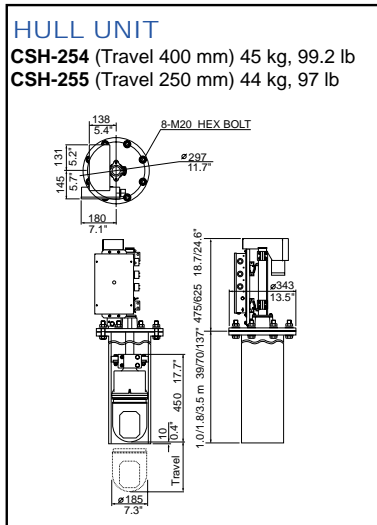
## EQUIPMENT LIST

### Standard

1. Display Unit MU-100C 1 unit
2. Control Head CH-252 1 unit
3. Hull Unit CH-254 (travel 400 mm) or CH-255 (travel 250 mm) 1 unit
4. Transceiver unit CH-253
5. Installation materials and spare parts 1 set
6. Interface unit IF-8000 (Blackbox type only) 1 unit

### Option

1. Remote controller CH-256
2. Rectifier RU-1746-B2
3. External speaker SC-05WR
4. 1 m tall steel tank (06-007-1570), 1.8 m tall steel tank (SHJ-0001), 3.5 m tall steel tank (06-007-1571), 1 m tall FRP tank (SHJ-0022), 1.8 m tall FRP tank (06-007-1573), 1 m tall aluminum tank (OP10-5),
5. NMEA cable MJ-A6SPF0012-050 (5 m), MJ-A6SPF0011-050 (5 m), MJ-A6SPF0012-100 (10 m), MJ-A6SPF0011-100 (10 m),
6. Motion sensor MS-100 or Clinometer BS-704
7. Interface unit IF-8000



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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