

ONWA[®]

MARINE ELECTRONICS



NEW GENERATION KP-1299

NEW GENERATION KP-1299A

NEW GENERATION KP-1299C

MODEL

KP-1299 SERIES

(New Generation)

12-inch GPS Chart Plotter



Expandable Features



K-CHART
Free detailed sea map



Support C-Map MAX



Compatible with Navionics+

CLASS B+

Built-in AIS Transponder

*KP-1299A: Built-in AIS
*KP-1299, KP-1299C
(KS-200A needed)



Built-in Fish Finder

*KP-1299C: Built-in Fish Finder
KP-1299, KP-1299A
(KM-Sonar and
Transducer needed)



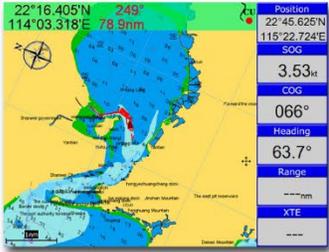
Built-in Radar Function

*KP-1299, KP-1299A, KP-1299C
(Radar Antenna needed)

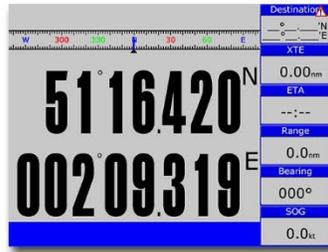


SD Card System Update

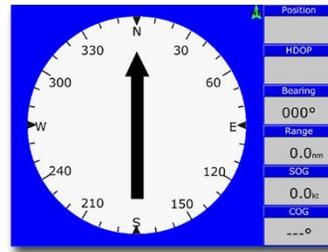
➤ DIFFERENT DISPLAY MODES



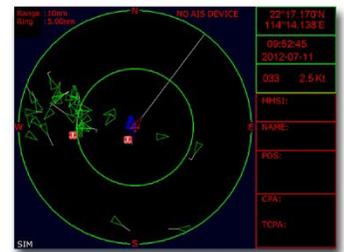
Plotter



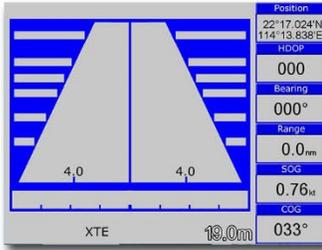
Navigation Data



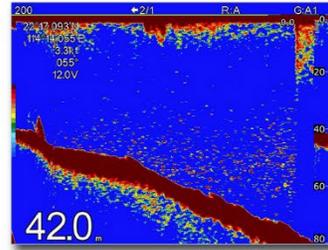
Compass



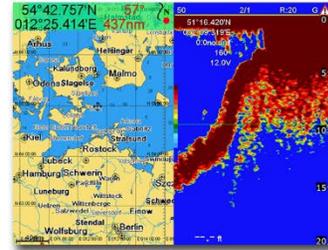
AIS



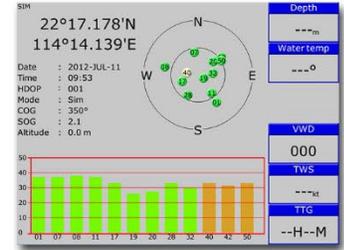
Highway



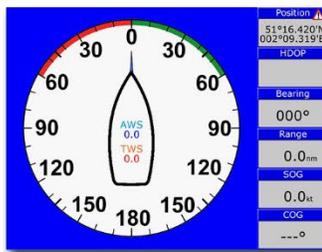
Sounder



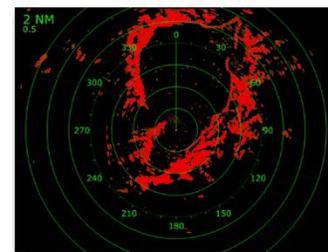
Plotter + Sounder



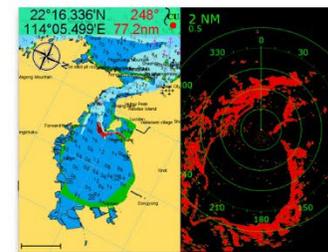
Satellite



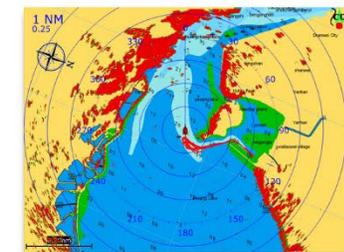
Wind



Radar



Plotter + Radar Split Screen



Radar Overlay

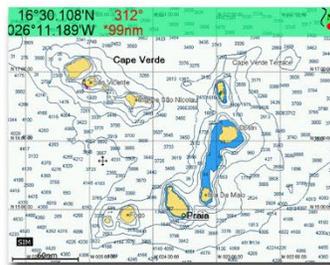
➤ GPS CHART PLOTTER

Compatible with the following mapping systems:



K-Chart Mapping System

ONWA Chart Plotters are compatible with K-Chart Mapping and displays worldwide Electronic Charts that users can use for FREE



C-Map Max

ONWA Chart Plotters are also compatible with C-Map Max showing Nautical Charts



Navionics+

ONWA Chart Plotters when used with Navionics+ charts shows Nautical Charts and Sonar Charts. Advance options also include: Highlight Shallow Area, Adjust Contour Density and Shallow Fishing Range

Standard Accessory



KA-07

External GPS Antenna with 10m cable

➤ BUILT-IN HD FISH FINDER TECHNOLOGY

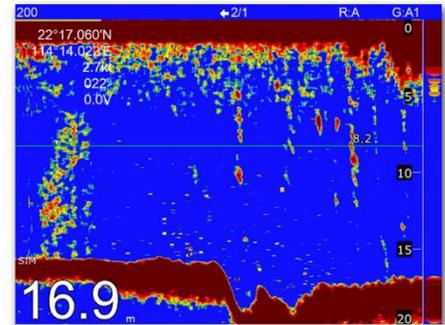
KP-1299C: Built-in Fish Finder

KP-1299, KP-1299A (KM-Sonar and Transducer needed)

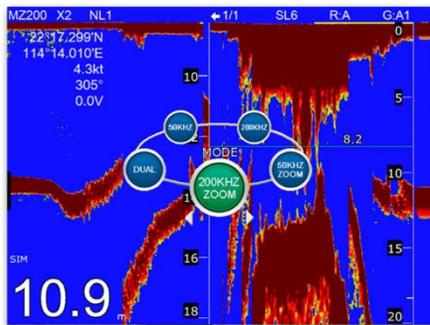
*Transducer required

- Applies the most advanced Digital Fish Finder Technology
- Dual Frequency: 50 and 200kHz (alternately transmitted)
- Automatic Range and Gain adjustment depending on usage (Cruising or Fishing)

> Excellent Sea-bed Discrimination and easily identify fishes and school of fish
 > Exact depth to where the school of fish is shown for ease of fishing

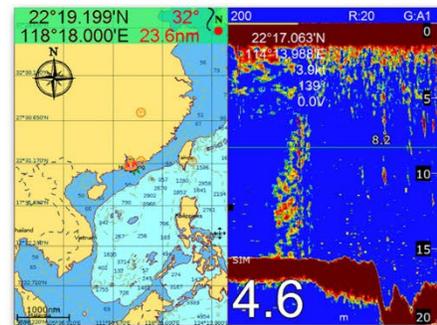


➤ DISPLAY MODES



DISPLAY MODES

> Selection of Display Modes depending on your need
50 KHz, 200KHz, Dual, 50KHz/Zoom and 200KHz/Zoom

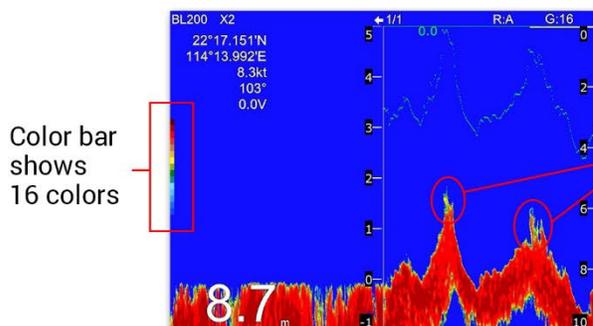


Split Screen with GPS Chart Plotter

> Split Ratio can be adjusted as to which side is bigger for ease of usage
 > Beneficial for users to mark new fishing grounds

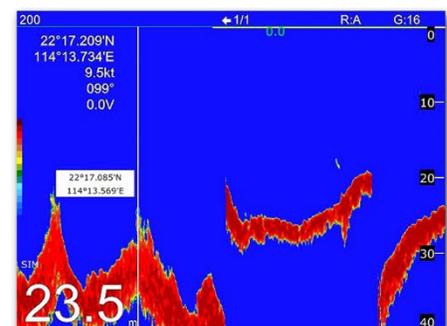
➤ FEATURES

16 Colors according to intensity



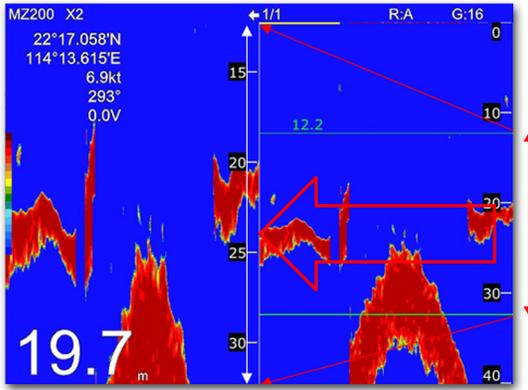
Can distinguish different strength of echoes by colors

Saves the position of a History Echo in Waypoint Memory



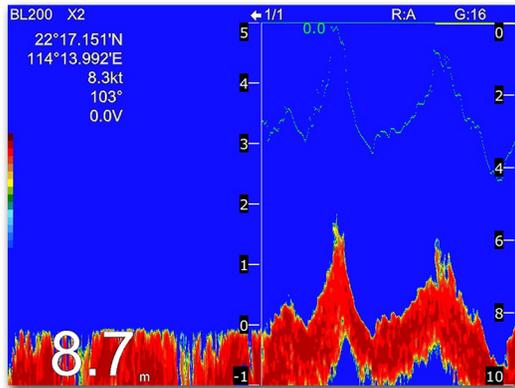
ZOOM MODES

Marker Zoom, Bottom Lock Zoom, & Bottom Zoom

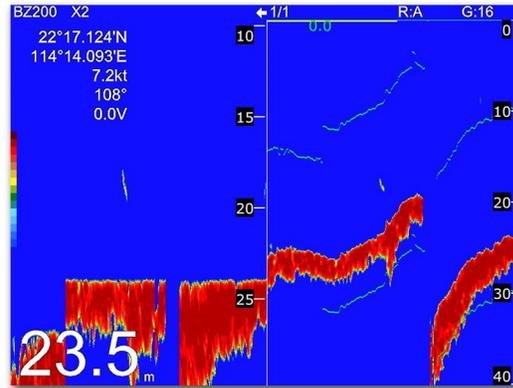


MARKER ZOOM

> The marker area is zoomed and displayed on the left side screen



BOTTOM LOCK ZOOM



BOTTOM ZOOM

➤ FISH, BOTTOM, AND TEMPERATURE ALARMS

*Temperature sensor required for Temperature Alarm

Fish Alarm:

Alarms when fish is seen at set range

Bottom Alarm:

Alarms when the set bottom range is reached

Temperature Alarm:

Used to warn the user when temperature reaches set temperature range

OPTIONAL ACCESSORIES

(not included in the standard set)

KTD-520_TM
Transom Mount
Transducer
600W



KM-Sonar
(for KP-1299 and KP-1299A)
Fish Finder Black box



TMM40-50/200X-T
1kW Dual Frequency Transducer
with Temperature Sensor



Bronze Transducer
Thru-hull Transducer
600W



Plastic Transducer
Thru-hull Transducer
600W



KTS-10K_TM
Transom Mount
Temperature Probe



KTS-10K_TH
Thru-Hull
Temperature Probe



▶ AIS FEATURES

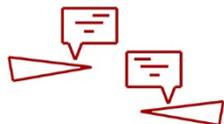
KP-1299A: Built-in AIS (VHF Antenna needed)
KP-1299, KP-1299C (KS-200A needed)



Class B+ AIS Technology

- **SOTDMA Technology** - Same technology used by Class A
- **5W Transmission Power** - Guaranteed time slot allocation
- **Increased Transmission Rate (Based on speed)** - Increases the range and AIS Satellite reception enabling Global tracking

AIS Messaging



- Can send and receive composed messages between ONWA AIS plotters
- Messages can be Broadcasted or can be sent to a specific MMSI no.
- Message History and number of Unread messages can be viewed when a contact is selected
- Pop-up Box for Incoming Message Alert

NOTE: Contacts Shown are compatible ONWA AIS plotters with AIS Messaging Capability only

***AIS Messaging function is only available for KP-1299A (built-in AIS module)**



Chat Sample

(Speaker icon shown when sent message is sent via Broadcast)



Chat History

can be viewed once specific MMSI is selected

exactTrax™

exactTrax Tracking

- > Integrated with exactTrax AIS satellite tracking technology service which provides the ability to track fishing boats and small commercial vessels with AIS Class B type transceivers across the globe

NOTE: In order to use exactTrax, user must avail ExactEarth Service



ExactTrax showing position of a vessel sailing for 1 week from Hong kong to Malaysia in multi-hour vessel track

OPTIONAL ACCESSORIES

(not included in the standard set)

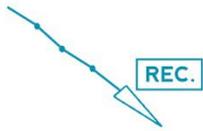
KS-200A
(for KP-1299 and KP-1299C)
Class B+ AIS Transponder
Black Box



KA-159
1.2m VHF Antenna



AIS Target Tracking



- ONWA AIS Plotters now has the ability to record tracks of AIS Targets
- > **Auto AIS saved tracks:** Automatically records nearest 10 AIS targets within 1nm (1,000 Max records, once 1,000 records is reached, earliest record will be deleted)
 - > **Manual AIS saved tracks:** Record Manually selected AIS targets, Max = 10 targets/records
- Recorded tracks are useful when checking the records during an accident
 - Recorded tracks can be saved as a route



Points in the track shows the location, date, time, SOG and COG, etc.



Recorded Track saved as a route

CPA and TCPA Alarm



Alarm that helps the user to be aware of nearby vessels stating possible CPA and TCPA. The unit alarms until acknowledged

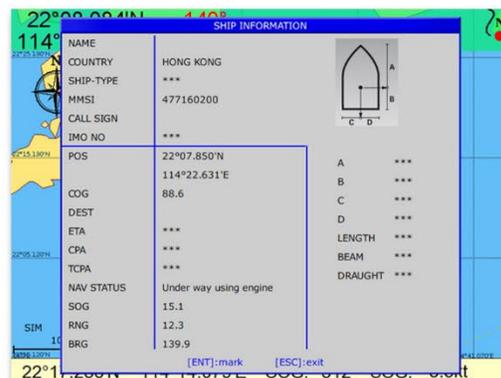
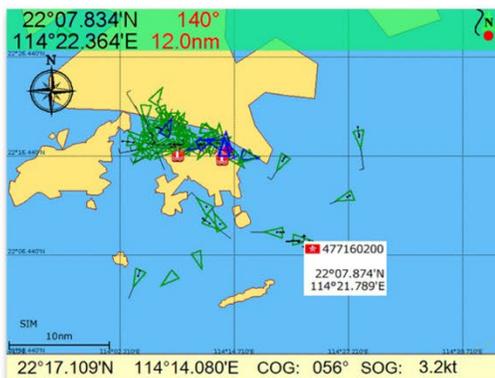
Vessel List

AIS SHIP LIST						Received targets: 41
No.	NATION	MMSI	NAME	DIST	COG	TYP
000		050000002	HOSN WANG WEI YI	21.8	0.0	NET
001		009102242		0.1	***	B
002		009103057		0.1	0.0	B
003		009010120		0.1	0.0	B
004		009102360		0.2	0.0	B
005		000000083		1.3	0.0	A
006	HONG KONG	477995063		1.4	256.9	A
007	HONG KONG	477995066		1.8	340.1	A
008	BAHAMAS	308768000		1.9	71.1	A
009	HONG KONG	477995065		1.9	204.2	A
010	CHINA	413468840		2.2	101.7	A
011	HONG KONG	477995026		2.7	128.9	A
012	HONG KONG	477995032		2.8	0.0	A
013	HONG KONG	477995028		3.4	257.1	A
014	HONG KONG	477995070		4.1	71.0	A
015	HONG KONG	477995071		4.2	319.7	A
016	HONG KONG	477995126		4.2	175.4	A
017	HONG KONG	477995029		4.3	293.7	A

Shows nearby vessels, distance to your vessel and information. Selecting a target from the list shows the vessels details

AIS Targets Overlay in the Plotter Screen

Targets are overlaid in the Plotter screen and shows nearby AIS, pointing the cursor at one target shows the MMSI number and Location, selecting the target shows the targets ship details



➤ BUILT-IN RADAR FUNCTION

KP-1299, KP-1299A, KP-1299C (Radar Antenna needed)

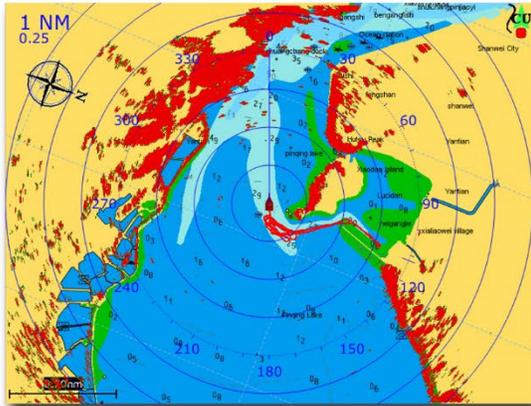
Radar Antenna needed to use Radar Function

Radar Screens

Screens dedicated for Radar function:

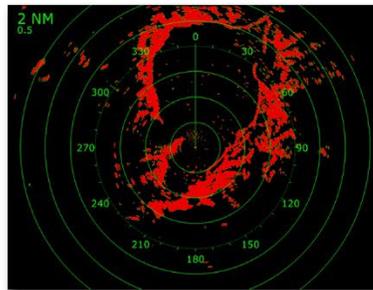
Radar Overlay

- > This added feature overlays radar targets to your plotter's screen to better interpret data
- > AIS targets can also be seen in this mode



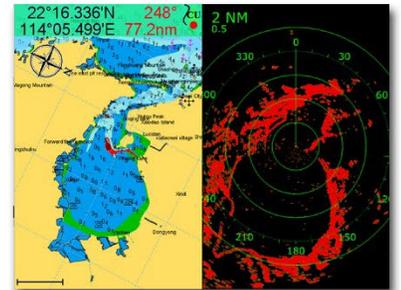
Radar

- > Dedicated radar screen mode for better target interpretation



Plotter + Radar Split Screen

- > Split Screen of Plotter and Radar for ease of usage



Gain, Sea Clutter and Rain Clutter Adjustment

For better target discrimination



Interference Rejecter



The level of Interference Rejection is shown here

Echo Stretch



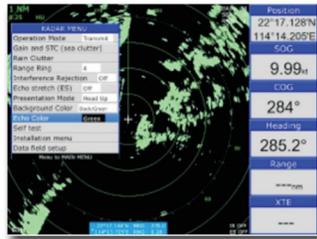
The level of Echo Stretch is shown here

Four levels of Interference Rejection: IR1, IR2, IR3 and OFF for Interference from other shipborne Radar

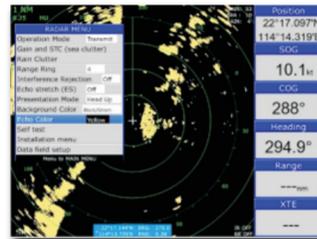
Magnifies Echoes: ES1 (Bearing Direction Only) and ES2 (Bearing and Range Direction)

Echo Colors

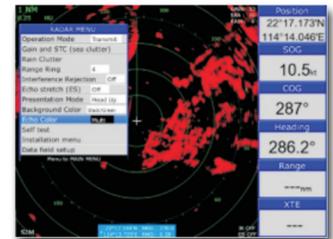
For colors depending on the user's preference



Green



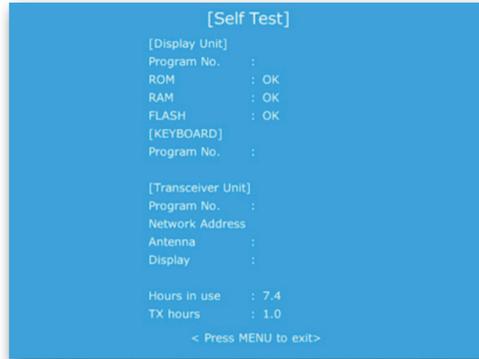
Yellow



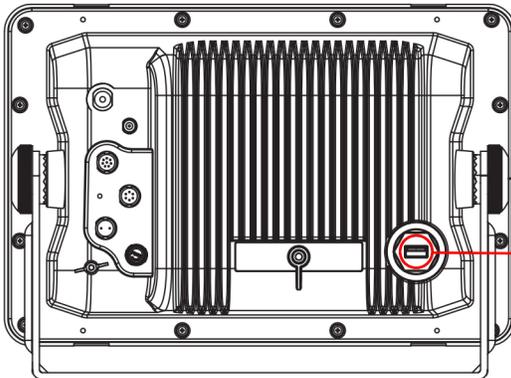
Multi

Self-Test

To check connection between the Display and Antenna and to check TX hours, you can check the Self-Test Status



KP-1299X Rear Panel



USB Slot for Radar Antenna Connection

Can use any of the following antenna (*Specify when ordering)



Radome Antenna:
KKRA-1007_N/KRA-1007W
 (Power: 4 kW)



Radome Antenna:
KKRA-1009_N
 (Power: 4 kW)

RPM depends on range
 Short range: 48 RPM
 Medium range: 36 RPM
 Long range: 24 RPM



Open-Array Antenna:
KRA-4001_N (Power: 6 kW)
KRA-3002_N (Power: 12.5 kW)
KRA-5002_N (Power: 25 kW)

Optional Accessory



KA-GC9A
 Heading Sensor

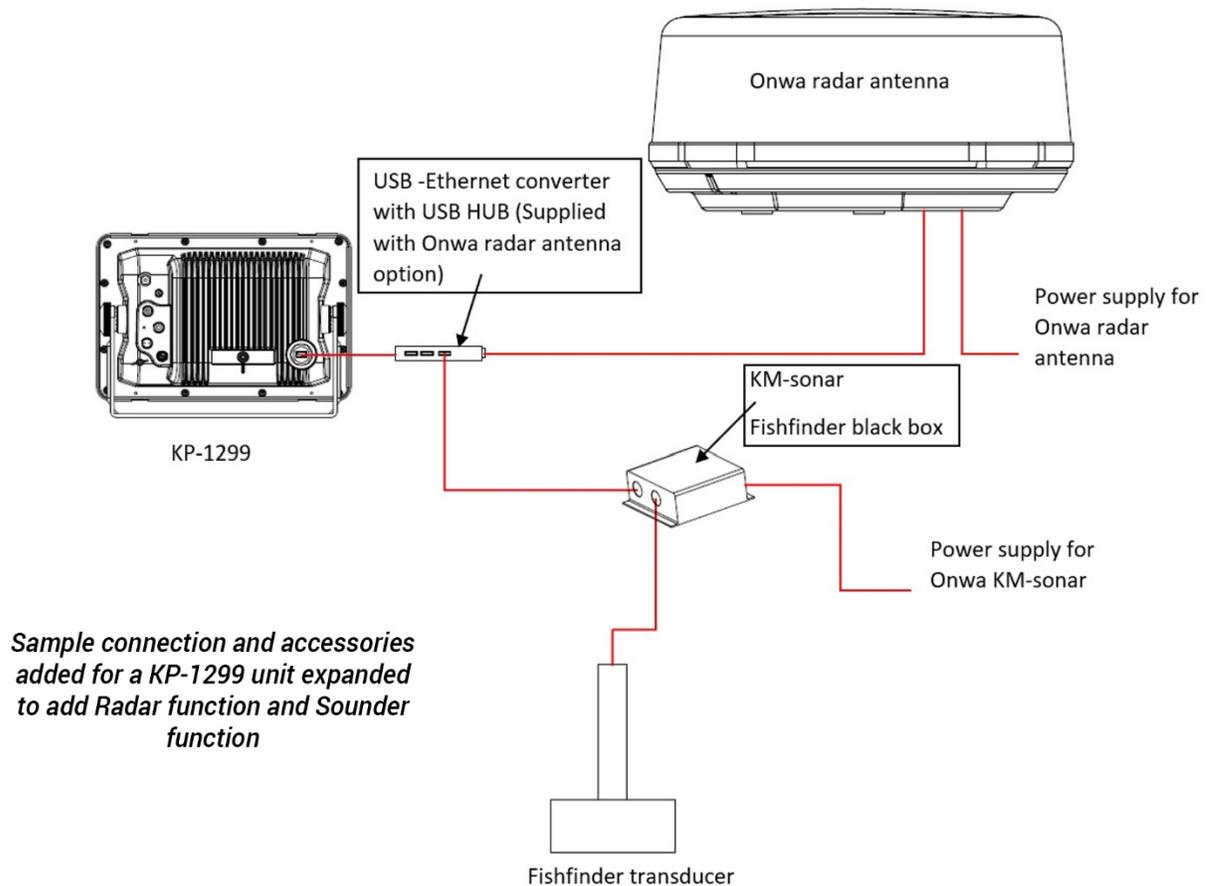


KM-Router
 (For Wi-Fi Radar Antenna (KRA-1007W))
 Wi-Fi and Ethernet Router

▶ EXPANDED FEATURES

EXPANDED FEATURES SAMPLE CONNECTION

*E.g. : You bought a **NEW GENERATION KP-1299** which is only a **GPS Chart Plotter**.
In the future, you want to add **Sounder and Radar** function.
You no longer need to buy a separate unit, you just need to
add accessories (**KM-Sonar, Transducer, Radar Antenna**)
to enable the **Sounder and Radar** function.*



OTHER OPTIONS

- KP-1299:** Extended AIS, fishfinder and radar functions by adding optional accessories (**KS-200A, KM-Sonar and KRA-1007_N radar antenna**)
- KP-1299A:** Extended fish finder and radar function by adding optional accessories (**KM-Sonar and KRA-1007_N**)
- KP-1299C:** Extended AIS and radar function by adding optional accessories (**KS-200A and KRA-1007_N**)

PLOTTER CHARACTERISTICS

Waypoints/icons	12000 user waypoints with name, symbol 3 system waypoints: MOB, Start, Cursor 10 proximity waypoints
Routes	30 routes waypoint up to 170 points each, plus MOB and Track Navigation or GOTO Track modes
Tracks	8,000 points automatic track log; 10 saved tracks (up to 8000 track points each) lets you retrace your path in both directions
Alarms	XTE, Anchor drag, arrival, speed, voltage, proximity waypoint, Timer and AIS (CPA and TCPA) alarm
Drawing	1000 Drawing Marks; 2000 Drawing Lines (40 points each); 1000 Drawing Place Name; 8 Colors for Drawing
Palette	Normal Daylight exposed to sunlight Night in dark environment NOAA paperchart colors Built-in Worldwide Tide data
Tides	
Position format	Lat/Lon
Basemap	Worldwide
External Map	Compatible with K-Chart 2.0, K-Chart 3.0, C-Map Max and Navionics+
User data storage	Internal backup of user settings or external SD-card
Plot Interval	5secs to 60 mins or 0.01 to 10nm
Plotting scales	0.001 to 700nm
AIS	700 max number of AIS targets display
AIS Target Tracking	1000 Automatically saved tracks (100 points each) 10 Manually saved tracks (300 points each)
AIS Messaging	ONWA AIS to ONWA AIS
Perspective View	On/off (available for C-Map only)
Celestial	Sunrise/Sunset Moonrise/Moonset

NMEA SENTENCE SUPPORTED

INPUT: (Auto scan Baudrate)
GGA, GLL, GSA, GSV, RMC, HDG, HDM, HDT
VTG, ZDA, MTW, VWR, VWT, MWD, VPW, VHW
TLL, TTM, VDO, VDM, GNS, MTA
RMA, DBT, DPT, MWV, BWC, XTE, ZDL, WPL, AAM,
APB, BOD, RMB, DSC, MDA, RPM, XDR

OUTPUT:
Baudrate : Selectable 4800, 9600, 19200, 38400
GGA, GLL, RMC, GSA, GSV, AAM, APA
APB, BOD, BWC, BWR, DBT, DPT, HDT
MTW, RMB, TLL, VTG, WPL, XTE, ZDA
ZTG, ZDL, MWD, VPW, VWR, VWT
Outputs for autopilot:
APA, APB, BOD, XTE

AIS INTERFACE

AIS Data:	RS232 output VDO, VDM, GGA, GSA, GSV and VTG
AIS Input Baudrate:	38,400 from GPS input port (KP-1299 and KP-1299C)
AIS Output Baudrate:	38,400 (KP-1299A)

AIS CHARACTERISTICS

(For KP-1299A)

Frequency Rate	156.025 MHz~162.025 MHz
Access Scheme	SOTDMA
Channel Bandwidth	25 KHz
Modulation	GMSK
Data Rate	9,600 bps
Number of AIS Transmitter	1
Number of AIS Receiver	2
AIS Channel 1	CH 87B (161.975 MHz)
AIS Channel 2	CH 88B (162.025 MHz)
Tx Power Output	> 5 Watt (37 dBm ± 1.5 dB)
RX Sensitivity	< -123dBm @ 20% PER
RX Message Format	AIS Class A and B messages
Comply Standard	IEC-62287 IEC 62287-2 Ed. 2.0:2017

POWER SUPPLY

10.5 to 30VDC
current drain 1.5A at 12V (KP-1299C)
current drain 1.0A at 12V (KP-1299 and KP-1299A)

PHYSICAL

Size	268mm(H) X 364mm(W) X 106mm(D)
Weight	KP-1299: 2.14 kg KP-1299A: 2.34 kg KP-1299C: 2.34 kg
Display	12-inch Color TFT dayview LCD, 800x600 pixels
Waterproofing	Display unit (front panel): IPX6 Antenna unit: IPX6
Temperature range	Display unit: -15°C to +55°C Antenna unit: -25°C to +70°C

GPS RECEIVER CHARACTERISTICS

Receiver	50 parallel channel GNSS receiver continuously tracks and uses up to 50 satellites to compute and update your position
Acquisition time	Cold start: 29 seconds Hot start: 1 second 1 second (KP-1299A)
Update rate	1 second or 0.1 second selectable (KP-1299 and KP-1299C)
Accuracy	Position: 3 meters(95%) without S/A Velocity: 0.1 meter/sec without S/A
SBAS	Supported (All models)
QZSS	Supported (1299 and 1299C only)
Satellite System	GPS and Beidou (KP-1299A) Choice of 4 GNSS (KP-1299 and KP-1299C): GPS, Beidou, GLONASS, Galileo
Dynamics	Altitude: 18,000 m Velocity: 515 m/s
Datum	WGS 84 & user defined
Antenna	KA-07

GPS INTERFACE

GPS Data	RS232 input/output, NMEA 0183 V3.01 and V4.11
GPS Input Baudrate	Auto Scan (4800, 9600, 19200 and 38400)
GPS Output Baudrate	Selectable among 4800, 9600, 19200 and 38400

ECHO SOUNDER

(For KP-1299C)

Echo Color	16 colors (including background color) according to echo intensity. The background color is selectable from blue, light blue, white and black. Meters 5/10/20/40/80/150/200/300/600/1000 Feet 15/30/60/120/200/400/600/1000/2000/3000 Fathoms 3/5/10/20/40/80/100/150/300/600 Up to 1000 meters (3000 feet, 600 fathoms) Times 2, 3, 4 and 6 ranges
Basic Range	5/10 meters, 10/20 feet, 2/5 fathoms
*The basic ranges can be changed on the system menu	
Range Shift	Automatic adjustment of range and gain
Zoom Range	High Frequency (200K), Low Frequency (50K), Dual (200K and 50K 1/2 display on each), Zoom (200K and 50K zoom) and A-scope Display
Bottom Lock Expansion Range	Marker Zoom, Bottom Zoom and Bottom-lock Expansion
Auto Mode	Lines/TX: Freeze, 1/8, 1/4, 1/2, 1/1, 2/1, 4/1, 6/1, 8/1 and 10/1
Display Mode	50 and 200kHz (alternately transmitted) 600W (Up to 1kW by using High Power Transducer)
Zoom Display	
Display Advance Speed	
TX Frequency	
Power Output	
Pulse-Length/TX Rate	

Display End Depth (m)	5	10	20	40	80	150	200	300	600	1000
Pulse Length 200K (µs)	120	220	320	520	920	1020	1020	1020	1020	1020
Pulse Length 50K (µs)	170	270	370	570	970	1070	1070	1070	1070	1070
TX Rate (pulse/min)	2000	1333	706	353	171	98	75	53	38	27
TX period (millisecond)	30	45	85	170	350	610	800	1120	1580	2200

Interference Rejecter	Rejects unwanted signals by comparing last and present echoes in strength
Alarm	Fish and Bottom alarms, Temperature alarm (sensor required)

RADAR FUNCTION

Compatible with full range of ONWA Radar Antenna (Supplied as an Option):
(KM-Router also needed)

Radome Antenna:
KRA-1007_N/
KRA-1007W
(Power: 4 kW)



Radome Antenna:
KRA-1009_N (Power: 4 kW)



RPM depends on range:
Short range: 48 RPM
Medium range: 36 RPM
Long range: 24 RPM



Open-Array Antenna:
KRA-4001_N (Power: 6 kW)
KRA-5002_N (Power: 25 kW)

EQUIPMENT LIST

Display unit
Quick manual
GPS Antenna (10m)
Mounting Brackets
Standard accessories pack

USB PORT

Version 2.0
Support: ONWA Radar, KM-sonar, KM-router

OPTIONAL ACCESSORIES

1kW Transducer
 Transom Mount or Thru-Hull Transducer
 Transom Mount or Thru-Hull Temperature Probe
 VHF Antenna (KA-159) (For AIS communication)
 Fish Finder Black Box (KM-Sonar)

Radar Antenna (KRA-1007/KRA-1007W, KRA-2006, KRA-3002, KRA-5002)
 Heading Sensor (KA-GC9A)
 N2K (NMEA2000) and NMEA0183 Bidirectional Converter (KC-2W)
 Class B+ AIS Transponder Black Box (KS-200A)
 Wi-Fi and Ethernet Router (KM-Router) (For Wi-Fi Radar Antenna KRA-1007W)
 Ultrasonic Weather Station/Anemometer (KW-360)



NMM40-50/200T
 Thru-Hull Mount
 Transducer (Bronze)
 with temperature
 sensor



NBM40-50/200T
 Thru-Hull Mount
 Transducer (Plastic)
 with temperature
 sensor



TMM40-50/200X-T
 1kW Dual Frequency
 Transducer with
 Temperature Sensor



KTD-520
 Transom Mount
 with temperature
 sensor



KTS-10K_TM
 Transom Mount
 Temperature Probe



KTS-10K_TH
 Thru-Hull
 Temperature Probe



KM-Sonar
 Fish Finder Black Box



KW-360
 Ultrasonic Weather
 Station/Anemometer



KC-2W
 N2K (NMEA2000) and
 NMEA0183 Bidirectional
 Converter



KA-GC9A
 9-Axis Electronic Compass
 with built-in High Accuracy
 GPS Module



KM-Router
 (For Wi-Fi Radar Antenna (KRA-1007W))
 Wi-Fi and Ethernet
 Router

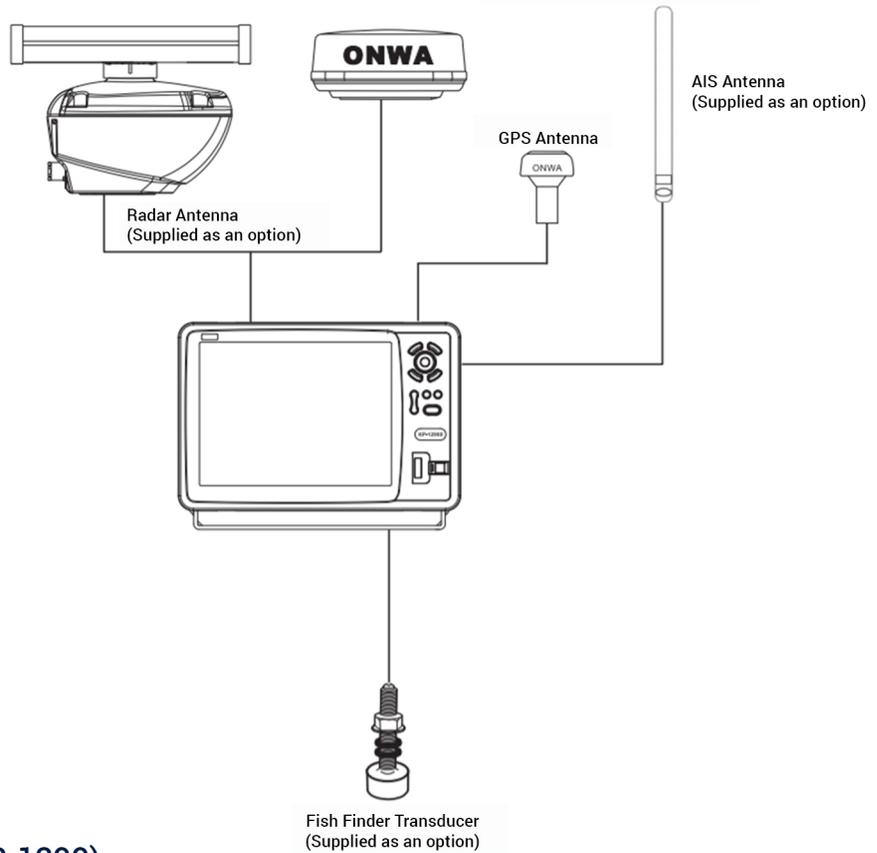


KS-200A
 Class B+ AIS
 Transponder Black Box



KA-159
 VHF Antenna

**INTERCONNECTION
 DIAGRAM (KP-1299)**



DISPLAY UNIT (DIMENSIONS) (KP-1299)

