

4. GETTING STARTED

If the radio has never been used, or its charge is depleted, it may be charged by connecting the **CD-25** Charger Cradle with the **NC-72** battery charger, as shown in the illustration. If 12V DC power is available, the optional **E-DC-19** DC Cable with 12 V Cigarette Lighter Plug or the optional **E-DC-6** DC Cable may be used for charging the battery. The **NC-72**, **E-DC-19** and **E-DC-6** will charge a completely discharged **FNB-80LI** battery pack in about 3 hours.

4.1 BATTERIES AND CHARGERS

The **FNB-80LI** is a high performance Lithium-Ion battery providing high capacity in a very compact package.

CAUTION

To avoid risk of explosion and injury, **FNB-80LI** battery pack should only be removed, charged or recharged in non-hazardous environments.

4.1.1 BATTERY SAFETY

Battery packs for your transceiver contain Lithium-Ion batteries. This type of battery stores a charge powerful enough to be dangerous if misused or abused, especially when removed from the transceiver. Please observe the following precautions:

DO NOT SHORT BATTERY PACK TERMINALS: Shorting the terminals that power the transceiver can cause sparks, severe overheating, burns, and battery cell damage. If the short is of sufficient duration, it is possible to melt battery components. Do not place a loose battery pack on or near metal surfaces or objects such as paper clips, keys, tools, etc. When the battery pack is installed on the transceiver, the terminals that transfer current to the transceiver are not exposed. The terminals that are exposed on the battery pack when it is mounted on the transceiver are charging terminals only and do not constitute a hazard.

DO NOT INCINERATE: Do not dispose of any battery in a fire or incinerator. The heat of fire may cause battery cells to explode and/or release dangerous gases.

Battery Maintenance

For safe and proper battery use, please observe the following:

- Battery packs should be charged only in non-hazardous environments;
- Use only STANDARD HORIZON-approved batteries;
- Use only a STANDARD HORIZON, (a Marine Division of VERTEX STANDARD) approved charger. The use of any other charger may cause permanent damage to the battery.
- Follow charging instructions provided with the chargers.
- Keep the battery contacts clean.

Battery Storage

Store batteries in a cool place to maximize storage life. Since batteries are subject to self-discharge, avoid high storage temperatures that cause large self-discharge rates. After extended storage, a full recharge is recommended.

Battery Recycling

**DO NOT PLACE USED BATTERIES IN YOUR REGULAR TRASH!
LITHIUM-ION BATTERIES MUST BE COLLECTED, RECYCLED OR DIS-
POSED OF IN AN ENVIRONMENTALLY SOUND MANNER.**

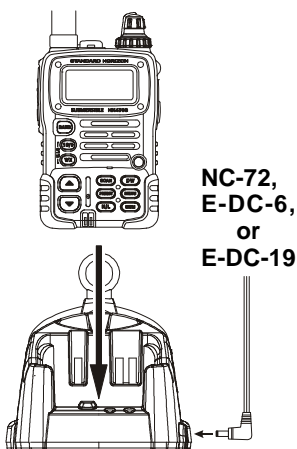
The incineration, land filling or mixing of nickel-cadmium batteries with the municipal solid waste stream is PROHIBITED BY LAW in most areas.

Return batteries to an approved lithium-ion battery recycler. This may be where you purchased the battery.

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling and disposal of lithium-ion batteries.

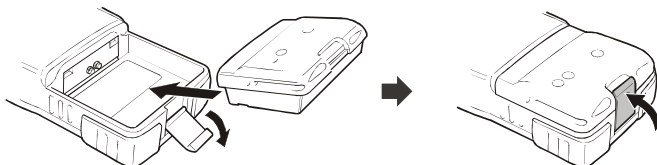
4.1.2 BATTERY CHARGING

If the radio has never been used, or its charge is depleted, it may be charged by connecting the **CD-25** Charger Cradle with the **NC-72** battery charger, as shown in the illustration. If 12V DC power is available, the optional **E-DC-19** DC Cable with 12 V Cigarette Lighter Plug or the optional **E-DC-6** DC Cable may be used for charging the battery. The **NC-72**, **E-DC-19** and **E-DC-6** will charge a completely discharged **FNB-80LI** battery pack in about 3 hours.



4.1.3 BATTERY INSTALLATION/REMOVAL

1. Turn the transceiver off.
2. To install, insert the battery pack into the battery compartment on the back of the transceiver, then close the Battery Pack Latch until it locks in place with a “click.”



3. To remove, open the Battery Pack Latch on the bottom of the transceiver, then slide the battery downward and out from the transceiver.

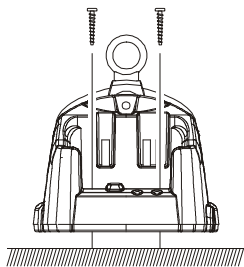
4.1.4 USING THE CD-25 CHARGER CRADLE

1. Turn the transceiver off.
2. Insert the DC plug from the **NC-72** into the DC jack on the **CD-25** rear panel, then plug the **NC-72** into the AC line outlet.
3. Insert the **HX470S** (with the battery pack) into the **CD-25**; the antenna should be at the left side when viewing the charger from the front.
4. If the **HX470S** is inserted correctly, the Red “**CHARGING**” indicator will glow. A fully-discharged pack will be charged completely in approximately 3 hours.
5. The Red “**CHARGING**” indicator will blink when charging is nearing completion.
6. When charging is completed, the Red “**CHARGING**” indicator will disappear, and the Green “**FULL**” indicator will glow. Disconnect the pack from the **CD-25**, and unplug the **NC-72** from the AC line outlet.

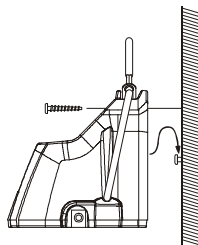
4.1.5 MOUNTING THE CD-25 ON THE VESSEL

The **CD-25** is designed to be surface or wall mounted on a vessel which can be connected to the charger and a GPS that supplies NMEA data for DSC Distress transmissions.

If mounting on a vessel the **CD-25** must be mounted in a location on the vessel that is directly shielded from rain or splashes of water. After the location is found mount the **CD-25** using the supplied mounting screws.

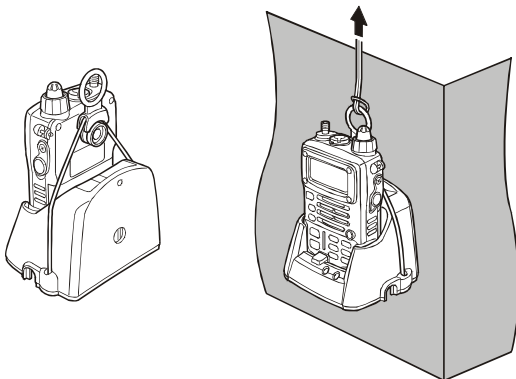


CD-25 Desktop Mount



CD-25 Wall Mount

When using the **HX470S/CD-25** on the vessel, be sure to secure the mounting band on the **CD-25** so that it secures the **HX470S** so it will not fall out due to rough seas. See the illustration below.



4.2 CONNECTING A GPS TO THE CD-25

The **CD-25** is supplied with a cable that is designed to be connected to any GPS that has an NMEA Output with the GLL, GGA, GNS, or RMC sentences. Check with the owner's manual of the GPS to confirm this information. The NMEA input cable on the **CD-25** contains two wires, uses are shown below.

Blue – NMEA Input (Connects to NMEA Out of GPS)

Green – NMEA Negative (Connects to NMEA Negative or battery Ground of GPS)

If you have further inquires, please feel free to contact us at:

Phone: (800) 767-2450

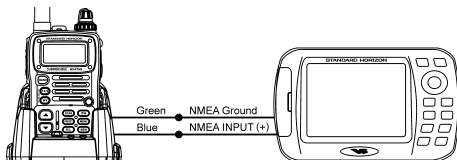
Fax: (714) 527-9031

Web site: standardhorizon.com

Email: marinetech@vxstdusa.com

Manufacturer/Model	Wires	HX470S (CD-25)	Manufacturer/Model	Wires	HX470S (CD-25)
STANDARD HORIZON CP150, CP160 and CP-170C	Green	Green	Lowrance Portable	Orange	Blue
	Brown	Blue		Black (GND)	Green
Furuno GP30, 36	White	Blue	Magellan Fixed Mount	Gray	Blue
	Blue	Green		Black (GND)	Green
Furuno GP1650, 1850	White	Blue	Magellan Portable	Orange	Blue
	Black	Green		Black (GND)	Green
Garmin Fixed Mounts	Blue	Blue	Northstar	Yellow	Blue
	Black (GND)	Green		Black (GND)	Green
Garmin Portables	Brown	Blue	Raytheon 420	Yellow	Blue
	Black (GND)	Green		Brown	Green
JRC GPS500	Yellow	Blue	Raytheon 520 / 620	Blue	Blue
	Green	Green		Brown	Green
JRC 100 SERIES	Green	Blue	Raytheon RL SERIES	White	Blue
	Black	Green		Brown	Green
JRC 200 SERIES	White	Blue	Simrad	White	Blue
	Black	Green		Brown	Green
Lowrance Fixed Mount	White	Blue	Sitex Neptune, Nautilus	Gray	Blue
	Black (GND)	Green		Brown	Green

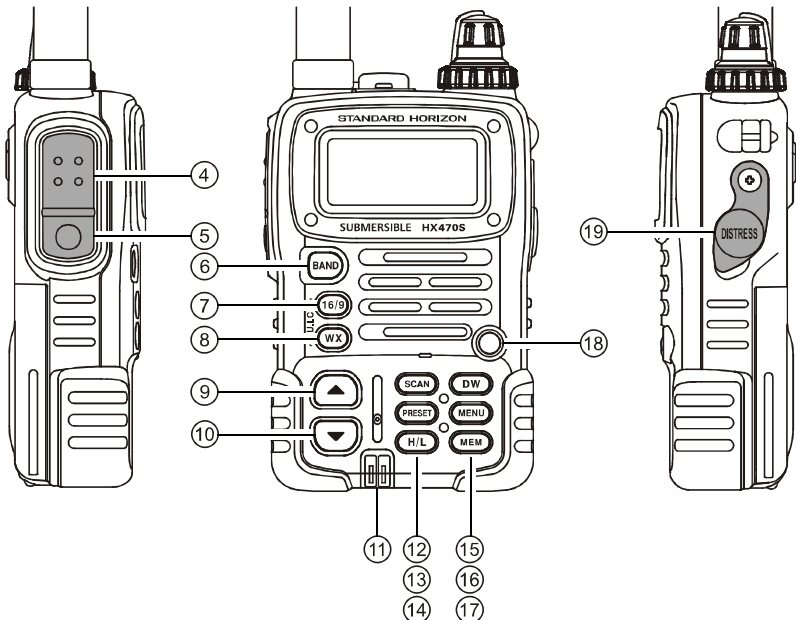
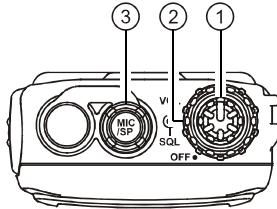
To connect to a GPS receiver, please use the above chart that will help you connect the wires between the **CD-25** and the GPS. Insure that the wires are properly shielded from water. See the figure at the right for example of connection to STANDARD HORIZON GPS CHART PLOTTER.



5. CONTROLS AND SWITCHES

NOTE

This section defines each control of the transceiver. For detailed operating instructions, refer to section 6 **“BASIC OPERATION.”** Refer to illustrations for the location of the following controls, switches, and connections.



① **POWER SWITCH/VOLUME CONTROL**

Turns the transceiver on and off, and adjusts the volume.

② **SQUELCH (SQL) CONTROL**

Sets the point at which random noise on the channel does not activate the audio circuits but a received signal does. This point is called the Squelch threshold. Further adjustment of the squelch control will degrade the reception of wanted transmissions.

③ **MIC/SP JACK**

The jack accepts the optional **CMP460** Speaker/Microphone, **MH-57A4B** Mini Speaker/Microphone, or **VC-24** VOX Headset. When this jack is used, the internal speaker is disabled.

④ **PUSH-TO-TALK (PTT) SWITCH**

When pushed activates the transmitter of the selected band.

⑤ **LAMP (KEY LOCK) KEY**

Press to turn the LCD and keypad backlighting on or off.

Hold down this key to lock the keypad (except the **PTT**, **LAMP**, and **[H/L]** keys) so that they are not accidentally changed. The key lock symbol will appear on the LCD, to indicate that the functions are locked. Hold down until the key lock symbol disappears to unlock the radio.

⑥ **[BAND] KEY**

Press to select the VHF Marine, FRS , MURS , FM Broadcast, AM Broadcast, and AIR (aircraft) bands.

⑦ **[16/9] KEY**

Immediately recalls channel 16 from any marine channel or band location. Holding down this key recalls channel 9.

⑧ **[WX] KEY**

Immediately recalls the last-used NOAA Weather Channel from any channel location. Recalls the previously- selected working channel when the **[WX]** key is pressed again.

Secondary use:

When the **[16/9]** key is held *and* the **[WX]** key is pressed, the radio will change the marine channel between the USA, International, and Canadian channels.

⑨ **[▲(UP)] KEY**

Press to select a desired channel. Each press increases the channel number. When held down, the channels increase continuously.

⑩ **[▼(DOWN)] KEY**

Press to select a desired channel. Each press decreases the channel number. When held down, the channels decrease continuously.

⑪ **NMEA TERMINAL**

Connect to GPS receiver that outputs NMEA sentences GLL, GGA, GNS, and RMC via the **CD-25** Charger Cradle. Keep these terminals clean.

⑫ **[SCAN] KEY**

Starts scanning and priority scanning of programmed channels. When scanning, press and hold this key to turn on and off priority scan (P is shown on the left side of the display during Priority scanning).

⑬ **[PRESET] KEY**

Immediately recalls one of up to 10 user preset memories for each band (shown as P0-P9 on the LCD). Pressing this key repeatedly scrolls through the preset memory channels.

⑭ **[H/L] KEY**

On the Marine Band, changes the transmitter output power between High (5 Watts), Medium (2.5 Watts), and Low (1 Watt). Does not operate on "Low power only," Marine "transmission inhibit," or FRS channels.

⑮ **[DW] KEY**

Automatically scans between the priority channel and another selected channel (including FRS or a MURS channel). When receiving a signal on the selected channel the radio will dual watch to the priority channel.

⑯ **[MENU] KEY**

Select the Marine Band then press to select the Setup mode. This mode allows features and functions to be changed.

Refer to section 13. MENU ("SET") MODE for additional information.

⑰ [MEM] KEY

Press this key to memorize the selected channel for scanning. When pressed a “MEM” icon will be shown on the LCD display indicating the channel has been saved to scan memory. The scan memory is only used with the Marine and WX channels.

To delete the channel from scan memory, select the channel and press this key until “MEM” is removed from the display.

⑱ BUSY/TX INDICATOR

This indicator illuminates different colors depending on the band that is selected. The chart to the right shows the colors illuminated with the Squelch control fully counter clockwise or a signal is received. This indicator glows red during transmit.

BAND	COLOR
MARINE	Blue
FRS	Green
MURS	Yellow
AM/FM/AIR/MURS	Marine Blue

⑲ [DISTRESS] KEY

When radio is programmed with a MMSI and this key is pressed once and pressed and held again for 3 seconds the radio will transmit a DSC Distress Call. To send the distress call, see section 7.9 “**DIGITAL SELECTIVE CALLING.**”