



# STANDARD HORIZON



## 2009 Marine Product Catalog

NOTHING TAKES TO WATER LIKE STANDARD HORIZON!

# THE LEADER IN MARINE ELECTRONICS

It's people that make the difference



## Our mission:

Our mission is quite simple, "Produce the finest Marine Electronics in the market to meet the needs of Boaters everywhere". For more than 50 years, Standard Horizon has continuously built and delivered the best and that's why we can say...

**"Nothing Takes to Water like Standard Horizon!"**

## Standard Horizon Marine Division of Vertex Standard

US Headquarters, Cypress CA



Suzhou Factory, Suzhou China



Headquarters, Tokyo Japan



Sukagawa Factory, Fukushima, Japan



COMMITTED TO EXCELLENCE

# A FAMILY OF MARINE ELECTRONICS

## HANDHELD VHF RADIOS

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## FIXED MOUNT VHF RADIOS / LOUDHAILER

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## GPS CHART PLOTTERS

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SUBMERSIBLE	SUBMERSIBLE	FLOATING	RADAR	AIRBAND	STROBE LIGHT	FAMILY RADIO SERVICE	AM / FM RADIO	
LOUD AUDIO	NOAA WEATHER CHANNELS / ALERT	CLASS D	OPTIONAL MIC / HEADSET	LAND MOBILE RADIO	16 / 9	AVAILABLE IN BLACK OR WHITE	LOUD HAILER	
TONE CONTROL	SECOND STATION	DISTRESS	FISH FINDER	80 dB RECEIVERS	CUSTOMIZABLE SCREENS	PICTURE IN PICTURE	GPS	

A WIDE RANGE OF PRODUCTS TO SUIT YOUR NEEDS

# HANDHELD VHF RADIOS



## HX280S BEST OF THE BASICS NEW FOR 2009

- Features:
- Selectable 5/1 W transmit power output
  - 700 mW Loud speaker audio
  - IPX7 Submersible to 3 feet for 30 minutes
  - Supplied with 1650 mAh Li-Ion battery, AC and DC chargers & cradle
  - Huge channel display
  - Programmable scanning/Dual Watch
  - NOAA Weather Alert
  - Low Battery Indicator
  - Preset key used to recall up to 10 favorite channels
  - Key lock



## HX471S BIG FEATURES, COMPACT SIZE

- Features:
- DSC Distress with NMEA GPS position input
  - FRS transmit/ receive, AM/FM, MURS and Aircraft band receive
  - NOAA Weather alert
  - Selectable 5/2.5/1 W transmit power output
  - Supplied with 1300 mAh Li-Ion battery, AC and DC rapid chargers
  - Programmable scanning/Dual Watch
  - SOS Strobe light
  - Voice Scrambler capable
  - Channel naming
  - Available in silver or black



## HX370S COMMERCIAL WORKHORSE

- Features:
- 40 Programmable Land Mobile Channels with CTCSS and DCS signaling
  - Speaker microphone jack
  - Selectable 5/2.5/1 W transmit power output
  - IPX7 Submersible to 3 feet for 30 minutes
  - Supplied with 1400 mAh Ni-MH battery, alkaline battery tray, AC and DC chargers with cradle
  - Programmable scanning/Dual Watch
  - SOS Strobe Light
  - Heavy duty die-cast frame
  - Voice Scrambler capable



## HX370SAS INTRINSICALLY SAFE

All the great features of the HX370S in an intrinsically safe housing.

### HX370SAS INTRINSICALLY SAFE

INFORMATION: The HX370SAS, FNB-V57IS Ni-Cd battery pack, optional CMP460 speaker microphone and FVP-31 meet the ANSI/UL 913-6th Ed. Requirements for: Class 1: Flammable Gases, Vapors, or Liquids Div. 1 Group A (Acetylene) Group B (Hydrogen) Group C (Ethylene) Group D (Propane) Class 2: Combustible Dusts Div. 1 Group E (Metals) Group F (Coal) Group G (Grain) Class3: Ignitable Fibers and flyings



## HX500S-Li NOW WITH LI-ION

- Features:
- Speaker microphone jack
  - 700 mW Loud speaker audio
  - Large volume control knob
  - NOAA Weather alert
  - Selectable 5/2.5/1 W transmit power output
  - IPX7 Submersible to 3 feet for 30 minutes
  - Supplied with 1700 mAh Li-Ion battery, AC and DC chargers with cradle
  - Programmable scanning/Dual Watch
  - SOS Strobe light



DESIGNED SPECIFICALLY FOR USE IN HARSH MARINE ENVIRONMENTS

# FLOATING HANDHELD VHF RADIOS



## HX750S FLOATING MARINE RADIO

Features:

- 6 Watt Transmit power
- Ergonomical shape
- Volume & Squelch indication on the display
- SOS Strobe light
- Audio Tone Control
- Speaker Mic Jack
- Preset key (Maximum 10 channels)
- 700 mW Loud internal speaker audio
- NOAA Weather Channels
- Built-in thermometer sensor
- Selectable Power Output 6/5/2.5/1 Watt
- 1150 mAh Rechargeable Li-Ion battery
- AC and DC Chargers with cradle included



BH-2A  
Bluetooth®  
Headset

## HX760S HANDS FREE FLOATING MARINE RADIO



Features:

- Hands-free operation with VOX function
- Bluetooth® headset, charger and cradle included.
- 6 Watt Transmit power
- Ergonomical shape
- Volume & Squelch indication on the display
- SOS Strobe light
- Audio Tone Control
- Speaker Mic Jack
- Preset key (Maximum 10 channels)
- 700 mW Loud internal speaker audio
- NOAA Weather Channels
- Built-in thermometer sensor
- Selectable Power Output 6/5/2.5/1 Watt
- 1150 mAh Rechargeable Li-Ion battery
- AC and DC Chargers with cradle included



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## HX850S FLOATING MARINE RADIO WITH GPS

Features:

- Built-in 12 Channel GPS Receiver
- 6 Watt Transmit power
- DSC with Distress, Individual Call, All Ships Call, Group Call, Position Request and Send
- Lat/Lon, COG and SOG position information shown on the display
- Channel names shown on the display
- Volume and Squelch indication on the display
- SOS Strobe light
- 1150 mAh Rechargeable Li-Ion battery
- AC and DC Chargers with cradle included
- Selectable power output 6/5/2.5/1 watt



LEADING THE INDUSTRY WITH THE FIRST FLOATING VHF WITH GPS

# HANDHELD VHF ACCESSORIES

**FNB-V99LI**  
1150 mAh Li-Ion battery



**MH-73A4B**  
Speaker Microphone



**NC-88B**  
110V Wall Charger



**VC-24**  
Headset with VOX



**MCC270**  
Nylon Carrying Case



**BTK-3**  
Bluetooth® kit /  
BH-2A,NC-85B/C,CD-40



**FBA-38**  
Alkaline battery tray  
(AAA type cell x 5)



**MH-57A4B**  
Speaker Microphone



**E-DC-19A**  
12V cigarette lighter charger



**CD-38**  
NMEA Charging cradle



**FVP-31**  
Scrambler board












HANDHELD VHF ACCESSORIES									
MODEL	Description	HX280S	HX370S	HX370SAS*	HX471S	HX500S-Li	HX750S	HX760S	HX850S
BH-2A	Bluetooth® Headset							○	
BTK-3	Bluetooth® kit / BH-2A,NC-85B/C,CD-40							○	
CAT460	VHF marine antenna	○	○	○		○	○	○	○
CD-25	NMEA Charger cradle used with NC-72B/C				○				
CD-26	Charger cradle used with NC-88B/C		○	○					
CD-35	Charger cradle used with NC-90B/C					○			
CD-38	NMEA charger cradle used w/ NC-88B/C								○
CD-39	Charger cradle used with NC-88B/C						○	○	
CD-40	Charger cradle used with NC-85B/C							○ for BH-2A	
CD-46	Charger cradle used with NC-90B/C	○							
CLIP-14	Belt clip		○	○	○				
CLIP-920	Belt clip	○							
CMP460	Submersible speaker microphone			○					
E-DC-19A	12 VDC cable with cigarette lighter plug	○	○	○	○	○	○	○	○
E-DC-6	12 VDC cable	○	○	○	○	○	○	○	○
FBA-23	Alkaline battery tray (AA type cell x 2)				○				
FBA-25A	Alkaline battery tray (AA type cell x 6)		○	○		○			
FBA-38	Alkaline battery tray (AAA type cell x 5)						○	○	○
FBA-40	Alkaline battery tray (AA type cell x 6)	○							
FNB-V571S	Intrinsically safe 1100 mAh Ni-Cd battery			○*					
FNB-80LI	1300 mAh Li-Ion battery				○				
FNB-83	1400 mAh Ni-MH battery		○	○					
FNB-V98LI	1700 mAh Li-Ion battery					○			
FNB-V99LI	1150 mAh Li-Ion battery						○	○	○
FNB-V105LI	1650 mAh Li-Ion battery	○							
FVP-31	4-code voice scrambler		○	○	○				
LCC-370	Leather case		○	○					
MCC-270	Nylon radio case		○	○		○			
MCC460	Neoprene radio case				○				
MCC460L	Neoprene radio case with belt loop				○				
MH-57A4B	Mini speaker microphone with jack		○		○	○	○	○	○
MH-73A4B	Submersible speaker microphone		○		○	○	○	○	○
NC-72B	110 VAC charger used with CD-25				○				
NC-72C	220 VAC charger used with CD-25				○				
NC-88B	110 VAC charger used w/ CD-26/38/39		○	○			○	○	○
NC-88C	220 VAC charger used w/ CD-26/38/39		○	○			○	○	○
NC-85B	110 VAC charger used w/ CD-40							○ for BH-2A	
NC-90B	110 VAC charger used w/ CD-35/36/46	○				○		○ for BH-2A	
NC-90C	220 VAC charger used w/ CD-35/36/46	○				○		○ for BH-2A	
VAC-370B	110 VAC rapid charger		○	○					
VAC-370C	220 VAC rapid charger		○	○					
VC-24	VOX headset		○	○	○	○	○	○	○
VC-27	Earpiece/microphone		○	○		○	○	○	○

\*Intrinsically Safe Version

**THE ACCESSORIES YOU NEED!**

# PRODUCT SPECIFICATIONS

	<b>HX280S</b>				<b>HX500S-Li</b>
<b>GENERAL</b>					
Input Voltage	7.4 VDC	7.2 VDC		7.4 VDC	
Current Drain	Standby: 50 mA	Standby: 40 mA		Standby: 50 mA	
	Receive: 320 mA (MAX AF Output)	Receive: 200 mA		Receive: 170 mA	
	Transmit: 1.6 A (H)/0.7 A (L)	Transmit: 1.4 A (H)/0.9 A (M)/0.5 A (L)		Transmit: 1.45 A (H)/ 1.0 A (M)/0.6 A (L)	
Overall Dimensions	2.2" x 5.3" x 1.1" (56 x 133 x 27.5 mm)	2.3" x 4.7" x 1.2" (58 x 120 x 30.5 mm)		2.3" x 4.09" x 1.2" (58 x 104 x 30.5 mm)	
Weight	10.9 oz (310 g) (w/FNB-V105LI, Belt Clip, & Antenna)	13.4 oz (380 g) (w/FNB-83, Belt Clip, & Antenna)		10.6 oz (300 g) (w/FNB-V98LI, Belt Clip, & Antenna)	
<b>TRANSMITTER</b>					
RF Output	5 W/1 W @7.4 V	5 W/2.5 W/1 W @7.2 V		5 W/2.5 W/1 W @7.4 V	
Conducted Spurious Emissions	At least -75 dBc / Typical	At least -73 dBc		At least -65 dBc	
Frequency Stability	±0.0005 % (-4° F to +140° F)	±0.00025 % (- 22° F to +140° F)		±0.0005 % (-4° F to +140° F)	
FM Hum and Noise	40 dB	40 dB		40 dB	
<b>RECEIVER</b>					
Sensitivity	0.25 µV 12 dB SINAD	0.25 µV 12 dB SINAD		0.2 µV 12 dB SINAD	
Selectivity	70 dB	70 dB		65 dB	
Audio Output	700 mW	600 mW		700 mW	

	<b>HX471S</b>					<b>HX850S</b>
<b>GENERAL</b>						
Input Voltage	7.4 VDC	7.4 VDC	7.4 VDC		7.4 VDC	
Current Drain	Standby: 68 mA	Standby: 50 mA	Standby, Bluetooth on: 100 mA		Standby, GPS On: 100 mA	
	Receive: 195 mA	Standby, Saver On: 10 mA	Standby, Saver On, Bluetooth on: 60 mA		Standby, GPS Off: 60 mA	
	Transmit: 1.7 A (Marine High power) 0.8 A (Marine Low Power & FRS)	Receive: 280 mA (MAX AF Output) Transmit: 1.6 A / 1.5 A / 1.0 A / 0.7 A ( 6 W / 5 W / 2.5W / 1W)	Receive: 280 mA (MAX AF Output) Transmit: 1.6 A / 1.5 A / 1.0 A / 0.7 A ( 6 W / 5 W / 2.5W / 1W)	Receive: 280 mA (MAX AF Output) Transmit: 1.6 A / 1.5 A / 1.0 A / 0.7 A ( 6 W / 5 W / 2.5W / 1W)		Receive: 330 mA (MAX AF Output) Transmit: 1.6 A / 1.5 A / 1.0 A / 0.7 A ( 6 W / 5 W / 2.5W / 1W)
Overall Dimensions	2.36" x 3.78" x 1.12" (60 x 96 x 29 mm)	2.44" x 5.57" x 1.61" (62 x 141.5 x 41 mm) (w/o knob & antenna)	2.44" x 5.57" x 1.61" (62 x 141.5 x 41 mm) (w/o knob & antenna)		2.46" x 5.57" x 1.77" (62.5 x 141.5 x 45 mm) (w/o knob & antenna)	
Weight	9.3 oz. (265 g) with FNB-80LI	10.8 oz (305 g) (w/FNB-V99LI)	10.9 oz (310 g) (w/FNB-V99LI, Belt Clip, & Antenna)		11.8 oz (335 g) (w/FNB-V99LI, Belt Clip, & Antenna)	
<b>TRANSMITTER</b>						
RF Output	5 W / 2.5 W / 1 W (Marine Band) 0.5 W (FRS Band)	6 W / 5 W / 2.5 W / 1 W (@7.4 V)	6 W / 5 W / 2.5 W / 1 W (@7.4 V)		6 W / 5 W / 2.5 W / 1 W (@7.4 V)	
Conducted Spurious Emissions	At least -65 dB	-75 dBc typical	-75 dBc typical		-75 dBc typical	
Frequency Stability	±0.00025 % (-22° F to +140° F)	±0.001 % (-4° F to +140° F)	±0.001 % (-4° F to +140° F)		±0.001 % (-4° F to +140° F)	
FM Hum and Noise	40 dB	40 dB	40 dB		40 dB	
<b>RECEIVER</b>						
Sensitivity	0.25 µV 12 dB SINAD (Marine, FRS & MURS Band) 1 µV for 12 dB SINAD (FM Broadcast) 0.5 µV for 10 dB SN (AM and Air Broadcast)	0.25 µV for 12 dB SINAD	0.25 µV for 12 dB SINAD		0.25 µV for 12 dB SINAD	
Selectivity	65 dB Typical	70 dB typical	70 dB typical		70 dB typical	
Audio Output	400 mW	700 mW	700 mW		700 mW	
DSC Format	—	—	—		ITU-R M493	
NMEA In/Out	Input : GLL and RMC	—	—		Output : DSC and DSE Input : GLL, RMC, GSA, GGA and GSV	
<b>GPS</b>						
Receiver Channels	12 channels					
Sensitivity	Less than -130 dBm					
Time to First Fix	1 min typical (@Cold Start) 40 sec typical (@Warm Start)					
Geodetic Datum	WGS84					

Standard Horizon reserves the right to make changes and enhancements to products at our discretion. Current specifications are therefore subject to change without notice.

**THE QUALITY YOU CAN COUNT ON**

# FIXED MOUNT VHF RADIOS



## GX1000S

ECLIPSE DSC COMPACT AFFORDABILITY



CLEARVOICE®  
NOISE REDUCTION TECHNOLOGY

Features:

- Submersible construction IPX7 (3 Feet for 30 Minutes)
- 25 Watt transmit power
- SC-101 DSC Digital Selective Calling with Position polling
- Position/Time or Channel name/Time shown on display
- Programmable Scan, Priority Scan, and Dual Watch
- Easy to use simple operation
- NOAA Weather Channels with Weather Alert
- NMEA input and output



Available in Black

## GX1100S

NEW FOR 2009

ECLIPSE DSC+ COMPACT AFFORDABILITY

CLASS D

DSC MARINE TRANSCEIVER

Features:

- Affordable Ultra Compact Class D Fixed Mount VHF radio
- Submersible construction IPX7 (3 Feet for 30 Minutes)
- Separate dedicated channel 70 receiver
- Full dot matrix display
- GPS Position and Time shown\* on a full dot matrix display
- DSC Distress, Individual, Urgency, Safety, Position Report and Request Functions
- Programmable Scan, Priority Scan, and Dual Watch
- NMEA in and output connections to a compatible GPS Chart Plotter
- Microphone capable of selecting 16 and 9, changing channels and H/L transmit power
- All USA/International and Canadian Marine Channels
- NOAA Weather Channels with Weather Alert



\*When Attached to GPS Receiver



Available in Black

## GX1500S

QUEST-X WITH REMOTE OPTION

Features:

CLASS D  
DSC MARINE TRANSCEIVER

- Class D DSC
- 25 Watt transmit power
- Submersible construction IPX7 (3 Feet for 30 Minutes)
- Noise canceling microphone
- DSC Distress calling
- Instant 16/9 and NOAA WX channel selection
- Displays Channel names, Position, and Time
- Oversized alphanumeric display and channel selector knob
- Customizable channel names
- Second station capable with RAM+, RAM3 or VH-310



Available in Black

## GX3000S

MATRIX PERFORMANCE GRADE



Features:

CLASS D  
DSC MARINE TRANSCEIVER

- Class D DSC
- Audio tone control
- 25 Watt transmit power
- 30 Watt PA, FOG, Bells and Whistles with listen back
- Submersible construction IPX7 (3 Feet for 30 Minutes)
- Noise canceling microphone
- DSC Distress calling
- Instant 16/9 and NOAA weather channel selection
- Second and third station capable with optional RAM+, RAM3 or VH-310
- Large display, rotary channel knob and loud audio
- Displays Channel names, GPS Position, and Time



POWER, PERFORMANCE, RELIABILITY





### GX5000S QUANTUM

COMMERCIAL GRADE

- Features:
- Class D DSC **CLASS D** DSC MARINE TRANSCEIVER
  - 25 Watt transmit power
  - 30 Watt PA, FOG, Bells and Whistles with listen back
  - Audio tone control
  - Dot matrix LCD display
  - Submersible construction
  - Noise canceling speaker microphone
  - Large rotary knobs, and oversized display
  - Second station capable with optional RAM+, RAM3 or VH-310
  - Bluetooth® capable headset (Optional BTK-2)
  - Front Panel microphone can be remoted to rear panel and extended to 20 feet using MEK-4.



Shown with optional Bluetooth® headset

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Shown with optional Bluetooth® headset

### GX5500S QUANTUM

COMMERCIAL GRADE

#### WITH ALPHA-NUMERIC KEYPAD

- Features:
- Class D DSC **CLASS D** DSC MARINE TRANSCEIVER
  - 25 Watt transmit power
  - 30 Watt PA, FOG, Bells and Whistles with listen back
  - Audio tone control
  - Dot matrix LCD display
  - Submersible construction
  - Noise canceling speaker microphone
  - Large rotary knobs, and oversized display
  - Second station capable with optional RAM+, RAM3 or VH-310
  - Front Panel microphone can be remoted to rear panel and extended to 20 feet using MEK-4.
  - Features a large alpha numeric keypad
  - Bluetooth® capable headset (Optional BTK-2)



### VLH-3000

#### 30 W Dual Zone Loud Hailer

- Features:
- 30 Watt PA output
  - Forward and aft PA horns with listen back
  - Bells & whistles and 4 fog signals
  - Noise canceling microphone
  - Easy push button control
  - Loud internal speaker audio
  - Dual zone intercom capability with connection of up to 2 optional MLS-300i intercom speakers



# FIXED MOUNT VHF ACCESSORIES



## CMP30 *RAMB* NEW FOR 2009

- Full functioning second station
- Submersible construction
- Full dot matrix display
- Soft keys for easy operation
- Supplied with 23 Ft of routing cable



## VH-310

- Second station handset
- Alpha numeric keypad
- Large speaker audio
- Commercial grade
- Submersible construction
- Supplied with 23 Ft of routing cable



## 240SW

- 5x8" Rectangular 4 ohm PA/Hailing horn
- Compatible with GX3000S / GX5000S / GX5500S / VLH-3000



## 220SW

- 4.5" Round 4 ohm PA/Hailing horn
- Compatible with GX3000S / GX5000S / GX5500S / VLH-3000



## MEK-4

- Microphone extension kit
- Remote mic up to 20 ft
- Compatible with GX5000S/GX5500S



## MLS-300

- External loud speaker
- Black or white
- Bracket or flush mount
- 5 Inch diameter
- 4 ohms



## MLS-310

- 10 watt amplified speaker
- Black or white
- Bracket or flush mount
- 5 Inch diameter
- 4 ohms
- ON/OFF Volume control



## MLS-300i

- PTA (push to alert) button
- Black or white
- Bracket or flush mount
- 5 Inch diameter
- 4 ohms

Industry 1st



Bluetooth®

## BTK-2

- Wireless Bluetooth® headset
- Noise canceling boom mic
- Compatible with GX5000S and GX5500S
- PTT or VOX operation
- Volume and power buttons





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## FIXED MOUNT VHF ACCESSORIES


MODEL	Description	GX1000S	GX1100S	GX1500S	GX3000S	GX5000S	GX5500S	VLH-3000
BH-2A	Bluetooth® Headset					○	○	
BTK-2	Bluetooth® Kit /BH-2A,BU-1,CAB-2					○	○	
BU-1	Bluetooth® Unit					○	○	
CAB-2	Charger unit for BH-2A					○	○	
CMP30B	New remote station microphone (Black)			○	○	○	○	
CMP30W	New remote station microphone (White)			○	○	○	○	
CMP25B	Remote station microphone (Black)			○	○	○	○	
CMP25W	Remote station microphone (White)			○	○	○	○	
CT-100	23 ft extension cable for CMP30 or VH-310			○	○	○	○	
CVS2500	4-code voice scrambler				○	○	○	
MEK-4	Microphone Extension Kit (20 ft)					○	○	
MLS-300	External speaker	○	○	○	○	○	○	○
MLS-300i	Intercom speaker with push-to-alert							○
MLS-310	External speaker with 10 W amplifier	○	○	○	○	○	○	○
MMB-84	Flush mount bracket	○	○	○	○	○	○	○
VH-310	Remote telephone style handset			○	○	○	○	
220SW	4.5" Round 4 ohm PA/Hailing horn				○	○	○	○
240SW	5 X 8" Rectangular 4 ohm PA/hailing horn				○	○	○	○

GET THE JOB DONE RIGHT, THE FIRST TIME

# FIXED MOUNT SPECIFICATIONS

	 <b>GX1000S</b>	 <b>GX1100S</b>	 <b>GX1500S</b>	 <b>GX3000S</b>
<b>GENERAL</b>				
Input Voltage	13.8 VDC ±20 %	13.8 VDC ±20 %	13.8 VDC ±20 %	13.8 VDC ±20 %
Current Drain	Standby: 0.3 A	Standby: 0.3 A	Standby: 0.4 A	Standby: 0.5 A
	Receive: 1.0 A	Receive: 1.0 A	Receive: 1.5 A	Receive: 1.5 A
	Transmit: 5.5 A (Hi) 1.5 A (Lo)	Transmit: 5.5 A (Hi) 1.5 A (Lo)	Transmit: 5.5 A (Hi) 1.5 A (Lo)	Transmit: 5.5 A (Hi) 1.5 A (Lo)
Overall Dimensions	2.4" H x 6.1" W x 6.7" D	2.4" H x 6.1" W x 6.7" D	3.1" H x 7" W x 5.7" D	4.3" H x 7.1" W x 4.5" D
Flush-Mount Dimensions	2.0" H x 5.2" W x 5.5" D	2.0" H x 5.2" W x 5.5" D	2.5" H x 6.3" W x 5.1" D	3.6" H x 6.5" W x 6" D
Weight	1.7 lbs (770 g)	2.0 lbs (920 g)	2.2 lbs (1 kg)	3.3 lbs (1.5 kg)
PA/FOG Power Output	–	–	–	30 W with Listen back
<b>TRANSMITTER</b>				
RF Output	25 W (Hi) 1 W (Lo)	25 W (Hi) 1 W (Lo)	25 W (Hi) 1 W (Lo)	25 W (Hi) 1 W (Lo)
Conducted Spurious Emissions	80 dB (Hi) 60 dB (Lo)	80 dB (Hi) 66 dB (Lo)	80 dB (Hi) 60 dB (Lo)	80 dB (Hi) 60 dB (Lo)
Frequency Stability	±0.0005 % (-4° F to +122° F)	±0.0005 % (-4° F to +122° F)	±0.0005 % (-4° F to +122° F)	±0.0005 % (-4° F to +122° F)
FM Hum and Noise	50 dB	50 dB	50 dB	50 dB
<b>RECEIVER</b>				
Sensitivity	12dB SINAD: 0.25 μV	12dB SINAD: 0.25 μV	12dB SINAD: 0.25 μV	12dB SINAD: 0.25 μV
Selectivity	-70 dB / Spurious and Image Rejection (TYP.)	-70 dB / Spurious and Image Rejection (TYP.)	-80 dB / Spurious and Image Rejection (TYP.)	-80 dB / Spurious and Image Rejection (TYP.)
	-70 dB / Intermodulation and Rejection at 12 dB SINAD (TYP.)	-70 dB / Intermodulation and Rejection at 12 dB SINAD (TYP.)	-75 dB / Intermodulation and Rejection at 12 dB SINAD (TYP.)	-80 dB / Intermodulation and Rejection at 12 dB SINAD (TYP.)
Audio Output	4.5 W	4.5 W	4.5 W	4.5 W
DSC Format	RTCM SC-101	Class D ITU-R M493-12	Class D ITU-R M493-12	Class D ITU-R M493-12
NMEA In/Out	Output : DSC and DSE	Output : DSC and DSE	Output : DSC and DSE	Output : DSC and DSE
	Input : GLL, GGS, RMC and GNS	Input : GLL, GGS, RMC and GNS	Input : GLL, GGA, RMC and GNS	Input : GLL, GGA, RMC and GNS

	 <b>GX5000S</b>	 <b>GX5500S</b>
<b>GENERAL</b>		
Input Voltage	13.8 VDC ±20 %	
Current Drain	Standby: 0.5 A	
	Receive: 1.5 A	
	Transmit: 5.5 A (Hi) 1.5 A (Lo)	
Overall Dimensions	3.5" H x 9.1" W x 5.9" D	
Flush-Mount Dimensions	2.8" H x 8.1" W x 5.1" D	
Weight	3.2 lbs (1.5 kg)	
PA/FOG Power Output	30 W with Listen back	
<b>TRANSMITTER</b>		
RF Output	25 W (Hi) 1 W (Lo)	
Conducted Spurious Emissions	80 dB (Hi) 66 dB (Lo)	
Frequency Stability	±0.0005 % (-4° F to +140° F)	
FM Hum and Noise	50 dB	
<b>RECEIVER</b>		
Sensitivity	12 dB SINAD: 0.30 μV	
Selectivity	-80 dB / Spurious and Image Rejection (TYP.)	
	-80 dB / Intermodulation and Rejection at 12 dB SINAD (TYP.)	
Audio Output	4.5 W	
DSC Format	Class D ITU-R M493-12	
NMEA In/Out	Output : DSC and DSE Input : GLL, GGA, RMC and GNS	

	 <b>VLH-3000</b>
<b>GENERAL</b>	
Input Voltage	13.8 VDC ± 20 %
PA Output	More than 25 W (at 4 ohm 10 % distortion) x 2CH
IC Output	More than 4 W (at 4 ohm 10 % distortion) x 2CH
Listen-Back Input level	2 mV
AF Output	
EXT SPK Output	More than 4 W (at 4 ohm 10 % distortion)
INT SPK Output	More than 2 W (at 8 ohm 10 % distortion)
Mic sensitivity	10 mV
Drain current	8 A (MAX) at PA x 2CH max AF output (4 ohms)
Idle current	300 mA
Operating temperature	-4° F to +140° F
Storage temperature	-22° F to +158° F
Water integrity performance	IPX7 (3 ft for 30 min) for the front panel
Overall Dimensions	4.3" H x 7.1" W x 4.5" D
Flush mount cutout dimensions	3.6" H x 6.5" W x 4.5" D
Weight:	3 lbs

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**UNPARALLELED PERFORMANCE AT EVERY LEVEL**

# GPS CHART PLOTTERS



## CPF180i NEW FOR 2009

Fish Finder WAAS

5" Internal GPS Chart Plotter Fish Finder Combo



Features:

- 5" Color TFT daylight viewable LCD display
- External 50 Channel WAAS GPS antenna option available
- Radar and AIS capable
- Customizable data windows
- 3000 Marks / 50 Routes
- 10,000 track points
- Dual chart window with independent zoom levels
- Smooth Zoom - Enhanced chart redraw
- Satellite images on base map
- Font size selection on chart page
- Dedicated MARK, ROUTE and INFO keys
- C-MAP NT+ and C-MAP MAX compatible
- Route checking
- 1 NMEA input / 1 NMEA output
- 3 year waterproof warranty

**Fish Finder Features:**

- Built-in 600 W Fish finder
- 50 / 200 kHz dual frequency selection
- 2x and 4x Zoom
- Bottom Lock and White Line selections
- Sensitivity Time Control (STC) control and Surface Noise Filter
- Speed Sensor (if available on transducer)
- Alarms - Shallow, Deep and Temperature

## CP180 / CP180i

5" GPS CHART PLOTTER

Features:

- Internal and External 50 Channel WAAS GPS antenna versions available
- 5" Color TFT daylight viewable LCD display
- C-MAP NT+ and C-MAP MAX compatible
- Customizable data windows
- Swivel mounting bracket
- 3000 Marks / 50 Routes
- 2 NMEA Inputs / 3 outputs
- Dual chart windows with independent zoom levels
- Radar, AIS, and fishfinder capable

Navigation Page



Celestial Page



With Internal GPS Antenna (CP180i)



(Optional FF-525)

## CPF300i NEW FOR 2009

Fish Finder WAAS

7" Internal GPS Chart Plotter Fish Finder Combo



Features:

- 7" Hi Res 800x480 sunlight viewable display
- External 50 Channel WAAS GPS antenna option available
- Radar / AIS capable
- Video input with Picture In Picture display
- VHF DSC distress position display
- 3000 Marks 50 Routes
- 10,000 track points
- Dual chart window with independent zoom levels
- Smooth Zoom - Enhanced chart redraw
- Satellite images on base map
- Font size selection on chart page
- Swivel mounting bracket
- Dedicated MARK, ROUTE and INFO keys
- Route checking
- C-MAP NT+ and C-MAP MAX compatible
- 3 NMEA inputs / 3 NMEA outputs
- 3 year waterproof warranty

**Fish Finder Features:**

- Built-in 600 W fish finder
- 50 / 200 kHz dual frequency selection
- 2x and 4x Zoom
- Bottom Lock and White Line selections
- Sensitivity Time Control (STC) control and Surface Noise Filter
- Speed Sensor (if available on transducer)
- Alarms - Shallow, Deep and Temperature

With Internal GPS Antenna (CP300i)



(Optional FF-525)

## CP300 / CP300i

7" WIDE GPS CHART PLOTTER

Features:

- Internal and External 50 Channel WAAS GPS antenna versions available
- 7" Hi Resolution 800x480 sunlight viewable display
- Video input with picture in picture (PIP) display
- VHF DSC distress position display
- Route Checking
- 4 NMEA inputs / 5 outputs
- Dual chart window with independent zoom levels
- 3000 Marks / 50 Routes
- Swivel mounting bracket
- C-MAP NT+ and C-MAP MAX compatible
- Radar, AIS, and fishfinder capable

Perspective View



Split Screen



GO FURTHER, GO STANDARD

# GPS CHART PLOTTERS



## CP500

### 12" GPS CHART PLOTTER

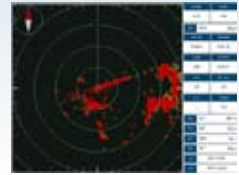
#### Features:

- 12" full VGA 800x600 high resolution display
- 2 video inputs with picture in picture (PIP)
- VHF DSC distress position display
- Alpha numeric keypad, and 6 programmable hot keys
- VGA Video output connects to an external monitor
- 4 NMEA inputs / 5 outputs
- Dual chart window with independent zoom levels
- 50 Channel WAAS antenna included
- C-MAP NT+ and C-MAP MAX compatible
- Radar, AIS, and fishfinder capable

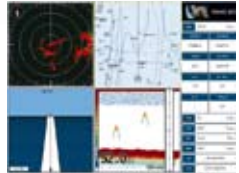


(Optional FF-525)

#### Radar Display



#### MULTI (with FF520 & Radar Ant)



# VHF / GPS CHART PLOTTER COMBO'S

## INDUSTRY FIRST!

GPS Chart Plotter with built-in Class D VHF.



## CPV350

### 7" GPS CHART PLOTTER/VHF

#### GPS Chartplotter Features:

- 7" 256 color Hi resolution 800x480 sunlight viewable display
- 50 Channel WAAS GPS antenna included
- Black box fish finder compatible
- C-MAP NT+ and C-MAP MAX compatible
- Radar, AIS, and fishfinder capable

#### VHF and PA features: **CLASS D** DSC MARINE TRANSCIVER

- Commercial Grade Class D DSC
- 25 Watt transmit power
- 30 Watt PA, FOG, Bells and Whistles with listen back



(Optional FF-525)



## CPV550

### 12" GPS CHART PLOTTER/VHF

#### GPS Chartplotter Features:

- 12" full VGA 800X600 high resolution sunlight viewable display
- Black box fish finder compatible
- 50 Channel WAAS GPS antenna included
- Black box fish finder compatible
- C-MAP NT+ and C-MAP MAX compatible

#### VHF and PA features: **CLASS D** DSC MARINE TRANSCIVER

- Commercial Grade Class D DSC
- 25 Watt transmit power
- 30 Watt PA, FOG, Bells and Whistles with listen back
- Radar, AIS, and fishfinder capable



(Optional FF-525)



External GPS antenna supplied with CP180, CP300, CP500, CPV350 and CPV550. Option for CPF180i and CPF300i

NAVIGATE, COMMUNICATE, RECREATE

# GPS CHART PLOTTER ACCESSORIES



## CMP30 **RAM3** NEW FOR 2009

- Full functioning second station
- Submersible construction
- Full dot matrix display
- Soft keys for easy operation
- Supplied with 23 Ft of routing cable



## VH-310

- Second station handset
- Alpha numeric keypad
- Large speaker audio
- Commercial grade
- Submersible construction
- Supplied with 23 Ft of routing cable



## FF525 Black box fishfinder

- 50/200 kHz Dual frequency
- 600 W or 1000 W output

Power supply : 10 - 35 Volt DC  
 Max stand by current draw : 1000 W:142 mA at 12 Volt DC  
 : 600 W:100 mA at 12 Volt DC  
 Max current draw : 1000 W:1.42 A at 12 Volt DC  
 : 600 W:1 A at 12 Volt DC  
 Power Output : 600/1000 W (4800/8000 W Peak to Peak)  
 Display Colors : 16 colors  
 Display Vertical Resolution : 400 pixels ON CPV350/CP300/CP300I/CPV550/CP500  
 : 200 pixels ON CP180/CP180I  
 Frequency : Dual 50 and 200 kHz  
 Max Depth\* : 1000 W:1200 Ft (365 m) at 200 kHz; 4000 Ft (1219 m) at 50 kHz  
 : 600 W:700 Ft (213 m) at 200 kHz; 1500 Ft (457 m) at 50 kHz

Min Depth : 2.5 Ft (0.8 m) at 200 kHz; 5 Ft (1.6 m) at 50 kHz  
 Max Typical\* : 1000 W:980 Ft (299 m) at 200 kHz; 2700 Ft (823 m) at 50 kHz  
 : 600 W:600 Ft (183 m) at 200 kHz; 1350 Ft (411 m) at 50 kHz  
 NMEA output sentences : Depth: DBT, DPT  
 Temperature: MTW  
 Speed (with DST526): VHW  
 Weight : 2.20 LBS (1 kg)  
 Operating temperature range: 32° F to 122° F (0° C to +50° C)  
 Storage temperature range : -4° F to 158° F (-20° C to +70° C)  
 Dimensions : 7.73" W x 1.96" H x 6.5" D (196.4 W x 50 H x 164.96 D mm)

**NOTE\*** This is not a guaranteed specification. The actual maximum depth capability of the system depends on the type of transducer fitted, the reflectivity of the bottom, water condition, etc.

### 600 W TRANSDUCERS

### 1000 W TRANSDUCERS



**DST520**  
2" Nylon Thru-Hull  
Depth & Temp



**DST521**  
Transom Mount,  
Depth, Speed & Temp



**DST523**  
2" Bronze Thru-Hull  
Depth & Temp



**DST525**  
In-Hull Mount,  
Depth



**DST526**  
Bronze Thru-Hull, Triducer,  
Depth, Speed & Temp,  
with fairing block



**DST527**  
In-Hull Mount,  
Depth








**DST528A**  
Thru-Hull, Long stem,  
Depth & Temp  
with fairing block

## GPS CHART PLOTTER ACCESSORIES



MODEL	Description	CPF180i	CPF300i	CP180/CP180i	CP300/CP300i	CP500	CPV350	CPV550
CMP30B	Remote station microphone (Black)						○	○
CMP30W	Remote station microphone (White)						○	○
CMP25B	Remote station microphone (Black)						○	○
CMP25W	Remote station microphone (White)						○	○
CT-100	23-foot extension cable for CMP25 / CMP30 / VH-310						○	○
CVS2500	4 code voice scrambler						○	○
MEK-4	Microphone Extension Kit (20')							○
MLS-300	External speaker						○	○
MLS-310	External speaker with 10 W amplifier						○	○
VH-310	Remote telephone style handset						○	○
220SW	4.5" Round 4 ohm PA/Hailing horn						○	○
240SW	5 X 8" Retangular 4 ohm PA/hailing horn						○	○
ACVC10	Video in adapter cable				○	○		○
FF525	Black Box Fishfinder			○	○	○	○	○
DST520	600 W 2" Nylon Thru-hull Depth/Temp Transducer	○	○	○	○	○	○	○
DST521	600 W T/M Depth/Speed/Temp transducer	○	○	○	○	○	○	○
DST523	600 W 2" Bronze Thru-hull Depth/Temp Transducer	○	○	○	○	○	○	○
DST525	600 W In-Hull depth transducer	○	○	○	○	○	○	○
DST526	600 W Thru-hull Depth/Speed/Temp Transducer	○	○	○	○	○	○	○
DST527	1000 W In-hull Depth Transducer			○	○	○	○	○
DST528A	1000 W Thru-hull Depth/Temp With Fairing Block			○	○	○	○	○
VGAC10	VGA Video out adapter cable					○		

**GET THE JOB DONE RIGHT, THE FIRST TIME**

# GPS CHARTPLOTTERS SPECIFICATIONS

	 <b>CPF180i</b>	 <b>CPF300i</b>	 <b>CP180/CP180i</b>	 <b>CP300/CP300i</b>	 <b>CP500</b>
<b>GENERAL</b>					
Power Consumption	1020 mA max	1250 mA max	CP180i: 520 mA max CP180: 460 mA max	CP300i: 750 mA max CP300: 750 mA max	1.5 A max
Power supply	10-35 Volt DC	10-35 Volt DC	10-35 Volt DC	10-35 Volt DC	10-35 Volt DC
Display	TFT Color LCD (Active area 5") Sun viewable 256-Color	TFT Color LCD (Active area 7") Sun viewable 256-Color	TFT Color LCD (active area 5") Sunlight viewable 256-color	TFT Color LCD (active area 7") Sunlight viewable 256-color	TFT Color LCD (active area 12") Sunlight viewable 256-color
Display Resolution	320x240 pixels	800x480 pixels	320 x 240 pixels	800 x 480 pixels	800 x 600 pixels
Cartography	C-Map NT+ / Max C-Card	C-Map NT+ / Max C-Card	C-MAP NT+/MAX C-CARD	C-MAP NT+/MAX C-CARD	C-MAP NT+/MAX C-CARD
Operating temperature range	32° F/+131° F (0° C/+55° C)	32° F/+131° F (0° C/+55° C)	32° F/+131° F (0° C/+55° C)	32° F/+131° F (0° C/+55° C)	-4° F/+158° F (-20° C/+70° C)
Overall Dimensions	4.3" H x 7.1" W x 2.3" D	5.7" H x 9.9" W x 2.5" D	4.4" H x 7.1" W x 1.7" D	5.7" H x 9.9" W x 1.5" D	10.2" H x 15.4" W x 6.3" D
Flush Mount Cutout	3.75" H x 6.5" W	4.25" H x 8.87" W	3.75" H x 6.5" W	4.25" H x 8.87" W	10.8" W x 8" H
Weight (without bracket)	1.7 lb (780 g)	2.5 lb (1120 g)	1.3 lb (600 g)	2 lb (920 g)	6.6 lbs (3 kg)
User Points	Marks/Waypoints 3000 Routes: 50 (max 100 waypoints each)	Marks/Waypoints 3000 Routes: 50 (max 100 waypoints each)	Marks/Waypoints 3000 Routes: 50 (max 100 Waypoints each)	Marks/Waypoints 3000 Routes: 50 (max 100 Waypoints each)	Marks/Waypoints 3000 Routes: 50 (max 100 Waypoints each)
Track Points	10,000 (recordable in 20 tracks)	10,000 (recordable in 20 tracks)	10,000 (recordable in 20 tracks)	10,000 (recordable in 20 tracks)	10,000 (recordable in 20 tracks)
NMEA 0183	1 NMEA input / 1 NMEA output	3 NMEA inputs / 3 NMEA outputs	3 Outputs and 2 inputs	5 Outputs and 4 inputs	5 Outputs and 4 inputs
Receiver Type	WAAS, 50 Channel	WAAS, 50 Channel	WAAS, 50 Channel	WAAS, 50 Channel	WAAS, 50 Channel
Fish finder power out	600 W	600 W			
Dual frequency	50 and 200 kHz	50 and 200 kHz			
Depth capability	2.5Ft - 700F at 200 kHz, 5Ft to 1500Ft at 50 kHz	2.5Ft - 700Ft at 200 kHz, 5Ft to 1500Ft at 50 kHz			

## VHF GPS Chart Plotter Combo Specifications.

	 <b>CPV350</b>	 <b>CPV550</b>
<b>GENERAL</b>		
Power Consumption	Standby 1.2 A max, Receive: 1.7 A, Transmit 6.5 A (hi)	Standby 1.6 A max, Receive: 2.0 A, Transmit 6.5 A (hi)
Power supply	10-35 Volt DC	10-35 Volt DC
Display	TFT Color LCD (active area 7") Sunlight viewable technology	TFT Color LCD (Active area 12") Sunlight viewable technology
Display Resolution	800 x 480 pixels	800 x 480 pixels
Cartography	C-MAP NT+/MAX C-CARD	C-MAP NT+/MAX C-CARD
Operating temperature range	32° F/+131° F (0° C/+55° C)	32° F/+131° F (0° C/+55° C)
Overall Dimensions	6.7" H x 10.9" W x 5.4" D	10.9" H x 15.3" W x 6.1" D
Flush Mount Cutout	5.4" H x 7.2" W x 4.9" D	6.5" H x 9.9" W x 5.1" D
Weight (without bracket)	4.8 lb (2.2 kg)	8.8 lb (4.0 kg)
User Points	Marks/Waypoints 3000, Routes: 50 (max 30 Waypoints each)	Marks/Waypoints 3000, Routes: 50 (max 30 Waypoints each)
Track Points	3000 (recordable in 5 Tracks)	3000 (recordable in 5 Tracks)
NMEA 0183	3 Outputs and 2 inputs	4 Outputs and 3 inputs
<b>VHF Transmitter</b>		
RF power Output	25/1 W	25/1 W
Conducted Spurious Emission	80 dB (Hi) / 60 dB (Lo)	80 dB (Hi) / 60 dB (Lo)
Frequency stability	±0.0005 %	±0.0005 %
FM Hum and Noise	50 dB	50 dB
<b>VHF Receiver</b>		
Sensitivity	0.25 µV (12dB SINAD)	0.25 µV (12 dB SINAD)
Selectivity	-80 dB (Spurious and Image Rejection) -80 dB (IMD and Rejection at 12 dB SINAD)	-80 dB (Spurious and Image Rejection) -80 dB (IMD and Rejection at 12 dB SINAD)
Audio output	4.5 W	4.5 W
Frequency Stability	±0.0005 %	±0.0005 %
DSC format	Class D, ITU-R M493	Class D, ITU-R M493
NMEA In/output	Output : DSC and DSE Input : GLL, GGA, RMC and GNS	Output : DSC and DSE Input : GLL, GGA, RMC and GNS
PA and FOG Power	30 W	30 W

### GPS Smart Antenna Specifications



### GPS WAAS SMART Receiver Specifications PHYSICAL CHARACTERISTICS

Color	Ivory white
Dimensions	3.8" in diameter x 1.3" in height (flush mounted) or 2.4" on flagpole mount
Weight (without cable)	5.6 oz (without cable)
<b>ELECTRICAL CHARACTERISTICS</b>	
Input Voltage	10 VDC to 35 VDC unregulated
Input Current	112 mA @ 12 VDC 60 mA @ 24 VDC 45 mA @ 35 VDC
GPS Receiver Sensitivity	-145 dBW minimum

### GPS PERFORMANCE

Receiver	WAAS (North America), EGNOS (Europe), MSAS (Asia), GAGAN (Indian)
Geodetic Datum	WGS84
Channels	50
Frequency	1575.42 MHz (L1, C/A code)
<b>ACQUISITION TIME (Approximate)</b>	
Reacquisition	less than 1 second
Hot Start	8 seconds (typical)
Warm Start	< 33 seconds (typical)
Cold Start	< 45 seconds (typical)

### ACCURACY

Position	less than 10', 95 % of the time
Speed	0.3 Knots RMS
<b>NMEA OUTPUT MESSAGES/UPDATE RATE</b>	
GGA	1 second
GLL	1 second
VTG	1 second
RMC	1 second
GSA	3 seconds
GSV	3 seconds
PCMPD	1 second

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