SPECIFICATIONS

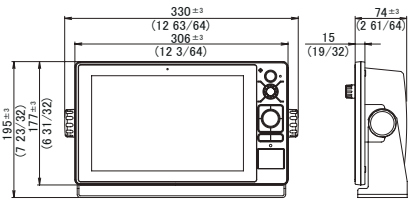| Model	KSD-1100	KSD-1210
Operation System	Android 5.1 with OpenGL ES 3.0 & OpenCL 1.1	
CPU	Cortex-A17 Quad core	
CPU Speed	1.8 GHz 32 bit	
RAM	2GB DDR3 1333MHz	
Flash Memory	16GB	
Display Size and type	10.1 inch Capacitive multi touch screen	21.5 inch Capacitive multi touch screen
Brightness	600 cd/m² (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	
	DPT, GGA, GLL, HDT, MTW, MWD, MWV, RMC, THS, VTG, ZDA	
	NMEA2000	
	129025, 129026, 129029, 129033, 129539, 129540, 126992, 127250, 127258, 129038, 129040, 129041, 129793, 129794, 129809, 129810, 129795, 129797, 129801, 129802	
Output data formats and sentences	NMEA0183	
	APB, BOD, BWC, DPT, GGA, GLL, GSA, GSV, HDT, MTW, MWD, MWV, RMB, RMC, THS, VTG, WPL, XTE, ZDA	
	NMEA2000	
	129025, 129026, 129029, 129033, 129539, 129540, 127250, 129038, 129039, 129040, 129041, 129793, 129794, 129809, 129810, 129795, 129797, 129801, 129802, 129283, 129284, 129285	
NMEA ports	Total: 4 ports Input: 2 Output: 1 Input / Output: 1 (Output: AIS fixed)	Total: 7 ports Input: 4 Output: 2 (GNSS or AIS or GNSS & AIS fixed: 1) 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	
Number of AIS transmitter	1 channel	
Number of AIS receiver	2 channels: Channel A CH87B (161.975MHz), Channel B CH88B (162.025MHz)	
Output power	2W	
Rx sensitivity	< -107 dBm @ PER<20%	

CONNECTIONS

GNSS Antenna GP80-10M
AIS Antenna GH-156
Antenna cable
External monitor
Network cameras
VHF
GNSS HDMI
USB
Adapter cable for USB connector
USB memory
NETWORK
Adapter cable for Ethernet connector
Display unit KSD-1100 KSD-1200
NMEA0183 Connecting cable (KSD-1210: x2)
Existing equipment
NMEA2000 Connecting cable
Existing equipment
DC Power cable
AUDIO & ALM Connector
External speaker
Power rectifier
AC Power cable
100/115 VAC 200/230 VAC
10.8 to 31.2 VDC 21.6 to 31.2 VDC

———— : Standard devices and connections
– – – – : Owner supply
– · – · – : Optional devices and connections

EQUIPMENT LIST

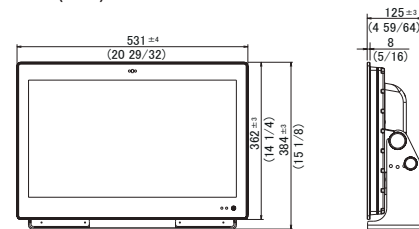| Standard Equipment	Display unit	1
	DC power cable	1
	Connecting cable （KSD-1100）	1
	Connecting cable （KSD-1210）	2
	GNSS Antenna	1
	Adapter cable for USB connector	1
	Adapter cable for Ethernet connector	1
	Operation Manual, Connector, Connector cap, Installation material	
Options	AIS Antenna, AIS Mounting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

DIMENSIONS AND WEIGHT

Unit: mm (inch)

Display unit
KSD-1100(10.1")

330 ±3 (12 63/64)
306 ±3 (12 3/64)
74 ±3 (2 61/64)
15 (19/32)
195 ±3 (7 23/32)
177 ±3 (6 31/32)

Weight：2.1kg

Display unit
KSD-1210(21.5")

531 ±4 (20 29/32)
125 ±3 (4 59/64)
8 (5/16)
362 ±3 (14 1/4)
384 ±3 (15 1/8)

Weight：7.4kg

• Design and specifications are subject to change without notice.

⚠ **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:

24-03 Printed in Japan

KODEN

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 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.
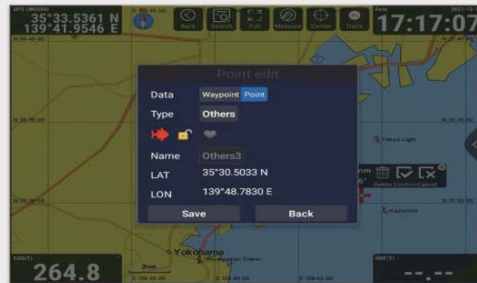
Chart Plotter

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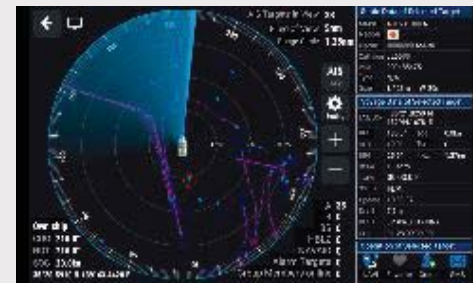
AIS Radar
AIS targets overlaid on the chart, variable rang rings around own ship is shown by setting radius, it is for user reference easily to observe AIS targets real-time dynamic information.

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