### Specifications

**Display:** LCD Display 1280×1024(SXGA) Operation: Operated by RC-21 Controller

Power, Range, gain Shift, and User keys (4 items)

### Transmission:

Pulse width 0.3/0.6/1.2/2.4ms

Output level 0~10(10 steps)

Ranging time multipled by 2~5 times or synchronized by an external unit

\*Ranging time(sec) = Measurement range (m)/(Sound velocity setting(m/s)/2) Minimum Tx cycle 133(ms) \*Depending on contents of the

TVG Processing: 20logR(SV), 40logR(TS), Flat,

CONV(Traditional way)
TVG Volume:0.0~10.0 \*Operative when CONV Mode

Displayed sensitivity:0.0~10.0

Displayed bottom sensitivity:-10.0~10.0 \*Changee of the sensitivity deeper than seabed

### Didplay Functions:

Normal screen: Normal fish finder screen

Enlarged dual screen: of normal screen or dual screen of bottom fixed of normal screen

A-scope screen: A scope screen: A scope corresponding to normal screen and enlarged dual screen

Depth display: Display for bottom value of each fish finder Navigation display: Diaplay for longitude/latitude, vessel

speed, and water, temperatures

Net depth display: Display for water depth value of fish finder screen(Max.4 units)

Water temp. display: Water temp. of ship bottom etc..., displayed by water temp. from external device.

Fish size graph: Display for fish-size graph of selected area \*Only when connecting with a split beam

## Number of screen display:

Max.5 displays (4 frequencies + frequency difference)

Meter, Fatyom, Feet, Hiro 10∼5000(Meter Scale)

Original range: Arbitrary range value settings \*10(scale) steps Automatic bottom track: Auto range mode, auto shift mode

Variable within less than max. range in 1/5 steps Display color: 16/64 colors

Color pattern:8 types Bottom line: White, black, ground color omission, OFF

minutes, time, distance

Screen feed speed: 3, 2, 1, 1/2, 1/3 times

Screen feed direction: Normal(left direction), Invert(right direction) Interference elimination:

4 types(weak, medium, strong, interpolation)

**Discrimination:** Horizontal discrimination 1~20

Vertical discrimination 1~20

Bottom level: Color display(16 or 64 steps)

### Recoeding function:

Display: JPEG format, Resolution: 1280×1024

Raw data recording: Sonic format, compatible, with KFC-3000 External interface:

### Synchronaized input/output(TTL plus/minus),

Navigation information input/output(Corresponding to

NMEA0183)

Net depth(Sonic net finder or keying input)

Bottom hardness data for Olex plot Language: Japanese, English, Norwegian, Spanish, Turkey, Thai, Russian,

### Korean. Power supply capacity:

PRC-63 Processor Single phase:AC100V~AC200V±15% 60VA

### ±15% 200VA Operational temperature:

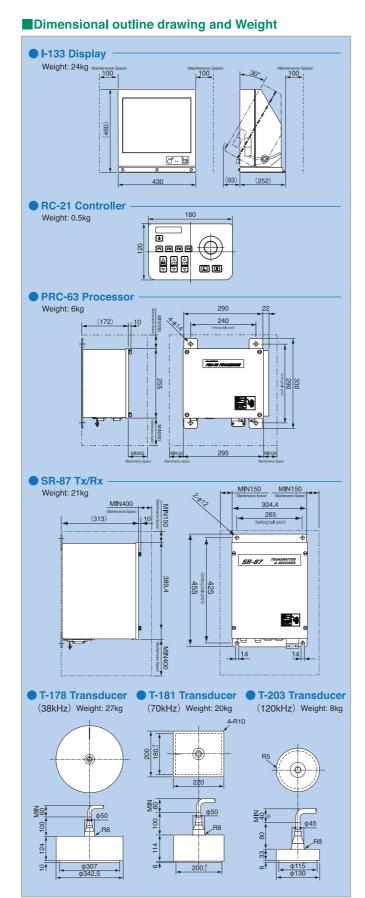
I-133 Display:  $-5^{\circ} \sim 45^{\circ}$ 

RC-21 remote controller: -5°~45°

PRC-63 Processor: -5°~45°

SR-87 Tx/Rx: -5°∼45°

Remarks: Try to no condensation and avoid water and salt air.



ASAFETY PRECAUTION: Please be sure to read the Instruction Manual before operating • Specifications are subject to change without prior notice for improvement.





10-22, Higashimatsubara, Hakonegasaki, Mizuhomachi, Nishitama-gun, Tokyo, Japan 190-1295

TEL: +81-42-513-9615 FAX +81-42-557-8696

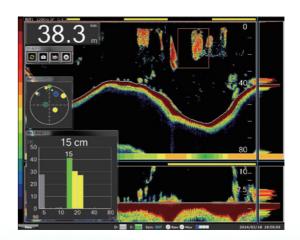
Email: info@u-sonic.co.jp URL: www.u-sonic.co.jp

## SONIC CORPORATION:

## Fish Sizing Echo Sounder

# KSE-310

Sizing Echo Sounder with Split beam transducer





## New KSE series offers efficient fishing and resource management!

## **Main features**

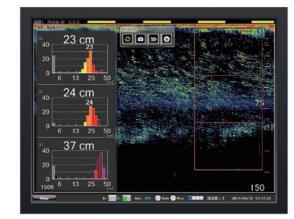
Fish length graphs are more smoothly displayed in higher definition

Higher definition is achieved by an increased data amount that's 1.5 times more than before, as well as by a reduced pulse width

- Operability is greatly improved through a dedicated controller
- Multi-screen Up to five types of echograms can be simultaneously displayed
- A function to record raw data is available as a standard feature
- Introduction of an ultra-high-precision digital TVG as leading-edge technology Improved interference elimination and image discrimination
- Frequency difference method this is effective for extracting the target fish school \*\*This feature is available on a system with two or more frequencies The graph shows fish length, estimated
- Dual Monitor Display Different frequency can be shown on each display separately
- Full HD Display Full HD Display is available.

## **Full HD Display**

Wide Full HD Display available.



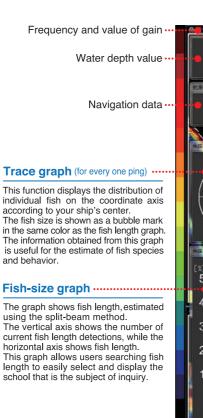
## Raw data recording

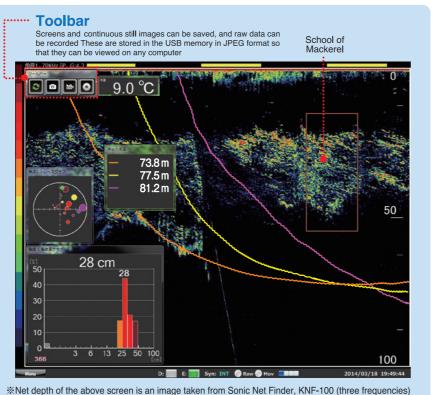
To meet the requirements of users who wish to use this system not only for selective fishing and resource management but also for biomass evaluation, a new function to record raw data has been added. The data can be recorded with one click in a USB flash drive. In compatible with the KFC series, analysis software corresponding with Echoview\* is required.









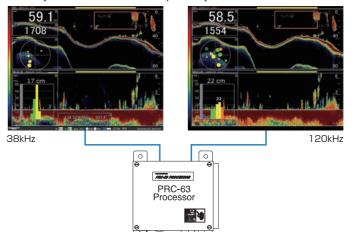


### The fish length of the school 38.3 within the range you selected can be measured. (There are three other ways available to select the ranges) 139°18.514'W 05.0 kt Sea bottom (Displayed in solid white) Scale 15 cm Sea bottom level 50 15 The sea bottom level is color dis-40 played based on the seabed integration result in addition to the under 30 water echogram. 20 Enlarged sea bottom display Sea bottom fixed display 10 ·Sea bottom 10 20 40 D: E: Syn: INT Raw Mov Menu button **Dedicated controller (RC21) Multi-screen** (Dropdown component The usage of the folder Max. 5-screen display Power key User key used for saving Arbitrarily-set and one-push button oper The size and position of each is displayed window can be changed freely



## **Dual Monitor Display**

Dual Monitor of different frequency enables and enhances Skippers' ability to detect fish size more precisely.



## **■ KSE-310 System Diagram** Up to two display and controller units can be installed Separate two monitors show different frequency pictures. (Option) I-133 Display I-133 Display (° · ° 🗖 Output signal Input signal NMEA composition GPS signal KNF signal PRC-63 Water temp, data Net depth keying Synchronized signal Synchronized signal Net depth keying CB25 cable - Data stored in the (Max 100m) USB memory IF-45 A maximum of four SR-87 units or a maximum of four transducer (Option 5R-67 "YEEEE Tx/Rx Tx/Rx (Option) Split beam transducer 1 Fish-finder Fish Sizing Echo Sounder KSE-310 -Transducer: Split beam

Beam width 8.5° x 8.5°(-3 dB, full angles) 38.0 kHz: T-178 transducer (Tx output 3 kW)

70.0 kHz: T-181 transducer (Tx output 3 kW)

120.0 kHz: T-203 transducer (Tx output 1.5 kW)

### Color fish finder KCE-310

Single beam transducer below is selectable. But fish-sizing measurement is not available

15 kHz: T-105A Transducer (Tx output 2 kW)

200 kHz: T-105R Transducer (Tx output 2 kW)