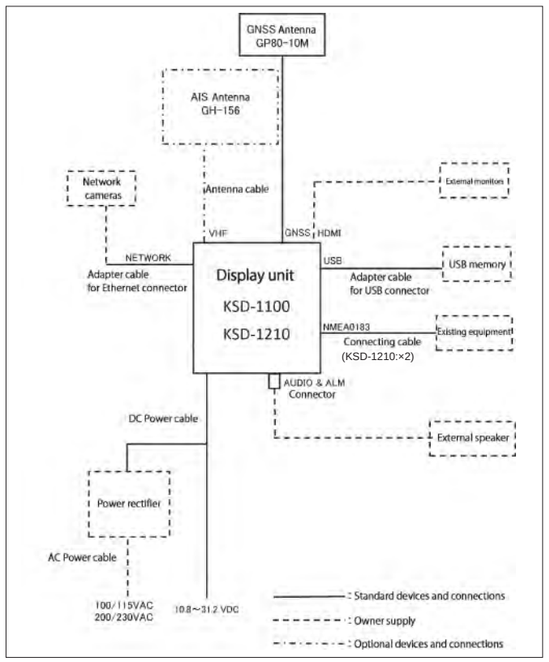
## SPECIFICATIONS


| Model | KSD-1100 | KSD-1210 |
|---|---|---|
| Operation System | Android 5.1 with OpenGL ES 3.0 & OpenCL 1.1 | |
| CPU | Cortex-A17 Quad core | |
| CPU Speed | 1.8 GHz 32 bit | |
| RAM | 2GB DDR3 1333MHz | |
| Flash Memory | 16GB | |
| Display Size and type | 10.1 inch Capacitive multi touch screen | 21.5 inch Capacitive multi touch screen |
| Brightness | 600 cd/m² (Max) | 800 cd/m² (Max) |
| Display Resolution | 1280 x 800 (WXGA) | 1920 x 1080 (1080P) |
| Power supply | 10.8 VDC to 31.2 VDC | 21.6 VDC to 31.2 VDC |
| Power Consumption | 15W | 60W |
| GNSS | GPS / BDS / GPS & BDS | |
| | Position accuracy < 10m, 95% typical | |
| | Cold start time: 32 sec or less, Warm start time: 1 sec or less | |
| Audio power | 1W | 3W |
| MicroSD Card Slot | 2 ports (Support MicroSD card 32GB or less) | |
| Bluetooth | BT 4.0 | |
| Wi-Fi | 802.11 b/g/n | |
| Input data formats and sentences | NMEA0183<br>DPT, GGA, GLL, HDT, MTW, MWD, MWV, RMC, THS, VTG, ZDA | |
| Output data formats and sentences | NMEA0183<br>APB, BOD, BWC, DPT, GGA, GLL, GSA, GSV, HDT, MTW, MWD, MWV, RMB, RMC, THS, VTG, WPL, XTE, ZDA | |
| NMEA ports | Total: 4 ports<br>Input: 2<br>Output: 1<br>Input / Output: 1 (Output: AIS fixed) | Total: 7 ports<br>Input: 4<br>Output: 2 (GNSS or AIS or GNSS & AIS fixed: 1)<br>AIS Output: 1 |
| Audio output | 1 | |
| Alarm output | 1 | |
| LAN net work | 1000 Mbps | |
| Operating Temperature | -15℃ to +55℃ | |
| **AIS Class B** | | |
| Frequency | 156.025 to 162.025 MHz | |
| Bandwidth | 25 kHz | |
| Modulation | GMSK / FM | |
| Data rate | 9600 bps | |
| Number of AIS transmitter | 1 channel | |
| Number of AIS receiver | 2 channels:<br>Channel A CH87B (161.975MHz), Channel B CH88B (162.025MHz) | |
| Output power | 2W | |
| Rx sensitivity | < -107 dBm @ PER<20% | |

## CONNECTIONS




## EQUIPMENT LIST

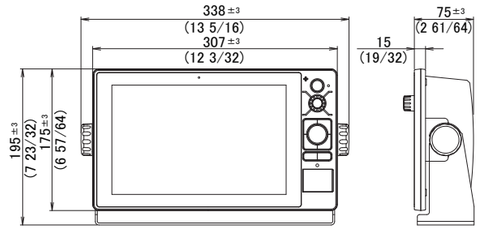
| | | |
|---|---|---|
| Standard Equipment | Display unit | 1 |
| | DC power cable | 1 |
| | Connecting cable（KSD-1100） | 1 |
| | Connecting cable（KSD-1210） | 2 |
| | GNSS Antenna | 1 |
| | Adapter cable for USB connector | 1 |
| | Adapter cable for Ethernet connector | 1 |
| | Operation Manual, Connector, Connector cap, Installation material | |
| Options | AIS Antenna, AIS Mounting bracket Set | |

## DIMENSIONS AND WEIGHT

Unit: mm (inch)

### Display unit

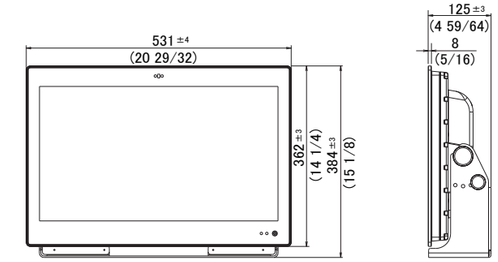
**KSD-1100(10.1")**




Weight：2.1kg

### Display unit

**KSD-1210(21.5")**




Weight：7.4kg

• Design and specifications are subject to change without notice.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**Safety precaution** To ensure proper and safe use of the equipment, please carefully read and follow the instructions in the Operation Manual.

For details, please contact:

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10.1-inch / 21.5-inch
Multi Function Display

# KSD-1100 / 1210


| | |
|---|---|
| **AIS Class B** | Built-in Class B AIS transceiver essential for safe navigation |
| **Various screen displays** | AIS radar screen which is easy to get the AIS information using ring markers / Dashboard to display various data / NAVI and PLOT data management / Tide information, etc., are possible. |
| **Video surveillance** | By installing network cameras*, it is possible to monitor onboard and outboard conditions up to four screens. |
| **Chart display** | Support variety charts of C-MAP (MAX), original chart, ENC chart. It also supports to overlay satellite images on the chart. |
| **Easy operation** | Easy touch screen and mouse* operation<br>The KSD-1100 is equipped with an operation panel. |

*Owner supplied

The touch screen makes it easy to use! Easy to see! Affordable!

# AIS Class B Transceiver integrated multifunction display

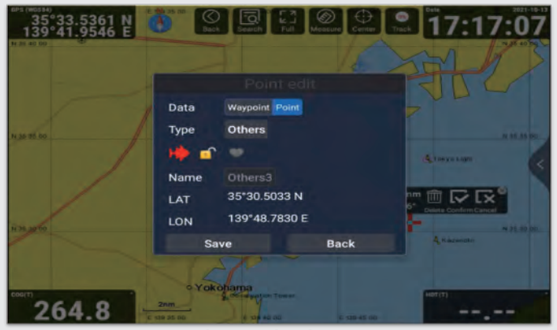
**KSD series Multi Function Display provide an intelligent system and multi-task operation networking solution. It supports Ethernet, Wi-Fi to realize update software online and other cloud services.**

## Chart Plotter

Compact and easy to use chart plotter.
There are three kinds of chart ; C-MAP,  ENC and original chart. (C-MAP & ENC are owner supply.)

### Chart screen images


Original Chart



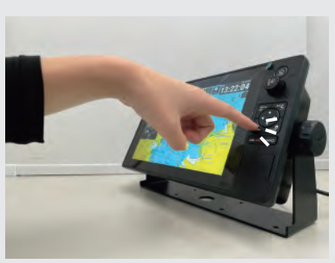

Plot Window


C-MAP MAX


ENC

### Comfortable operations

Screen Operation



Panel Operation

Mouse Operation

## Built-in AIS Class B Transceiver

Equipped with AIS (Automatic Identification System) Class B essential for safe navigation. The AIS target will be overlaid on chart with customer setting. AIS Class B transceiver will automatic transmit the own ship position, speed, course, MMSI, SMS etc.


AIS Radar

AIS targets overlaid on the chart, variable rang rings around own ship is shown by setting radius, it is for user reference easily to observe AIS targets real-time dynamic information.


AIS Group Management

AIS group management helps user to do real-time monitoring COG, SOG, HDG, distance moved and other dynamic information of each member by groups.

## Dual monitor

You can connect to a sub-monitor to display a screen different from the main screen.

### Dual screen images


**Sub-Monitor**

**KSD Display unit**

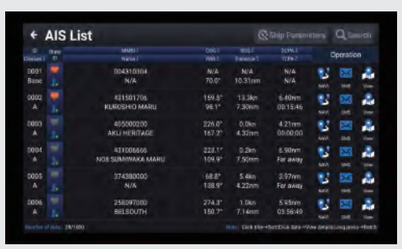

Chart plotter and Dash Board

Chart plotter and AIS Radar

### Other screen images


AIS Target on Chart


Sailing Data




AIS List