Icom's VHF for Survival Craft

Is a handheld geared to the commercial market necessary?

The Icom GM1600 is a specialty marine handheld VHF designed for use aboard survival craft and large ships. It meets the rigorous Global Maritime Distress Safety System requirements. Although the GM1600 is not meant for use as a recreational marine VHF handheld, *Practical Sailor* was interested in determining whether the unit's survival-oriented design might make it a good choice for a life raft or ditch bag. We were also interested in comparing its specs to the Standard Horizon HX850S (see adjacent table), one of the top handheld picks from our most recent series of tests (April 2009, July 2009, October 2009, December 2009).

We tested the GM1600 with two different batteries. Normally it ships with the 750-mAh rechargeable nickel cadmium (BP-224; $40) for shipboard use. A 1,100-mAh battery is also available. When it is stored aboard a commercial ship's survival craft, it must be equipped with the optional 3,300-mAh non-rechargeable lithium ion (BP-234) battery, which has a five-year storage life. The included AC charger should only be used on the BP-224 and will bring this one up from empty in about 12 hours. Other accessories include a submersible speaker microphone and headsets.

Icom GMDSS GM 1600

The GM1600 functions on the marine band only and has a very limited feature set, limited channel availability, and restricted output power. To extend battery life for survival craft operations, output power is reduced to a maximum of 2 watts. A low power setting of 1 watt is also available. Channel selection is limited to 18 simplex channels.

A top-mounted knob turns the unit on or off and adjusts the audio volume. Six front-panel, positive action push-buttons select channels, quick-select channel 16, quick-select preset channels, and switch from high to low transmitter power. An optional microphone/speaker plugs into a jack located on the top of the unit.

The radio is bright yellow and rather large and bulky. With the battery installed, the radio weighs almost 1 pound. A placard with operating instructions is affixed to the back of the unit. A small light near the top of the unit turns green when receiving and red when transmitting.

This radio has 11 functions that can be turned on or off via a menu. Some of these functions in-

Continued on page 20

PS VALUE GUIDE — VHF HANDHELD UPDATE

MAKER	ICOM	STANDARD HORIZON
MODEL	GM1600 ✓	HX850S ★
PRICE	$599	$220
WARRANTY	3 years	3 years
12v DC and AC CHARGER	Included	Included
AA OR AAA BATTERY PACK	No	Optional
BATTERY CAPACITY	3,300 mAh*	1,150 mAh
BATTERY MODEL	BP-234	FNB-V99LI
BATTERY COST	$200 (3,300 mAh)	$45
MAXIMUM CHARGE TIME	12 hours	8 hours
CLAIMED / TESTED OPERATION TIME	8 hrs./15+ hrs. (3,300 mAh)	7 (with GPS) / 8 hours
HEADSET	Optional	Optional
EXTERNAL SPEAKER/MIC	Optional	Optional
WATERPROOF	IPX7 (30 min./1 meter)	IPX7 (30 min./ 1 meter)
FLOATS	No	Yes
WX ALERT	No	Yes
FREQUENCY BANDS	Marine	GPS, Marine
CHANNEL COMMENTS	No	Yes
DSC CAPABILITIES	No	Yes
UNIT SIZE (W x H x D)	2.5 x 5.8 x 1.71 in.	2.5 x 5.7 x 1.7 in.
WEIGHT	14.6 oz.	12 oz.
TX SETTINGS	2. 1 watts	6, 5, 2.5, 1 watts
SELECTIVITY	70 decibels	70 decibels
AUDIO OUTPUT (1 FOOT)	95 dBA	99 dBA
RATINGS		
TRANSMITTER POWER STABILITY	Excellent	Good
TRANSMITTER FREQUENCY STABILITY	Excellent	Good
RECEIVE SENSITIVITY	Good	Excellent
DISPLAY RATING	Good	Excellent
AUDIO QUALITY	Good	Good
DROP / SUBMERSION TEST	Pass/Pass	Pass / Pass

★ Best Choice ✓ Recommended *Life raft battery

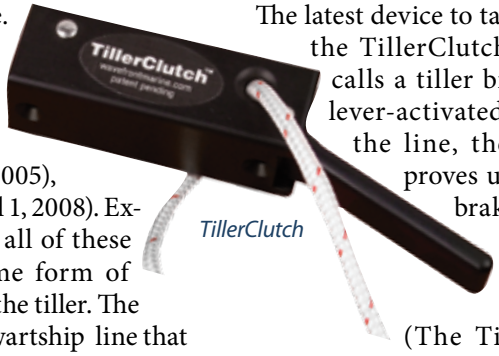
Tiller Taming with Two Fingers

TillerClutch takes a familiar approach to locking the tiller in place.

During the past decade, *Practical Sailor* has looked at a number of devices designed to hold the tiller while the helmsman can attend to other important business—such as trimming a jib sheet or popping open a frosty cold beverage.

There's the Davis Tiller-Tamer (Oct. 1, 1992), the Tillerstay (April 15, 1997), the Tillermate (April 1, 2005), and the Steer-iT (April 1, 2008). Except for the Steer-iT, all of these systems involve some form of line-clutch device on the tiller. The clutch "grabs" an athwartship line that passes through it. The line then leads back to cam (or clam) cleats on either side of the tiller that can be used to tension or release the line.

When the right amount of friction is applied, the clutch will lock the tiller in place, yet still allow the helmsman to adjust the helm by simply pushing the tiller to port or starboard. There is no need to adjust the clutch itself, unless the amount of weather helm increases significantly. The Steer-iT replaces line with a solid acetal plastic rod that extends to one side of the tiller



TillerClutch

The latest device to tackle this task, the TillerClutch, is what *PS* calls a tiller brake. Using a lever-activated cam to grip the line, the device improves upon a similar braking device *PS* tested in 1992 called the Tiller Lock. (The Tiller Lock, it seems, is no longer available). Made of milled anodized aluminum and stainless steel, the TillerClutch closely resembles a conventional rope clutch. A flick of the locking lever engages the clutch, and a light touch on the lever releases pressure so that the tiller's position can be adjusted, as needed. Although you can't simply push or pull the tiller to tweak the amount of helm (as you can do with other clutches), the lever requires just two fingers to release for adjustment, and to reset.

Because the TillerClutch's principal components are galvanic enemies, aluminum and stainless steel, we are interested in how well it will hold up in the saltwater environment. The unit is covered by a lifetime warranty, but a regular freshwater rinse will go a long way toward warding off any corrosion issues. We will be installing the device on one of our Florida test boats this winter and will report any findings. Made by WaveFront Marine, the Tiller Clutch costs $70; a pair of fairleads and cam cleats to complete the installation add another $8.

CONTACT

WAVEFRONT, 919-270-4511
www.wavefrontmarine.com

Continued from page 19

clude setting the display-screen backlighting level, turning on/off an on-screen signal strength meter, and turning on-off an on-screen battery voltage meter. This short list of functions is not seen on many handheld radios. It will be best to have the manual open when using the menu since each function is indicated with only a two-letter code and some of the codes can be a bit cryptic.

We rated the GM1600 display screen Good even though it is fairly small. It uses large segmented block-style numbers to show the selected channel and can display several meters and icons on-screen. The battery meter is always displayed.

The GM1600 performed exceptionally well during our transmitter and receiver testing. It barely noticed any temperature changes when we put it in the freezer or our torture heat chamber. Transmitter power and frequency stability were both rated Excellent; very few handheld radios earn those ratings. Audio performance was also Good with output reaching 95 dBA. With the BP-234 battery installed, this radio still showed a full charge at the end of our 15-hour battery test. When we tested it with the lower-capacity BP-224 battery installed, it lasted 11 hours. No matter which battery pack you use with GM1600, it slides in from the bottom and is locked in place with a set screw. Each battery pack is gasketed to prevent water intrusion into the battery compartment. The GM1600 passed both the drop and submersion test with no damage or issues.

This specialty handheld VHF radio carries a street price of almost $600. Adding the dated BP-234 lithium ion battery will add another $199 to the cost. The warranty on this radio is three years.

Bottom line: The commercial requirements for a rugged, well-tested, lifeboat VHF with a dedicated long-life battery make sense for the offshore cruiser, and the GM1600's rugged construction is impressive. However, for cruisers on a tight budget, a DSC-capable handheld VHF packed into a ditch kit with one or more spare batteries is a cost-effective way to fulfill the need for a VHF radio on a life raft.

CONTACTS

ICOM, 773/889-3087, www.icomamerica.com

STANDARD HORIZON, 800/767-2450
www.standardhorizon.com